#### **CONSTRUING ECONOMIC BEHAVIOUR**

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A thesis submitted in partial fulfilment of the requirements of London Guildhall University for the degree of Doctor of Philosophy

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This thesis is dedicated to my family whom I love very much

#### Abstract

Economic behaviour does not take place in a vacuum or separate from other aspects of human behaviour. For too long, the expression *ceteris paribus* has been the catchall of economic modelling, and when pressed for examples of "other things being equal", invariably many of these are psychological factors. The research problem was to identify some of these psychological factors, and using Kelly's (1955) Psychology of Personal Constructs<sup>1</sup>, to determine how lay people and economics 'experts' construe issues in economic life (All references to 'expert' subjects in the following studies should only be taken to mean - those individuals who work or are trained in the fields of economics, business, finance etc. 'Non-expert' subjects do not have this background).

A number of experimental methods were developed and carried out in order to explore these issues. A pilot study found that the traditional Kellian Repertory Grid technique was suitable for eliciting economic elements, and this technique was later used in two further experiments in order to examine two topics which, from previous literature in the area of economic psychology, appear to be of particular interest to both economists and psychologists; namely, savings/investment, and the relation between microeconomics and macroeconomics.

In addition to the traditional methodology, a novel aspect of the research was the development of a measure of Kelly's notions of transition and control. Statements made by economists, politicians and other writers on economic theory and policy were collected over a four and a half year period between 1991 and 1996 and were analysed for psychological content, in the form of expressed constructs. These were then classified according to a number of Kelly's theoretical definitions. The results highlighted the important place such constructs have for construing within the economic realm.

Statements devised from the findings of this particular study and which were then structured in accordance with Kelly's definitions of preemptive, constellatory and propositional constructs were presented in a multiple choice format to a number of expert subjects of pre-determined political affiliation. The results of this experiment found that there were significant differences between Labour and Conservative Party supporters in their preference for propositional and aggressive construing (Labour) and preemptive and hostile construing (Conservative). Liberal Democrat Party supporters' preference for different kinds of construing showed similarities with those of supporters of both of the other Parties.

The results of the savings/investment experiment, which utilised the more traditional Kellian methodology, identified a number of differences in the way individuals categorised as experts and non-experts construed such economic elements; for example, the expert subjects used significantly more economic and political constructs. The results of the macro/microeconomic elements Grids study also revealed a number of differences in the construing of these experienced and non-experienced subjects. (For example, the latter did not appear to appreciate the important link between rates of saving and rates of unemployment. Further results will be discussed.)

Future research to extend both the theoretical and methodological aspects of Kelly's (1955) Personal Construct Theory in the context of the findings of this project is discussed. Other methodological instruments and techniques, such as implication grids (which do not contain elements, but pair each construct with every other construct to see if one implies the other) and laddering (a procedure in which the individual can indicate the hierarchical integration of his/her system) could be developed and utilised in order to achieve an increased understanding of the nature of individual construing in the field of economic behaviour.

<sup>&</sup>lt;sup>1</sup> Readers who are unfamiliar with terms from the Psychology of Personal Constructs should refer to the glossary in Appendix A.

# Chapter 1<sup>2</sup> 1.1 Introduction to the Research Question

The idea for this piece of research came from three main directions. Firstly, it grew out of a funded project set up by Larry Currie in the Department of Psychology of London Guildhall University which had the aim of encouraging research and teaching in the area of economic psychology; specifically, in relation to Kelly's (1955) Psychology of Personal Constructs. Secondly, the author also had a personal interest in wanting to find a better method of investigating the way lay individuals perceive everyday economic issues and make economic decisions. All of us live in an 'economic world' and have to make continuous choices about our finances and our futures; however, most of us have never had any training in economics. We also vote in elections and thereby, decide the future direction, economic and otherwise, of our country without any training in politics.

Finally, the idea arose from other research findings and developments in the field of economic psychology; a discipline, which has, as yet, not received the same amount of interest in the United Kingdom as it, has in other countries in Europe and in the USA. Research by many psychologists in this area has mainly been social and consumer behaviour orientated, making use of a number of theoretical approaches. In general, these psychological studies have found that economics on its own has been unable to explain the "hows" and "whys" of economic thought and behaviour. However, thus far, there has not been an integrated, psychological approach by psychologists or economists, which can adequately account for the individual's activity in the economic world. (Earl, 1983, 1986, 1990 is one economist who has tried to incorporate Kelly's, 1955, theory into his work.) It is suggested in this thesis, that the Psychology of Personal Constructs (Kelly, 1955, 1991<sup>3</sup>) may offer such an integrated approach, or may be able to offer some explanations for some, as yet, unanswered questions. It is also hoped, in line with the philosophical spirit of

<sup>&</sup>lt;sup>2</sup> Parts of this Chapter have been published as follows: Theodoulou, S. (1995). Quo vadis economic psychology? <u>British Psychological Society Bulletin</u>, 21, 14-21. See Appendix B.

<sup>&</sup>lt;sup>3</sup> In this thesis, all quotations from the original Kelly (1955) source are cited with page numbers from the 1991 reprinted edition.

Personal Construct Theory that this approach will pose new questions which future research might attempt to answer.

#### 1.2 The Literature and Previous Research

An appreciation and understanding of the historical relationship between the disciplines of economics and psychology is an important precursor to the evaluation of the research studies, which follow in future Chapters. Therefore, the remaining sections of Chapter One, and Chapter Two will describe the historical foundations on which this project is based.

#### 1.21 The Background to Economic Psychology as a Discipline

The first person to be credited with the concept of economic psychology was Tarde in 1881; his book 'La Psychologie Economique' was published in 1902 (cited in Wärneryd, 1988). At the time, economists did not take much notice of his call for a greater involvement of psychology in economics; this was in part due to the fact that psychology as a "science" was still in its infancy. By the 1940's however, psychology had established itself as a 'science' and in the USA in 1951, Katona was one of the first researchers to start re-using the concept of economic psychology (Katona, 1977). He argued that economic research needed psychology if it was ever to discover and analyse the forces behind economic processes, which are responsible for economic thought and behaviour. Katona believed that economics without psychology had not succeeded in explaining many important economic processes, but by the same token, psychology without economics had no chance of explaining some of the most universal aspects of human behaviour.

The definition of economic psychology was agreed upon at the founding of the International Association for Research in Economic Psychology in the late 1970's. As Wärneryd (1988) states, the discipline of economic psychology studies the "psychological mechanisms and processes that underlie consumption and other economic behaviour. It deals with preferences, choices, decisions and factors influencing these, as well as the consequences of decisions and choices with respect to the satisfaction of needs". In addition, it is concerned with "the impact of external

economic phenomena upon human beings and well being". Studies in economic psychology "may relate to different levels of aggregation: from the household and individual consumer to the macro level of whole nations" (p.14). It may be argued that in terms of levels of aggregation, such studies are better able to contribute to the understanding of small group behaviour, than large group behaviour. These different levels of aggregation can in Personal Construct Theory terms, be seen as either different ranges of convenience (the range of convenience of a construct covers everything to which the user finds its application useful) or alternatively, different parts of one construct system.

Maital (1982) proposes that "economic psychology must tackle the "why" questions about economic behaviour" (p.6) - why do people buy certain things and not others, why do they seek certain types of employment over others, why do they make certain investments or choose to gamble? Maital argues that because these are questions about motivation, one must call on motivation theory to answer them. However, in contrast to this approach, it could be argued that Kelly's (1955) Personal Construct Theory does not need a separate concept of motivation in order to account for behaviour involving economic decisions or any other kind of behaviour. Kelly (1955) suggests that merely living and functioning in the *economic* world, and attempting to make sense of *economic* decisions is motivation in itself.

According to Van Raaij (1981) economic decisions can involve a number of things; for example, money, time, choosing and purchasing products and services, work, leisure, and spending versus saving decisions. He argues that any decisions involving a choice or trade-off between alternatives and an investment that will bring future profits or benefits can be defined as an economic decision. However, Lea, Tarpey and Webley (1987) suggest that the economists' approach to defining economic behaviour is very different to that of psychologists. Economists will concentrate on economic variables such as income, price, costs etc., and then construct a model of the behaviour in question. The model is generally based on a desire to predict the behaviour of groups rather than individuals; and these groups are believed to be comprised of rational, maximising individuals. In contrast, psychologists are more interested in the mechanics of the motivation of behaviour; in particular, in the individual, whom they do not assume to be totally or consistently rational. This viewpoint is concurrent with that of the present author.

Historically, economists have not believed that psychology has anything to offer in the way of elaborating the predictive usefulness of its theories and models. Until fairly recently, the successful "marriage" of the two disciplines, as in Economic Psychology or Psychological Economics, has been dogged by the vexed issues of, motivation, rationality and the stability/consistency of behavioural preferences. Economic theory itself works at a much more abstract level than most of the psychological theories that have tried to aid the explanation of certain economic problems and concerns such as unemployment, inflation, saving etc.; this has led to difficulties in applying ideas from one discipline to the other. Wärneryd (1988) argues, that a good deal of economic theory is, to a large extent, "deductive, depending on mathematical reasoning in its development of models. It relies mostly on empirical evidence that is aggregated and highly abstracted" (p.15). This may be true of economists in the econometric domain, however, it should be acknowledged that there are also economists who favour a more descriptive approach, and who do not rely so heavily on mathematical reasoning (for example, Earl, 1983, 1986, 1990). In contrast to the economic theory which Wärneryd (1988) discusses, psychological research can be seen to operate at "a low level of abstraction; that is, close to the empirical data" (p.15). Therefore, one can argue that economic psychology, as a discipline, can draw on many alternative approaches and does not necessarily need to limit, in Kelly's (1955) terms, its "focus of convenience". (That is, the range of events for which a construct may be most usefully applied).

Meyer (1982), writing on the possible inadequacies of traditional economic theory, has suggested that "economics is the most theoretically developed discipline among the social sciences. Yet it is probably also the most criticised discipline among the advanced sciences. Apart from Marxist criticism, one and only one central theme remains which is shared by all critics: the allegedly totally false conception of human nature and of human behaviour implicit in economic thinking" (p.83). This view of

economics as a discipline is shared by many psychologists and even some economists (Lea, et al. 1987); however, one can argue that the majority of economists still refute this point of view.

In the United States during the 1920's, there was much controversy over the link between psychology and economics, and three positions have been discerned by Coats (1976). Firstly, the view existed that "psychology of any kind was irrelevant to economics, since [economics] was exclusively concerned with exchange values or prices irrespective of the motives of those entering into market transactions". Secondly, there was the "diametrically opposite contention that developments in psychology had so undermined the subjective theory of value, that a wholesale reconstruction of the foundation of economics was required"; and thirdly, there was "an intermediate response from those who considered that the new ideas could be assimilated, either wholly or in part, by means of a change in terminology, shifts in theoretical formulations or interpretations, or modifications in theoretical conclusions" (p.47). Coats believes that in the main, the supporters of the first position 'won' and one can argue that this is why similar arguments can be seen to exist even now between the protagonists of each discipline.

Thus, as Coats (1976) suggests, by the end of the 1920's the essential components of economic theory had been established and by implication, the assumption that basic economic theory was to be "abstract, static and general in form" with the fundamental assumptions being "simple, uniform and constant, neither 'realistic' nor subject to falsification" (p.48). Economists also assumed that consumers aim to maximise their satisfactions, but have to reconcile their unlimited wants with limited incomes. With regards to this latter supposition, one might argue that not all consumers have limited incomes and "needs" and "wants" could be seen to be relative.

Another assumption, which the author has identified in economic theory, is the idea that all consumers have perfect knowledge of all the relevant market conditions, and thus, make rational decisions about the alternative allocations of resources - decisions that are independent of other individuals. It can again be argued that these assumptions are unrealistic and untenable, and as Coats (1976) suggests, the economists' list of assumptions is debatable, but does allow for the possibility of adding positive heuristics; these being suggestions or future instruction for improving the theory and testing its implications.

In Coats' view, many economists "flatly denied that any psychology whatsoever was relevant to economics, arguing that economists should concentrate their attention on catallactics, the science of exchanges, in which the only element of value to be included were exchange values, or prices, without reference to the motives of those entering into exchanges" (p.51). A similar assertion had previously been proposed by Katona (1964) who suggested that the resistance to psychology by some economists could be grouped in three main areas. Firstly, economists believe that their discipline should provide "broad generalisations about economic processes, which are valid at all times and under all conditions". Secondly, that "information on the interrelationships among economic data such as profits, sales, investment and other results of behaviour suffices for the understanding of economic process"; and thirdly, that "motives and expectations are fleeting, vague and uncertain so that information about them does not contribute to objective, scientific analysis" (p.319).

In summary, the antagonism which many economists have had towards those psychologists who have wished to carry out research into economic behaviour may be typified by Irving Fisher (1892) (cited in Coats, 1976) who stated categorically that the "foisting of psychology on economics seems ... inappropriate and vicious; ... to fix the idea of utility the economists should go no further than is serviceable in explaining <u>economic</u> facts. It is not his [/her] province to build a theory of psychology" (Coats, 1976, p.51). However, it is the author's view that a theory comprising aspects of psychology and economics may be more serviceable.

Almost a century after Fisher's (1892) statement, the Editor of a special issue of the British Journal of Social Psychology (1982) was still arguing that "relations between economists and psychologists have traditionally been poor and genuine co-operation non-existent. Each area has been so sure of the superiority of its own behavioural

model that if there were any interest at all in what the other side was doing, it was domination and not co-operation that was intended. Co-operation cannot develop between missionaries who are out to save each others' souls, but only between equal partners who feel that to join forces in some areas would be mutually advantageous" (p.79). It is to this end that the development of economic psychology as a discipline has been focused, and on which the motivating force behind the present research project is based.

#### 1.22 The Changing Nature of Psychology's Influence on Economics

One of the major areas of overlap, which could potentially be exploited by both psychologists and economists, could be found in "choice behaviour". Many economists use ordinal utility theory (Hicks, 1939 cited in Coats, 1976), revealed preference theory (Samuelson, 1947) and modern utility theory (Von Neumann & Morgenstern, 1944) to account for choice behaviour. However, Simon (1959) has pointed out that actual behaviour does not follow the assumptions of modern utility theory and instead has argued that individuals act as <u>satisficers</u> with <u>bounded</u> rationality when they make decisions. That is, a person only samples some of all prices and goods in the market and then chooses the "best" of that sample; the one that satisfies their criteria of choice. Simon also believes that it is, in fact, impossible for anyone to process all the information available (and necessary) in order to maximise utility.

This position is supported by Watkins (1970) who differentiates between <u>optimal</u> and <u>optimum</u> decision making in his analysis of the rationality principle. He states "an optimal decision is one that could not be bettered, though it might be equalled. An optimum decision is one such that any alternative to it would be less good" (p.172). Watkins argues that it would obviously be more rational to take the former in decision making, however, he suggests that "the idea of optimal decision-making involves such wildly optimistic assumptions about our capacity for self-knowledge, especially when risks and uncertainties are introduced, that it would not serve even as a normative principle" (p.172). As such, Watkins maintains that individuals can be seen to follow the imperfect rationality principle rather than the rationality principle. An

earlier example of this is offered by Gordon (1948) who posited that traditional economists have not paid enough attention "to the fact that the businessman's certainty that changes will occur and his uncertainty as to the nature of future changes strongly influences his appraisal of the information that is available to him and the way in which he reacts to it" (p.265).

Thus, in Kellian terms, the choice of a particular activity can be seen to have its origins in the individual's desire to improve their predictive efficiency and their wish to control the part of the world which lies within their range of convenience. Earl (1983) suggests a number of ways in which the choice of one particular activity over another may help. Firstly, the activity may ensure that the images of the world constructed by the individual, fit in with his/her overall theory, and thereby can help the individual to avoid any "incomprehensible happenings". (A situation with which most people should be familiar is that of deciding the choice of a mortgage. One might opt for a fixed rate rather than a variable rate and in this way, one is able to control the exact amount of one's mortgage payments for a fixed period). Secondly, the activity may facilitate the definition or elaboration of the individual's construct system through hypothesis testing. As in the case of exploring new or different types of saving/investment opportunities, such as PEPs or shares. Thirdly, it may enable the person's theory about their self-image and the image they present to others, to be validated. As when making the choice of a particular job or career, or voting for a particular political party. Fourthly, the choice of a particular activity may "indirectly enable [individuals] to obtain answers to [their] questions about the world by serving as a kind of investment good" (p.127). (For example, earning money may enable questions about food and shelter to be answered). Related to this, an activity may also act as a tool, which can be used to obtain answers to a number of different questions. For instance, a credit card may be construed by an individual as ensuring the ability to buy goods and services which s/he may not be able to afford at the time, or as a convenient way to pay for things without having to carry around cash and cheques, as well as possibly acting as a status symbol as in the case of the gold card. Fifthly, if the activity is a job, it may generate the ability to impose "a controlled environment which conforms with expectations, or for asking further questions" (p.127); and finally, the activity may enable the person to escape from theories of the world which have been proved to be "incorrect". (For example, if a person finds economic life too full of risk and uncertainty, s/he can opt for private health care schemes or redundancy insurance protection schemes thereby avoiding the long waiting lists for NHS treatment or the fear of financial insecurity after losing one's job.)

A recent extension of the debate between the economists and psychologists has been provided by Earl (1983). He has taken the controversial step of rejecting outright many of the beliefs at the heart of classical economic theory. For example, he argues that the demand function has no place in the way people think when they make choices about which goods to consume. He also suggests that there is no marginal rate of substitution, no equalisation at the margin and no continuity of preferences. In addition, he dismisses the idea that the consumer is "sovereign" and believes that they do not seek to maximise utility. Earl admits that his ideas may be alarming to economists, but they may be of interest to those who believe that choice is an uncertain phenomenon, and that the formation of expectations is important and therefore, irreconcilable with the notion of equilibrium. Earl's position may be seen as slightly simplistic since he is merely suggesting the rejection of theoretical statements from the language of the economists. Kelly (1955) could claim that some consumers may formally embrace notions such as supply and demand in their role as "active scientists".

For Earl (1990), the "origins and forms taken by the perceptions of decision makers become a subject for serious investigation" (p.721). He also suggests that economic agents are "inquiring"; that they choose one or more of their alternative interpretations of the world on the basis of "covert reasoning" and then 'test' the "chosen models empirically with the help of overt trial and error". In this way, the lay individual's vision of the world differs from that construed by economic experts and therefore, economists may be better able to "anticipate aggregate responses to changes in the "state of the news" if they cease assuming rational expectations and begin to study the incidence of methods that are commonly employed by lay decision makers" (p.721). Earl's emphasis on the individual and the way they construe

economic events stems from his own appreciation of Kelly's Personal Construct Theory and the value he places on the theory as a means of exploring economic behaviour.

It is Earl's (1983) argument that this view of behaviour is not the same as the economists' idea of maximisation of utility; and it is the author's contention that examining behaviour and choice in Kellian terms may offer a different approach to the understanding of economic thought and behaviour which might not be achieved by using utility theory. Despite these arguments, the majority of economists have preferred to believe that individuals do behave as if they are maximising utility and neo-classical theory assumes that: "all human motives may be reduced to a single preference ranking ... people act as if they maximize such a preference ranking, subject to objective and given constraints or to expectations about the constraints ... expectations with respect to these constraints are formed in a way that makes efficient use of available information ... on the average and in some sense, supply is equal to demand in each distinct market" (McCain, 1992, p.4). Earl's arguments, in addition to relevant evidence from Humphreys and Wishudha's (1979) research using Multi Attribute Utility Decomposition (MAUD), (an interactive computer program which structures, decomposes and recomposes an individual's preferences between multiattributed alternatives) refute the idea that behaviour can be reduced to a single, preference. It is the author's view that choices should be seen as being based on the ordering of many multiattributed options.

Earl (1990) has also suggested that lay models of the world differ from those construed by experts, and therefore, he believes it is worth devoting attention to understanding how decision makers uncover the nature of problems they face and "how to construe the constraints, areas of irreducible uncertainty and the cause and effect relationship that have implications for the appropriateness of rival choices" (p.720). He argues that the things people buy are "means" to the "ends" of prediction and control, and when making their choices, people decide upon the activity which offers them the greater chance for either clearer definition or a broader view of the world. This can again be seen to be completely in line with Kelly's (1955)

Fundamental Postulate - that "a person's processes are psychologically channelized by the ways in which [s/]he anticipates events" (p.32); and the philosophical spirit of "constructive alternativism" - the belief that "all of our present interpretations of the universe are subject to revision or replacement" (p.11).

Earl's theory incorporates a six stage decision cycle which utilises aspects of Kelly's (1955) "Circumspection-Preemption-Control Cycle" or "C-P-C Cycle" (That is, a decision making cycle which involves, in succession, circumspection - viewing elements in a multidimensional manner; preemption - setting up a choice point between two alternatives from the many possibilities; and control - the final choice which precipitates the individual into a particular situation. See section 2.34 for a fuller discussion of the C-P-C Cycle). In Earl's theory, as in Kelly's theory, the cycle begins with the perception of a problem and goes through a search for alternatives, the evaluation of a theory, the choice and implementation of a decision, (or that a decision cannot be made) and the assessment of the outcome. If the outcome proves the decision to have been a "mistake", then the whole cycle begins again.

The running of this cycle can be seen to differ among individuals, in accordance with Kelly's (1955) Individuality Corollary, and also among groups, in line with the Commonality Corollary. (These Corollaries focus on individual differences and similarities in construction. See Appendix A for definitions of all Corollaries). This might illustrate differences, which may exist in the construing of economic experts and lay people. The fact that such differences could exist has important implications for the development of economic and government policy. It has been particularly evident in Britain in the early 1990's, if not even earlier, that a difference in the perception of economic variables between the Government's economists and the public has resulted in the widespread "feel-bad factor", or the disappearance of the "feel-good factor". These terms are now widely used to describe and define a pessimistic or optimistic view of one's own economic/financial well-being as well as that of the country as a whole; feel-good has also been closely linked, if not used interchangeably, with confidence. Any actual signs of economic recovery, which have been promoted by the Government, have not been recognised by the bulk of the public or electorate. Similarly, a lack of knowledge regarding economic issues among lay individuals may be important for the future economic and political direction of a country at election time; as Kourilsky (1977) states "economic naiveté can make a citizen ... vote for a candidate who promises to cure inflation, reduce taxes, follow an easy money policy and balance the budget ... and believe that such goals are simultaneously attainable" (p.190). In many countries, a lack of knowledge or interest in economic and political affairs can lead to an election becoming a vote for a personality rather than for policies.

Another line of critical argument has come from the cognitive scientist McCain (1992). Like Earl, he has suggested that modern economics suffers from certain shortcomings, which can be grouped under three headings: empirical, pragmatic, and philosophic. He argues that "the key problem for neo-classical economics is the growing evidence that individual economic activity is not rational, in the limited neoclassical sense; namely, that the rationality theory is a biased and inefficient predictor of human behaviour" (p.7). He adds that "since the work of Kahneman, Slovic, and Tversky (1982), however, it has become increasingly clear that it is the individual choices themselves that cannot be rational in the neo-classical, maximizing sense" (p.7). This theory of individual choice is central to economic theory and in neoclassical economics, "the same theory of choice is taken both to determine individual decisions and thus, indirectly, to determine market phenomena, and to reveal individual preferences, thus defining rationality. It will be necessary to divorce those two functions, but choice theory will nevertheless be central to the task" (p.11). In McCain's (1992) view, as in Watkins' (1970) argument for the imperfect rationality principle, "the time has come ... for a new theory of choice that can admit less-thanperfectly-rational choices in economic theory; however, this will mean surrendering the existing concept of rationality" (p.7).

It is for this reason that the author suggests that findings from research in cognitive science could also be utilised in economic theory, and McCain's (1992) concept of rationality can serve to illustrate this argument. If, as Simon (1978 cited in Boland, 1981) believes, rationality is a product of thought, then McCain's contention that findings from cognitive science, whose focus is the way people think, should be taken

into account. This reasoning would seem to make logical sense; however, to date economists have been reluctant to embrace the results of experiments in cognitive science, and McCain (1992) has suggested that this reluctance in part, "reflects the commitment of economics to a concept of rationality based in a much older psychological and philosophical tradition: utilitarianism. Some of the discoveries of cognitive science (reinforced by results from experimental economics) cast great doubt on the proposition that people can be rational in any utilitarian or neo-classical sense". McCain goes on to propose that the "utilitarian conception of rationality as maximization is itself inadequate. In any case, the assumption that people ordinarily are rational in the utilitarian sense is so fundamental to neo-classical economics that a recognition of its falsehood demands reconsideration of the whole of economics" (p.4). Understandably, such an overhaul of the basic premises of neo-classical economics might not be a welcome prospect for many of its proponents and this has resulted in the many areas of contention between economists and psychologists, which have already been outlined.

In addition to McCain's criticism of the traditional economics view of rationality, Earl (1983) has attacked the neo-classical theory of choice. In his critical analysis, he states that in such a theory of choice, given certain constraints regarding physical and capital endowment, time limitations and existing prices, consumers will make choices based solely on preferences. In economic theory, these preferences are assumed to be fixed, stable and continuous over time, and consumers are neither prone to indecision nor hesitancy. Rather, goods are ranked in order of preference and units of one good are given up (for example, fewer meals in restaurants) in order to obtain more of another type of good, (for example, more visits to the cinema) though at ever decreasing marginal rates of substitution. The only wish of all consumers is to maximise utility, so that when prices decrease, more of a good is purchased. Earl (1983) argues that the type of consumer postulated by this traditional economic theory, is not a "thinking, creative chooser in any meaningful sense. She is simply a preference system with a limited endowment who faces a given set of market prices" (p.56). Earl, therefore, argues that neo-classical economics is not interested in discovering how preferences are formed or how individuals come to make their choices. He believes that the things people buy should merely be construed as means to the ends of prediction and control. Individuals choose certain activities over others based on the belief that one will offer the greater chance of either elaborating or defining their concept of the world. This idea will be explored in more detail in the present research.

Similarly, other authors who argue for more psychological input into the study of economic decision making have suggested that "... persons react upon the economic conditions as they perceive them and this perception and [therefore the] consequent decision making may be biased" (Van Raaij, 1986, p.9). In this way one can argue that one cannot separate economic behaviour from other human decision and choice behaviour. According to Van Raaij (1986) these economic choices are concerned with specified things such as money, time, resources; however, his definition can be seen in Kellian terms to be preemptive, because it does not leave room for other factors; for example, confidence, beliefs, altruism, charity and hope.

Economists have often made the claim that psychologists have failed to support their speculations with relevant theories and data, and it is for this reason that the early economists turned to postulated, normative models of economic behaviour (McClelland, 1961). The case of utility is an example of this; Vodopivec (1992) states that "utility is the starting point of economic demand analysis and the substantive content of this elegant theory has always been controversial" (p.20). The controversy has raged over the concept of utility and its antecedents, and Vodopivec (1992) has argued that a "progressive psychologization" of utility was therefore inevitable. This may be due to the fact that psychologists have seen an opening within demand analysis which lends itself to findings and research within psychology; however, it cannot be said that a commonly accepted theory of utility has been developed by economists or psychologists.

It is the maximisation of utility hypothesis, which deals with the concept of motivation in classical economic theory, and this hypothesis has been criticised on two major fronts. Firstly, criticism has been levelled at the possibility and plausibility of fulfilling all the necessary conditions for maximisation. Shackle (1973) argues that this is an impossible feat; a consumer is never in possession of all the information necessary to deliberately maximise. Alternatively, Boland (1981) retorts that one does not need proof that one has all the knowledge available, and it does not have to be true knowledge. It is enough for the consumer to believe that his/her theory of what is the shape of his/her utility function is true. Secondly, Simon (1979) accepts the logical validity of the maximisation hypothesis, but denies the truth of the premise of the hypothesis. If the consumer is a maximiser then the hypothesis would be a true explanation of behaviour. However, Simon (1979) argues that consumers are not necessarily maximisers so behaviour therefore, cannot be determined on that basis. Behaviour could in fact just as easily be determined by prestige or social convention rather than utility. In response, to this argument, Boland (1981) suggests that critics cannot know that the premise of the maximisation of utility hypothesis is false, as it is far too complex to assess and "the logical impossibility of proving or disproving the truth of any statement does not indicate anything about the truth of that statement" (p.1031). One might suggest that all of this is a tautology, which does nothing to further the understanding of the hypothesis nor the premises on which it is based. As a tangible example, one might look at the 1980's/90's "phenomenon" of Personal Equity Plans and the behaviour of those who purchase them. Can this behaviour (buying a PEP) be a maximiser when the small print on PEP forms and advertisements always states that earnings 'may go down as well as up'?

In general, it has been argued by Akerlof and Dickens (1982) that economic theory has been built on a single, powerful theory of behaviour which is based on a few simple assumptions, and that this model has been successfully applied to a wide range of problems. At times, economists will extend and elaborate these assumptions, but they will always keep, and build upon, the basic ones. The author would agree with Earl's (1990) belief that economists who are "willing to take on board the extra baggage of psychology may be able to enhance their predictive and explanatory capacities and thereby, improve the quality of advice that they provide to policy makers" (p.750).

An example of research in this direction has been carried out by Hunter and Coggin (1988) who have also recognised the importance of looking at an individual's construing in the area of economic decision making. In an attempt to assess which was the better predictor of financial analysts' earnings forecasts, they pitted the "Efficient Market Hypothesis" (which asserts that the stock market can assimilate all the available information about investments simultaneously and instantaneously) against a Personal Construct Theory model (which they suggest would show that analysts' forecasts are based on information that their prior theories have shown to be relevant and not on the full use of historical information and actual earnings growth).

They used the "path model" (a multiple regression model) and "path analysis" to formalise and analyse the differences between the two theories and their overall results showed that the financial analysts in their study had based their forecasts on the most directly relevant historical information. Thereby, illustrating that their Personal Construct Theory model was a better predictor of earnings forecasts than the Efficient Market Hypothesis. This is a complex study, however, it does serve as an example of the type of research which has tried to integrate economics into psychology and vice versa, and in particular, the Psychology of Personal Constructs, into economic decision making. These studies are limited in number, but Earl (1990) believes that since the 1970's, there has been a "burgeoning of research" integrating findings from the disciplines of psychology and economics (p.750).

Since the writing of his book in 1990, more studies have been conducted in this area. For example, research on the perception of the economic system (Tyszka & Sokolowska, 1992); the use and abuse of consumer credit (Tokunaga, 1993); the exploration of dimensions of investment behaviour (Anand & Cowton, 1993); and the effects of information on forecasts of stock earnings (Davis, Lohse & Kottemann, 1994). There have also been new journals dedicated to the field of economic psychology, for example, the Journal of Behavioural Economics, the Journal of Economic Psychology and the Journal of Consumer Research; and the International Association for Research in Economic Psychology is the focal point for all those interested in this field of research. The call for the integration of psychological findings into economic theory stretches back for many years. In 1958, Arrow suggested that economists would have a better understanding of choice behaviour if they made use of the research findings from psychology, but he believed that ordinal utility theory, revealed preference theory and modern utility theory all served to push psychological findings out of economic analysis. Similarly, in 1963, Katona argued that one must appreciate psychological variables if one is to gain an understanding of the behaviour of economic agents. However, he believed that in pure economic research, only the effects of economic behaviour such as supply-demand relationships are studied, and any differences in behaviour are merely seen to be the result of such things as market environments. Katona (1963) also stressed the importance of appreciating individuals' perceptions and evaluations of the economic "reality", and their optimistic or pessimistic expectations about their own and the country's state of economic affairs. All of these factors combine to aid the prediction of economic behaviour. In more recent times, Van Raaij (1981) has argued that many economists ignore the psychological processes of evaluation, decision, choice, interpretation and anticipation, which intervene in economic behaviour.

The gauntlet has been thrown down by some economists to those who criticise orthodox economic theories; these critics are asked to suggest alternatives rather than merely offer criticism. However, Katouzian (1983) argues that this is a foolish request for the following reasons; firstly, "if a theory is either incorrect or irrelevant then there could be no intellectual justification for holding on to it" while waiting for a better one to come along; and secondly, "such alternatives are themselves subject to *discovery* and discovery requires effort and commitment. Furthermore, the demand for a ready-made alternative is itself an effective barrier against breaking new ground and discovering alternative frameworks" (p.51). The philosophical approach of constructive alternativism adopted by Kelly (1955) posits that alternatives for all of our ideas, theories and hypotheses always exist and need to be explored.

Research in economic psychology may offer acceptable alternatives, or areas in which new directions may be explored. Van Raaij (1981) has proposed at least eight areas which may be relevant for research in economic psychology; these are: general economic conditions, economic environment, personal factors, perception of economic conditions, behaviour, situations (events in the environment), subjective well being, and societal (system) discontent. In practice, research has so far typically been orientated towards three main areas; firstly, consumer and household behaviour in the marketplace; secondly, business and entrepreneurial behaviour; and thirdly, economic relations between citizen and society. It would seem from this list that there are in fact many areas of economic behaviour in which psychologists could become involved, some of which will be addressed by Studies in the present research project.

In summary it can be said that psychologists who have carried out research in the area of economic psychology have tended mainly to criticise classical economic theory and its models without offering an integrated, alternative approach. Simon (1986) has argued that economics without psychological and sociological research is a "one bladed scissors"; and therefore, there is an important need for the inclusion of findings from the social sciences (cited in Lakhani, 1992). However, previous research has usually "adopted" particular psychological theories, for example, from social psychology (Baxter, 1988; Furnham & Lewis, 1986), behaviourism (Alhadeff, 1982) or psychophysiology (Scitovsky, 1976) and have merely applied them to various economic phenomena in an attempt to provide alternative explanations to traditional, economic models. Until now, there has been very little attempt to discover the way people construe economic issues and their related decisions and choices, or to use this information as a means of exploring economic thought and behaviour. It is postulated here, that Kelly's (1955) Psychology of Personal Constructs can offer an integrated approach to the area of economic thought and action which can avoid the usual divisions and fragmentation to which other areas of psychology may be prone.

#### **1.3 Rationale of Research**

The rationale and aims of this piece of research are to make a contribution to the discipline of Economic Psychology, and, in contrast to previous research in the area,

to use the theoretical principles of the self-contained Psychology of Personal Constructs to underpin a number of experiments. These experiments will use both methods previously exploited in other psychological domains, and methods developed for particular experiments in this project which form part of the research itself. In addition to the development of appropriate methodology, Kelly's theory will be extended to provide an applicable treatment of the dimensions of transition and control, which hitherto have mainly been used in clinical settings.

A pilot study will be performed in order to explore the suitability of the Repertory Grid technique to the area of economic behaviour. In the pilot study, the process of eliciting suitable elements will be conducted by 'interview'. Constructs will be elicited using the triadic method of choice which is the traditional method used in the Repertory Grid technique.(In Study Four, elements will be selected from economic textbooks which define which elements should be considered as part of the range of convenience of the economic field.)

The pilot study is a necessary precursor to the later studies, which also use the Grid technique. Two topics of interest to economic psychologists are saving/investment and the relation between microeconomics and macroeconomics. Therefore, a study of saving behaviour will follow and out of this, a study of relative construing of microeconomic and macroeconomic elements will be performed. This will complete the Grid based experiments.

A novel aspect of the research is the development of the measure of transition and control. In order to do this, statements made by economists, politicians and specialist journalists, collected over a four and a half year period will be analysed for psychological content, in the form of expressed constructs (the selection being informed by the results of the pilot study). These will then be classified according to a number of Kelly's theoretical definitions. Statements devised from the findings of this study will be presented in multiple choice format to expert subjects of known political affiliation (as indicated by them). The structure and semantic of the statements will be based on theoretical aspects of Personal Construct Theory, in this case, preemptive,

constellatory and propositional construing (Preemptive constructs only allow their elements to be members of one realm; constellatory constructs fix the type and number of realms to which elements may be members; propositional constructs allow elements to be members of any number of other realms. See Appendix A and section 2.35 for definitions).

Kelly's theory essentially, almost by definition, takes the individual as the basis of any methodology devised to experimentally test hypotheses derived from the theory. Therefore, this 'principle' is a fundamental underwriting for the conduct of all of the experiments and the reporting of the results. It is part of the aim of the project to work within the constraints of the Psychology of Personal Constructs, as defined in the Fundamental Postulate and the eleven Corollaries (see Appendix A for definitions). As such, the interpretation of the findings will be through the appropriate corollaries and consistent with the bipolar nature of constructs. Any reference to the collective (or sets of subjects) will be made using the Organisational, Commonality and Sociality Corollaries. Aggregated results will be based on similarities observed among the individuals' constructs. It should be noted that this is in stark contrast to the regularly exploited use of nomothetic testing for agreement as found, for example, in most personality testing, and therefore, may appear unconventional to the uninitiated reader. Traditional consensus testing does provide agreement and comparisons of designated groups, but this is at the cost of sacrificing valuable information and contradicts the principle adopted in this research. Above all, the individual and the individual's construing are the focus of all Studies in this project.

Finally, as a demonstration of the applicability of the thesis findings, the results of the experiments using the Repertory Grids and those exploring the dimensions of transition and control will be used to study the topical notions of the feel-good factor and its relation to "confidence", a more conventional way economists erstwhile have referred to the feel-good factor which, in the author's view encompasses feelings of certainty, boldness and optimism about economic affairs. In Chapter 2, the relevance of Personal Construct Theory to the exploration of economic thought and behaviour will be examined.

#### Chapter 2

## 2.1 The Relevance of the Psychology of Personal Constructs to the Field of Economic Psychology

One might argue that many of the controversies and areas of disagreement can be dealt with by using just one psychological theory; or rather, a self-contained psychology, as opposed to the various 'psychologies' that economists have usually been offered. It is asserted here that the Psychology of Personal Constructs may offer such an integrated approach. This theory, as proposed by Kelly in 1955, can be seen to be, as he states, a "total psychology" which deals with the person as a whole, and does not divide areas of psychology as is traditionally the case. It may be argued therefore, that the Psychology of Personal Constructs is relevant to the study of economic issues, because it is concerned with individuals and the way they perceive economic behaviour.

Only a few researchers have so far recognised the importance of looking at an individual's construing in the area of economic decision making. Earl (1983, 1986, 1990), Currie (1985) and Hunter and Coggin (1988) have all argued that a more complete explanation and understanding of the individual's decision making process can be found within the complete theory of personal construing; particularly in Kelly's (1955) dimensions of transition, a number of the Corollaries (especially the Choice Corollary) and the Circumspection-Preemption-Control Cycle (C-P-C Cycle). Thus, Kelly can be seen to have made an important contribution to the areas of choice and decision making as described in The Psychology of Personal Constructs (see Appendix A for definitions of terms).

#### 2.2 Views on Theories, Hypotheses and Data

Kelly (1955) explicitly sets out what he believes to be the requirements of a good, scientific theory. He states that a theory should provide a framework for the anticipation and prediction of future events, by binding together a number of facts at one time. A theory is a way of actively seeking to control life and gain freedom from the continuous stream of events. In this sense it need not be "highly scientific in order
to be useful" (Kelly, 1963, p.18). Thus, precise, scientific constructions are not a prerequisite of a good theory; what is important is that they have the ability to confer meaning on events.

It can be argued that if a theory makes valid predictions in its own particular focus of convenience, then one can say that it is a successful theory. If it is fertile and provokes testable hypotheses of operationalised variables, then one can also say that it is a good theory. Kelly (1955) suggests that there are at least three, acceptable ways of generating hypotheses: firstly, by deducing them from the explicit theory; secondly, by inducing them from observation; and thirdly, by seeking them through statistical methods. All three of these methods are utilised in the present research.

Another important aspect of a good theory is that it should be reflexive, so as to account for its own creation; it should also be modifiable and flexible enough to withstand the collapse of failed hypotheses. Ultimately, if the theory continuously fails to produce validated hypotheses, it should itself be expendable.

### 2.3 An Exposition of the Main Tenets of Personal Construct Theory Using Economic Scenarios

The Psychology of Personal Constructs is explicitly stated in the form of a Fundamental Postulate and eleven Corollaries which as Bannister and Mair (1968) state "are consistent with the position expressed in the central postulate and embody various attempts at extending or defining the implications of that postulate" (p.10). The Fundamental Postulate can be seen to be analogous to Kelly's (1955) notion of a theory as discussed above; and even though the Fundamental Postulate is explicitly stated, it should not be considered an "ultimate statement of truth", because of his stance on constructive alternativism (Kelly, 1963, p.47).

The author's examples of economic scenarios given below highlight the main thrust of the research; that is, that one can construe Personal Construct Theory within the economic range of convenience, and reflexively, that the realm of economics can be located within the range of convenience of The Psychology of Personal Constructs. (The range of convenience of a construct covers everything to which a person finds its application useful. See 2.33 for an example.)

# **2.31 The Fundamental Postulate** states that "a person's processes are psychologically channelized by the ways in which [s/he] anticipates events" (Kelly, 1955, p.72<sup>3</sup>).

In the specific case of economics, this may be expressed in the following way: people construe economic issues, as with any other issues, in such a way as to enable them to predict and control future (personal) economic behaviour. However, an adjunct to this would be that they must, in the first instance, construe those issues. That is, the issues must be in their range of convenience, and in addition, the construction of these events must be seen in relation to the person's general anticipation of events. Individuals will not necessarily share the same range of convenience, in this case related to economics; for example, an economist's range of convenience may be different to say that of an engineer.

#### 2.32 The Corollaries:

## **2.32.1** Construction Corollary: "A person anticipates events by construing their replications".

Individuals cope with the world by seeing things in relational terms. They describe things such as jobs, banks, political parties etc., to themselves and to other people, as being similar and different to other things; individuals then erect their own constructs and try to predict and control events by looking at, and abstracting, replicative aspects. This may explain for example, the phenomenon of brand loyalty. There is also a range of convenience for economic affairs, and the foci of convenience are various economic issues. Both psychology and economics can extend their ranges of convenience to include each other; since the same events can be construed simultaneously by both disciplines.

<sup>&</sup>lt;sup>3</sup> The definitions for each Corollary are taken from page 72 in Kelly (1955).

## **2.32.2** Individuality Corollary: "Persons differ from each other in their constructions of events".

People have different perceptions and expectations about the same and different events/courses of action. If firms are hoping to create large markets for particular goods or services, they must attempt to minimise these differences and persuade the consumers that they should all focus on the same type of product features. It is not the events themselves, which are important, but the construction of these events. Individuals can construe events in which they themselves are involved and also those in which other people are involved. The Individuality Corollary may explain for example, why one economist has a Monetarist, theoretical orientation and why another has a Keynesian, theoretical orientation; or why different people have different explanations for levels of unemployment and its causes. Individuals construe the same events, but in different ways.

# **2.32.3** Organisation Corollary: "Each person characteristically evolves, for [his/her] convenience in anticipating events, a construction system embracing ordinal relationships between constructs".

Individuals employ a hierarchical, inter-linked construction system, which can cope with inconsistencies by utilising different subsystems. For example, a person might see the possibility of getting a mortgage in the following way: at the lowest level of the system they may have the construct <u>mortgage versus rent</u>; this may in turn be subordinate to the construct <u>own versus lease</u>; this may then be construed as subordinate to <u>responsibility versus freedom</u>; which in turn may be an implication of the construct <u>grown up versus immature</u>. These levels should not be viewed as a simple, vertical climb to higher and more superordinate constructs, but as a complete interweaving of levels and subsystems. In this way, the same construct may appear on different levels at different times and in different contexts.

## **2.32.4** Dichotomy Corollary: "A person's construction system is composed of a finite number of dichotomous constructs".

Individuals describe things using bipolar constructs; some things are similar to others and different to others. For example, when talking about investing in the infrastructure as a way of stimulating the economy, one is necessarily implying that there are other measures, which could produce the same effect, and also those, which would not have the same effect.

**2.32.5** Choice Corollary: "A person chooses for [him/herself] that alternative in a dichotomized construct through which [s/he] anticipates the greater possibility for extension and definition of [his/her] system".

For example, the choice of investing in stocks or shares or a savings account is not merely made according to the inherent properties of each scheme, but rather on the basis of whether or not they provide a greater opportunity to extend or define one's system. The ultimate aim for any individual is to achieve greater predictive ability; this may in economic terms be seen to be similar to the concept of maximisation of utility, with the validation of predictions and the ability to predict and control being the ultimate satisfaction.

The individual is responsible for making their own decisions, and the choice of any action can only be seen to make sense in terms of the construction system set up by the individual. Because choices are based on the organisation of that particular individual's system and not on the events in question, some choices may seem to be illogical to the observer. In this way the Choice Corollary may explain why some people choose to save and others spend everything they earn; or why some people choose to work and others deliberately choose not to work.

**2.32.6** Range Corollary: "A construct is convenient for the anticipation of a finite range of events only".

An example to illustrate the meaning of the Range Corollary could be the construct axis - <u>privatisation versus nationalisation</u>. This is only relevant to discussions about politics, economics and business, and not to topics such as grocery shopping or travelling. Events, or objects, which cannot be included under a particular construct axis, can be said to lie outside that construct's range of convenience. Constructs which are positioned higher up in the construct system have a wider range of convenience and thus, can include more elements, for example, the construct <u>poverty</u> <u>versus wealth</u> may be relevant for topics about politics, grocery shopping and travelling. It might be suggested that individuals who are effective leaders in business or who are entrepreneurs may utilise constructs with wide ranges of convenience, and which have different foci of applications in order for them to be able to embrace new elements into their systems.

**2.32.7** Experience Corollary: "A person's construction system varies as [s/he] successively construes the replication of events".

A person's construct system will be revised according to experience; new elements may be included under old constructs, constructs may be re-ordered within the system, new constructs may be added to the system. For example, a person with little experience or knowledge of economic issues may, with increased exposure to such issues, begin to construe such events in an attempt to revise their theories of the world. Successively construing the replication of these events will alter the individual's construction system, and thereafter, such elements will be brought into their range of convenience. The implication of this Corollary is that a person's construct system may be subject to continuous movement and change over time. This may be able to explain the economic concept of diminishing marginal utility; in that each time an individual successively construes the 'good' in question, their construction of it alters.

# **2.32.8** Modulation Corollary: "The variation in a person's construction system is limited by the permeability of the constructs within whose ranges of convenience the variants lie".

Permeable constructs and construction systems allow the inclusion of new elements; impermeable constructs do not. For instance, the construction system of a Monetarist may restrict him/her to a view of increased public expenditure and higher budget deficits as negative, and will exclude the possibility of these measures being construed as a positive way to stimulate the economy (in the way that a Keynesian construction system might). Monetarists and Keynesians may be seen to be individuals with highly specific and impermeable constructs for certain events, but not for others. A number of other economic issues may be related to permeability; for example, entrepreneurs may have more permeable constructs than other individuals, unemployed people with permeable constructs may fare better whilst out of work than those with more impermeable constructs; and advertising may influence consumers who have a high number of permeable constructs.

**2.32.9** Fragmentation Corollary: "A person may successively employ a variety of construction subsystems which are inferentially incompatible with each other".

The superordination of some constructs over others can be seen to explain why some aspects of a person's behaviour may appear to contradict others. For example, wealthy supporters of the Labour Party are often criticised as being "champagne socialists", or are labelled as hypocrites for sending their children to private or grant maintained schools. However, these beliefs and actions are not incompatible or contradictory if one views them in terms of the subordination and superordination of certain constructs over others in the system, (such as the importance of their children's education being superordinate to Labour Party education policy) or of subsystems within the overall system. Similarly, a contradiction might be seen in an individual who is a regular gambler, but who simultaneously holds a variety of insurance policies. The Fragmentation Corollary may also be able to explain why individuals say they will vote one way, but actually vote another; why specified buying intentions may not always match actual buying behaviour; and why higher tax bandings may not necessarily reduce the incentive to work and achieve higher earnings.

**2.32.10** Commonality Corollary: "To the extent that one person employs a construction of experience which is similar to that employed by another, [her/his] psychological processes are similar to those of the other person".

Sometimes individuals share similar constructions of events and agree on a certain view of the world; they may have had different experiences, but they come to the same conclusions about certain events. For example, the culturally prescribed constructs for being employed show commonality in construing. Also, groups of professionals will often use a similar construction of experience; for example, people in the same job, the same company or the same political party.

**2.32.11** Sociality Corollary: "To the extent that one person construes the construction processes of another, [s/he] may play a role in a social process involving the other person".

In order to communicate effectively with others, one should be able to understand the way other people may be construing events; that is, one has to be able to "effectively construe the other person's outlook" (Kelly, 1955, p. 67). For example, the successful advertising and marketing of products relies on, among other things, the advertiser's ability to predict how the potential consumer will perceive the product and its features. Similarly, when there is a discrepancy between what a Government construes as signs of economic recovery and what the electorate construe as continued economic uncertainty, one might argue that in Kellian terms, the Government in question has failed to predict accurately what the electorate will do and have not adjusted themselves, or the presentation of themselves, to their behaviour.

## **2.33 Range of Convenience -** "the events and objects to which a construct may usefully be applied".

For example, the construct <u>Monetarist - Keynesian</u> is relevant to the field of economics, but the seasons of the year would be elements that most individuals would put outside the range of convenience of their construct of Monetarist - Keynesian. Similarly, there will be individuals who do not make use of the construct Monetarist - Keynesian at all; they will use different constructs for the elements of economics.

**2.34 Circumspection-Preemption-Control Cycle (C-P-C Cycle) -** "The decision making sequence of construction, in which the individual moves from circumspection to preemption and finally to control/choice".(A fuller discussion of the C-P-C Cycle can be found in section 3.12)

Circumspection involves the propositional construing of elements; preemption narrows the field of choice to one dichotomous construct, and finally, the elaborative choice (effecting control) may be made. However, before the final choice is made, the person may feel the need to revert back to the circumspective stage or may even get 'stuck' at one particular stage. Individuals vary in the length of time they spend at each stage and this is exemplified by impulsivity, which Kelly (1955) defines as the foreshortening of the whole cycle. This may explain impulse buying where an individual shortens the cycle, or saving, where an individual delays buying by lengthening the cycle.

In economics and politics, individuals who efficiently and successfully run the C-P-C cycle, often when under pressure, are seen as great entrepreneurs or leaders. An example of this may be the case of George Soros, the private investor who made £1 billion profit in September 1992 when he made the decision to convert over £10 billion into German marks on the belief that sterling would not be able to maintain its value in the ERM. The circumspection stage of his actions can be seen in the way he assessed the possible alternatives available, and his judgement of the risks involved. In an interview with The Observer (1994) he states "it was an obvious bet, a one-way bet. At worst, if I had to repay what I had borrowed at the same rate I had borrowed at, I would have lost at most about four per cent. So there was really very little risk involved" (p.11). Thus, one interpretation might be that having construed the alternatives circumspectively, Soros then disregarded all other issues to set up the preemptive choice point of being, in his judgement, right over wrong, and then followed with the actual choice of how many billion to bet. It could be suggested that in this instance, he anticipated that the greater possibility for the extension and/or definition of his system would come from betting £10 billion. As it turned out, his prediction was in fact validated.

#### 2.35 Dimensions of Constructs

Kelly (1955) suggests a number of dimensions along which constructs may be plotted. For example, the following construct dimensions refer to the nature of the control a construct has over its elements, be it: <u>preemptive</u>, <u>constellatory</u> or <u>propositional</u>.

**2.35.1** Preemptive constructs are characterised by their restrictive and exclusive nature. They are typified by such statements as "the unemployed are only unemployed because they do not want to work", or "budget deficits can only be seen as financial mismanagement". Thus, a preemptive construct preempts its elements for

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membership in its own realm exclusively. This type of construing rules out the possibility of other alternatives.

2.35.2 Constellatory constructs allow their elements to be members of other realms, but at the same time, fix any possible alternative constructions. For example, "a policy which deals with inflation must also control the money supply with high interest rates", or as John Major stated in 1989 "if a policy is hurting, it must also be working". This type of construing is typical of stereotyping, as elements are only allowed to be certain, other, specified things and not anything else. For example, "anyone who is unemployed must also be work shy". This way of construing, like preemptive construing, is restrictive and does not permit further elaboration and reviewing of the construct.

2.35.3 Propositional constructs may be seen to be at the other end of the continuum. They do not fix the realm membership of their elements, but they acknowledge the possibility of alternative constructions. They are typified by expressions such as "possibly", "as if", "may also". For example, "in times of recession, the government has a number of options to help stimulate the economy, one of which may be to increase spending on the infrastructure", or "the unemployed may be considered among other things, as victims of industrial change".

#### 2.36 Dimensions of Transition - Anxiety, Threat, Fear, Hostility and Aggression

**2.36.1** Anxiety - "the awareness that the events with which one is confronted lie outside the range of convenience of one's construct system" (Kelly, 1955, p.391).

Potential choices in economic areas might provoke anxiety because, the experimenting individual may be aware that the choices could involve events which they cannot predict or control. For example, purchasing shares or PEPs, or deciding which type of savings account is the best option - instant access, 90-day notice or another. In such cases, consumers will be "torn between specialisation in areas that they know, but where there is little further prospect for growth, and diversification into hazardous new areas" (Earl, 1990, p.734). This may explain why individuals often fail to delay gratification; they may be anxious about waiting for future events

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in case they lie outside their range of convenience. Similarly, gamblers may feel that they can manage the uncertainty with which they are faced, and therefore, do not mind taking the risk, or do not even construe it as a risk in the first place.

## **2.36.2** Threat - "the awareness of imminent comprehensive change in one's core structures" (p.391).

Threat is when one faces deep changes in oneself and one's way of life; it is the experience of being on the brink of a significant change in one's core construct system. This can be illustrated by the example of a stockbroker who is becoming increasingly aware that s/he has invested in an unstable company and may lose a great deal of money; the consequences of this event have the ability to fundamentally change his/her life. Another example is that of an employee who faces redundancy after many years of service and is faced with unemployment perhaps for the rest of his/her life, as well as the accompanying significant change in prosperity.

## **2.36.3** Fear - "The awareness of an imminent incidental change in one's core structures" (p.391).

Fear relates to a narrower variety of events than those relating to threat. It may be typified by an individual's reaction to an increase in interest rates or taxation; these are changes which are incidental to an individual's system and which do not necessarily imply a change in any core construct.

## **2.36.4** Hostility - "the continued effort to extort validational evidence in favour of a type of social prediction which has already proved itself a failure" (p.375).

Hostility may be illustrated by the example of politicians who, despite evidence of failure, continue with exactly the same policies. For example, on September 16th 1992, the British Conservative Government spent (approximately) £6 billion in a determined, but unsuccessful effort to keep sterling in the Exchange Rate Mechanism. In this instance, hostility may be seen to be what Kelly (1955) defines as "persistent irrealism".

Kelly (1957) believes that the concept of hostility must be considered from the standpoint of the person who is acting in a hostile manner. "The hostile person distorts his [/her] data to fit his [/her] hypotheses" (p.276). This is the hostile choice - closing one's mind to the real world, and it occurs when the individual's false prediction would entail the modification or abandonment of the constructs involved which are integral to the system as a whole. Such a dramatic revision of the system threatens chaos and, hence, the individual would prefer to distort the available evidence in order to confirm his/her original prediction, rather than face the collapse of his/her construct system. A further example of this in economic terms, might be the case of a government which believes that in order to lower the PSBR, cuts have to be made in the welfare services even though the young, sick and elderly might suffer, and even though this may have already proved not to have solved the budget deficit problem before. In this instance, alternative ways of reducing the PSBR, for example cutting down on waste and inefficiency, are not explored.

#### 2.36.5 Aggressiveness - "the active elaboration of one's perceptual field" (p.391).

Individuals who continuously set up choice points in their lives which require decisions and action are described by Kelly (1955) as being aggressive. He states that in the "business world aggressiveness is often labelled 'a good thing'. It is the mark of the 'coming' or the 'successful' person (p.374). Such a description would be typical of an individual labelled as an entrepreneur. One might argue that entrepreneurs are open to new ideas and can integrate them within their organised system; in this way they can be seen to have permeable, superordinate constructs. Thus, permeability can be linked with aggressiveness and impermeability with hostility.

#### 2.37 Aggressiveness v Hostility

In psychology as a discipline, and in the activities of everyday life, the concepts of aggression and hostility are often used inter-changeably from the viewpoint of the "victim" or "target" of the behaviour. In most psychological theories, aggression is defined as some kind of overt physical or verbal attack or destructive behaviour, and in many cases, both aggression and hostility are viewed in a similar manner. The

mainstream use of these terms may be seen to confuse the concepts as Kelly defines them.

In the Psychology of Personal Constructs this is not the case; Kelly (1955) suggests that the two concepts describe completely different forms of behaviour, and argues that the focus should be on the person who is acting in a hostile or aggressive manner not on the reactions of the victim. In Kellian terms, the hostile or aggressive person can be seen to construe events and the world in different ways. The excessive use of preemptive constructs can be seen to be characteristic of hostility, in that the individual does not allow any further evidence or alternatives to influence his/her original choice of action. In contrast, the aggressive person is continuously looking to elaborate his/her perceptual field, and is thus, open to more and more information. However, neither individual can rely on the sole use of these types of construing, and therefore, at times, both will resort to using constellatory or stereotyped constructs to simplify a situation. Kelly (1955) states that "aggression ... is more akin to initiative" (p. 286), whereas hostility is a hindrance to human progress and achievement. Thus, entrepreneurs may be seen to be aggressive rather than hostile; although one should bear in mind that these types of construing are not mutually exclusive, and it is possible for an individual to be aggressive in their hostility.

In order to differentiate experimentally between hostility and aggressiveness, one could utilise the potential differences in Keynesian and Monetarist styles of economic construing. Such differences may manifest themselves as variations in the use of preemptive, constellatory and propositional constructs, and may also be related to differences in the degree of permeability of different construct systems. By asking individuals to rate economic statements according to their preference for their preemptive, constellatory or propositional content, one is putting the person in an 'action decision' situation in which the C-P-C Cycle will be involved. The preference of propositional statements by some individuals could therefore, be linked with the circumspective stage of the cycle, and the preference for preemptive statements could be linked with the preemptive stage of the cycle. Most individuals will use all of the styles of construing at one time or another, as it is rare to find an individual who will

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consistently apply a construct either totally propositionally or totally preemptively. This is because exclusive use of propositional constructs would result in confusion and indecision, and exclusive use of preemptive constructs would result in a completely restricted outlook. Therefore, both hostile and aggressive individuals also make use of constellatory constructs. Thus, in accordance with the idea postulated by Conway and Currie (1973) hostility may be characterised by preemptive and constellatory constructs, and aggressiveness may be characterised by propositional and constellatory constructs.

#### Chapter 3

### 3.1 Philosophical Issues and Research Supporting the Psychology of Personal Constructs as a Field of Exploration in the Present Research

#### **3.11** Philosophical Issues

The Psychology of Personal Constructs considers the person as a "scientist" who is in continuous experimentation. Movement, is seen as the "phenomenon rather than the epiphenomenon"; and Kelly (1955) states that the Psychology of Personal Constructs is "a dynamic psychology without the trappings of animism, a perceptual psychology without the passivity, a behaviourism in which the behaving organism is credited with having some sense, a learning theory in which learning is considered so universal that it appears in the postulate rather than as a special class of phenomenon, [and] a motivational theory in which [the person] is neither pricked into action by the sharp points of stimuli nor dyed with the deep tones of hedonism ..." (p.34). This eloquent description of his theory is guided and influenced by the philosophy of constructive alternativism; Kelly is clearly stating that he does not want to pigeonhole his theory as the psychology establishment would like.

The Psychology of Personal Constructs has its roots in the philosophical thoughts of Thales, Anaximander, Heraclitus, Socrates and Plato, who believed in the dialectical nature of all things. All events are inter-linked and bipolar; life is dynamic and everything has a theme of oppositions. Heraclitus stated that "things taken together are wholes and not wholes; being brought together is being parted; concord is dissonance; and out of all things, one; and out of one, all things" (Magill & McGreal, 1961, cited in Rychlak, 1977, p.60). Meaning is only understood because of an implicit awareness of opposites; indeed, Plato proposed that "through an internal dialogue of oppositions we gradually stumble upon a possible then likely then certain course of knowledge" (Rychlak, 1977, p.62). Radley (1978) supports this idea when he states that "when reflecting upon how [a person] might act, or anticipating possible alternatives, ... a person is divided against [her/] himself" (p.187). Not only can one see the similarity between these propositions and Kelly's (1955) concept of the C-P-C Cycle, but one can relate Kelly's distinction between constructive alternativism and accumulative fragmentalism (the latter being the belief that truth and reality can be measured and set aside while one moves on to the next thing which needs to be measured) to the long-standing arguments between the dialecticians and those who favoured unipolar distinctions such as Parmenides and Aristotle. Throughout history, philosophers have usually felt an affinity for either one side of this debate or the other; and in more recent times, Hegel and Kant have furthered the dialectical movement.

The distinction between constructive alternativism and accumulative fragmentalism can also be related to the discipline of traditional economics. As Buchanen (1982) suggests most economists believe they should practice in the same way as the natural sciences; that is, they should strive to accumulate knowledge. This belief owes much to the Aristotelian mode of thought, which emphasises the accumulation of nuggets of truth and knowledge. In contrast, as Warren (1990) states, "personal construct theory, in stressing the disciplined study of the 'inner' outlook as an alternative to the scientific psychologies of the 'outer' inlook and the experiential psychologies of 'inner' inner feelings (Kelly, 1963, p.183), attempts to explicitly move beyond the limited frames of reference of psychology dominated by the Aristotelian mode of thought" (p.272).

Bannister and Mair (1968) believe that Personal Construct Theory implies that an individual's personality is the way in which s/he views, experiences and experiments with the world, and it differs from other theories in explicitly specifying different kinds and degrees of change. Kelly (1955) suggests that with his theory, a better understanding of the person may come from viewing him/her as an integrated part of the past and of the environment. Human progress over the centuries can be seen to be due to the inherent inquisitiveness of men and women who are "personal scientists". He argues that the ultimate aim in life is to predict and control events and the environment, and every individual has their own personal set of hypotheses about the nature of the universe which they are continuously testing and evaluating the evidence for and against these hypotheses. The control or choice of an alternative is a function of the side of the construct which better facilitates elaboration of the system; that is,

"permits the permeable addition of elements and sets the stage for a programme of testing and validation without undue loss of structure" (Kelly, 1955, p.383). This notion of control is relevant to the self as well as to external objects; for both, the aim is to achieve greater freedom of movement and validation within one's construct system.

The Psychology of Personal Constructs posits that people are part of a real universe, which functions in time as a single unit; and everything is linked to everything else in continual motion. The universe is real to every individual, but there are always alternative constructions available. An individual's concept of reality is only one particular construction, at one particular moment in time, to one particular person. This philosophical position has obvious links with Kant's (1724-1804) distinction between the phenomenal and noumenal world; that is, the accessible world of appearance as distinct from the inaccessible world of the intrinsic substance of objects. Knowledge of the latter is impossible as it is dependent on them being perceived as sensory phenomena; however, knowledge of the former is possible, because it is dependent on the way an individual thinks about, perceives and categorises events and objects (Klein, 1970).

For Kant (1724-1804), the mind should be the focus of enquiry for understanding the world; more specifically, the constructions of the mind. The world only appears to us the way it does, because of the constructions we place upon it; in this way, behaviour is governed by the way a person construes the world (cited in Rychlak, 1977). Kelly (1955) describes constructs as "transparent patterns or templets" which are created by the individual who tries to fit them over "the realities of which the world is composed" (p.7). A person fits their own constructs to the 'realities' in the world, and attempts to find the best fit possible by changing constructs or creating new ones. The individual's system of constructs has a limited range of convenience ; that is, it is only applicable to certain areas of life, and an individual "can never make choices outside the world of alternatives [s/he] has erected for [him/herself]" (Kelly, 1969, p.88). However, ranges of convenience can be extended, but this may cause difficulties for the individual if the fit is poor. Although, even a poor fit is more helpful to the

individual than nothing at all; as Kelly (1955) states "without such patterns [constructs] the world appears to be such an undifferentiated homogeneity that [one] is unable to make any sense of it" (p.7). Kelly summarises his ideas about life by stating "life, then, to our way of thinking, is characterised by its essential measureability in the dimension of time and its capacity to represent other forms of reality, while still retaining its own form of reality"(p.7).

Thus, the whole basis of Kelly's (1955) theory is the idea of continuous change and motion along the dimension of time. Change, anticipation and prediction are the key concepts in the theory and the ultimate aim of all people is the anticipation of events. Kelly states that "anticipation is both the push and pull of the psychology of personal constructs" (p.34). It is the predictive and motivational part of the theory, with each individual being seen as active, dynamic and continuously involved in decision making and learning. Bannister and Mair (1968) state that the person is "a form of perpetual motion with the direction of the motion controlled by the ways in which events are anticipated. The ways in which a person anticipates events are defined by [the individual's] personal constructs. A construct is the way in which some things are interpreted as being alike and at the same time different from other things" (p.13). One of the aims of the present research is to investigate the ways in which peoples' constructs differ in relation to economic elements.

The notion that the individual is a "process in being" is perpetuated by Boxer (1982) who poetically suggests that "like a flowing stream, the individual's behaviour is construed as the dynamic choices implicit in his onward flow across the epigenetic landscape of his construing. The process of choice lies at the centre of the development of the individual's construction system, and it is this system that forms the landscape that channelizes the onward flow of the individual's processes" (p.113). Kelly (1962) himself states that "the fundamental thing about life is that it goes on. It isn't that something makes it go on; the going on is the thing itself. It isn't that motives make man come alert and do things; his alertness is an aspect of his very being" (p.85). In addition, he states that "behaviour is not the answer to the psychologist's question; it is the question" (Kelly, 1966, p.21).

Traditionally, it can be argued that psychology has not concerned itself with the person per se as the Psychology of Personal Constructs does, but instead has concentrated on moving objects (Bannister & Fransella, 1986). Psychologists have studied behaviour, but behaviour, in Kellian terms, is not a reality it is an interpretation; by labelling it, one must have already construed it and thus, placed an interpretation upon it. Bannister and Fransella (1986) argue that "interpretation free contact with reality" is impossible; behaviour must be related to the person carrying out the behaviour. In this way, "behaviour is not a reaction, but a proposition. Behaviour is an experiment" in which people test their hypotheses (p.31). It is possible to explore and describe an individual's hypotheses and the behavioural experiments in which the hypotheses manifest themselves and this is the justification for the Studies, which follow.

According to Kelly (1966) then, life is composed of one choice after another and the only constraints to choice are physical limitations and the limits imposed by the person's construct system itself. Choice of action is always in the direction of increasing predictive efficiency. The Choice Corollary states that a person always chooses that alternative in a dichotomised construct which provides the greater chance of extending or defining the construct system; movement is always in the direction of increased meaning in an individual's own terms.

Renshon (1979) suggests that real life provides a number of different experimental situations; "individuals prefer to select and travel their own life paths and when allowed or able to do so, they will generally perform better and experience concomitant feelings including satisfaction, optimism and an increased sense of self worth. The question that arises is why the individual should have such a preference; i.e. what is its origin, nature and developmental path?" (p.41). Control over one's choices can therefore be seen to be of the utmost importance; and for Kelly (1955), control allows the person to elaborate his/her predictive efficiency, while at the same time, sustaining a secure, underlying system. For example, in economic terms, this

type of control may be illustrated by the difference in the experience of control in the employed and the unemployed.

#### 3.12 Previous Research using Personal Construct Theory

The present research aims to add to previous research using Personal Construct Theory and to further Kelly's wish for the Psychology of Personal Constructs to be "provocative" and "fertile", rather than "legalistic". He believed that construct theory could be taken in a number of different directions and in reality his theory has given rise to much comment and experimental work. The Studies, which follow in the present research, will take Personal Construct Theory into the realm of economics.

Fransella (1988) has pointed out the unusual features and presentation of the theory, and states that it is a very detailed, precise and abstract theoretical system. However, it is also reflexive and focuses on the person as an active scientist. There is no detailed bibliography showing the origin of Kelly's ideas and some of his ideas have proven to be controversial and challenging. For example, his views on motivation and his disapproval of the accumulative fragmentalists. Mischel (1980) also describes the Psychology of Personal Constructs as an unusually systematic and comprehensive approach, which enjoys an enduring, contemporary appeal. Similarly, Jahoda (1988) states that Kelly "deals with persons not with variables. Indeed, it is his commitment to the whole person that forced him to broaden the concept of cognition. What is more he emphasised the uniqueness of every individual while not finding this a handicap in arriving at general statements about human beings". She adds that because his theory is explicitly formulated it "encourages critical development" (p.3). The author agrees with Jahoda's assessment of Kelly's commitment to the uniqueness of the individual and, as stated in section 1.23, this position will form the essential underpinning of all of the Studies to follow.

To illustrate the fertile nature of the Psychology of Personal Constructs, Katz (1984), in a theoretical paper, has suggested a new postulate called the "Origin Postulate" and a new corollary called the "Emotion Corollary". He argues that this will provide a more complete psychology of constructs than that proposed by Kelly (1955). The Origin Postulate states that each individual has primitive constructs with phylogenetic roots and these constructs change over time developing into new ones. The Emotion Corollary states "to the extent a person perceives an event in terms of primitive constructs and as a necessary consequence, reacts with a psychophysiological anticipation that is involuntary, transient and phylogenetically predisposed, s/he experiences an emotion" (p.321). In addition, other theoretical papers by Thomas (1988) and McCoy (1977) have respectively proposed the addition of a "Self Awareness Corollary" (cited in Fransella & Thomas, 1988), and a complete reconstruction of emotion. These extensions to Kelly's original theory support his belief that a good scientific theory should provoke experiments and inspire others to develop new ideas.

Other developments in research in Personal Construct Theory have been proposed by Landfield (1977, 1988). He has investigated the concept of validation and invalidation which he states follows directly from the Fundamental Postulate with its anticipatory emphasis and from this, has derived the construction of "literal assumption" versus "hypothesis". From Kelly's (1955) metaphor of the scientist, Landfield (1988) has made a distinction between persons who play literal assuming roles, and those who play hypothesising roles. He states "whereas even strong hypotheses allow the person some openness to invalidational alternatives, a literal assuming approach denies negating evidence" (p.241). The assuming literalist is no longer in need of validational evidence, because their views and feelings about events and relationships have, in their mind, been totally validated. Hence, they believe that they know, and assert, the final truth.

An interpretation of Landfield's roles could be illustrated by the events of September 1992 and the British Conservative Government's initial, unwavering adherence to the DM2.95 exchange rate in the ERM. In this case, the literal assuming minded Chancellor and Prime Minister simply knew that this policy was the only possible option, that the value of sterling was going to be maintained no matter what, and that Britain would never leave the ERM. They continuously asserted this despite evidence to the contrary; in Kellian terms, they believed that it was not necessary to further test

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the logic of their assumptions. Validation, in their case, came from other like-minded Party members, economists and business people who also felt no need to examine any contrary or alternative information or evidence. This could be seen to be preemptive and hostile in the Kellian sense, and has important implications for the strong sense of belief and conviction which individuals place in certain ideas or courses of actions; particularly in the economic and political spheres..

In contrast to the literal assuming role, the hypothesising approach "never closes down on data. The experiment never reaches an absolute conclusion. This leaving of room for the contrary allows the person to encounter new experience and change his or her mind and behaviour" (Landfield, 1988, p.241). This can be seen to be aggressive behaviour in Kellian terms. In economic construing, this could be illustrated by the Keynesian approach to economics which tolerates the possibility that large budget deficits may be an acceptable alternative during recession, and which also sanctions government intervention under certain circumstances to help guide the economy.

Landfield (1988) also cites the existence of a third kind of person; one who "appears constipated in his or her decision making. This person, caught up in circumspection, shies away from expectations of any kind. He or she demonstrates reluctance in defining situation, person, or validating evidence. The feeling of being wrong, rather than leading to new expectations and learning, simply becomes a reminder of his/her inadequacy" (p.241). Thus, evidence can be seen again for the idea that events themselves are neither validating nor invalidating; it is the person's prediction, which is either validated or not validated. As Kelly (1966) states "validity is a matter of the relationship between the event as it happened and what the person expected to happen. More correctly stated, it is the relationship between the event as [s/he] construed it to happen and what [s/he] anticipated" (p.275).

One might suggest that the way Landfield (1977, 1988) chooses to categorise individuals and opts for such broad generalisations only serves to confuse the issue. Such character sketching and, what Kelly (1955) might call "Aristotelian"

pigeonholing", does not necessarily serve to further the debate about differences in construing, but merely exemplifies preemptive construing. In contrast however, one can also argue that the exclusive use of only propositional construing in this matter could lead to fragmentation, leaving the researcher unable to pinpoint their argument, and may result in them attempting to validate the wrong issues in a wave of confusion. Consequently, as Landfield (1988) states "superordinate, organizing constructions are needed if one is to more thoughtfully select the most appropriate constructs for a particular situation" (p.240). This premise will be exemplified in the Studies which follow; for even though a number of constructions and interpretations of the results of the Studies are possible, it lies with the author to make the choice of the superordinate, organising constructions which will be reported. In this way, the author can set out what is, as Kelly (1955) states, the "crux of the various issues [which are being] considered" (p.379).

#### 3.12.1 Research into the C-P-C Cycle

Chambers (1983) has investigated circumspection and preemption in personal construing. He developed a grid that measures the integrative complexity of constructs and compared grid measures of logically inconsistent and preemptive construction and scores from the 16PF Questionnaire. He found that "logical inconsistency was correlated with several traits suggesting neuroticism. Preemption was correlated with several traits suggesting an incredulous approach to life" (p.33). Chambers also looked at "the personality traits of persons that tend to utilise preemptive more than propositional construction, and that tend to be more logically inconsistent" (p.33). Kelly (1955) suggests that there are those people who are stylistically preemptive or circumspective in the way they approach life. "Preemptive people prematurely terminate the circumspection phase. They tend to be rigid and dogmatic. Such avoidance of propositional construction is characterized by persons who approach life with an incredulous attitude. They are sceptics who shield themselves from the potentially threatening complexities of circumspection by fragmenting the world into categories or stereotypes. People that are stylistically preemptive prefer to judge instead of to describe the world" (Chambers, 1983, p.34).

In contrast, those who construe circumspectively, use a series of propositional constructs either in succession or simultaneously.

It can be argued that by focusing on constructive alternativism, Kelly himself preferred propositional construing which allows for alternative interpretations of events rather than, for example, the stereotyping and simplicity of constellatory constructs which can only function interdependently within a group, and the rigidity of preemptive constructs which lead to a simplistic and inflexible view of the world. In economic decision making, the compulsive risk taker could be seen to be an example of a preemptive construer. Landfield (1988) cites the example of the compulsive risk taker who invests his/her life savings in a high flying, but unstable investment recommended by a friend. When the investment fails, the investor is merely spurred on to take further risks, because s/he has ignored the invalidation and believes that their luck must change soon. In addition, chronic gamblers may illustrate how invalidation can be ignored during the C-P-C Cycle at the circumspection and control stages; this failure is construed by the gambler as a "one off". This outlook has also been termed the gambler's fallacy; that is, the belief that past failures actually mean that a future win or success is even more likely and imminent.

Chambers' (1983) research using the repertory grid to measure the complexity of constructs has shown that "integrative complexity correlated negatively with the use of preemptive styles of construction" (p.34). He cites the findings of other experiments, which suggested that "the logically inconsistent person tends to be [among other things] suspicious, apprehensive, worrying, depressive, troubled, full of foreboding and has tendencies to childlike anxieties. The inconsistent person tends to be 'tense, driven, and frustrated'. They are 'shy, restrained and diffident' and lack venturesome spontaneity, abundant emotional response, and the strength to deal with gruelling emotional situations without fatigue" (p.35). These descriptions and lists of characteristics again seem to be rather extreme and rigid, and one might argue that in all of these cases, it is a matter of degree.

Chambers (1983) has stated that logically consistent subjects "tended to be more 'imaginative, creative and less limited to what is obviously possible' ... [however, they do also tend to be] "reserved, critical, rigid and sceptical. This may point to the preserving function of preemption" (p.35). The subjects who achieved a low score on integrative complexity could be described as "reserved, detached, aloof, critical, rigid and sceptical'. They tended to be more 'sober, serious, prudent, and cautious'. They lack 'venturesome spontaneity' and 'happy-go-lucky enthusiasm'"(p.35). Chambers (1983) argues that his results suggest that preemption as a style of construction, is characterised by "an incredulous and less open-minded or circumspectively elaborative orientation to life" (p.35). He claims that these results support his findings, which link lower integrative complexity with preemption, and cites research by Chambers and Epting (1983) which found a link between logical inconsistency to neuroticism. In economic construing the above distinction may be exemplified by the example of the cautious investor who would rather opt for safe, but low returns on a building society savings account than risk a higher, but uncertain return on an investment such as stocks or shares.

Thus, it can be argued that a greater understanding of a person's personality and decision-making behaviour can be achieved if one examines aspects of an individual's running of the C-P-C Cycle. Chambers (1983) suggests that in the future, researchers could ask subjects to use a circumspective or preemptive style when completing their grids in order to see whether or not people believe that they can adopt an open or closed mind of inquiry, and also how their behaviour varies accordingly. However, this type of experiment would be based on the assumption that it is easy for an individual to change their style of construing, merely by asking them to do so, and as yet, this has not been substantiated by clinical research in particular (Kelly 1955).

In their theoretical paper examining the C-P-C Cycle, Kolb and Frey (1975) have described it as an experiential learning cycle which begins with reflective observation and ends with active experimentation; from this comes action and then the same cycle begins again. They suggest that the process of circumspection, preemption and control which leads to choice should not be described as a cycle, but rather as movement between various levels. They argue that it is more useful to construe a cycle as occurring between each of these levels (cited by Boxer, 1982). One can argue that this interpretation would also compliment the principle behind the Fragmentation Corollary of construction subsystems by allowing for the simultaneous existence of incompatible subsystems.

In summary, Kelly's (1955) view of the decision making process which he defines as the C-P-C Cycle can be seen to follow a predictable pattern, beginning with a period of deliberation and reflection on the available alternatives and their consequences for themselves and for others and ending with a choice of action if a suitable alternative is found. However, often an individual will fail to recognise certain available alternatives; and Kelly believes these to be the choices, which would have far reaching consequences for the person, and which clash with his/her already established view of the self.

According to Corbin (1980), Kelly's ideas on decision making are not really controversial. She states that it is an accepted belief among psychologists that a decision-maker passes through certain stages and includes under these stages: problem clarification, information collection, deliberation, moment of choice and postchoice behaviour in the typical model (cited in Earl, 1983). The model used by other psychologists may or may not be cyclical, however, one can see similarities between Corbin's description of the decision making process and the circumspection, preemption and control aspects of Kelly's Cycle.

Landfield (1988) has furthered the theoretical understanding of the C-P-C cycle and suggests that it encompasses the alternating tightening, loosening, dilating and constricting of one's constructs. He gives as an example of this, the activity of 'brainstorming' which, he believes, illustrates the case of dilating and loosening evident in circumspection. Following this circumspective phase, the person chooses some alternative or prediction (preemption) and follows this through to discover the validational implications (control) of their choice. Landfield (1988) states "within the

context of this cycle, we can appreciate how the Choice Corollary can refer to either immediate or delayed clarities in construction. Certain persons choose in the direction of an immediate clarity, where there is no time for circumspection" (p.239). Kelly (1955) described such persons as impulsive, because they immediately go into the preemptive phase of the cycle and opt for the first available evidence of validation without bothering to continue their search for alternatives. This could be illustrated by the actions of the consumer, who only ever buys the same brands of products, which s/he has always bought; or the individual who fails to delay gratification.

In sharp contrast to the impulsive person, who avoids the circumspective phase, Landfield (1988) argues that one could become stuck with circumspection; he states "Perpetual 'ditherers' and 'foot draggers' may experience acute anxiety at making even tentative and exploratory choices or anticipations" (p.239). Similarly, the person who relies on the 'exclusive' use of only propositional constructs may end up in a fragmented, disorganised and confused world. This type of construing may be illustrated by the consumer who cannot make a choice between comparable products, and is stuck in deliberation indefinitely.

Related to this, is the distinction between loose and tight construing, which has already been mentioned briefly. Delmonte (1990) suggests that loosened construct systems are characterised by vagueness and uncertainty. The loose construer is indecisive and not easily able to make firm predictions. Alternatively, tight construing, among other things, "tends to be logical, analytical, judgmental, legalistic, numerical, scientific, and so forth. The essence of loose construing is that it cannot be invalidated. When one thinks loosely, one is protected by a type of resilience or elasticity in the face of a threatening reality which might shatter our constructions were they any tighter" (p.79). However, loose construing has several important functions; it tends to expand the construct's range through increased elasticity, and thereby, can admit new elements into the range of convenience of a construct. This has important links with Kelly's (1955) notion of permeability; in that loosening can allow the construct system to become more permeable.

## 3.12.2 Research Focusing on the Psychology of Personal Constructs and the Political Realm

The desire for personal control over events is carried into the political process. Renshon (1979) states that people feel that they should have some control in the democratic political process, but often do not feel that they have this control. Lack of personal control in the politics of the country can lead to confusion and feelings of powerlessness. Renshon (1979) has carried out research in order to uncover the nature, development and political implications of beliefs in personal control. His data suggested that "low levels of personal control beliefs were associated with low willingness to trust others, which carried over to a lack of faith in government" (p.58). These individuals saw the political system as ineffective and government policies as being responsible for their misfortune; they were also impatient for political change.

These issues of control can be linked to notions in the Psychology of Personal Constructs. For Kelly (1955) there is a relationship between control, versus constriction-dilation, and preemption-circumspection. Constriction allows the individual to limit the number of elements to be construed; for example, "Just these economic elements and these only, are to be construed as part of macroeconomic policy". In this way, the individual can narrow his/her perceptual field and thereby, increase feelings of control. Control is also maximised by preemption - the ruling out of other constructs. For example, the belief "all of these people without work are the unemployed and nothing but the unemployed".

Fransella and Bannister (1967), who are two of the major proponents of Personal Construct Theory in Britain, have also employed the ideas in The Psychology of Personal Constructs in their analysis of the political process. They carried out research aimed at predicting the way an individual would vote on the basis of the relationship between evaluative constructs, such as <u>sincere</u>, and political party constructs, such as <u>likely to vote Liberal</u>. Their results showed an intercorrelation between evaluative and political constructs, and prediction of voting behaviour. Bannister (1979) states that Personal Construct Theory is relevant to this type of research because, "political theories are acts of construction" (p.23). He argues that

the "left" versus "right" dichotomy in politics is a superordinate construct with hierarchical implications. The prominence of the left versus right dichotomy will be seen in a number of the Studies to follow, and indeed is an important justification for the design and content of the Studies.

Previous research along similar lines by, Du Preez (1972, 1980) has also focused on the opposite constructions of political parties. He has consistently used the Psychology of Personal Constructs in a detailed examination of the way different political parties in South Africa construed alternative courses of action. Firstly, he established "a set of representative statements, or clear cases, in each party". Secondly, he "set up a dictionary of constructs and scored ... [each] of the dictionary types in every speech in the selected years in which there is a reference to Native, Bantu, or African affairs" (Du Preez, 1972, p.26). He found that only 46 constructs accounted for 90% of 685 speeches. These constructs were different for each party; the National Party used the construct white survival-loss of autonomy culture and even life, whereas the United Party used the construct economic efficiencyimpractical ideology. Thus, he concluded, perhaps not surprisingly, that different parties have different ways of construing and hence, construe reality in different ways. Du Preez argued that his research had confirmed "the value of Kelly's Personal Construct Theory for the analysis of human exchanges" (p.39). The research by Du Preez is a valuable precursor to the design of Studies One and Two in the present research in which a set of representative statements, highlighting various types of constructs from economists and politicians, are examined in order to discern the way economists and different political parties in Britain construe alternative courses of action. This will be more fully described in Chapters Five and Six.

The purpose of this Chapter has been to describe and summarise previous relevant literature and both theoretical and experimental studies in the area of research using Personal Construct Theory. The application of Personal Construct Theory to economic behaviour was, until the present research, an area, which had not been exploited. The summary of previous research, which has been discussed in this Chapter, offers a justification for the use of this theory in the present research. The author intends to approach aspects of Kelly's theory from a novel direction; that is, through the realm of economic decision making as well as to comment on economic behaviour in its own right. In addition, the author aims to examine parts of Kelly's (1955) theory which, thus far, have been neglected by other researchers.

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### Chapter 4 4.1 Methodological Aspects of the Research

The Psychology of Personal Constructs comes complete with its own mathematical and statistical instrument to be used in analysing an individual's construct system the Grid Form of the Role Construct Repertory Test. For many years, both those interested in Personal Construct Theory, and those from other fields have made use of this tool. For example, in the study of perceptions of seaside resorts (Riley & Palmer, 1976), architectural and environmental design (Honikman, 1976), environmental perception (Stringer, 1976 cited in Slater, 1976), shopping behaviour (Reynolds & Jamieson, 1985) construal of films (Carver, 1967), and airline studies (Gutman & Reynolds, 1983 cited in Earl, 1983).

Other researchers have tried to develop and extend the Grid's application even further; for example, Hinkle (1965) and his laddering technique in which an individual indicates the hierarchical integration of their construct system with subordinate constructs leading to higher level superordinate constructs. Unfortunately, one could argue that too often researchers have adopted the Grid methodology without considering the theory on which it was based. An important and interesting point for the position of the current research is that there are some parts of the theory, which cannot be analysed using the Grid; such as the dimensions of transition (constructs relating to transition/change, namely: threat, fear, anxiety, guilt, hostility and aggressiveness. These are characteristics of personal construction, which have an influence on the way individuals adjust themselves to changing events). Therefore, in this piece of research, it was felt that the Grid methodology would not be sufficient to explore all of the theoretical aspects of the Psychology of Personal Constructs, which have a bearing on the construing of economic issues. Hence, as well as utilising Kelly's (1955) methodology, the author has also developed an exploratory tool to examine Kelly's dimensions of transition and notions of control - preemptive, constellatory and propositional construing - and as a means of differentiating experimentally between them (see Appendix A and section 2.35 for definitions of the above terms). The inspiration for the idea of differentiating between these aspects of Kelly's (1955) theory was based on previous research by Conway and Currie (1973); however, the structure, content and development of the statements which are presented to subjects in a multiple choice type format are specific to the field of economics and this research project. (This will be discussed in more detail in Chapter 6).

#### 4.2 The Repertory Grid

The Grid is a method used to explore and investigate a person's construct system. In this way, one may be better able to look at things from another person's point of view. An individual is asked to consider certain elements and choose a meaningful way of describing how some of the elements are similar, but at the same time different from the rest. Basically, the Grid is a matrix comprised of elements by constructs and the individual is invited to indicate which elements hold some similarity for him/her and to write down the way in which this similarity manifests itself for him/her. The whole Grid is completed through a series of these constructions.

One can offer a more specific description of the Grid procedure using Kelly's language - the individual is asked to indicate in which way two elements from a sort of three are similar and, by the same token, dissimilar to the remaining third element (a sort is the selection and presentation of the three elements to the subject). The similarity is recorded as the "stated" construct or pole, and the dissimilarity is recorded as the "implied" construct or contrast. The subject is then asked to indicate which of the other elements also have this similarity. This procedure is carried out for a specified number of sorts, say ten; that is, presenting the subject with a different triad of elements ten times. The sorting of the triads and the combination of different elements is a useful way to assess how the subject deals with the elements and for instance, how permeable their system is. For example, the same construct used for a number of different elements is evidence of a permeable system. In the case of economic construing, the sorts should be representative of those combinations of elements which the subject might in this case meet in their experience of economic life. They should represent the type of discrimination, which an individual may need to make in structuring their psychological space with reference to the particular realm

of economics. This is one example of how a researcher could encounter potential problems when using Grids, because care has to be taken in the choice of elements, the recording of the wording of the constructs, the type of constructs or elements (if any) which are to be supplied, whether or not the responses are to be in terms of a presence/absence Grid or a ranked Grid. Shaw (1979) states that when choosing elements "care must be taken to ensure that each one is well known and personally meaningful to the elicitee ... [in addition] each construct must be central to the person in the context of the particular problem" (p. 10).

Having taken all of these issues into account, the resulting matrix of the Grid can be formally analysed using Principal Component Analysis (Slater, 1972) and in this way, one can explore the mathematical relationship between an individual's constructs. The basic assumption underlying this method is that the psychological relationship between any two constructs for any individual is reflected in the statistical association between them when they are used as judgemental categories.

Principal Component Analysis is considered to be more suitable than Factor Analysis for the analysis of Grid data, because: i) it provides a complete analysis of the data including an explanation of all of the variance in the correlation matrix including the error variance; ii) it transforms the data into a smaller set of independent variables arranged in order of importance (although this point may be arguable); iii) components are real factors, because they are derived from the correlation matrix whereas factors are hypothetical, i.e. they are estimated from the data; iv) PCA provides an empirical summary of the data set whereas FA provides a theoretical solution; and v) the assumption of specific factors in FA cannot be applied to Grid data because singularities often occur (Slater, 1977; Kline, 1994).

In addition to the formal statistical analysis of Grid data, a more informal analysis of the results is possible. Kelly (1955) states that "the constructs themselves can be analysed as to content or tone and as to more abstract features, such as permeability and communicability" (p.162). However, one of the most important assumptions underlying the Grid is that it is its mathematical structure, which lends itself to a fruitful analysis without having to rely on the subjects' words or verbal labels. Thus, as Kelly (1955) argues, one does not need to worry about the researcher and the subject meaning the same thing by the same terms.

Kelly (1955) states that "the Repertory Grid is an approach to relationships which has many possible applications" (p.191). In general, it is applicable to any subject whose personal, social or other behaviour we are interested in comprehending. In the case of economics, elements concerning economic issues or behaviour may be entered as data along one margin and the subject's elicited constructs along the other. Many forms of the Grid are possible; for example, presence/absence Grids which require the subject to state whether or not the expressed construct is applicable to each of the elements; ranked Grids which require the subject to rank the elements, for example, on a scale of 1 to 8 according to each construct; and Grids which have either the elements and/or constructs supplied by the researcher. All of these techniques are utilised in the present research in order to determine whether one or more types of Grid are more appropriate for this particular area of investigation; they are discussed in the relevant studies.

#### 4.2.1 The Design and Presentation of the Grids in this Research

In order to explore the existence of economic construct systems, the three aforementioned types of Grids are used in this research. In the Pilot Study, a presence/absence Grid is used in which the elements and constructs are generated by the subjects themselves after a discussion on the topic of 'economics'. Collectively, these subjects agreed on the most frequently occurring elements and constructs to have arisen from their discussion and these were then used to provide a matrix for them to complete with the author using the traditional triadic sort method. Purdy (1988) determined which items could be considered as non-financial information elements, "by means of a questionnaire ... The material obtained from these interviews was then subjected to a content analysis by noting how frequently an item arose amongst different individuals, ... Thus those items which occurred with the most frequency were used" (p. 66).

In Study Three, 14 elements concerned with saving and investment options were supplied to a different set of subjects, but this Grid required the elicitation by presence or absence of 10 constructs from the subjects (see Bannister and Fransella, 1986 for a examples of research using different Grid formats and different means for eliciting constructs). The titles of the elements used in Study Three were taken from previous research in this area which discussed various forms of saving behaviour/options (for example, Lea et al., 1987). The number of elements chosen - 14, encompassed those suggested by Lea et al., and also seemed to reflect the ones which were of most interest to the author; that is they included what might be called more traditional savings options such as Building Society, but also those which may not be regarded as such an obvious choice such as Savings Stamps and Land. (See Appendix M for the 14 elements.) Kelly (1955) was not prescriptive about the number of elements one should use in a Grid; his initial research using Grids focused on interpersonal relationships and he proposed a list of 24 role titles as elements (the individual could supply their own names to these titles).

In Study Four, two different Grids were utilised, both consisted of supplied elements and constructs in the form of a ranked Grid. However, the first, supplied microeconomic elements such as demand and supply, and other titles specified by economists to be microeconomic terms, (see for example, Begg, Fischer and Dornbusch, 1991) and the second, supplied macroeconomic elements such as taxation and unemployment; again, terms specified by economists (Fransella and Bannister, 1967, 1977 give examples of research using supplied constructs/elements, and ranked Grids). Both Grids were coupled with supplied constructs relating to psychological factors (such as <u>optimistic-pessimistic</u>, and <u>increases confidence-decreases</u> <u>confidence</u>). Like the author, Shaw (1979) also believes that "thoughts and feelings, objective and subjective descriptions, attitudes and prejudices all constitute valid constructs" (p.10).

As previously stated, in Study Four the elements and constructs are supplied; in this instance, the individual is required to construe the elements using only those supplied constructs. Purdy (1988), supplied three constructs in his Grids in order to "follow the

individual's construing of influence and power, together with financial information" (p. 67). Purdy did not consider it appropriate to supply all of the constructs since he was interested in discerning how individuals construe financial information, and whether their construing changed through time. In contrast to Purdy's study, the present research is not longitudinal in its nature, because the author is primarily interested in how individuals deal with economic elements using constructs which focus on feelings and subjective descriptions (this, as discussed in Chapter One and Study One has never been a satisfactory combination for many economists). Hence, it was considered appropriate to supply both elements and constructs in Study Four.

The presentation of the Grids in Studies Three and Four was as follows: In Study Three, the Grid was presented to individuals on a one to one basis and they were given an explanation about the Grid, the elements and the triadic elicitation procedure that would follow. They were told that it was not a questionnaire or a test and that there were no right or wrong answers. Three elements were then presented to the individual (as indicated by three circles on the first line of the Grid printed on a piece of A4 paper) who was invited to think about the three elements and the way in which two of them were alike and at the same time different from the third. After the researcher had ticked the two elements, the individual was asked to think of a word or short phrase describing the likeness and the dissimilarity (this was recorded by the researcher), and then to consider all of the remaining elements and to point out those which could also be subsumed under the likeness. The researcher placed ticks under these elements. This procedure was followed for each line until the Grid was completed. (In Study Four, the Grids were sent to subjects with instructions for the procedure attached. This procedure differed to that of Study Three in that subjects were asked to rank the supplied elements in relation to the supplied constructs).

One of the main considerations at the forefront of the design of the research was the desire to use different methodologies in order to fully extend and explore The Psychology of Personal Constructs within the area of economic thinking. It is the author's intention to explore the psychological factors, which influence the construing of everyday economic issues and concerns. Data generated from the empirical studies

could contribute to the development of a more psychological theory of economic behaviour, which might form the basis of an alternative, but complimentary approach to the exploration of economic thought. Such a psychological theory could compliment the existing economic theories. Also, because both disciplines (economics and psychology) have different levels of data extraction, that is, economic theory at a high level of abstraction and psychology at a lower experiential level, each could benefit from this research through the methodology developed in these studies; that is the types of Grids used, and the development of the measure of transition and control. Thus, it is the author's intention to both elaborate and extend some of the theoretical aspects of the Psychology of Personal Constructs, and to develop a related methodology in order to inform the theoretical and methodological development of the discipline of economic psychology. In this way, it is hoped that a new and original theoretical contribution will be made to both the field of economic psychology and The Psychology of Personal Constructs. In Chapter 9, these ideas will be revisited in order to see if these hopes have been realised.

#### 4.3 Data Generation and Interpretation

#### 4.31 Grids

In The Psychology of Personal Constructs, the theory and methodology are integrated. Kelly (1955) developed an instrument for eliciting personal constructs in the Repertory Grid and its many variations. Subjects in this research are drawn from the lay public and the economic, business and financial professions, and are allocated as appropriate to the relevant Studies. In Study Three, constructs will be elicited from these subjects, and in Study Four, subjects are asked to rank supplied elements and constructs. The matrix resulting from these Grids can be described as "a general mathematical operation for relating events and behaviour ... the concurrence of these two psychological values can be expressed in terms of the psycho-mathematical function I have described - the personal construct" (Kelly, 1969, p.113). In Study Three, the semantics and content of the subjects' expressed constructs will also be utilised and examined.
### 4.32 The Development of a Means of Exploring the Dimensions of Transition and Notions of Control

As stated previously, the Grid is not suitable for exploring the dimensions of transition and notions of control. Therefore, the author has developed a means of investigating these aspects of Kelly's (1955) theory. Actual statements by economists and politicians as found in Study One were adapted by the author so that they would be based on the theoretical definitions of preemptive, constellatory and propositional construing; the semantic content of the statements provides an indication of one or other of these 'styles' of construing. Each statement is based on only one style of construing so that there is a clear differentiation between them (see Appendix C).

### 4.4 Analysis of the Data

### 4.41 Grids

The Grid can be analysed using a computer program, which produces a Principal Component Analysis; in this way, one can explore the mathematical relationship between constructs. The basic assumption underlying the method is that the psychological relationship between any two constructs for any individual is reflected in the statistical association between them when they are used as judgemental categories. The semantic content of subjects' elicited constructs will also be analysed in relation to the Corollaries, and the dimensions of transition and control. In The Psychology of Personal Constructs, Kelly believes both quantitative and qualitative measures are equally acceptable and satisfactory.

Flexigrid 5.1 Programs for the Analyses of Repertory Grids (Tschudi, 1990) will be used to analyse the Repertory Grids in the Pilot Study, and then the more updated version - 5.2 which replaced the 5.1 version, will be used to analyse the Repertory Grids in Studies Three and Four. The output from each Grid entered into the program consists of principal components, co-ordinates for elements and constructs and plots of these co-ordinates.

### 4.42 The Dimensions of Transition and Control

Due to the ipsative nature of the data, which result from the multiple choice type format, non-parametric tests will form the main basis of the analysis of these data.

#### 4.5 Bases of Hypotheses to be Tested

Hypotheses in this research are derived and tested from the Fundamental Postulate, the Corollaries, constructs relating to the dimensions of transition, the C-P-C Cycle, and the diagnostic constructs relating to notions of control; all of which are operationally definable and are presented in the various, relevant Studies. However, as Purdy (1988) states (citing Slater, 1977), one should be cognisant of the fact that "the data on an idiographic grid refers to elements which can neither be defined objectively nor randomly sampled to assess the reliability and significance in the orthodox manner. The grid's primary interest is to show what is in the individual's mind at the time of its completion" (p.71).

### 4.6 Pilot Study

### 4.61 Introduction

The aim of the Pilot Study is firstly, to explore the suitability of the Repertory Grid technique to the area of economic behaviour and secondly, to generate economic elements and constructs which would be in the range of convenience of non-expert subjects; that is, those who do not work and/or have not been trained in the fields of economics, business or finance. Regarding the choice of elements, Purdy (1988) found that "it became obvious from a pilot study conducted with graduate students attending a day-release course in accounting, that the nature of the titles of the elements was very important". He asked the students to construe a number of elements, which included financial information related to their employment, and personal acquaintances. Purdy stated that from their self-reports it was apparent that they had difficulty consistently construing all of the elements in a sensible manner. This was due to the fact that "the personal acquaintances did not fit in with the elements concerned with work. When the elements were solely work-related this difficulty did not occur" (p. 65).

In an attempt to avoid the above problem and to gain sufficient commonality among the contextual issues and among subjects, one can interview all of the subjects as a whole and then use the traditional triadic sort method to generate suitable, common elements and constructs. In addition, only economic elements can be used instead of personal acquaintances. As a Pilot Study, the design and execution of the experiment was to be exploratory in its nature and aims, and was an initial exercise in examining which economic issues are perceived by subjects as economic elements and how these issues are then construed. As such, the Pilot Study is a necessary precursor to Studies Three and Four that use the Grid technique as previously explained.

The Pilot Study was considered to be an important test of the feasibility of the administration of the Grid technique when applied to economic behaviour and the concepts involved, particularly in complying with the range of convenience condition. Also, the issue of consensus/commonality across individual Grid outputs could be explored by devising a technique which did not rely on the Slater Series Consensus Grid which sacrifices the richness of individual Grids, is overly complex in its interpretation and consequently, is rarely reported in the literature.

### 4.62 Method

### 4.62.1 <u>Subjects</u>

12 final year male and female Psychology undergraduates at London Guildhall University all aged between 18 and 30 years.

### 4.62.2 Apparatus

Flexigrid 5.1 Programs for the Analyses of Repertory Grids (Tschudi, 1990).

### 4.62.3 Procedure

The subjects were asked to volunteer to participate in the research. They were seen together as a group and were told that the research was for a Ph.D. concerned with the way people think about different economic concepts. Subjects were given a standard explanation about the Grid, the elements and the triadic elicitation procedure that

would follow. They were told that it was not a questionnaire or a test and that there were no right or wrong answers. The subjects were then invited to discuss the topic of 'economics' during the informal interview. The interview was loosely structured around economic concepts taken from economic textbooks (for example, Begg, Fischer and Dornbusch, 1991). The aim was to establish whether or not economic elements would be outside their range of convenience and therefore, difficult for them to construe. This exploration was one of the main purposes of the Pilot Study exercise as stated previously.

The subjects themselves generated the elements and constructs. By selecting elements which had been produced by them and which were common to all subjects, their ranges of convenience could be established; i.e. by determining which ones were the most frequently occurring. This pre-Grid, collective agreement provided the basis for a matrix for the same subjects to a) collectively rate based on their consensus view, and b) for four of the subjects, who were interested in continuing in more detail with the research, to rate on an individual basis.

Thus the elements and constructs were elicited as a collective exercise using the usual triadic sort method. This method involved inviting the subjects collectively to think about three of the elements and the way in which two of them are alike and at the same time different from the third. After deciding on the two similar elements, they were asked to think of a word or short phrase stating the likeness and the dissimilarity and then to consider all of the remaining elements and to name those, which could also be subsumed under the likeness.

The similarity was recorded in the computer generated Grid as the stated, explicit construct, and the dissimilarity was recorded as the implied, implicit construct. The subjects were asked to indicate which of the remaining elements also had this similarity. The procedure was followed for each line of the Grid (using twelve sorts), and a matrix of twelve elements by twelve constructs was completed.

As previously stated, the subjects' collective responses were recorded directly into a laptop program of Flexigrid 5.1 as if it were one individual's Grid; this Grid was a presence/absence Grid. The four subjects who were willing to experiment further using a different type of Grid carried out the exercise individually, and this time, were asked to use an eight point rating scale Grid (with the same elements and constructs used by the original set of subjects). Again, the responses were entered directly into the laptop program for analysis.

### 4.63 Results

In this section, the example of the collectively rated Grid is presented in order to explain the rationale behind the Pilot Study as stated in section 4.61. (See Appendix D for examples of Flexigrid output). Thus, the subjects have been treated as a whole and the complete set of data is arranged in a single Grid. This procedure has been carried out by Slater (1977) who suggested treating the whole group as "a corporate person with its own private universe - a universe of interests specific to it as a whole and affecting its members in different ways. Each member might be asked to define his [her] attitude to each of these interests on a scale ranging from strongly pro to strongly anti." (Slater, 1977, p.17).

The output of the Flexigrid program provided principal components for the Grid as well as co-ordinates and plots of the elements and constructs. This assisted the examination of the relationships between elements and constructs and the distances between certain elements, and certain constructs. (See Appendix D for the Flexigrid 5.1 output). Principal components and the construct loadings are part of the output of the Flexigrid program. The highest loading constructs in the three components indicate which are the most important constructs in the system. By selecting the highest loading constructs contributing to a principal component, one can identify the underlying meaning of that component. Harris (1975) suggests that the words or phrases used to describe the highest loading constructs enable meaning to be attributed to the component. Thus, one can determine which are the most influential constructs within any component, and one can infer the sense, theme or focus of the component in question by examining the semantics of the highest loading constructs.

indicate which element has the strongest relationship to the highest loading constructs and thereby, helps to symbolise the general theme of that component.

The results of the Pilot Study show that the subjects collectively generated the following list of elements after their discussion, and these elements were entered into a single Grid - Debt, Security, Mortgage, Unemployment, Wealth, Buying, Demand, Taxation, Recession, Growth, Poverty, Affluence. The subjects also generated the following list of constructs - Unhappiness-Peace of mind; Neediness-Well Being; Exchange-No Interaction; Forced upon-Chosen; Wealthy-Poor; Personal-Global; Economic disadvantage-Loadsa money; Concepts-Reality; Inability to provide-Providing; Self-fulfilling-Unattainable; Increased self-respect-Decreased self-respect; Success-Failure. These constructs were also entered into the Grid to complete the matrix.

The main results from a Principal Component Analysis of the data can be found in Table 1. The first three principal components are shown, and according to Harris (1975), the first principal component is that linear combination of the original variables, which achieves the maximum discrimination. Once the first principal component has been found, there is a search for second principal component - that linear combination of the original variables which has the largest possible variance subject to the scores on the second principal component being uncorrelated with scores on the first principal component. Harris states that the process is continued "with each successive PC accounting for as much of the variance in the original data as possible subject to the condition that scores on that principal component be uncorrelated with scores on any of the preceding principal components" (Harris, 1975, p.24).

Thus, each successive principal component will have a lower associated sample variance than its predecessor, and if the original variables are highly interrelated the first few principal components will account for a very high percentage of the variance allowing the researcher to ignore principal components which come later with very little loss of information. Indeed, by eliminating all but the first few principal

components, one can obtain a more parsimonious description of the original data and this is what the author has done. The first three principal components in Table 1 account for 82.03% of the total variance; therefore successive components may 'safely' be ignored; i.e. without worrying about loss of information. When plotted, the constructs and elements which are the closest are those which are the most closely correlated. Hence, by examining the plots and loadings, one can discern the similarities amongst elements and constructs.

# Table 1 Results of the Principal Components Analysis for the Pilot Study Collective Grid

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element	Element furthest away from Massgebend
One	0.968 0.968 -0.929 -0.929	Economic dis- advantage Unhappiness Poor Decreased self- respect	59.77	1.410 Poverty	-1.135 Affluence
Тwo	0.892 0.620	Personal Self-fulfilling	12.09	1.539 Unemploymen t	-1.247 Taxation
Three	-0.586	Reality	10.17	-2.674 Demand	1.362 Security

<u>Note</u>. Where a principal component loading has a negative sign, the contrast pole of the original construct is reported. A massgebend element with a negative sign shows that it lies in the negative quadrant formed by the component axes

The content of Table 1 can be explained as follows: In each component, the construct with the highest loading was taken, then the second highest loading construct was taken. The loadings and the semantics of the constructs were examined, and if they were of similar size and indicated a similarity in meaning or sense then the next highest loading construct was also taken and compared with the previous ones. This process of selection continued until a relationship could not be identified between the size of the loading and the semantics of the constructs. This is where the cut off point is located for the constructs in terms of the meaning of the component, and also for the purposes of the reporting of constructs in Table 1. (The same procedure is used in Studies Three and Four).

The above process determined the main sense of the three principal components. Hence, Table 1 highlights the fact that for these subjects <u>economic disadvantage</u>, <u>unhappiness</u>, <u>poor</u> and <u>decreased self-respect</u> were the highest loading constructs in the first principal component which accounted for 59.77% of the total variance. The elements, which were most influential, that is, the highest loading, in this component were Poverty and Affluence. It is the relationship between these elements and the remaining elements, which is the most important within the construct system. These two elements were rated consistently high or consistently low in terms of all or most of the constructs (high ratings would result in a large positive loading and low ratings would result in a large negative loading). There may be times when a number of elements have the same loading and therefore, more than one element is found at one end of an axis; however, this was not the case with these results.

Slater (1972) refers to the highest loading elements in any component as 'massgebend elements'. These elements indicate the element (or elements if a joint loading is found) which should be set apart from the rest of the elements in that component; that is they have an orientating property and are the most dominant elements in the interaction system. The other elements in the component can be described as 'satellites' to these influential massgebend elements. Slater defines a massgebend element as the one, which is "sharply distinguished from the rest. The contrast between it and them may well form the most important axis in the construct system. For better or worse it sets the scale of standard according to which the rest are judged, and for this reason the German word massgebend, perhaps best translated as trend setting, has been used to describe it" (p.6).

The second principal component as indicated in Table 1, accounted for 12.09% of the variance, the constructs <u>personal</u> and <u>self-fulfilling</u> had the highest loadings and this

component can best be described by the relationship between the elements Unemployment and Taxation. Finally, the third component, which only accounted for 10.17% of the variance, has its focus on the construct <u>reality</u> and the most important dimension in this component is the one between the elements Security and Demand. Additional principal components have not been included in the results, because the first three components accounted for a very high percentage of the variation on the original variables and therefore little information would be gleaned from remaining components.

### 4.64 Discussion

The subjects were asked to complete a Grid, which contained elements, which they themselves determined were suitable for them to construe. This formed the basis for the Pilot Study. The completed Grid was analysed using the Flexigrid program, which produced various forms of output, including tables of construct and element loadings and plots of elements in the construct space and constructs in the element space. Construct loadings were examined and the sense of the constructs provided evidence of the way these individuals construed the economic elements. The plot of the elements in the construct space offered a way of exploring which elements had a close relationship to certain constructs and so indicated how the individuals construed these elements.

The results of the Principal Component Analysis indicate that for these non-expert subjects, negative feelings associated with poverty dominated the first component (which accounted for over half the of the total variance). The massgebend element for this component (the element with the highest loading) was Poverty, and the axis which this element formed with Affluence illustrates the most important dimension in the component (massgebend elements were defined on the previous page and will also be discussed in more detail later). This finding may be a reflection of the fact that the subjects were students who may have concerns around personal finance, although this obviously may not necessarily be the case; not all students have money problems. A follow-up interview could have ascertained whether or not this was the case. In the second component constructs relating to <u>personal</u> and <u>self-fulfilling</u> were prevalent and these were linked to the axis Unemployment - Taxation. Finally, the third component is based on the construct concerning <u>reality</u>, and is typified by the axis Demand - Security.

These results have shown that the Grid technique has potential within the present research as a means of measuring intrapersonal space; however, one should bear in mind, as Slater (1977) states, that the contents of any Grid are bound to be restricted and that "it can amount to no more than a single exposure - a snap of a small part of a private universe" (p.13).

#### 4.65 Conclusion

In conclusion, one can suggest that overall, the results of the Pilot Study have shown that economic personal construct systems can be identified in non-expert subjects and that the Repertory Grid is a flexible and suitable methodological tool for exploring these systems. These subjects were able to construe economic elements and generate constructs accordingly and these findings served to inform the development and structure of the Studies which follow (in particular Studies Three and Four). It was found that the Flexigrid computer program was a relatively quick means of generating and analysing Grids; however, the author learned from this Pilot Study that practice with this program would be necessary.

A number of the elements, which the subjects generated, will be carried forward into Study Four, namely those, which are relevant to the topics of Microeconomics and Macroeconomics. (Study Three has its focus on Savings elements and therefore the elements generated in the Pilot Study were not considered suitable. Similarly, the constructs generated by these subjects will also not be used in Study Three, because a different set of subjects will be required to generate their own constructs related to the Savings elements). Study Four supplies constructs relating to psychological factors, and while the author considers the constructs which have come out of the Pilot Study to be close in theme to those supplied in Study Four, the constructs required for Study Four need to be suitable for expert subjects and therefore, the constructs will be taken from the results of Study One.

A further outcome of the Pilot Study is that the novel, pre-Grid agreement technique in which the subjects agreed on one set of elements and constructs may be regarded as too embryonic to be used in the later Studies Three and Four. However, the results of this Pilot Study were considered satisfactory in proving the feasibility of the application of the Grid procedure to economic behaviour. Alternatively, the information in Table 1 may only reflect a tautological artefact of the attempt to achieve agreement prior to the Grid's construction, and similarly in the attempt to reach agreement on the composite rating. The reservations about this attempt as a kind of consensus analysis are similar to those associated with the post grid (series) analysis. Therefore, only individual Grid Principal Component Analyses will be employed in Studies Three and Four, and by scanning the individual results for these properties, consistencies/commonality and differences will be ascertained.

Kelly (1955) believed that it is acceptable to make inferences from the individual to the group, and suggests that one can make such inferences by observing what a person does and then abstracting behaviour within the realm of the individual before making it a datum in a study of a group of individuals. Abstractions, which can be lifted from a sample of behaviours from a single person, may in turn be used as data from which abstractions are lifted from a sample of people of a group. These issues will be continued in Chapter 5 and Study One that follow. Study One will pick up on the ideas and arguments set out in the first three Chapters, and will also draw on the methodological themes raised in this Chapter.

### Chapter 5

### Study One: Bipolar Constructs Relating to Psychological Factors in Economic Commentary<sup>4</sup>

### **5.1 Introduction**

Economic behaviour does not take place in a vacuum or separate from other aspects of human behaviour. For too long, the expression ceteris paribus has been the catchall of economic modelling and when pressed for examples of "other things being equal", invariably many of these are psychological factors (Earl, 1983, 1986, 1990; Katona, 1951, 1977; McCain, 1992; Van Raaij, 1981, 1986; Wärneryd, 1988). Much of previous research in the area of economic psychology has tended mainly to criticise classical economic theory and its models, and argue for the inclusion of findings from social psychology (Baxter, 1988; Furnham & Lewis, 1986), behaviourism (Alhadeff, 1982), and psychophysiology (Scitovsky, 1976). Researchers have tended to adopt particular psychological theories and have merely applied them to various economic phenomena in an attempt to provide alternative explanations to traditional economic models. Until now, there has been very little attempt to discover the way individuals construe economic issues and their related decisions and choices, or to use this information as a means of exploring the psychological factors which are an important influence on economic thought and behaviour.

One aspect related to this, and which forms the rationale for this Study, is the belief that individuals construe reality in different ways and this is clearly evident in the way politicians and economists construe different policies, the same policies and all of their implications. Different individuals have different systems of thought, which may be viewed as different strategies, which they consistently use to make sense of the world. According to Kelly (1955), people attempt to organise and control their lives by developing a system of bipolar constructs with which they can anticipate and interpret events. These constructs may be individual specific, in accordance with the Individuality Corollary or ideology specific, in accordance with the Commonality Corollary. Certain core constructs may be identified which form an integral part of the individual's identity or which are fundamental to an ideological position; these may prove resistant to change or to the recognition of alternatives. This notion of permeability (the admittance of new elements into a construct's range of convenience) in any individual's system is formally stated in the Modulation Corollary (see Appendix A and section 2.3 for definitions of Corollaries).

Bipolarity, as stated in the Dichotomy Corollary, is an important part of Kelly's (1955) theory as it enables him to account for the way individuals choose between alternative courses of action. The Choice Corollary and the C-P-C- Cycle are also extremely important in the area of choice and decision making. Constructs relating to the dimensions of transition; that is, threat, anxiety, fear, aggressiveness and hostility can also be seen to be relevant to the analysis of psychological factors in economic construing. Similarly, constructs relating to control and the use of preemptive, constellatory or propositional construing can be seen to offer an explanation of certain aspects of economic thought and decision making.

As a bipolar construct - <u>confidence-lack of confidence</u>, may well be one of the most important factors in economic affairs (see section 7.13 for a fuller discussion of confidence). In economic theory there is little reference to emotion or confidence or belief, but economic commentators often refer to concepts such as optimism, pessimism, faith, obsession, uncertainty, fear, threat, worry, confidence, gloom and terror when making reference to the economy. Lachman (1943) emphasises this point when he states "economic action ... is often decided upon in a penumbra of doubt and uncertainty, vague hopes and inarticulate fears..." (cited in Van Witteloostuijn, 1990, p.194).

In recent times, the elusive feel-good factor and its bipolar opposite feel-bad factor are terms which have become very important when talking about economic recovery and this will be highlighted in the economic commentaries which form the basis of this Study. Feel-good can be seen to be closely related to confidence, and is defined in the present research as - a sense of assurance and certainty about the health of the

<sup>&</sup>lt;sup>4</sup> Parts of this Chapter have been published as follows: Theodoulou, S. (1996). Construing economic

economy which in turn influences an individual's economic behaviour, such as spending and saving.

Keegan (1994) states "both the Governor [of the Bank of England] and the Chancellor have recently acknowledged that, whatever the official statistics might say about economic recovery, the 'feel-good' factor was conspicuous by its absence ... [this] lack of a 'feel-good' factor was certainly holding back investment" (p.5). In terms of the Psychology of Personal Constructs, one might link this lack of a feel-good factor to Kelly's notion of <u>threat</u>; that is, that people are aware of the possibility of imminent, comprehensive changes in their core structures. It is threat rather than <u>fear</u> which seems to be the most appropriate description, for in Kellian terms, threat is comprehensive, whereas fear is incidental. Fear is defined as the awareness of an imminent, incidental change in one's core structures, and this does not encapsulate the global, all-encompassing feeling which may be necessary to describe the nature of feel-good as the commentators seem to imply.

In business, as in many other situations, confidence is often achieved by forecasting and planning. Gimpl and Dakin (1984) suggest that these activities relieve the anxiety of an uncertain future, and help managers in their predictions and ability to cope with the world. They also suggest that the use of such "future-orientated techniques is a manifestation of anxiety-relieving superstitious behaviour" (p.125). Such superstitious behaviour offers the illusion of control and makes the world appear more predictable even though these forecasting techniques often prove to be incorrect. Again, these concepts have parallels with Kelly's (1955) definitions of the Organisation and Choice Corollaries, and their essence in general can be seen to be the basis of the Fundamental Postulate.

One of the main justifications for the following Study can be seen in terms of what Kelly (1955) calls "listening to nature babbling to herself" (p.246). That is, that by examining what economic commentators and experts offer as their own dimensions along which their constructions of the world can be "scored", we can underscore

and political reality. Journal of Economic Psychology, 17, 499-516. (See Appendix E).

certain words, phrases, and sentences and "juxtapose with them similar themes which can be found in their protocol. Furthermore, Kelly suggests that by presuming that an individual's use of certain words is personalised and therefore, by studying the contexts and sequences in which they occur, one can better understand what they mean in a personal lexicon.

Thus, a detailed examination of the reporting of the economic events and issues of the day for a particular audience, is a means of studying those constructs which are pertinent to such discussions over a certain time period and is also a way of examining the commentators' own construct systems. The identification of constructs relating to psychological factors which are employed in such discussions, the identification of the nature of the control these constructs have over their related economic elements, and the relationship these constructs have with the dimensions of transition are important ways of emphasising the inextricable role these psychological factors play in the economic world. One can also discern from such an analysis, the way these 'experts' may set the agenda for their audiences and 'tell' them what is, and what is not important at any particular time.

Hence, the aim of Study One was to tease out some of the constructs relating to psychological factors, as used by economics commentators and politicians from discussions in the British broadsheet press, in an endeavour to elucidate certain known economic problems by examining the reflexive relationship between the individual and the economy.

A number of theoretical aspects of the Psychology of Personal Constructs (Kelly, 1955) will be applied to the analysis of the economic and political discussion of economic experts during the period 29th September 1991 to 17th March 1996. This will form the basis of a protocol and a list of bipolar constructs relating to psychological factors will be produced to illustrate how prevalent such constructs are in the debate about economic and political issues. The economic and political examples will also be described in terms of Kelly's (1955) notions of transition and

control. It is hypothesised that a number of psychological factors will be found in the construing of economic issues.

### 5.2 Method

### 5.21 Materials

The Observer newspaper's weekly economics editorial - "In my view" by William Keegan for the period 29th September 1991 to 17th March 1996 (see Appendix F for an example of the articles).

### 5.22 Procedure

The procedure for this Study consists of two parts. Firstly, the author collected and read the weekly economics editorial of a British, quality newspaper in order to identify any constructs related to emotional/psychological factors which were being used by the economics editor himself as well as by the other economic commentators and politicians who he cited in his weekly articles. The author noted any constructs, which had an emotional or psychological tone. Repeated terms, contextual areas and themes, which were related to emotional or psychological factors, were also noted. In this way, the author extracted from the articles any references to psychological or emotional constructs such as: belief, confidence, fear, optimism/pessimism, obsession, anxiety, threat and the feel-good factor etc... Secondly, the author classified these constructs according to Kelly's theoretical definitions and notions of transition: threat, fear, anxiety, hostility, aggressiveness, and of control: preemptive, constellatory and propositional.

This procedure was adopted so that a set of representative statements and a list of constructs could be established in a similar way to Du Preez's (1972) research. Du Preez looked at the different constructs used by political parties whereas the present research focuses on constructs, which have a psychological or emotional nature, and are used by different economists and politicians. Thus, the author's selection of relevant constructs from the weekly economics editorials was informed firstly, by the successful procedure adopted by Du Preez (1972) (see section 3.12.2). Secondly, by adapting some of the techniques used by Kelly (1955) to score protocols. Specifically,

the author identified any repeated terms, contextual areas and themes, in order to, as Kelly suggested, bring the protocol "into focus" rather than to score it in a conventional sense (Kelly, 1955 p.247); and thirdly, by the high level of agreement among six raters (psychology lecturers and research students) on which type of statements could be judged as being typical of preemptive, constellatory or propositional construing.

These raters were individually given a printed sheet consisting of i) Kelly's three definitions of preemptive, constellatory and propositional construing, and ii) thirty statements generated by the author from comments expressed by economists and politicians. The author had phrased the statements in line with terms/words used by Kelly in his definitions of the three styles of construing and therefore, had predetermined which statements would be classified under each heading. The raters were asked to read the definitions and then to identify and write next to each of the statements which ones were propositional, which were constellatory and which were preemptive. The author scored the answers according to whether or not the rater had identified the correct style of construing for each statement. The mean score for the six judges was 26.33 correct out of a possible 30.00. That is, they agreed with the author's categorisation (based on Kelly's definitions) for approximately twenty six of the thirty statements. (See Appendix G for an example of the definitions and interrater statements.)

### 5.3 Results

### 5.31 Part One: Expressed Constructs Relating to Psychological Factors

The results of the first part of the analysis are set out as follows: the date and title of the article, the subtitle of the article, and excerpts from the article which highlight the references to psychological/emotional constructs such as: belief, confidence, fear, optimism/pessimism, obsession, anxiety, threat and the feel-good factor. The constructs are shown in the context in which they appeared in the article. This is to give the reader a flavour of the context in which they were used rather than merely listing a number of constructs. Due to the number and length of the excerpts which form the basis of this section of the results, one example from each year of the analysis is given in the text as a demonstration of the rationale of the procedure of the Study, the remainder can be found in Appendix H. (This is done in attempt to assist the reader; the results should be considered in their entirety for the purposes of discussion).

### 29th September 1991 "Unemployment is Major's secret agenda...

How absurd to *believe* that exchange rate depreciation can be used as a means of increasing activity or competitiveness! Nowadays, one simply lets unemployment rip ...

The Major Government may have a secret agenda i.e. to *talk up* the 'victory' over inflation and the consequent 'recovery'. All '*optimistic*' forecasts about the economy are now based on *pessimistic* assumptions about unemployment. Much is riding on the translation of lower mortgage payments into actual spending, but it is an open question how much spending may be constrained by the *fear* of unemployment and by repayment and servicing of outstanding debt ... It was *fear* of the rise of the left in general and communism in particular that made capitalist economies take unemployment seriously. And after initial post war successes, it was *fear* that unemployment was an 'election loser' that continued to keep full employment on the agenda. There is certainly no *threat* on the first score at present, and most politicians now believe there is no *threat* on the second either".

### 19th January 1992 "Budgeteering' that taxes the patience...

When the chairman of the Conservative Party Chris Patten is quoted as wanting a responsible Budget what he means is a Budget responsible for winning the election". Keegan is branded as a *pessimistic* forecaster. *Optimists* said there would be recovery in '91, but Keegan cannot see one now either. He states "Few people would have *believed* 25 years ago that in 1992 there would be so many unemployed, so many homeless and so many begging in the streets".

### 17th January 1993 "The hard road to civilisation as we knew it...

Labour seems to be divided between those who want to woo non-supporters at the expense of alienating the bedrock and those who wish to forget the non-supporters and enjoy perpetual ostracism from office....

Raising taxes would hurt consumer confidence and business confidence".

### 9th January 1994 "Illegitimate children and other Bastards...

I sympathise with those who suddenly find their investment income is not what it was, but this is a consequence of the fact that inflation is not what it was either. ...

The relevance of the recent fracas over family values and my loose acquaintance Tim Yeo to the economy is simple: *confidence* in the Government affects a host of economic decisions, and the latest farce is likely to reduce the already fragile level of *confidence* in the Government even further - at just the time when people had *hoped* economic recovery was finally getting under way. ... One of the ironies of the Government's present position is that, although the statistics certainly point to a minor economic recovery, few people one meets actually seem to *believe in* the recovery. Nor is their *belief in* what the Government claims assisted by *depressing* company results from popular High Street names such as Dixons".

### 22nd January 1995 "Hard times and a tale of two economies...

One reason our export performance has been respectable is that capacity built up in what is still Great Britain by overseas firms is now being used to send exports to Europe. ...

I have often been struck by the *difference between the way others see the Japanese* economy and the way the Japanese see themselves ... whereas others see them as an economic giant, they tend to regard themselves as possessing a vulnerable economy, especially with regard to their dependence on imported fuel and raw materials. ... Britain's two economies are the one people live in and the one economists write about".

7th January 1996 "Deep depression and a severe weather warning for the Tories This Government is too *bitter*, *twisted* and *exhausted* even to stagger. It has all but given up. ... Most Maastricht-orientated European governments (are) cutting budget deficits in the *hope* that long-term investment rates will fall and everybody will be *happy* ever after. Key rates have fallen with no noticeably buoyant effects on the sluggish economy of Europe - our key export market. ... I conclude that, although higher spending may sustain a number of 'return to *feel-good factor*' reports, people are going to continue *feeling pretty bad* about the economy and the government. .... Our ailing Government continues to be *obsessed* with making us into a kind of Hong Kong of Europe".

### 5.31.1 Summary of Results for Part One

Table 2 shows the constructs identified by the author which relate to emotional/psychological factors, and which were used by economic commentators and politicians in the above excerpts (accompanied by their frequency of occurrence). The construct pole is the word or short phrase taken from the article; however, the contrast end of the construct pole has been implied/suggested by the author based on the context in which the emergent pole was written. This was done in order to offer a more 'bipolar feel' to the construct in accordance with Kelly's definition. Kelly (1955) stated that "contrast aspects of an expressed construct must not be overlooked in interpretation, there is a great variety of possible interpretations that a listener may place ... [the contrast pole] is frequently not mentioned by name" (p.92)

### Table 2

Frequency of Selected Construct Poles and Implied Contrasts Relating to Emotional/Psychological Factors Used by Economic Commentators and Politicians between 1991 and 1996.

Emergent pole taken	Author's implied contrast	Frequency		
from article	based on context			
Confidence	Lack of confidence	74		
Belief, self-belief, faith	No belief, self-belief, faith	52		
Fear	No fear	40		
To be worried	Not worried	28		
Optimism	Pessimism	23		
To be obsessed	To have no obsession	16		
Fccl-good factor	Fccl-bad factor	15		
Uncertainty, insecurity	Certainty, security	13		
To talk up the	To not talk up the	12		
Have hope	Have no hope	10		
Pose a threat, feel	No threat	10		
threatened				
To be concerned	To have no worries	8		
Have doubts	Have no doubts	7		
Despair	Cheerfulness	6		
To be gloomy	To be optimistic	6		
Нарру	Unhappy	5		
Expectations	Not expecting	5		
To be terrified	Not to be terrified	4		
Psychological factors	Not psychological	4		
Caution	Confidence	4		
Depressing	Stimulating	4		
How people feel	How people do not feel	4		
To be anxious	To be unanxious	4		
Passionate	Not passionate	4		
Human behaviour	Other behaviour	3		

### 5.32 Part Two: Kelly's (1955) Dimensions of Transition and Notions of Control as an Interpretation of Economic Statements

The expressed statements/constructs were classified and interpreted by the author according to Kelly's (1955) theoretical definitions of the dimensions of transition - threat, fear, anxiety, hostility and aggressiveness; and of control (preemptive, constellatory and propositional construing). That is, the author used Kelly's

definitions of the dimensions of transition and of control in order to offer an interpretation of the statements found in the Keegan articles accordingly. The author's exposition of the dimensions of transition and control was informed by Kelly's techniques for the analysis of contextual areas, themes and dimensions (Kelly, 1955, pp. 246-267). The high level of agreement by the inter-raters for the constructs relating to control also adds substance to the interpretations. So too does the evidence, which has come out of the research by Du Preez (1972); this offers additional justification for the methods adopted in this part of the analysis. (All of the statements, which follow, are by Keegan unless otherwise stated, in these cases, they are by other political or economic commentators or politicians whose comments have been cited/quoted by Keegan and form part of the article. See Appendix H for the full statements.)

The justification for this part of the Study can again be stated in terms of the inextricable role that psychological factors play in the economic world. By identifying constructs which are employed in the discussion of economic behaviour and which have an emotional or psychological tone, and by identifying the nature of the control that these constructs have over their related economic elements as well as the relationship these constructs have with the dimensions of transition, one can emphasise the importance of these psychological influences.

The interpretation of the statements is in line with the procedure carried out by Du Preez (1972). He read the transcripts from every speech in the South African parliament during a number of selected years in order to establish a set of representative statements, or clear cases, for each political party. He then drew up a list of constructs taken from these speeches and scored them, specifically identifying any references to Native, Bantu, or African affairs. Du Preez found that only 46 constructs accounted for 90% of 685 speeches. These constructs were different for each party. For example, the National Party used the construct white survival-loss of autonomy culture and even life, whereas the United Party used the construct economic efficiency-impractical ideology. Du Preez thereby concluded, perhaps not surprisingly, that different parties have different ways of construing and hence,

construe reality in different ways. He argued that his research had confirmed "the value of Kelly's Personal Construct Theory for the analysis of human exchanges" (p.39). Evidence from Du Preez's work is a valuable precursor to the design of the procedure and method of analysis used in this Study (and in Study Two). It informs the interpretations of the statements, which follow in 5.32.1.

# 5.32.1 Threat: The awareness of an imminent comprehensive change in one's core structures.

### 3rd November 1991

Statement: "The persistence of mass unemployment in the 1990's could once again pose a threat to European democracy as it did in the 1930's".

Interpretation: An attack on democracy and the implications that would have in society represents the recognition of change and upheaval in the way we view the very nature of ourselves in society.

# 5.32.2 Fear: The awareness of an imminent incidental change in one's core structure.

### 18th July 1993

Statement: "The only real fear ... is inflation".

Interpretation: Inflation, as it affects the individual in this case, is the awareness that an increase in inflation will mean an increase in prices, and consequently, certain aspects of the individual's life may have to undergo incidental changes. For example, not being able to buy expensive bottles of wine.

5.32.3 Anxiety: The awareness that the events with which one is confronted lie outside the range of convenience of one's construct system.

### 18th July 1993

Statement: "We are experiencing an extraordinary bout of European pessimism - epitomised by the belief that we should worry about economic performance in China and South East Asia".

Interpretation: If economic performance in Asia improves then we will not be able to anticipate and control future events, which might be a result of Asia's improving economy.

## 5.32.4 Hostility: The continued effort to extort validational evidence in favour of a type of social prediction which has already proved itself a failure. 27th March 1994

Statement: "Conservatives' do not like change. They often have to accept it. But every time further change heaves in sight, they resist in curmudgeonly fashion until there is not much alternative".

Interpretation: Even though policies may be proved incorrect, the amount of psychological investment in one's construct system demands that these policies be upheld; changing one's mind means that other alternatives which may be unwelcome, need to be considered.

## 5.32.5 Aggressiveness: The active elaboration of one's perceptual field.

### 13th September 1992

Statement: "Active macroeconomic policy is needed to cure structural unemployment".

Interpretation: Action, rather than waiting for things to happen, is the call of the day. The Government must endeavour to seek out alternatives and intervene to solve problems.

5.32.6 A preemptive construct - preempts its elements for membership in its own realm exclusively. Kelly (1955) characterises preemptive constructs by their restrictive and exclusive nature. They are typified by such comments as "anything which is a ball can be nothing but a ball". This type of construing rules out the possibility of other alternatives.

### 27th September 1992

Statement: "There Is No Alternative" (Norman Lamont, 10.7.92).

Interpretation: The acronym TINA also typified Margaret Thatcher's position when discussing the impossibility of changing government policy.

5.32.7 A constellatory construct - fixes the realm membership of its elements. Constellatory constructs allow their elements to be members of other realms, but at the same time fix any possible alternative constructions. For example, "anything which is a ball must also be something which is round and will bounce". This type of construing is typical of stereotyping, as elements are only allowed to be certain other specified things and not others. This is also a restrictive way of construing and does not permit further elaboration and reviewing of the construct.

#### 28th February 1993

Statement: "The government has propagated the myth that one did not need a manufacturing base provided one had enough oil and financial services".

Interpretation: If the UK has oil and financial services then by inference it did not also need a manufacturing industrial base.

**5.32.8** A propositional construct - does not disturb the other realm memberships of *its elements.* Propositional constructs do not fix the realm membership of their elements; they acknowledge the possibilities of constructive alternativism and are typified by expressions such as "possibly", "as if" and "may also".

### 11th December 1994

Statement: "The US Federal Reserve Chairman refused to be tied down to a specific inflation target that might 'create an unnecessary degree of rigidity".

Interpretation: At different points in the economic cycle, the level of inflation may need to be changed according to the prevailing circumstances.

### **5.4 Discussion**

A number of important findings have been highlighted by this Study; specifically, support has been found for the work of Du Preez (1972, 1980), in particular for his methodology and procedure; and for the research by Curry and Conway (1973), in that the important, theoretical link between, on the one hand, hostility and preemption, and on the other, propositionality and aggressiveness, and their relationship to economic and political construing has been identified. It would appear from the numerous extracts that the restrictive type of construing which is typical of preemption may go hand in hand with the unwillingness to look at events from a number of different angles (hostility). Also, the inclination to tolerate flexibility in the realm memberships of elements, which is typical of propositionality, may be related

to a willingness to seek out alternative courses of action (aggressiveness). Evidence has also been found to support Earl's (1986) belief in the (seemingly ever-increasing) importance of psychological factors in the construing of economic issues even though many economists may not want to acknowledge this. In addition, the results of the Study have shown that confidence in particular may have a great influence on economic behaviour; confidence-lack of confidence was the most frequently cited construct during the whole period.

Thus, feelings of confidence and lack of confidence may have important ramifications for economic thought and behaviour; and it would appear that an explanation of confidence in terms of purely economic factors is insufficient. In terms of Personal Construct Theory, the numerous references to confidence in relation to economic decision making suggest the formulation of a new dimension of transition. It was an important finding from this Study that when confidence was used as the emergent pole of the construct, the nature of the implied contrast pole (which was suggested by the author based on the context in which the emergent pole was written) could be seen to vary greatly. That is, that a number of words could be seen to fit the contrast pole of confidence depending on the context; for example, worried, gloomy, anxious, pessimistic, have no belief in, cautious and unhappy (See Table 2). This illustrates the fact that in economic life, confidence is a construct which may be applied in many different contexts and with many different contrasts; thus, for the analysis of economic behaviour and decision making, an additional dimension of transition may be helpful. This could be defined as: "confidence: the awareness of the constant revalidation of one's expectations and hypotheses". That is, the more often one becomes aware of the validation of one's prediction of events, the more confident one feels in being able to anticipate future events. However, in line with Kellian propositionality, this should not be regarded as the definitive description, but merely as one possible suggestion.

This new explanation of confidence might be able to account for the absence of the so called feel-good factor in Britain today; in that after a long and drawn out recession, individuals and organisations are experiencing difficulty in finding the constant revalidation of their expectations as outlined in the above definition of confidence. There may not have been enough time to build up the recognition of one's predictive efficiency, and for one's hypotheses about the world to again be proved valid. The ability to look forward and plan with some degree of certainty/predictability about what the outcome of events will be is an important ingredient of optimism and confidence, and hence, in today's terms, of the feel-good factor. As Scitovsky (1977) states the most important force behind an individual's behaviour is the "desire to know the unknown" (p.9). This is an important source of satisfaction, as long as the unknown is construed as manageable. Anxiety can come from the unexpected and the uncertain when it questions our ability to manage events, which appear to be outside our range of convenience. This has links with what economists have written about the notion of liquidity; that is, that individuals will avoid committing to a particular choice of behaviour until they feel that they can anticipate events (Keynes, 1936, Shackle, 1972). Once the individual's confidence in their ability to predict events has been restored, they may be able to bring current events in the economy, and those of the recent past, into the ranges of convenience of their construct systems, and this may then inform their ability to anticipate the future in a more confident manner.

Further interesting outcomes of this Study, have been the appearance of group (or collective) hostility and aggression as indicated by the statements of members of the same Party or Government; and also, the fact that these types of comments span a period of four and a half years illustrates the longitudinal aspect or persistence of this group hostility (see Appendix H for all of the examples). An example of group hostility could be seen in the case of the Conservative Government which adhered to an extremely high exchange rate within the Exchange Rate Mechanism leading to a loss of billions of pounds on "Black Wednesday" or "White Wednesday", depending on one's political perspective. This example is chosen, because it could be argued that even though the policy was proving to be a failure, the Government continued with the policy until more and more money had been lost. Obviously, this is a subjective interpretation on the part of the author; however, in terms of the Psychology of Personal Constructs, a reluctance to recognise an unsuccessful way of construing events is indicative of hostility.

### **5.5** Conclusion

The findings of this study support Katona's (1964) assertion that one must appreciate psychological variables if one is to gain an understanding of the behaviour of economic agents. However, in pure economic research, only the effects or results of economic behaviour, such as supply-demand relationships, are studied; and hence, differences in behaviour are seen to be the result of such things as market environments. The intervening, psychological processes of evaluation, decision and choice are ignored (Van Raaij, 1981) as are interpretations and anticipations. Katona (1964), and more recently, Earl (1983, 1986, 1990) have also stressed the fact that one cannot ignore the influence of a person's perceptions and evaluations of economic reality, and their optimistic or pessimistic expectations about their own and the country's state of economic affairs. An appreciation of all of these factors can aid the prediction of economic behaviour, and if relevant findings from psychological research were utilised more by economists, they might also achieve a better understanding of choice behaviour. However, unfortunately many of the traditional economic models and theories such as ordinal utility theory, revealed preference theory and modern utility theory have left no room for any psychological input, and it remains only a relatively small number of economists who are prepared to incorporate findings from the psychology literature into their thinking.

### Chapter 6

### Study Two: Construing Economic Reality: Dimensions of Transition and Control in Economic and Political Statements<sup>5</sup>

#### **6.1 Introduction**

The results of Study One have provided examples of how economists and politicians construe economic and political reality. These results have also informed the content and nature of the second experiment, which has its focus on the construing of voters. As previously stated, Conway and Currie (1973) have suggested that it is possible to differentiate experimentally between Kelly's (1955) theoretical notions of hostility and aggressiveness. They devised a questionnaire, which required subjects to distinguish between hostility and aggression as indicated by the use of preemptive, constellatory and propositional constructs. Subjects were asked to make quick, yes/no decisions on items dealing with controversial issues such as abortion, euthanasia and capital punishment and they found that the questionnaire was "a useful indicator of the degree of hostility and aggression apparent in an individual's responses" (p.22). In addition, subjects' responses highlighted the fact that they were either hostile or aggressive, but not both simultaneously. An important link was also discerned between hostility and preemption and constellatory constructs on the one hand, and aggression and propositional constructs on the other.

In order to more fully explore the relationship between the dimensions of transition and constructs relating to control, the following Study aims to explore potential differences in the use of preemptive, constellatory and propositional construing. One method of achieving this is to determine if variation can be identified between individuals who identify themselves as supporters of different political parties. Such differences may also manifest themselves as varying degrees of permeability within construct systems. By asking individuals to rate economic statements according to their preference for their preemptive, constellatory or propositional content, one is putting the person in an action decision situation in which the C-P-C Cycle will be

<sup>&</sup>lt;sup>5</sup>Parts of this Chapter have been published as follows: Theodoulou, S. (1996). Construing economic and political reality. <u>Journal of Economic Psychology</u>, <u>17</u>, 499-516. (See Appendix E).

involved. The preference of propositional statements by some individuals could therefore, be linked with the circumspective stage of the cycle and the preference for preemptive statements could be linked with the preemptive stage of the cycle. Most individuals will use all of the styles of construing at one time or another, as Kelly (1955) suggests "it is rare to find a person consistently applying a construct either wholly propositionally or wholly preemptively" (p.379). This is because exclusive use of propositional constructs could result in confusion and indecision, and exclusive use of preemptive constructs could result in a completely restricted outlook. Therefore, both hostile and aggressive individuals also make use of constellatory constructs. Thus, as Conway and Currie (1973) hypothesised, hostility may be characterised by preemptive and constellatory constructs, and aggressiveness may be characterised by propositional and constellatory constructs.

Thus, the justification for the design of the experiment was aimed at differentiating experimentally between various dimensions of transition, as defined in Personal Construct Theory terms, and in relation to economic and political statements. The theoretical bases underlying the experimental procedure devised for this purpose were a) the theoretical definitions of preemptive, constellatory and propositional construing; and b) the theoretical definitions of hostility and aggressiveness. Another important aim of this Study was to develop an exploratory 'tool' which could firstly, be used to examine the theoretical notions detailed above; and secondly, could illustrate that certain aspects of Personal Construct Theory itself are suitable for the identification of economic construct systems.

### **6.2** Hypotheses

The following hypotheses will be tested in this Study:

**6.2.1 Hypothesis One:** In accordance with the Commonality, Organisation, Sociality, and Choice Corollaries, there will be a significant difference between the Conservative and Labour Party supporters (in this Study) in their preference for propositional or preemptive construing; with Labour supporters favouring propositional construing and Conservatives favouring preemptive construing. That is,

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Labour Party supporters will be more open to the possibility of alternative courses of action; in contrast, to Conservative Party supporters who will be reluctant to consider the possibility of any alternatives.

**6.2.2 Hypothesis Two:** Related to hypothesis one, and in accordance with the definitions of the Commonality, Organisation, Sociality, and Choice Corollaries, Labour Party supporters in this Study will display more preference for statements which will favour active and elaborative choices (aggressiveness); whereas Conservative Party supporters will favour statements which describe a continued attempt to hold on to beliefs or policies which have already been proven a failure (hostility).

**6.2.3 Hypothesis Three:** In accordance with the Commonality, Organisation, Sociality, and Choice Corollaries, Liberal Democrat Party supporter's preference for different kinds of construing will show some similarities with Labour Party supporters and other similarities with Conservative Party supporters.

**6.2.4 Hypothesis Four:** In accordance with the theoretical definition of constellatory construing, all subjects will utilise statements, which are constellatory in their nature irrespective of the Party they support. (That is, there will be no significant difference in the supporters' preference for constellatory statements).

### 6.3 Method

### 6.31 Subjects

 all other Studies, the term expert should only be taken as referring to those working or trained in the field of economics, business, finance etc. Non-experts, to the knowledge of the author, do not have this background or training).

### 6.32 Materials and Apparatus

The Repertory Grid is not suitable for exploring the theoretical concepts of transition, or constructs relating to control. Thus, part of the justification for this Study was to develop an appropriate methodological tool with which to examine these dimensions of transition and notions of control. Statements devised by the author which were adapted from the statements expressed by economists and economic commentators in the Keegan editorials of Study One were used to investigate the individual's style of construing in this area. As previously stated, the content of the statements was informed by the results of Study One.

Thus, the author (see Appendix C for a completed example) developed a multiple choice type format consisting of ten sets of three multiple-choice statements. Due to the fact that these statements were adapted from those made by politicians, economists and economic commentators; individuals with varying political affiliations and theoretical orientations determined their content. The structure of the statements was based on the theoretical aspects of Kelly's (1955) preemptive, constellatory and propositional construing and Kelly's (1955) theoretical definitions of hostility and aggressiveness. Each of the ten questions deals with a different economic or political topic, and comprises three statements: one propositional, one preemptive and one constellatory. The author's choice and structure of statements in terms of their propositional, preemptive and constellatory nature was informed by a high level of inter-rater agreement; (the mean score for six judges was 26.33 out of a possible 30. See Appendix G for an example of the inter-rater questions).

The SPSS Windows package was used to analyse the data.

### 6.33 Procedure

The multiple-choice statements, accompanied by a covering letter (see Appendix C) were sent to 174 subjects on June 1st 1994. A mailed response was chosen for the Study, because it offered a way of targeting a large sample and thereby a richer source of information. It was also chosen as a contrast to the face to face method used in Study Three; in this way it was possible to examine and utilise a variety of response procedures in the hope of determining if one or more particular methods was more appropriate for this research area. The instructions at the top of the multiple choice form asked subjects to rank the statements in order of their agreement with those statements. Each set of statements was prefaced by the question "Do you believe that:". This phrase was used in order to put the individual in a choice situation in which they had to indicate their level of agreement. The term "believe" was considered as suitable as any other synonymous word for the purpose of the exercise.

In the written instructions, subjects were asked to rank (out of three), the three statements which made up each question in order of their agreement with those statements. 57 completed forms were returned giving a response rate of 32.8%. (According to Ferber, 1952 and Goode & Harte, 1952 this is a fairly average response rate to a mailed questionnaire. Despite the age of these papers, similar response rates appear to be common in other research areas, and there has been little new research into response rates over the past forty years).

### 6.4 Results

The responses were scored for each subject, and subjects who had stated the same political affiliation were grouped together (see Appendix I for the SPSS print out of the raw data). Non-parametric tests were performed on the data to ensure that the ipsative nature of the ranked scores did not unduly influence the outcome of the analyses. The aim of this results section is to highlight any significant or nonsignificant differences between preferences for propositional, constellatory and preemptive statements according to which political Party the subjects supported. Overall claims made for such differences are based on the statistics in Table 3. A Kruskal-Wallis test revealed that overall, there was a significant difference between supporters of different Parties and their preference for statements which were preemptive,  $\chi^2 (2, \underline{N} = 57) = 32.01$ , p < .001 or propositional,  $\chi^2 (2, \underline{N} = 57) = 31.79$ , p < .001 in their construction, but not for statements which were constellatory in their construction,  $\chi^2 (2, \underline{N} = 57) = 1.02$ , p .60.

Table 3 shows the breakdown of the results of the Mann Whitney tests for each Party, on each type of statement, for all ten questions; thus making specific reference to the economic/political topic of each question. This table shows that in accordance with hypotheses one and two, Mann Whitney tests revealed that there was a significant difference between Labour and Conservative supporters in their choice of preemptive type statements, U = 25, p < .001; and propositional type statements, U = 24.5, p < .001.001; with Labour choosing propositional and Conservatives choosing preemptive. Conservative and Liberal Democrat supporters differed significantly in the preference for preemptive type statements, U = 20.5, p < .001 and propositional type statements, U = 25, p < .001 with Conservatives preferring preemptive statements and Liberal Democrats preferring propositional statements. There were no significant differences between Labour and Liberal Democrat supporters in their preference for preemptive, U = 101, p.19; propositional, U = 92.5, p.11 or constellatory statements, U = 122, p.57. The similarities and differences between the responses of the Liberal Democrat supporters and the supporters of the other two Parties offer support for hypothesis three (see Appendix J for examples of the SPSS output of the above results).

With specific reference to supporters of each political Party, Mann Whitney tests showed that, in accordance with **hypothesis four**, all subjects made use of constellatory type statements; and hence, any differences between the supporters of each Party and their preference for constellatory statements were chance occurrences (Labour v Conservative, U = 209, p .31; Labour v Liberal Democrat U = 122, p .57; Conservative v Liberal Democrat U = 127.5, p .87).

### Table 3

Q	Preemptive			Constellatory			Propositional		
	C v L	L v LD	C v LD	CvL	LD v L	C v LD	LvC	L v LD	LD v C
1	0.002**	0.209	0.178	0.106	0.513	0.480	0.034*	0.166	0.445
2	0.001**	0.083	0.015*	0.939	0.257	0.340	0.001**	0.072	0.010**
3	0.001**	0.774	0.014*	0.002**	0.560	0.026*	0.001**	0.604	0.001**
4	0.004**	0.933	0.015*	0.914	0.481	0.505	0.004**	0.542	0.045*
5	0.001**	0.797	0.001**	0.319	0.813	0.351	0.001**	0.958	0.001**
6	0.001**	0.488	0.001**	0.256	0.488	0.660	0.001**	1.000	0.007**
7	0.001**	0.318	0.009**	0.061	0.667	0.268	0.007**	0.837	0.088
8	0.001**	1.000	0.004**	0.898	0.022*	0.082	0.002**	0.022*	0.306
9	0.001**	0.635	0.004**	0.109	0.192	0.903	0.001**	0.070*	0.004**
10	0.002**	0.985	0.006**	0.412	0.666	0.310	0.002**	0.874	0.001**

Significant Differences between Scores on the Preemptive, Constellatory and Propositional Statements for Supporters of Each Political Party

<u>Note</u>. N = 57. L = Labour, C = Conservative, LD = Liberal Democrat. In the case of a significant difference, the Party with the stronger preference for that type of statement is cited first at the top of each column.

\* p<.05 \*\* p<.01

Even though overall there was no significant difference between the Parties in their scores for constellatory constructs, one can see from Table 3 that the breakdown for each question shows that there is a significant difference between Labour and Conservative supporters, and Conservative and Liberal Democrat supporters on the constellatory statement in Question 3 - "for jobs to be created, labour markets must not only be flexible, but also deregulated and efficiently priced" (see Appendix C for all of the statements). The direction of the difference being that Conservatives showed a higher level of agreement with this statement than both Labour and Liberal Democrat supporters. There was also a significant difference between Labour and Liberal Democrat supporters on the constellatory statement in Question 8 - "any macroeconomic policy which aims to conquer inflation, must also focus on growth and employment" with Liberal Democrats showing greater agreement than Labour supporters.

#### **6.5** Discussion

According to Kelly (1955), choice of any action tends to be in the direction of increased definition (more clear cut) or extension (more meaningful). The Choice Corollary implies that an individual will tend to opt for increasing their predictive efficiency; this can be seen to have parallels with the economic theory of utility, and may in fact, be argued to form the basis of an individual's utility curve. Thus, choosing to construe in a preemptive, propositional, hostile, or aggressive manner, or a combination of all four, is all part of the individual's attempt to anticipate events in the world and to make them more predictable. Different people may use constructs relating to transition and control in a different range of convenience to each other, and possibly even in a different way to how Kelly originally envisaged. However, any differences and similarities in construing could still be accounted for by the Individuality, Organisation, Choice, Commonality, Modulation and Sociality Corollaries; and ultimately, as Kelly (1955) states, the Fundamental Postulate can encompass the 'push and pull' of all individuals. This could be extended to the individual's construing of their economic world as well as to other aspects of their lives.

The continuum which ranges from preemptive and constellatory constructs at one end, to propositional constructs at the other highlights the point which Kelly makes that individuals do not use one type of construct exclusively, but oscillate between the three. An example of this has been found in this Study by the fact that none of the subjects exclusively preferred one type of construct; they made use of all three kinds of constructs in their responses to the statements. However, individuals can, however, be characterised by their predominant use of one particular type of control construct over another, and thus, may be characterised as stylistically preemptive, constellatory or propositional construers, and this has been borne out by the results of this Study. (See section 6.4 and Table 3).

The results of the statistical analyses have offered support for the hypotheses set out in section 6.2 in that (i) the Labour Party supporters significantly preferred the use of propositional construing over that of constellatory and preemptive construing; (ii) the
Conservative Party supporters were less likely to make propositional construing their preferred choice, instead favouring a mixture of preemptive and constellatory construing; and (iii) the Liberal Democrat supporters were shown to favour an even more varied mixture of different types of construing. It is interesting to note the overwhelming preference among Conservative Party supporters for preemptive statements compared with that of the Labour Party supporters for propositional statements; as one might expect, there was very little similarity in construing between supporters of these two Parties. Chambers (1983) suggests that "Preemptive people ... tend to be rigid and dogmatic ... they are sceptics who shield themselves from the potentially threatening complexities of circumspection by fragmenting the world into categories or stereotypes ... they prefer to judge instead of describe the world" (p.34). Kelly (1955) argues that in contrast, individuals who are stylistically propositional in the way they approach life tend to allow for alternative interpretations of events rather than rely on an inflexible view of the world.

In accordance with the theoretical definition of constellatory construing, it was found, as hypothesised, that all subjects made use of constellatory type statements. This may be seen to be due to the fact that according to Kelly (1955), the ability to formulate stereotypes, which are the nature of constellatory constructs, helps individuals to freeze events into some kind of rigid structure; total propositionality would lead to terminal indecision, and exclusively preemptive thinking would lead to inflexible dogma. Therefore, it was expected that supporters of all Parties would make use of constellatory statements.

It is also possible to explore the above choices in terms of Kelly's (1955) theoretical definitions of hostility and aggressiveness (see Appendix A and sections 2.36.4, 2.36.5 and 2.37 for definitions). That is, one could link the limiting and restrictive nature of preemptive construing (which excludes the possibility of alternatives) to hostility. Kelly (1955) defines hostility as 'the continued attempt to extort validational evidence in favour of a prediction which has already been proven to be a failure'. (He refers to the character Procrustes in Greek mythology, who would stretch or cut his guests down to a size that would fit the bed he owned.) Alternatively, aggressiveness

which is the active elaboration of an individual's perceptual field, could be seen to be typical of propositional construing which does allow for further exploration of alternatives and the elaboration of one's construct system. The differences between hostility and aggressiveness could also be related to Landfield's (1977) distinction between the literal assuming and the hypothesising approach to life; the former denies negating evidence for one's hypotheses, the latter allows some openness to invalidational alternatives.

If one accepts that the links can be made between Kelly's notions of transition and control as set out in the previous paragraph, one could suggest that the results of this Study could be examined from another angle. In that, Labour Party supporters could also be seen to be more aggressive in their construing than the Conservative Party supporters who could be described as more hostile construers. In sum, aggression could be characterised by more propositional and constellatory constructs, and hostility by more preemptive and constellatory constructs; although a person can also be aggressive in his/her hostility. These theoretical links are based on how flexible different construers are in accordance with Kelly's definitions.

The ten sets of statements reflect a number of different economic and political issues: unemployment, macroeconomic policy, job creation, saving, budget deficit, policy direction, revenue, government intervention, growth and inflation. Table 3 highlights the issues upon which there are most similarities and differences between the three Parties. For example, the only significant differences between the Labour and Liberal Democrat supporters were regarding the constellatory statement in Question 8: "Any macroeconomic policy which aims to conquer inflation, must also focus on growth and employment"; and the propositional statements in Questions 8 and 9: "There may be times when the government should seek to influence demand in order to stimulate the economy", and "In times of recession, the government has a number of options to help stimulate the economy, one of which may be to increase spending on the infrastructure". These statements deal with levels of government intervention and measures to stimulate the economy. Thus, it would seem that the Labour and Liberal Democrat supporters shared a similarity, or commonality in the construing of most of

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the topics referred to in the statements; and the supporters of both of these Parties differed markedly in their construing to that of Conservative Party supporters with Labour supporters showing the greater differentiation. In fact, the Labour and Conservative Party supporters significantly differed in their preference for every statement of a preemptive or propositional nature, and also on the constellatory statement in Question 3: "For jobs to be created, labour markets must not only be flexible, but also deregulated and efficiently priced", with Conservative Party supporters showing more preference for this statement.

#### 6.6 Conclusion

This experimental Study has identified personal economic construct systems, and, it is hoped, has contributed to the understanding of these construct systems. Specifically, this Study has elucidated the important theoretical link between, on the one hand, hostility and preemption, and on the other, propositionality and aggressiveness, and their relationship to economic and political construing. In addition a measure of transition and control has been developed and used to explore a number of Kelly's (1955) theoretical notions. Furthermore, this Study has illustrated that certain aspects of Personal Construct Theory, such as the dimensions of transition and notions of control, are a suitable 'test' for the identification of economic construct systems.

Obviously, the scope of this Study has its limitations and has merely touched the surface of a great deal of work, which could be undertaken in this area. Ultimately, in line with the spirit of constructive alternativism, other alternatives to the multiple-choice statements used in this Study and the interpretation of its findings are possible. Future research might investigate the type of constructs which individuals employ in other areas of their lives in order to more fully explicate the profile of the Labour, Conservative or Liberal Democrat voter. Similarly, one could examine differences among economists, politicians and voters in aspects of Kelly's theory other than the dimensions of transition and notions of control; for example, in core constructs, permeability and resistance to change. In addition, a number of other methodological strategies, still related to Personal Construct Theory, could also be utilised in order to

gain a deeper understanding of personal, economic construct systems; for example, implication Grids and the laddering technique (Hinkle, 1965).

Saving behaviour was one of the topics included in the multiple-choice form. Unlike political affiliation and voting behaviour, saving, which is an important part of macroeconomics, has been under-researched by both economists and psychologists. Saving and investment are vital to a healthy economy; as Maital (1982) states "both the economic life cycle of the individual and the business cycle of the whole economy are bound up with attitudes towards saving and borrowing" (p.22). In order to increase production, one needs to increase investment and this increase needs to come not only from the public and private sectors, but also from individual savers. For years, economists have been trying to answer the question why do some people save when others do not, and why do people prefer to save in different ways? Economists have yet to come up with a satisfactory answer or understanding of the individual's construing of saving options. The psychological research on saving has not received as much attention, but one can argue that it is vital in order to achieve an understanding of how ordinary people construe saving choices, and how this may differ to that of experts. Chapter 7 will focus on different constructions of saving and investment options in more detail.

#### Chapter 7

### Study Three: The Individual's Construing of Saving and Investment Options

#### 7.1 Introduction

#### 7.11 Theories on Saving

Saving can be seen to be refraining from buying now so that one can buy later, or in other words, delaying consumption. Wärneryd (1989) argues that from a psychological point of view saving is related to "how humans deal with uncertainty as regards the future and how they accordingly make provisions or not" (p.516). This desire to cope with an uncertain world, and the need to anticipate future events appears to be at the root of saving behaviour and can be linked to ideas prevalent in Kelly's (1955) Personal Construct Theory, in Earl's (1983, 1986, 1990) work on choice, and in McCain's (1992) discussion of rationality; all of which deal with the human desire to control and predict events in an ever-changing environment.

Despite the obvious psychological factors involved in saving behaviour, the dominant economic theory of saving has been the Life Cycle Hypothesis (Modigliani & Brumberg, 1954) which states that saving depends on an individual's current income level, wealth, expectation of future income and life expectancy, and stresses the relationship between saving and income regardless of relevant psychological factors. Other economic theories of saving have taken psychological influences into account to varying degrees. The Relative Income Hypothesis (Brady & Friedman, 1947 cited in Wärneryd, 1989; Duesenberry, 1949) proposes that the propensity to save is dependent on the perception of other people in one's social milieu, rather than on one's own absolute income; the Permanent Income Hypothesis (Friedman, 1957) argues that people decide what proportion of their income they intend to spend over specific time periods based on their belief about their underlying income; and Keynes' (1936) Absolute Income Hypothesis asserts that "a 'psychological law' exists which posits that there is a constant propensity to save regardless of fluctuations in income" (p.96). This psychological law may be inherent in all individuals.

Keynes (1936) also suggests that there are at least eight, main factors, which lead an individual to refrain from spending; these are: precaution, foresight, calculation, improvement, independence, enterprise, pride and avarice. Coddington (1983) discusses Keynes' (1936) idea that investment decisions are based on an individual's beliefs about their past, present and future circumstances; and suggests that if this is the case, an individual's intention and desire to save, or their saving patterns could become erratic if their present circumstances alter unpredictably; thereby leading to changes in their anticipation of what the future holds.

The Impatience Theory of Saving has been proposed by Bohm-Bawerk (1881); and this states that people are impatient to consume and therefore, demand compensation, such as interest on savings, for abstaining from the "good" or "goods" at that particular moment in time (cited in Wärneryd, 1989). In the 1890's, Marshall also regarded interest as a reward for waiting. Bohm-Bawerk offers three main factors in support of his argument that individuals prefer present over future consumption. Firstly, people perceive future goods less clearly than present goods due to a lack of imagination and uncertainty about the future. Secondly, individuals believe that they possess inadequate means to be able to satisfy their present wants, whereas they overestimate their ability to satisfy future wants. Finally, present goods are seen to hold a "technical superiority" over future goods; one reason suggested for this is that the nature of industry in the future is uncertain. This theory has obvious links with the Psychology of Personal Constructs whose Fundamental Postulate states that an individual's psychological processes are channelised by the way in which s/he anticipates events.

Van Raaij and Gianotten (1990) have examined Katona's (1964) prolific work on consumer sentiment and different types of saving behaviour, and have reduced Katona's nine questions on consumer sentiment to just two factors: the evaluation of the development of the household financial situation, and the evaluation of the development of the general economic situation of the nation, including inflation and unemployment. They argue that the first factor makes a significant contribution to the explanation of consumer expenditure, saving and credit, and they suggest that "disposable income and the first component are the major determinants of the expenditure on durable goods, credit and saving" (p.286). They also argue that "the expectation of saving and the rationality of saving, considering the general economic situation, are negatively correlated" (p.286). From their study, it would seem that the largest determinant of actual saving is the <u>evaluation</u> of the state of the household financial position; in Kellian terms one might change their term evaluation to Kelly's (1955) term of construction. In this way, one could argue that the way an individual construes the household finances is an important factor in saving and spending decisions. However, considering the plethora of research findings on saving behaviour, the importance of the construing of just one set of events (the household finances) would appear to be a rather simplistic explanation, and in Kellian terms a preemptive one.

### 7.12 Saving and Risk

As previously stated, saving is an area of macroeconomics which has a very important influence on other macroeconomic factors. Economists do not appear to be able to explain why individuals vary in their perception of what constitutes saving and whether or not saving is a worthwhile activity. Some people spend everything they earn while others try to save more than they earn. The author was interested to find an explanation of these individual differences in construction using Personal Construct Theory.

There are a wide variety of saving and investment choices, which are available to the individual, and these options vary according to the amount of capital protection and earning potential they offer. They range from no capital protection (and highest growth potential), such as shares, PEPs and income producing investment/unit trusts, to those with total capital protection, such as building society deposit accounts, Tessas, National Savings Certificates, National Savings Bonds etc. Hence, decisions on saving can often involve some element of risk. Individuals have been found to differ in their risk aversive behaviour, and researchers have also varied in their explanations of risk taking behaviour according to their theoretical orientation. Schoemaker (1993) suggests that "economists presume that revealed risk-taking is

largely determined by the shape of the relevant utility function" (p.52), whereas psychologists "seek to describe how people actually interpret and think about risk problems, taking explicit account of human information processing limitations such as the ability to know and understand all possible factors occurring in the market place" (p. 53).

It is important to consider how the shape of an individual's utility function is achieved; one might argue that it could, in some way, be based on the individual's perceptions and thoughts (constructs) concerning decisions involving risk which in turn motivate their economic behaviour. In terms of the Psychology of Personal Constructs, this question could be seen to be analogous to the Choice Corollary which states that a person chooses for him/herself "that alternative in a dichotomized construct through which (s/he) anticipates the greater possibility for extension and definition of [his/her] system" (Kelly, 1955, p.45). Thus, when an individual is faced with any choice of action, s/he might choose what they believe to be the best way of enhancing their anticipations of the future. This may be either by making events more meaningful (extension), and/or more clear cut (definition). This could be a way of interpreting Duesenberry's (1949) argument that people do not desire specific goods, but desire goods which serve certain purposes; or Earl's (1983) notion that buying (or saving) is a means of bringing control or power into one's life.

Some of the research on risk assessment has flirted with the idea that an individual's perception of events plays an important part in investment decisions. For example, Baker and Haslem (1974) concluded that along with their three main determinants of individual investment decisions - dividends, future expectations and financial stability; individual investors' perceptions of investment risks are complex and are based on a multitude of factors (cited in McInish & Srivastava, 1984). Similarly, McInish and Srivastava (1984) have found that individual differences in risk assessment cannot merely be attributed to errors in measurement, but must also be linked by some common, underlying mechanism. In their study on investors' attitudes to risk taking, they found that there were a number of important, related factors, such as sex, age, income and level of education. These individual differences in risk

assessment could be explained by individual differences in the construction of events as set out in Kelly's Individuality Corollary; that is, that "persons differ from each other in their construction of events" (Kelly, 1955, p.38); and as demographic groups can be explained by the Commonality Corollary.

An analysis of acceptable risk-taking levels among individual investors has led to Coombs' (1975) formulation of "portfolio theory" (cited in Lopes, 1987). One suggestion of this theory is that investors who prefer low risk take on bonds which are a safer alternative to stocks, but which offer a lower return on their money. Lopes (1987) believes that such risk-aversive individuals are motivated by a need for security; one might argue that they are seeking to define their construct system as stated in the Choice Corollary. In contrast, Lopes (1987) suggests that risk-seekers are looking for potential, or in Kellian terms, are wanting to extend their construct systems as stated in the Choice Corollary. Plax and Rosenfeld (1976) found that those who make risky decision choices could be categorised as "persistent, effective in their communication, confident ... imaginative ... clear-thinking, and manipulative ... in dealing with others" (p.416). According to the Psychology of Personal Constructs, each of these terms may be considered as one pole of a dichotomous construct; hence, it may follow that the opposite pole of the characteristics cited by Plax and Rosenfeld (1976) may apply to those who make cautious decision choices. These characteristics may also be interpreted in terms of Kelly's (1955) notions of propositional and preemptive construing.

Research on risk seeking and aversion has also found that individuals are risk aversive for gains, but 'fond' of risk for losses. For example, Maital (1982) offered subjects a 90% chance of winning \$3,000 or a 45% chance of winning \$6,000, and found that six times as many subjects chose the smaller, more certain prize. However, if they were asked to choose between a 90% chance of losing \$3,000 or a 45% chance of losing \$6,000, nine out of ten subjects preferred risking the larger, less probable loss. This example may be linked to questions of rationality in individuals who are faced with risky choices. Lea et al. (1987) point out that often individuals do not always behave in line with the expected value principle. They illustrate this with an example of irrational behaviour in an individual who buys a video recorder for £250 and insures it for £25. They state that if the probability of the video recorder being stolen is put at 1/20, then the expected value of the insurance is only £12.50; however, the individual will still take out the insurance at £25. Nevertheless, this behaviour could be seen to be rational if one views it in terms of Personal Construct Theory; that is, if one believes that the individual is seeking to increase their predictive efficiency and feelings of security, and is therefore, willing to pay any price to achieve this end.

Choices involving risk may also be linked to other psychological factors such as: fear, hope, safety, danger, fun, play, conflict, time, duty and custom. (These can also be seen as constructs). Lopes (1987) suggests that even psychologists often pay little attention to such psychological factors when talking about risky choice. It can also be argued that in classical economic theory there is very little reference to terms such as confidence, optimism, pessimism, belief etc. Schoemaker (1993) states that beliefs are "especially pertinent to understanding entrepreneurs, who are often convinced of their ultimate success and tend to attribute it to skill rather than luck" (p.54).

Rychlak (1977) suggests that such belief in the self, and feelings of conviction are a reflection of our confidence; he argues that "it is as if the human intelligence, knowing intuitively of the bipolarities in meanings, requires this sense of conviction as a reflection of its tautologizing nature". He adds that such concepts as "doubt, distrust, rejection, disbelief, wavering between affirmation and negation, conjecture, the concoction of possibilities" etc. are a reflection of such dialectical machinations; the "operations of our intellects" (p.88).

The inclusion of a Study on the construing of savings/investment options would seem to touch on a number of issues relevant to Personal Construct Theory; namely, choice, decision making, extension of the system, anticipating the future, control over one's finances, increasing the certainty one has over events etc. Section 7.13 focuses on the way saving may, for those who need/want it, increase their level of confidence in predicting events.

#### 7.13 Confidence and the Feel-good Factor

"Confidence" which may be defined as a feeling of certainty or boldness may well be one of the most important factors in economic affairs; as Keegan, the economics Editor of The Observer (1994) states "economics is a behavioural science, not a mathematical one. Confidence is all" (p.26). However, as previously stated, in economic theory there is little reference to the individual's emotions, confidence or belief, even though there is the implication of the economics' belief in their own theories. Despite this fact, politicians and economic commentators refer to such concepts as optimism, pessimism, faith, obsession, uncertainty, fear, threat, worry, confidence, gloom, terror, hope etc. nearly every day (see Chapter Five). In support of this, Van Witteloostuijn (1990) cites Lachman (1943) who stated that "economic action ... is often decided upon in a penumbra of doubt and uncertainty, vague hopes and inarticulate fears..." (p.194).

Confidence may be likened to the feel-good factor, which in Britain has recently been considered an elusive factor, which possesses the power to influence the economy. Feel-good has become an important concept in discussions about economic recovery or lack thereof. Keegan (1994) states that "both the Governor [of the Bank of England] and the Chancellor have recently acknowledged that, whatever the official statistics might say about economic recovery, the 'feel-good' factor was conspicuous by its absence ... [and this] lack of a 'feel-good' factor was certainly holding back investment" (p.5). One could argue that the vexed issue of feel-good has influenced the discussion around, and the timing of, the interest rate increases/decreases from the latter part of 1994 to early 1996; and the concept of feel-good is still being discussed by economic commentators well into the spring of 1996. In terms of the Psychology of Personal Constructs, one might link this feel-good factor, or feel-bad factor to Kelly's (1955) notion of threat; that is, that people are all too aware of imminent, comprehensive changes which may take place in their core structures; for example, being made redundant or having their home repossessed. It is threat rather than fear which seems to be the most appropriate description, because threat deals with comprehensive changes which can affect the maintenance of an individual's identity and existence, whereas fear is related to incidental changes.

The importance of confidence and emotion in general, in economic construing cannot be overemphasised and can be illustrated by examining constructs used to sell bank and building society accounts/services, such as insurance, savings accounts, Personal Equity Plans etc. (see Appendix K which offers an illustration of the kinds of emotive factors and "emotionally loaded" constructs which are used in the attempt to persuade people to buy these services). The constructs used are aimed at delivering the message that if one does not buy such services, one will not have a secure and manageable future. In Kellian terms, this can be translated as not being able to predict and control events.

Similarly, in business, confidence is often achieved by forecasting and planning. Gimpl and Dakin (1984) suggest that these activities relieve the anxiety of an uncertain future, and help managers in their predictions and ability to cope with the world. They also suggest that the use of such "future-orientated techniques is a manifestation of anxiety-relieving superstitious behaviour" (p.125). Such superstitious behaviour offers the illusion of control and makes the world appear more predictable even though events may often prove these forecasting techniques to be incorrect; for example, in the event of an unexpected rise in interest rates.

There has been very little attempt, if any, by economists and psychologists alike to discover the way people construe issues related to saving behaviour. Kelly (1955) states that the Psychology of Personal Constructs is a "total psychology" which deals with the person as a whole. As such, one can argue that the Psychology of Personal Constructs is relevant to the study of saving and investment decisions, because it is concerned with the individual and the way s/he perceives, in this case, the economic world. Thus, the major economic theories of saving behaviour as outlined in 7.11 can be reinterpreted using the theoretical tenets of the Psychology of Personal Constructs.

The rationale for this Study was to attempt to explore the psychological factors which may influence individual and group construing of saving and investment options in expert and non-expert subjects (that is, those who work or are trained in the field of economics, business, finance etc. and those who do not have this background). Katona (1975) has suggested that there is a difference between the lay definition of saving and the economists' definition of saving. This is an important justification for the Study, because it is lay people who form the majority of savers, and therefore, the way these individuals construe different types of saving will influence the amount and ways in which money is saved, and this in turn, has significant macroeconomic consequences.

Different people will perceive different types of behaviour as saving; varying from putting money in a teapot to repaying loans (Lea et al., 1987, p. 213). The former would be recognised by the lay person as saving, the latter probably only by economists. There might also be a difference in the perception of deliberately putting money aside each month, and merely not spending all ones wages. Maital (1982) has illustrated the complexities, inconsistencies and contradictions of individual saving and spending behaviour. For example, he cites the case of an individual who will buy a car on a loan of 12%, but will save in an account offering 6% interest (many individuals borrow and 'lend'/save at two different rates). Similarly, an individual will have a savings account, even though the actual rate of interest, minus inflation is negative; despite this, most people view savings accounts as safe and secure. It is the aim of this study to tease out some of these differences in construing saving and non-experts in order to further the understanding of saving behaviour, and the way individuals construe different saving choices.

As with the two previous Studies, and continuing the common link and thread throughout the thesis, various theoretical and methodological aspects of the Psychology of Personal Constructs (Kelly, 1955) will be used to analyse the way a economic experts and non-experts construed, in this instance, various savings and investment options. Principal Component Analyses of Repertory Grids will be used to analyse the Repertory Grids of these subjects in order to examine the number of dimensions on which they construe saving choices, and the important elements and constructs in their systems. In contrast to the novel methodological and administration approaches in the previous Study, the traditional, face to face, Repertory Grid

procedure was adopted in this Study. The justification for this is to offer the reader a variety of investigative methods and designs utilising different tools and sample sizes. Since economic behaviour has not been examined before in detail in terms of Personal Construct Theory, this is a prime opportunity to explore a number of different avenues and this forms the rationale for the use of diverse methods and various aspects of economic behaviour.

#### 7.2 Hypotheses

**7.2.1 Hypothesis One:** In accordance with the Commonality, Organisation, Sociality, Choice and Individuality Corollaries, there will be both similarities and differences in the expert and non-expert construing of saving and investment options.

**7.2.2 Hypothesis Two:** In accordance with the Commonality, Organisation and Choice Corollaries the expert subjects will use significantly more economic or political constructs in their Grids than the non-expert subjects.

**7.2.3 Hypothesis Three:** In accordance with the Commonality, Organisation, Choice and Modulation Corollaries, the Grids of experts will show significantly more permeability than non-experts.

#### 7.3 Method

#### 7.31 Subjects

Subjects consisted of 7 male experts (economics and business professionals) aged between 30 and 55 years old and 8 male and female, non-experts aged between 24 and 50 years. Subjects were colleagues and acquaintances of the author. This was not considered to be problematic since according to Kelly's reasoning the subjects are all individual/personal scientists, and in terms of what the research exercise entailed it did not appear to make a difference whether the subjects were known or strangers. Also, the Repertory Grid is not a test in any formal sense, and Kelly does not imply that it is unwise to complete Grids with individuals known to the researcher. Along similar lines of justification, it was considered acceptable to have a broad age range among subjects (who were all employed and salaried). Finally, the subjects' gender was not a focus for analysis in the Study, therefore, unequal numbers of males and females was also deemed to be acceptable.

# 7.32 Materials and Apparatus

Fourteen elements related to saving and investment options, each on a 15cm by 10cm card (see Appendix L for a list of the elements) and 15 blank Repertory Grid sheets.

The Flexigrid 5.2 Programs for Analyses of Repertory Grids (Tschudi, 1992).

The SPSS Windows package and SPSS Windows Exact package.

# 7.32.1 Choice of Elements

Elements were chosen from common "high street" savings options (such as Bank), and also those that were less common, or traditionally not necessarily perceived as investments or saving (such as Endowment Mortgage). Saving is an established macroeconomic element; however, there is a good deal of variation in the types of activity which may be perceived as saving or investing; from putting money in a bank account to having a pension plan. The choice of the 14 elements was informed by previous research on savings in particular Lea et al. (1987). The number of elements chosen seemed to encompass (i) a manageable total for subjects to construe, and (ii) covered the types of savings options which were of most interest to the author. Kelly does not make any rule about how many elements should be used; indeed, this would be too preemptive.

# 7.33 Procedure

Constructs were elicited from subjects individually over a two week period at the beginning of September 1994. They were asked verbally to participate in the research that was for a Ph.D. They were told that the exercise would be confidential and that there were no right or wrong answers.

The 14 elements were written across the top of the grid sheet with pre-selected triads of elements circled on each row of the Grid so as to set them apart from the remaining

elements. The selection of elements successively included all of the elements in combinations that the individual could construe. The traditional Repertory Grid procedure was followed; that is, they were asked to indicate by a word or short phrase, in which way two of the elements in the triad were similar and at the same time different from the third. In line with Kelly's suggestion that "the examiner records the subject's responses on a blank form opposite Construct [and] ... Contrast" (Kelly, 1955 p. 154), the author recorded the similarity as the stated, explicit construct (pole), and wrote this down on the blank Grid, and recorded the dissimilarity, in the same way, as the implied, implicit construct (contrast). The subjects were then asked to keep thinking about the construct, and to indicate which of the remaining 11 elements also had this similarity. The subjects were then asked to move on to the next row in the Grid and the next triad of elements. In this way, the procedure was completed. Subjects were not asked to rank the elements. (See Chapter 4 for a fuller description of the procedure for completing Grids)

#### 7.4 Results

The Grids were analysed using Flexigrid 5.2. Programs for the Analyses of Repertory Grids (Tschudi, 1992). Principal Component Analyses were carried out on each Grid, and unrotated results are reported (See Appendix M for examples of completed Grids, and Appendix N for examples of the Flexigrid output of the analysis of the Grids). For each individual, the separate Grids, the plots of the elements and the plots of the constructs, principal components, construct loadings, element loadings, and the percentage of variance accounted for by each component were examined and compared in order to determine the construing of the saving/investment elements by each subject (as individuals and according to whether they were categorised as experts or non-experts).

Due to fact that Personal Construct Theory essentially, almost by definition, takes the individual as the basis of any methodology devised to experimentally test hypotheses derived form the theory, individual results are of the utmost importance. Hence, the analysis of individual Grids will be reported in the Tables which follow and due to the

amount of information available for each individual, interpretative comment on individual results will be delayed to the Discussion section 7.6. In addition, a further measure to assist the reader and the author in dealing with the richness of the individual information in this Study is to report only a selection of the results tables on the following pages; the remainder can be found in Appendix O, Tables O-1 to O-12).

The output of the Flexigrid program provides principal components for the Grid as well as co-ordinates and plots of the elements and constructs. This can assist the examination of the relationships between elements and constructs and the distances between certain elements, and certain constructs. Principal components and the construct loadings are part of the output of the Flexigrid program. The highest loading constructs in the three components indicate which are the most important constructs in the system. By selecting the highest loading constructs contributing to a component, one can identify the underlying meaning of that component. Harris (1975) suggests that the words or phrases used to describe the highest loading constructs of the highest loading constructs. One can also identify the massgebend element for that component, and this will indicate which element has the strongest relationship to the highest loading constructs and thereby, help to symbolise the general theme of that component.

The highest loading constructs and massgebend elements are highlighted in Tables 4 and 5. As previously stated, massgebend elements are the highest loading elements in any component, and indicate the element which should be set apart from the rest of the elements in that component; that is they have an orientating property and are the most dominant elements in the interaction system. The other elements in the component can be described as 'satellites' to these influential massgebend elements. Slater (1972) defines a massgebend element as the one which is "sharply distinguished from the rest. The contrast between it and them may well form the most important axis in the construct system. For better or worse it sets the scale of standard

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according to which the rest are judged, and for this reason the German word massgebend, perhaps best translated as trend setting, has been used to describe it" (p.6).

Differences between expert and non-expert subjects can be discerned from (i) differences in the size of the construct and element loadings; (ii) the amount of variance accounted for by each component; and (iii) the appearance of different massgebend elements. As suggested previously, by selecting the highest loading constructs in a component until there is an apparent lack of relationship between the size of the loadings and the semantics of the constructs (this constitutes the cut-off point for the constructs in the sense of the construct, and one can infer the sense of the component in question (see Tables 4 and 5). Thus, the highest loading construct, or constructs in a component can illustrate the key theme or focus of that component, and the massgebend element for that component indicates which element has the strongest relationship to the highest loading constructs and thus, the general theme of the component.

Tables 4 and 5 show the results of the Flexigrid analysis for non-expert subject 2 and expert subject 1. The Tables highlight the different ways these individuals construe the same elements.

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.867 -0.839	don't need lots of money for these for those without lots of money	40.62%	1.894 Bank
Two	-0.791	no money made from these	21.74%	2.074 Premium Bonds
Three	0.704 0.554	can't get a loan from these can't overdraw	13.08%	-1.996 Bank

# Table 4

Results of the Principal Components Analysis for Non-Expert Subject Two

<u>Note</u>. Where a principal component loading has a negative sign, the contrast pole of the original construct is reported. A massgebend element with a negative sign shows that it lies in the negative quadrant formed by the axes of any two components

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.920 0.856	status symbol for the wealthy investor for those with spare cash	31.74%	1.441 Land
Two	0.776	return depends on interest rates	20.06%	2.316 Post Office
Three	0.711 0.711	need a business mind for these can cash in when you want	16.43%	-2.563 Saving Stamps

 Table 5

 Results of the Principal Components Analysis for Expert Subject One

# 7.41 Massgebend Elements

Massgebend elements were selected for each principal component in order to see which element could be distinguished from the rest as being dominant in the component and in the system. If one element is distinguished from the rest, "the contrast between it and them may well form the most important axis in the construct system. For better or worse it sets the scale or standard according to which the rest [of the elements] are judged" (Slater, 1972, p.6). Similarly, by examining the elements that are furthest apart in any component, one can better characterise the meaning of the component. The highest and lowest element loadings indicate the most important axis for that component.

Tables 6, 7 and 8 illustrate these elements and element axes for the non-expert subjects in the first three principal components. An interesting finding is that Bank was the only one of the socalled high street elements which was a massgebend element for the first principal component in the non-expert subjects (see subjects one, and two in Table 6). This shows that even though these elements were construed as the most favourable and familiar, they were not the elements that dominated the interaction system. It was the elements that the non-expert subjects "feared", or with

which they were unfamiliar, such as Shares, PEPs and Stocks, which set the standard by which all of the other elements were judged.

In addition, one can see that Bank, Building Society and Post Office were construed as safe, but Endowment Mortgage, Shares, Stocks, Life Assurance, PEPs, Pension Plan and Art and Antiques were all options which were construed as being the opposite; that is, risky and the kind of options with which they could lose their money. This distinction can be illustrated by looking at the massgebend elements and the element that is furthest away from it in terms of its size of loading.

Table 6 shows the massgebend elements and element axes for the non-expert subjects in the first principal component.

Table 6

First Principal Component Element Axes for Non-Expert Subjects

Non-expert subjects	Massgebend element for principal component one	Element furthest away from Massgebend element
1	-1.876 Bank	1.501 Land, Property
2	1.894 Bank	-1.265 Shares
3	-1.610 Stocks	0.952 Bank
4	-1.538 Stocks	1.224 Building Society
5	1.563 Land, Property, Art/Antiques	-1.279 Pension Plan
6	-1.398 PEPs	1.159 Bank, Building Society
7	-1.831 Art/Antiques	1.111 Building Society, Post Office
8	-1.146 Shares, Land, Property, Art/Antiques	1.143 Premium Bonds, Saving Stamps, Post Office

Table 7 highlights the massgebend elements and element axes for the non-expert subjects in the second principal component.

# Table 7

Non-expert subjects	Massgebend element principal component two	Element furthest away from Massgebend element	
1	-1.983 Saving Stamps	1.235 Post Office	
2	2.074 Premium Bonds	-1.532 Life Assurance	
3	-2.451 Endowment	1.468 Post Office	
	Mortgage		
4	-1.888 Endowment	1.759 Pension Plan, Life	
	Mortgage	Assurance	
5	1.529 Saving Stamps	-1.469 Shares, Stocks	
6	-2.005 Life Assurance	1.557 Shares, Stocks	
7	-2.435 Premium Bonds	1.304 Saving Stamps	
8	-1.440 Premium Bonds,	1.286 Pension Plan	
	Saving Stamps, Post Office		

Second Principal Component Element Axes for Non-Expert Subjects

Table 8 illustrates the massgebend elements and element axes for the non-expert subjects in the third principal component.

Table 8					
Third Principal	Component	Element Axe	s for Non	-Expert	Subjects

Non-expert subjects	Massgebend element principal component three	Element furthest away from Massgebend element
1	2.210 Building Society	-1.940 Endowment Mortgage
2	-1.996 Bank	1.305 Life Assurance
3	2.147 Property	-1.687 Endowment Mortgage
4		
5	-2.854 Life Assurance	1.459 Bank, Building Society
6	-1.639 Art/Antiques	1.466 Life Assurance
7	-1.448 Pensions, Endowment Mortgage	1.428 Building Society, Post Office
8		

Tables 9, 10 and 11 show the massgebend elements and element axes for the expert subjects in the first three principal components. One can see that the biggest difference between expert and non-expert construing of the elements occurred for

Bank, Building Society and Post Office, 'at one end', and Shares, Stocks and PEPs 'at the other'. The contrast between these elements describes the difference between options which are regarded as secure and simple, offering the easiest and most immediate access, and those which are perceived as high risk, but at the same time also more likely to earn the greatest amount of money.

Table 9 illustrates the massgebend elements and element axes for the expert subjects in the first principal component.

# Table 9

Expert subjects	Massgebend element principal component one	Element furthest away from Massgebend element
1	1.441 Land	-1.426 Saving Stamps
2	-1.352 Bank, Building Society	1.273 Land, Property
3	1.566 Premium Bonds	-1.548 Art/Antiques
4	1.842 Post Office	-1.292 Land, Art/Antiques
5	-1.764 Land, Property	1.276 Post Office
6	-1.792 Endowment Mortgage	1.052 Premium Bonds
7	-1.371 Property, Land	1.317 Building Society, Premium Bonds

# First Principal Component Element Axes for Expert Subjects

Table 10 highlights the massgebend elements and element axes for the expert subjects in the second principal component.

Expert subjects	Massgebend element principal component two	Element furthest away from Massgebend element
1	2.316 Post Office	-1.703 Saving Stamps
2	1.853 Shares	-1.740 Property, Land
3	-1.670 Property	1.342 Shares, Stocks
4	-1.380 Land, Art/Antiques	1.264 Pension Plan
5	-1.682 PEPs	1.322 Premium Bonds
6	-1.804 Art/Antiques	1.733 Bank, Building
		Society
7	-1.499 PEPs, Shares, Stocks	1.187 Land, Property

# Table 10 Second Principal Component Element Axes for Expert Subjects

Table 11 illustrates the massgebend elements and element axes for the expert subjects in the third principal component.

# Table 11

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Third Principal	Component	Element Ax	es ior	Expert	Subjects

Expert subjects	Massgebend element Principal component three	Element furthest away from Massgebend element
1	-2.563 Saving Stamps	1.431 Endowment Mortgage
2	2.061 Pension Plan	-1.935 PEPs
3	-1.790 Saving Stamps	1.715 Building Society
4	1.804 Bank, Building Society	-1.339 Premium Bonds
5		
6	-2.229 Saving Stamps	1.453 Land, Property
7	-1.851 Endowment Mortgage	1.075 PEPs, Shares, Stocks

# 7.42 Presence and Absence of Economic and Political Constructs

The elicited constructs were also examined for the presence and absence of economic and political constructs. It was hypothesised that there would be fewer constructs of this nature in the non-expert subjects compared with the expert subjects. The justification for this approach can be rooted in Kelly's (1955) "techniques in the analysis of self-characterizations" (previously described in section 5.32). A *t* test was carried out on the results of Table 12 and a highly significant difference was found between the two groups in the number of economic and/or political constructs in the Grids, t(7.58) = -4.71, p < .002). From Table 12, one can see that only two of the non-expert subjects used these types of constructs, whereas all but one of the expert subjects used constructs of this nature. (Examples of these types of constructs can be found in the examples of completed Grids in Appendix M.)

Subject number	Number of oc economic/politi	currences of cal constructs
	Non-experts (n = 8)	Experts (n = 7)
1	0	4
2	0	4
3	0	5
4	0	6
5	0	5
6	0	4
7	1	0
8	2	

Table 12			
Number of Political of	r Economic Const	tructs Used by	Subjects

# 7.43 Structure and Content of Grids

If one examines the structure, content and meaning of the constructs in these subjects' Grids, (from the examples in Appendix M and Tables 4 and 5) one can see the importance Kelly (1955) places on taking each construct in each Grid in the context of the whole Grid (that is, reflection versus context). Similarly, the repeated words/phrases and constructs can be collated in terms of the whole Grid. Kelly (1955) suggests that repeated constructs have a wide range of convenience, and there are a number of repeated constructs in some of these subjects' Grids. In addition, the topic area from which the subjects choose their constructs may also indicate the permeability of the constructs.

The Individuality Corollary suggests that no two Grids will be identical, and the Organisation Corollary suggests that no two Grids will be organised in the same way. Both of these Corollaries have been supported by the results of this Study; in that

none of the Grids are exactly the same in content or in organisation (see Appendix M for examples of the completed Grids). Support has also been found for the role of the Fragmentation Corollary; in that even though the non-experts were concerned about making money with their savings or investment options, they did not choose to construe the options which could make them the most money in a very positive manner. This could be due to the fact that on a different level of their system, or in a different subsystem, they simultaneously wanted to ensure the security of any option. Thus, wanting to make as much money as possible, but not wanting to take any risks may appear to be inferentially incompatible, unless one views it in terms of the Fragmentation Corollary.

# 7.44 Commonality

The senses of the first three principal components were examined for the amount of commonality amongst the constructs. Commonality, as stated in the Commonality Corollary, can be seen to exist among, and in some instances between, the two sets of subjects (See Tables 13 and 14). It could be argued that the experts have a common or similar type of experience in the field of economics and business, whereas the non-experts show some commonality of experience in that they have no formal training in this area at all. Commonality can be seen to be reflected in the way subjects display a shared use of certain constructs. For example, all of the non-expert subjects made us of the construct <u>privately owned-state owned</u> (on 14 occasions).

Constructs were sequentially compared in order to establish if the total meaning of a construct could be identified in the Grids of at least two subjects. Tables 13 and 14 show the number and types of constructs held in common by both sets of subjects.

Construct	Frequency of use by non- experts	Frequency of use by experts	Number of non-expert subjects using construct (n = 8)	Number of expert subjects using construct (n = 7)
Risky-Safe	31	10	8	4
Make money- Not make money	22	5	7	1
Functional- Non- Functional	11	11	4	3
Immediacy- Wait	10	9	4	6
Expert-Non- expert	9	3	5	2
Oldage/Death- Young/Before die	8	3	5	2
For the wealthy-For those who are not wealthy	6	5	4	3
Self-Others	4	2	4	2

Table 13Constructs Appearing in the Grids of Non-Expert Subjects

Construct	Frequency of use by experts	Frequency of use by non- experts	Number of expert subjects using construct (n = 7)	Number of non-expert subjects using construct (n = 8)
Private -	14	2	5	1
State/Govt. influenced				
Predictable/	11	2	4	2
stable -				
Unpredictable				
Depends on	9	0	4	0
management				
of fund - Does				
not so depend				
Economic	3	0	3	0
influence - Not				
influenced by				
economy				<u> </u>

Table 14Constructs Appearing in the Grids of Expert Subjects

A series of t tests were carried out on the results of the commonality analysis and it was found that there were significant differences between experts and non-experts for constructs relating to "making money", t (10.92) = 2.35, p < .039; with more non-experts using more constructs of this kind; and also for constructs relating to "government/state influences", t (8.21) = -2.78, p < .023; with experts using significantly more constructs of this nature. Thus, some areas of commonality can be seen to exist among these subjects.

# 7.45 Simplicity/Complexity of the Construct Systems

A t test was carried out in order to see if there was a statistically significant difference between the combined totals of the percentage of variance accounted for by the first and second principal components for each group (see Table 15). Ryle (1975) suggests that by combining these totals and examining the difference between two groups of subjects, one might be able to discern some difference in the complexity/simplicity of their construct systems. That is, a high total for the first and second components indicating simplicity, and a low one indicating complexity. However the results of the t test did not reveal a significant difference of this nature.

# Table 15

Subject number	Combined totals of % of variance for non-expert subjects (n = 8)	Combined totals of % of variance for expert subjects (n = 7)
1	57.12	51.80
2	62.36	60.57
3	74.27	65.09
4	61.04	60.48
5	63.21	67.08
6	60.55	59.10
7	61.13	71.90
8	79.42	

Percentage of Variance Accounted for by the First Two Principal Components

# 7.45.1 The Case of Non-Expert Subject Eight: An Example of a Very Simple Construct System

An interesting case can be seen in the results for non-expert subject eight. The Grid of this subject exemplifies a particularly unidimensional construct system. Table 16 highlights the results for this subject.

Table 16

<b>Results of the Principal</b>	<b>Components Analysis</b>	for Non-Expert S	ubject Eight

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.982 0.982 0.982	These are certain these are safe these are low risk	79.42%	-1.146 Shares, Land, Property, Art/Antiques
Two	0.752	Privately owned	9.78%	-1.440 Premium Bonds, Saving Stamps, Post Office
Three			6.95%	

This first principal component in this subject's Grid accounted for 79.42% of the total variance; this displays a very uni-dimensional system. Purdy (1987) states that "loose construing, a simple system, will give a relatively high first principal component, whilst tight construing, a more complex system, will give a relatively low first

principle component" (p.71). This subject showed a completely 'one-track minded' approach to the saving and investment elements, which revolved around the riskyness of certain elements. In common with the other non-experts, Shares, Land, Property, and Art/Antiques were construed as uncertain and high risk; whereas, Post Office, Premium Bonds and Saving Stamps were construed as safe and low risk. This individual was unable, or unwilling, to construe in any way other than in terms of risk, and this case endorses the simple/complex construing paradigm as suggested by Ryle (1975), and Chambers (1983) who found that subjects who achieved a low score on integrative complexity could be described as detached, rigid and sceptical. These subjects also tended to be "more sober, serious, prudent, and cautious ... (lacking) venturesome spontaneity and happy-go-lucky enthusiasm"(p.35).

In line with Chambers' (1983) findings, it could be argued that non-expert subject 8 showed a more preemptive style of construction; that is, one which is characterised by a "less open-minded or circumspectively elaborative orientation to life" (p.35). Thus, lower integrative complexity may be linked with preemption; and in the case of this subject an excessive and rigid level of caution could exemplify it.

# 7.46 Permeability

A Mann Whitney test using SPSS Exact Monte Carlo Method was carried out on the total number of elements used by both groups; a difference of this nature would indicate some difference in the permeability of the Grids as indicated in the Modulation Corollary (see Appendix A for definitions of Corollaries). By examining the permeability of the whole Grid as opposed to each construct, one can examine the individuals' overall construction of the elements and constructs concerned with the area under investigation; in this instance, that of saving and investment options. Thus, permeability in this case is typified by a high number of elements being included by the constructs; in other words, the higher the number of elements construed/ticked by the individual, the more permeable the Grid. It was hypothesised that experts would show a greater degree of permeability in accordance with their better understanding of, and exposure to, the elements and who would therefore, construe the elements in a broader manner. However, the opposite result was found; it was the non-expert

subjects who ticked significantly more elements than experts, U = 12.5, p < .035, one tailed. One interpretation of this could be that the non-experts were just as able as experts in construing the supplied saving options in a broad and permeable manner. An alternative explanation could be that the experts were more "precise" in their approach, and displayed tight construing of these elements. Table 17 highlights these results.

Table 17

Permeability of Grids

Subject	Number of elements ticked		
	Non-expert	Expert	
	(n = 8)	(n = 7)	
1	102	82	
2	110	67	
3	125	105	
4	84	74	
5	118	100	
6	101	129	
7	105	64	
8	110		
Total	855	621	

# 7.47 Summary of Main Results

This study was exploratory in its nature and aims. Hypotheses one and two have been supported (a difference has been discerned between expert and non-expert construing of saving options; and experts did use significantly more economic and/or political constructs in their Grids than non-experts). However, hypothesis three should be rejected, because even though there was a significant difference in the permeability of the expert and non-expert Grids, it was the non-experts, and not the experts as hypothesised who displayed more permeability. Therefore, it may be the case that with regards to economic "events", permeability might not be the optimum way of construing.

### 7.5 Discussion

For the fullest interpretation of the data, one must examine the Principal Component Analyses in conjunction with the raw Grid data; in this way one can achieve the clearest possible understanding of the pattern in the Grid; however, this may not be the only understanding. There is obviously a subjective slant on any interpretation of raw data of this nature; however, this should not be viewed as unfavourable, instead, it is in perfect keeping with the philosophical approach of constructive alternativism which posits that there is no definitive and final answer to any line of inquiry.

If one examines the detailed results of this Study (see Appendices M, N and O and Tables 4 - 16), one can see that the biggest difference between expert and non-expert construing of the saving and investment options occurred within the construing of Bank, Building Society and Post Office, 'at one end', and Shares, Stocks and PEPs 'at the other'. Thus, one might suggest that these options have themselves become the opposite poles of a bipolar construct. That is to say that non-experts consistently construed the former saving options as being at one end of a bipolar construct; (the end which defines the most secure and simple options, offering the easiest and most immediate access) and at the other end of this bipolar construct they placed the high risk options which were also more likely to earn the greatest amount of money.

Despite the fact that non-experts construed Bank, Building Society and Post Office as options, which did not offer a very high return, they were consistently construed by these subjects in a positive light with regards to their safety. Interestingly, experts construed Bank, Building Society and Post Office in a totally different way; that is, in terms of ownership (whether they were public or private), their position of structure within society, and the variable nature of their term of commitment. Experts also construed these options as being suitable for small investors and small investments. None of the expert subjects discussed the money making potential of these types of elements.

Another noteworthy point is that Bank was the only one of these high street elements, which was a massgebend element for the first principal component in the non-expert subjects (see subjects one, and two in Table 6). This shows that even though these elements were construed as the most favourable and familiar, they were not the elements, which dominated the interaction system. It was the elements, which the

non-expert subjects "feared", or with which they were unfamiliar, such as Shares, PEPs and Stocks that set the standard by which all of the other elements were judged. The examples of the raw Grids, the results of the Principal Components Analyses and Tables 6 - 11 also illustrate that for non-experts, the safety of Bank, Building Society and Post Office was sharply contrasted with the perceived riskyness of Shares and Stocks in particular. The raw Grids and the Principal Component Analyses show that non-experts seemed to construe these two elements as being the same; that is they used very similar constructs to describe these two elements.

The non-expert subjects in this Study construed Shares, Stocks, Property and Endowment Mortgage as the options which would make them more money; however, the type of constructs which they used to describe these elements highlight the fact that these savings choices were not viewed favourably, because the subjects either did "not understand" them, or thought them to be "difficult to invest in" and/or "risky". In fact, where Bank, Building Society and Post Office were construed as safe, Endowment Mortgage, Shares, Stocks, Life Assurance, PEPs, Pension Plan and Art and Antiques were all options which were construed as being the opposite; that is, risky and the kind of options with which they could lose their money. This distinction can be illustrated by looking at the massgebend elements (those with the highest loading in each component) and the element which is furthest away from it in terms of its size of loading (See Tables 6 - 11). Again, one could suggest that elements as well as constructs have a bipolar nature, and this is consistent with the Dichotomy Corollary.

The Grids of the expert subjects showed that they did not construe Stocks and Shares as negatively as non-experts did. The expert subjects construed these elements in terms of the collective nature of the investment, and in terms of the size of the investment which would be appropriate for investments of this kind; that is, they thought they would be suitable for the larger investor. Only one expert subject mentioned that there might be some risk attached to Stocks, Shares and PEPs. Both sets of subjects construed Life Assurance and Endowment Mortgage in terms of their fixed and possibly long-term nature; however, the non-experts emphasised the negative aspects of their money being "tied up", difficult to access, and not being able to initiate these investment options without the help or advice of an expert. In contrast, the expert subjects focused on the future orientation and long-term, contractual nature of these elements, and their link with economic and company performance without any negative connotations. Thus, one can see that even when it appears on first inspection of the raw Grid data that non-experts and experts are construing elements in a similar way, but merely using different jargon, one could argue that it is much more than just a difference in terminology which separates them; it is a difference in the negative and positive construing of these elements.

Another discernible difference between the two sets of subjects is in their construing of Land and Property. Non-experts consistently made reference to the functional nature of these elements; that is, that they or someone else could live in a house or build on the land. These elements were not generally viewed as "money makers" and were construed as long-term investments. In a similar fashion, non-experts also construed Art/Antiques in terms of their functional qualities. In sharp contrast, only one of the experts construed any of these elements in terms of their tangible qualities. Instead, the expert subjects tended to construe Land and Property as being tied to economic cycles, and as fixed-term investments requiring large sums of money, which might be at risk. Experts also construed these elements as private and noncollective options.

It could be argued that the fact that the non-expert subjects construed the saving options in terms of their tangible qualities, as well as their money making potential and riskyness/security illustrates that they showed a looser, more permeable construing of these saving and investment elements. Delmonte (1990) suggests that loose construing "tends to expand the construct's range through increased elasticity" (p.80). This could be linked to the significant difference found between the two groups in the permeability of their Grids (See section 7.56). In contrast, it could be

argued that the experts displayed tight construing of the elements which Delmonte (1990) states is typical of "logical, analytical and judgmental" construing (p. 80).

Premium Bonds were also construed slightly differently by the two sets of subjects; with non-experts focusing on the luck aspect of winning some money, rather than on their nature as an investment; and experts construing them as an institutional, low-risk type of investment. Saving Stamps was the element on which there was most agreement between the subjects; experts and non-experts construed these as being safe, non-money makers. (For examples of these observations see the results of the Principal Component Analyses in Tables 4 and 5 and also Appendices M, N and O.)

Making more specific reference to the amount of variance accounted for by the principal components, in the non-expert subjects, the range of variance for the first principal component was between 30.14% and 60.28% (the interesting case of non-expert subject eight whose first component accounted for 79.42% of the total variance will be discussed later in section 7.8); and for the expert subjects between 31.74% and 49.65%. For the majority of subjects this is within the 30-50% of variance which is usually found in the first component of most Grids (Ryle, 1975).

The fact that over half of the total variance was accounted for by the first and second components combined, would seem to indicate that all of the subjects in this Study had fairly simple systems mainly on two or three dimensions/components (see Table 15). All of the Grids indicated that these subjects had neat, close systems where most of the constructs formed tight clusters on only a couple of dimensions. This might suggest that either they were unusually focused on, or concerned with, particular elements or that they were unable to distinguish between the elements in anything other than a very limited way. For non-experts this may be due to a lack of knowledge and limited range of convenience with regard to these elements; for experts it may be indicative of a narrow approach to these elements, and a reluctance to see things related to saving from many different angles.

As previously indicated, massgebend elements were selected for each component in order to see which element could be distinguished from the rest as being dominant in that component and in the system. Slater (1972) argues that the distinction between the massgebend element and the rest of the elements may be the most important axis in the construct system; it plays an orienting role for the other elements. Similarly, by examining the elements that are furthest apart in any component, one can better characterise the meaning of that component. For example, in the case of non-expert subject two (see Tables 4 and 6, and Appendix M) the difference between Bank (the massgebend element), and Shares (the element furthest away from Bank), characterises the meaning of the first principal component which has its focus around elements which are "do not need lots of money" and are "for those who are not rich"(Bank), and those which are for the wealthy or have "lots of spare cash" (Shares).

In summary, if one examines the raw Grids of the expert subjects, one can argue that, in general, they did not construe the saving and investment elements from the angle of how they might affect them personally; but rather they construed the elements in terms of their function in a broader economic sense; for example, they used constructs relating to whether the options were "state or privately owned" or "tied to economic cycles". In contrast, non-experts used constructs that showed how they were focused on the personal ramifications of the savings options; rather than on a more global context.

The relationship between risk-taking and caution for non-experts, but not for experts, is an important outcome of this Study and it supports previous research by Coombs (1975) and Lopes (1987). In terms of the Psychology of Personal Constructs, this particular, bipolar construct could be seen to have parallels with notions encapsulated in the Fundamental Postulate of concerning extension and definition. Extension could be illustrated by risk-taking behaviour. That is the individual will try out new savings options even if they are unfamiliar in order to make his/her system "more comprehensive, increasing its range of convenience, making more and more of life's experiences meaningful" (Kelly, 1955, p.47). Definition, in this case may be typified

by caution; that is, staying with savings options with which the individual is accustomed in order to make his/her system "more explicit and clear cut ... by trying to become more and more certain about fewer and fewer things" (Kelly, 1955, p.47).

Thus, for the non-expert subjects in this Study, who do not find Shares and Stocks meaningful or manageable, choosing to take a risk with them may help to extend their system. Alternatively, these non-experts may, as Kelly (1955) states "hesitate to experiment because [s/he] dreads the outcome. [S/he] may fear that the conclusion of the experiment will place [him/her] in an ambiguous position where [s/he] will no longer be able to predict and control. [S/he] does not want to be caught with [his/her] constructs down" (p.10). In a similar vein, by not experimenting, the non-expert subjects may feel that they can increase the definition of their system by remaining with Banks and Building Societies which they understand and feel they can predict and control.

The willingness to construe new and different saving options might also be linked with Kelly's (1955) definitions of aggressiveness and hostility. The aggressive investor, wishing to elaborate his/her perceptual field might choose to construe previously untried saving options in a positive way, and the hostile investor might prefer to hold on to investments with which s/he already felt secure, even if they have not proven to be the most suitable. It could be argued that the non-expert subjects in this Study showed a reluctance to construe options with which they were unfamiliar or feared in a positive light; however, these subjects also showed a great deal of permeability in their construing and therefore, one cannot suggest that their negativity is necessarily indicative hostility.

In the Psychology of Personal Constructs, anticipation and prediction are key concepts, and these can also be seen to be important determinants of the construing of saving and investment options in this group of non-expert subjects. Kelly (1955) stated that the ultimate aim of all people is the anticipation of events and that "anticipation is both the push and pull of the Psychology of Personal Constructs" (p.34). This is the predictive and motivational part of the theory, and each individual,

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if they were to live up to the "theoretical blueprint", would be active, dynamic and continuously involved in decision making and learning. These ideas, put forward by Kelly (1955), could form the basis for developing some understanding of the motivational aspect of saving behaviour. They also fit in with the findings of this Study and of other research into saving behaviour which argue that individuals construe saving as a means by which they can control events and increase their ability to deal with an uncertain future (Earl, 1983; Wärneryd, 1989).

With regard to the choice of one particular saving option over another, Kelly (1955) states in the Fundamental Postulate and Choice Corollary that the individual will tend to make that choice which will be in the direction of increasing their predictive efficiency. Control over one's choices is of the utmost importance and allows the person to elaborate his/her predictive efficiency, whilst at the same time, to sustain a secure, underlying system. At the point of choosing, one does not know if the prediction will be validated or not and therefore, predictive validation may lead to an increase in one's confidence. If one wants to understand an individual's preference for one type of saving choice over another, one needs to study their underlying system of constructs. Thus, both the Fundamental Postulate and the Choice Corollary can be seen to be relevant to notions of consumption, saving and investment.

Earl (1990) suggests that lay models of the world differ from those construed by experts, and therefore, it is worth devoting attention to understanding how expert and non-expert decision makers uncover the nature of the problems they encounter, and how they construe the constraints, uncertainty and cause-and-effect relationships that they face, and that have implications for one choice over another. He also suggests that in line with Personal Construct Theory, the things people buy are "means" to the "ends" of prediction and control; that is, when making their choices, people decide upon the activity which they perceive to offer the greater chance for either clearer definition or a broader view of the world and accept the responsibility that encompasses the outcome of their choice (the definition of the Choice Corollary).

Thus, in the case of this Study, the construing of a particular saving option, is in itself a choice and has its origins in the desire for predictive efficiency and the individual's wish to control their world and perhaps others' worlds. Earl (1983) suggests that such an activity may help in the following ways: firstly, the activity may ensure that the images of the world constructed by the individual fit in with his/her overall theory, and therefore, help them to avoid any "incomprehensible happenings". For example, in the case of making an investment decision concerning the best type of mortgage, one might opt for an endowment mortgage rather than a repayment mortgage; in this way, one is able to control the exact amount of money one wants to save or spend.

Secondly, the activity may facilitate the definition or elaboration of the individual's construct system through informal hypothesis testing in the Kellian sense. An example of this might be an individual exploring new or previously untried types of saving/investment opportunities, such as PEPs or Shares. Hypotheses might be related to the security of such options or the amount of return they offer (as found in this Study).

Thirdly, the choice of a particular action may enable the person's theory about their self-image, and the image they present to others to be validated. This might be reflected by a person's choice of one type of investment over another (conspicuous consumption is also an example of this type of behaviour).

Fourthly, Earl (1983) suggests that the activity may "indirectly enable [the person] to obtain answers to [their] questions about the world by serving as a kind of investment good" (p.127). This can be illustrated by the fact that earning interest on money might enable questions about holidays and entertainment to be answered; such as, "Can I afford to go to the Caribbean?" or "Can I now 'invest' in some videos?". Related to this, an activity may also act as a tool that can be used to obtain answers to a number of different questions. A credit card, for instance, may be construed by an individual as ensuring the ability to buy goods and services which s/he may not be able to afford at the time, or as a convenient way to pay for things without having to carry around cash and cheques (as well as possibly acting as a status symbol as in the case of the

gold card). Also, if the activity is a job, it may generate the ability to impose "a controlled environment which conforms with expectations, or for asking further questions" (p.127).

Finally, the choice of a particular saving option may enable the person to escape from certain 'theories' which they hold of the world which have proven to be incorrect. This could be illustrated by the case of an individual who finds life too full of risk and uncertainty, and therefore, opts for investments which they construe as promoting security; such as personal pension plans, private health care schemes, and/or virtually risk free bank or building society savings accounts.

This view of behaviour may not fit the classical economist's idea of utility maximisation, but one could argue that by examining behaviour and choice in Kellian terms, one might gain an insight into economic behaviour which, otherwise, could not be achieved by using utility theory alone. Similarly, in contradiction to traditional, economic explanations of saving, the non-experts in this Study made no reference to their own or other's income as stated in the Relative Income Hypothesis and the Permanent Income Hypothesis; nor did they refer to their household, financial situation or the economic situation as postulated by Katona (1964). However, the constructs used by the non-expert subjects in this Study do offer support for some of Keynes' (1936) eight main factors which lead to saving; these being, precaution, foresight, improvement and enterprise.

The results of this Study also show a preference among subjects for immediate, rather than "delayed gratification" (see the examples of the raw Grids in Appendix M, and also Table 13); although the gratification could be seen more in terms of security rather than financial gain. As Lopes (1987) suggests those who prefer low risk, prefer safe saving options, even though they offer a lower return. These findings also support Bohm Bawerk's (1981) Impatience Theory of Saving (cited in Wärneryd, 1989) which emphasises the fact that uncertainty about the future plays an important role in saving behaviour. Non-experts in this Study, in contrast to the experts, displayed a desire for control over the access, function and understanding of different saving options, and felt threatened by the risk associated with unfamiliar choices which they perhaps construed to be outside their ranges of convenience. The fact that experts, who were all business and economics professionals, were not risk aversive in construing these saving choices may in part be related to Plax and Rosenfeld's (1972) characterisation of risk seekers, in that experts, because of their knowledge and experience, tended to be more confident and efficient, in their construing of these elements.

### 7.6 Conclusion

The construing of the non-expert subjects was mainly on two or three dimensions. Perhaps not surprisingly, of particular importance to non-expert subjects was the security of the options; however, this was also linked to the perceived money making potential of the option and the length of time involved in waiting to see a return on their original investment. Experts, on the other hand, were more concerned with economic and political aspects of the savings options. These results offer support for the belief that there is presently a deep sense of insecurity among lay individuals in Britain, and that there is indeed an important difference between how experts and non-experts view and express their opinions about savings and investment choices which can have significant repercussions on the economy.

From the constructs used by the non-expert subjects in this Study, one might argue that they appear to see saving as an individual matter which has little to do with the overall structure of the economy; whereas the economics and business experts construed the saving options more in terms of their function within the economy. The fact that (so-called) signs of economic 'recovery' in Britain in the early 1990's have not coincided with an increase in the feel-good factor in a large proportion of the electorate may be a reflection of differences in the construing of experts and nonexperts. As previously stated, a number of commentators and politicians seem to pin hopes of economic recovery on the presence of feel-good within the public and among businesses. The discussion surrounding the absence of the feel-good factor would seem to be serving as a self-fulfilling prophesy; in that the more its nonappearance is debated, the more elusive it remains. The fact that the non-experts

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in this Study were very focused on the security/insecurity of the savings elements would seem to indicate that they are still in a cautious frame of mind regarding certain aspects of the economy and have still not found the feel-good factor. This may also illustrate their desire for control and choice, which, in the Kellian sense, can offer them opportunities for a clearer or broader view of the world.

The differences between the 'lay speak' and the 'expert speak' found in this Study can mirror Keegan's (1994) assertion that there is an alarming gap between the Government's and the public's belief in the strength of the economy. He states "when Ministers express surprise at the gap between the Government's political and economic success, the electorate expresses astonishment that its leaders should be at all surprised" (p.2). Future research could address the issue of this discrepancy in more detail.

### Chapter 8

# Study Four: The Construing of Micro- and Macroeconomic Elements in Expert and Non-Expert Subjects

### 8.1 Introduction

As indicated by the results of Studies One and Three feel-good is an important factor in economic behaviour. This has been shown by the number of times it is mentioned in the Keegan material in Study One, and by the results of Study Three which suggested a possible link between insecurity, uncertainty and feel-good. Thus, the rationale behind Study Four was to explore certain aspects of the feel-good relationship, such as optimism and confidence, and examine how these are construed in relation to certain economic elements. Some of the constructs relating to psychological factors as found in the results of Study One, could be supplied to expert and non-expert subjects so that they are put in a choice situation requiring them to rank elements to constructs in the supplied Grid so as to identify any differences between the expert and non-expert subjects' understanding and appreciation of microand macroeconomic factors and their relationship to certain supplied constructs. (As previously stated, for the purposes of the present research, experts are defined as those individuals who either work or have been trained in the fields of economics, business, finance etc. and non-experts are those who do not, to the author's knowledge, have this background. As with Study Three, the expert subjects in this Study were experts in the field of inquiry rather than experts in the specific areas of saving/investment or micro/macroeconomics per se).

Previous research has highlighted the fact that differences between lay and expert individuals exist. For example, a study by Lewis and Furnham (1986) examined the attitudes of lay individuals and the differences between their ideas and those of government ministers on the question of how to reduce unemployment. They found that "overall, the broadly monetarist policies of the Conservative government in Britain ... do not form a substantial part of the lay economic consciousness" (p.84). Tyszka and Sokolowska (1992) also accept that a difference in expert and lay perceptions exist. They cite research by Converse (1964) which found that "a vast

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majority of US citizens were unable or at least not inclined to think ideologically about political and social issues. They could not properly distinguish between the ideologies of the two major parties..."(p.423). Finally, Purdy (1991) would seem to be very relevant to the present research since he was the first to use personal constructs for experts – non-experts in a business environment. One can argue that differences in construing between experts and non-experts can have important ramifications for the economy; therefore, Study Four attempts to examine these issues in greater detail.

#### 8.2 Hypotheses

**8.2.1 Hypothesis One:** In accordance with the Commonality, Organisation, Choice and Individuality Corollaries, experts and non-experts will show similarities and differences in the construing of the micro- and macroeconomic elements.

**8.2.2 Hypothesis Two:** In accordance with the Organisation, Modulation and Individuality Corollaries, no two Grids will be identical; yet they will show some common aspects (according to whether they have been categorised as expert or non-expert) as stated in the Commonality Corollary.

**8.2.3 Hypothesis Three:** Construing of the microeconomic and macroeconomic elements which appear to be in Kellian terms "inferentially incompatible" may be accounted for by the Fragmentation Corollary. (Readers unfamiliar with this or any other Corollary should refer to Appendix A or section 2.32).

### 8.3 Method

### 8.31 Subjects

Subjects consisted of 20 male and female Economics, Business, Finance and Accounting Lecturers from London Guildhall University and the London School of Economics aged between 30 and 65 years (these subjects were categorised as experts since they had similar ranges of convenience in terms of their type of employment; however, it should be noted that they were not all economists), and 20 male and female employees from nine different departments at London Guildhall University (see Appendix P) aged between 25 and 55 years (these subjects were categorised as

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non-experts). As in Study Three, it was considered acceptable to have a broad age range among subjects since individual construing irrespective of age (and also of gender) was the focus of the Study.

### 8.32 Apparatus and Materials

Two types of ranked Repertory Grids; the first containing seven supplied microeconomic elements and ten emotionally/psychologically loaded, supplied constructs. The second, consisting of seven supplied macroeconomic elements, but the same constructs as in the former Grid. Thus, different elements, but the same constructs were utilised in the two Grids (see Appendix Q for a selection of completed Grids). The aim of the Study was to focus on micro – macroeconomics since a distinguishing feature between experts and non-experts might be reflected in the way these elements are construed in terms of psychologically loaded constructs. Therefore the choice of elements was determined by what micro – and macroeconomics actually are. This was ascertained by the author from economics texts, which cover these topics; for example, Daintith (1983) and Begg et al. (1991).

Flexigrid 5.2 Program for the Analyses of Repertory Grids (Tschudi 1992) was used to analyse the Grids.

The SPSS Windows package and SPSS Windows Exact package were used for the statistical analysis of results.

### 8.33 Procedure

On August 14th 1995, a microeconomic and a macroeconomic ranking Grid with instructions, a request for any comments, and a covering letter were sent to 80 nonexpert subjects, as defined above, via the internal mailing system of the London Guildhall University (see Appendix R for a copy of the letter and instructions). Of these, 20 completed Grids were returned giving a response rate of 25%. A further 60 were sent to economic and business Lecturers at London Guildhall University and the London School of Economics. Of these, 20 were returned giving a response rate of 33%. (According to Ferber, 1952 and Goode & Harte, 1952 these are fairly average response rates to a mailed questionnaire. Despite the age of these papers, similar response rates appear to be common in other research areas, and there has been little new research into response rates over the past forty years). Subjects were not tested in any formal sense to confirm that they met the specification of expertise. However, the expert subjects were lecturers in Economics, Business, Accounting and Finance, and non-experts were employed in non-financial positions within London Guildhall University such as electrician, secretary, media technician etc.

A mailed response was chosen for this Study, because it offered a way of targeting a large sample and thereby, a richer source of information. The rationale behind this choice was also that it provided a contrast to the face to face method used in Study Three, and in this way it was possible to examine and utilise a variety of response procedures throughout the thesis. The use of different response procedures continues the exploratory them of the research project and is in line with Kelly's position on constructive alternativism.

### 8.4 Results

Due to the fact that Personal Construct Theory essentially, almost by definition, takes the individual as the basis of any methodology devised to experimentally test hypotheses derived form the theory; individual results are of the utmost importance. Hence, it is the analysis of individual Grids that will form the basis of the results to be reported in the Tables that follow. Due to the amount of information available for each individual and the number of individuals in this Study, the full interpretative comment on individual results will be delayed to the Discussion section 8.5. However, some demonstration of the data will appear after the relevant Tables.

In addition, a further step to assist the reader and the author in dealing with the richness of the individual information in this Study is to report only a selection of the results in the text; the remainder can be found in Appendices S and T, U and V. Interpretative comment on the detailed, individual results of this Study will be set in the context of the summary tables and the Discussion section. All Grids are individual Grids and therefore, produce individual results. However, when discussing these

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results, the author will extract the commonality for the reader in order to comment on differences and similarities between expert and non-expert construing which, as stated in section 8.1, can have an important impact on the functioning of the economy.

A justification for treating the results in this manner can be found in Kelly (1955), when he states "we can make inferences based on what we see a person doing, then abstract behaviour within the realm of the individual before making it a datum in any study of a group (p.29). ... the Psychology of Personal Constructs recognises that the abstractions which are lifted from a sample of behaviours of a single person may in turn be used as data from which abstractions are lifted from a sample of people of a group" (p.80). Kelly believed that the type of data, which is extracted from an individual's behaviour, has a lot to do with the type of generalisations that are possible regarding groups of individuals.

As previously stated, differences between expert and non-expert subjects can be seen by examining the construct and element loadings, the amount of variance accounted for by each component and the massgebend elements. If one takes the highest loading constructs in the three components, one can examine the size of the loading and the semantics of the construct. If one selects all of the highest loading constructs which can be linked by a common meaning, then one can infer the sense of the component in question (Examples can be found in Tables 26 - 35 and in Appendix T, Tables T-1 to T-76). Thus, the highest loading construct, or constructs in a component can illustrate the key theme or focus of that component, and the massgebend element for that component indicates which element has the strongest relationship to the highest loading constructs and thus, the general theme of the component.

The results will highlight the highest loading constructs and massgebend elements. Again, the definition of a massgebend element is that it is the highest loading element in a component. It suggests the element which should be set apart because of its orientating property. It is the most dominant element in the system. Slater (1972) defines a massgebend element as the one which is "sharply distinguished from the rest. The contrast between it and them may well form the most important axis in the construct system. For better or worse it sets the scale of standard according to which the rest are judged, and for this reason the German word massgebend, perhaps best translated as trend setting, has been used to describe it" (p.6).

Study Four is very detailed and complex due to the fact that there are 40 subjects, each completing two different Grids. Therefore, this procedure has generated data for 80 Grids, and this will obviously provide the reader with a wealth of information for each individual. In order to assist the reader as well as the author in dealing with this amount of detail, the results of the Study will be categorised into four sections. Firstly, there are the raw Grids which were examined in order to determine which elements were either very strongly linked to the pole of the construct, or to the contrast of the construct (see Appendix Q for examples of completed Grids, Tables 18 - 25 in section 8.41, and Appendix S, Tables S-1 to S16 for the remaining Tables).

Secondly, in section 8.42 Principal Component Analyses were carried out for the Grids of each subject (see Appendix U for examples of the Flexigrid output, Tables 26 - 29 and Appendix T for the remaining Tables T-1 to T-76). Thirdly, in section 8.43, massgebend elements and the element furthest away from the massgebend elements were selected (see Tables 30 - 35 and Appendix V); and finally, subjects' comments on the exercise are set out in section 8.44.

The most important findings presented on the following pages will be considered in terms of any similarities and differences between experts and non-experts as justified on page 129, and may be summarised as follows: for the macroeconomic elements:

(i) the relationship between the construct Linked to the Feel-good Factor and the macroeconomic element Saving was very clear for the non-expert subjects
(ii) non-experts construed both Unemployment and GNP as being strongly Linked to the Feel-bad Factor, but in contrast, the experts were in agreement on the relationship between GNP and Linked to the Feel-good Factor

(iii) experts were clear on the link between Unemployment and the Feel-bad Factor

(iv) experts and non-experts construed Taxation as predictable; however, there was no consensus as to what should be construed as unpredictable

(v) non-experts consistently construed Saving as Optimistic and were very clear on Unemployment being Pessimistic

(vi) experts also construed Unemployment as Pessimistic; however, unlike the nonexperts, they construed GNP as the most Optimistic element

(vii) non-experts and experts clearly construed Saving as Non-threatening and Unemployment as Threatening

(viii) experts construed Inflation as Threatening

(ix) non-experts construed Saving as Linked to Long-term Planning and Have Belief in, and Unemployment as Linked to Short-term Planning and Have No Belief in

(x) experts construed Unemployment and Saving as Linked to Long-term Planning, and Exchange Rate and Inflation were construed as being Linked to Short-term Planning

(xi) experts had No Belief in Unemployment and Inflation and most strongly believed in GNP, whereas non-experts believed in Saving

(xii) non-experts believed that Unemployment Depresses the Economy, whereas experts construed Saving as the element most likely to depresses the economy

(xiii) both sets of subjects felt that Unemployment decreases confidence, but nonexperts construed Saving as increasing confidence, whereas experts believed GNP and Exchange Rate to have a confidence building effect

(xiv) both sets of subjects agreed that Saving was the element least likely to Cause Worry; however, they disagreed on what was likely to be construed as Worrying

(xv) the axis between the elements Saving and Unemployment occurred most frequently for non-expert subjects in the first principal component; for experts it was the Unemployment – GNP axis.

For the microeconomic elements Grid, the most important results may be summarised as follows:

i) non-experts construed Work and Income as closely Linked to the Feel-good Factor, Increases Confidence, but also Causes Worry (Work was also very strongly linked to the constructs Have Belief in and Uncertain)

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(ii) non-experts construed Production as strongly Linked to the Feel-bad factor, whereas experts linked Supply to the Feel-bad Factor, and Demand to the Feel-good Factor

(iii) experts placed a lot of importance on Demand and construed this element as Optimistic, likely to Stimulate the Economy and Increase Confidence, but also as Unpredictable and Worrying

(iv) among non-experts there was little agreement on the predictability of the microeconomic elements; Price, Income, Money, Production, Supply and Work were all construed as Predictable and some were also construed as Unpredictable

(v) expert subjects very clearly construed Income as Predictable and Demand as Unpredictable

(vi) there was a lack of consensus among non-experts about which elements were Optimistic - Price, Demand, Production, Work, Money, Income and Supply were construed as Optimistic and Pessimistic

(vii) experts construed Demand as Optimistic and Price as Pessimistic

(viii) non-experts construed Money, Work, Demand as Non-threatening and Threatening, whereas, experts construed Work as Non-threatening and Price as Threatening

(ix) both sets of subjects linked Production to Long-term Planning and Money to Short-term Planning

(x) there was no consensus among non-experts about the elements in which they had no belief - Price, Money, Production, Income and Supply were all included; in contrast, a high proportion of the expert subjects indicated that they strongly believed in Production, but did not believe in Price nor Money

(xi) experts construed Supply as Certain and Price as Uncertain, whereas non-experts construed Price, Work, Money, Demand, Supply and Production, and Work as Uncertain

(xii) non-experts were not worried about Supply, Production, Demand nor Money, but they were worried about Work and Income; in contrast, experts were not worried about Supply, but they construed Demand as worrying

(xiii) there were few commonly held axes for the microeconomic elements among the two sets of subjects

### 8.41 Elements and Their Relationship to Construct Poles and Contrasts

This section will give examples of the results for expert and non-expert subjects on two of the supplied constructs – strongly linked to the feel-good factor/strongly linked to the feel-bad factor, and strongly linked to predictable/strongly linked to unpredictable. Tables 18 and 19 highlight the results for all non-expert subjects on the microeconomic elements Grid and the macroeconomic elements Grid for these two supplied constructs.

### Table 18

Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-Expert Subjects on the Construct "Linked to the Feel-good Factor-Linked to the Feel-bad Factor"

Non- expert subject	Highest scoring elements strongly linked to the "Feel-good factor"		Lowest scoring elements strongly linked to the "Feel bad factor"	
	Macro	Micro	Macro	Micro
1	Saving	money	balance of payments	production
2	Saving	income	gnp	demand
3	Saving	income	unemployment	production
4	Saving	work	exchange rate	price
5	Saving	money	gnp	demand
6	Saving	work	gnp	production
7	Saving	money	unemployment	production
8	Saving	money	unemployment	price
9	Saving	income	unemployment	production
10	Unemployment	work	balance of payments	money
11	Unemployment	income	balance of payments	demand
12	Unemployment	income	gnp	supply
13	Inflation	income	gnp	production
14	Gnp	work	unemployment	production
15	Gnp	work	balance of payments	money
16	gnp	income	unemployment	demand
17	saving	work	unemployment	price
18	unemployment	work	gnp	demand
19	saving	demand	unemployment	production
20	taxation	work	gnp	production

# Table 19

Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-Expert Subjects on the Construct "Predictable-Unpredictable"

Non- expert subject	Highest scoring elements strongly linked to "Predictable"		Lowest scorin strongly link "Unpredic	g elements ed to the stable"
	Macro	Micro	Macro	Micro
1	balance of payments	production	inflation	work
2	gnp	money	saving	work
3	unemployment	income	exchange rate	production
4	unemployment	demand	gnp	income
5	unemployment	supply	gnp	demand
6	saving	work	gnp	price
7	taxation	price	exchange rate	income
8	inflation	income	unemployment	price
9	taxation	demand	saving	income
10	saving	production	exchange rate	demand
11	taxation	income	unemployment	demand
12	taxation	supply	gnp	price
13	taxation	price	gnp	production
14	gnp	money	unemployment	demand
15	saving	money	exchange rate	income
16	taxation	price	unemployment	work
17	taxation	price	unemployment	demand
18	saving	demand	exchange rate	price
19	unemployment	income	balance of payments	supply
20	taxation	production	unemployment	work

Tables 20 and 21 highlight the results for all expert subjects on the microeconomic elements Grid and the macroeconomic elements Grid for two of the supplied constructs.

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Table 20

Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects on the Construct "Linked to the Feel-good Factor-Linked to the Feel-bad Factor"

Expert subject	Highest scoring elements strongly linked to the "Feel-good Factor"		ents Lowest scoring elements strongly linked to the "lowest scoring elements" bad Factor"	
	Macro	Micro	Macro	Micro
1	gnp	demand	unemployment	production
2	balance of payments	work	unemployment	supply
3	inflation	demand	unemployment	money
4	gnp	demand	exchange rate	supply
5	inflation	demand	saving	supply
6	balance of payments	work	saving	supply
7	balance of payments	income	saving	supply
8	unemployment	demand	saving	money
9	balance of payments	demand	unemployment	work
10	gnp	income	unemployment	supply
11	gnp	demand	unemployment	supply
12	gnp	income	unemployment	price
13	saving	income	unemployment	work
14	gnp	demand	unemployment	production
15	saving	work	unemployment	supply
16	balance of payments	demand	saving	supply
17	saving	work	unemployment	supply
18	gnp	demand	saving	price
19	saving	work	unemployment	supply
20	gnp	demand	taxation	supply

# Table 21

Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects on the Construct "Predictable-Unpredictable"

Expert subject	Highest scoring elements strongly linked to "Predictable"		Lowest scoring elements strongly linked to "Unpredictable"	
	Macro	Micro	Macro	Micro
1	taxation	income	balance of	demand
		}	payments	
2	unemployment	price	taxation	work
3	taxation	supply	exchange rate	income
4	taxation	income	balance of payments	demand
5	taxation	demand	balance of payments	price
6	gnp	price	inflation	demand
7	unemployment	income	exchange rate	demand
8	taxation	income	exchange rate	supply
9	taxation	supply	saving	demand
10	gnp	production	balance of payments	price
11	taxation	income	balance of payments	demand
12	exchange rate	work	balance of payments	price
13	taxation	work	exchange rate	demand
14	taxation	price	gnp	demand
15	unemployment	supply	balance of payments	demand
16	taxation	supply	exchange rate	demand
17	taxation	income	unemployment	production
18	balance of payments	income	saving	demand
19	unemployment	income	exchange rate	price
20	taxation	income	balance of payments	price

Tables 18 - 21 showed the results for each individual; the next set of Tables numbered 22 - 25 offers the reader summaries of the results across all subjects. Tables 22 and 23 deal with non-expert subjects.

# Table 22 Highest and Lowest Scoring Macroeconomic Elements for the Non-Expert Subjects

Highest ranking elements to constructs	Lowest ranking elements to constructs
Linked to the Feel-good Factor	Linked to the Feel-bad Factor
Saving	Unemployment
Predictable	Unpredictable
Taxation	Unemployment
Optimistic	Pessimistic
Saving	Unemployment
Non-threatening	Threatening
Saving	Unemployment
Linked to Long-term planning	Linked to Short-term planning
Saving	Unemployment
Have Belief in	Have No Belief in
Saving	Unemployment
Stimulates the Economy	Depresses the Economy
Inflation	Unemployment
Certain	Uncertain
Taxation	Unemployment
Increases confidence	Decreases confidence
Saving	Unemployment
Does not cause worry	Worrying
Saving	Unemployment

Table 23Highest and Lowest Scoring Microeconomic Elements for the Non-Expert Subjects

Highest ranking elements to constructs	Lowest ranking elements to constructs
Linked to the Feel-good Factor	Linked to the Feel-bad Factor
Work	Production
Predictable	Unpredictable
Price, Income	Demand
Optimistic	Pessimistic
Price	Work
Non-threatening	Threatening
Money	Work
Linked to Long-term planning	Linked to Short-term planning
Demand, Production	Income
Have Belief in	Have No Belief in
Work	Price
Stimulates the Economy	Depresses the Economy
Demand	Price
Certain	Uncertain
Price, Work	Work
Increases confidence	Decreases confidence
Income, Work	Supply
Does not Cause Worry	Worrying
Supply	Work

Tables 24 and 25 highlight the summarised results for the expert subjects.

Table 24

Highest and Lowest Scoring Macroeconomic Elements for the Expert Subjects

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Highest ranking elements to constructs	Lowest ranking elements to constructs
Linked to the Feel-good Factor	Linked to the Feel-bad Factor
GNP	Unemployment
Predictable	Unpredictable
Taxation	Balance of payments
Optimistic	Pessimistic
GNP	Unemployment
Non-threatening	Threatening
Saving	Unemployment
Linked to Long-term planning	Linked to Short-term planning
Unemployment	Exchange rate
Have Belief in	Have No Belief in
GNP	Unemployment
Stimulates the Economy	Depresses the Economy
GNP	Saving
Certain	Uncertain
Taxation	Exchange rate
Increases confidence	Decreases confidence
GNP	Unemployment
Does not Cause Worry	Worrying
Saving	Inflation

 Table 25

 Highest and Lowest Scoring Microeconomic Elements for the Expert Subjects

Highest ranking elements to constructs	Lowest ranking elements to constructs
Linked to the Feel-good Factor	Linked to the Feel-bad Factor
Demand	Supply
Predictable	Unpredictable
Income	Demand
Optimistic	Pessimistic
Demand	Price
Non-threatening	Threatening
Work	Price
Linked to Long-term planning	Linked to Short-term planning
Production	Money
Have Belief in	Have No Belief in
Production	Price, Money
Stimulates the Economy	Depresses the Economy
Demand	Price
Certain	Uncertain
Supply	Price
Increases confidence	Decreases confidence
Demand	Money
Does not Cause Worry	Worrying
Supply	Demand

Section 8.42 will explore the results of the Flexigrid analysis in terms of its output -

the Principal Components Analysis

### 8.42 Principal Component Analyses

### 8.42.1 The Meaning and Sense of the Components

If one takes the highest loading constructs in the three components, one can examine the size of the loadings and the semantics of the construct. If one selects all of the highest loading constructs which can be linked by a common meaning, then one can see the sense of the component in question. To assist the reader, examples can be found in Tables 26 - 29 and the remaining Tables can be found in Appendix T, Tables T-1 to T-76. Tables 26 and 27 highlight the results of one non-expert and one expert subject on the macroeconomic elements Grid.

# Table 26Results of the Principal Components Analysis of the Macroeconomic Elements Gridfor Non-Expert Subject Three

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.944 0.939 0.909	Threatening linked to long term planning increases confidence	49.57%	1.911 Unemployment
Two	0.974	Certain	21.14%	-1.669 Taxation
Three	0.705	Optimistic	13.84%	-1.713 GNP

Table 27

Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Expert Subject Seven

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.926 0.915	decreases confidence predictable	48.01%	-1.588 Unemployment
Two	0.859 0.798	does not cause worry non-threatening	24.66%	-2.129 GNP
Three	-0.630	Pessimistic	11.50%	-1.929 Exchange Rate

Tables 28 and 29 illustrate the results for the same two subjects on the

microeconomic elements Grid.

### Table 28

Results of the Principal Components Analysis of the Microeconomic Elements Grid for Non-Expert Subject Three

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.929 0.923 0.902	linked to long-term planning increases confidence linked to the feel-good factor	57.54%	-1.218 Work
Two	0.999	certain	26.63%	1.475 Money
Three			9.93%	

Table 29

Results of the Principal Components Analysis of the Microeconomic Elements Grid for Expert Subject Seven

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.974 0.932 -0.873	does not cause worry increases confidence uncertain	50.90%	-1.647 Demand
Two	0.840	non-threatening	23.22%	-1.740 Income
Three	0.549	optimistic	12.67%	1.633 Price

Section 8.43 will focus on the massgebend elements and axes, which have been highlighted by the Principal Component Analysis.

### 8.43 Massgebend Elements and Axes

Massgebend elements were selected for each principal component in order to see which element could be distinguished from the rest as being dominant in the component and in the system. If one element is distinguished from the rest, "the contrast between it and them may well form the most important axis in the construct system. For better or worse it sets the scale or standard according to which the rest are judged" (Slater, 1972, p.6). Similarly, by examining the elements, which are furthest apart in any component, one can better characterise the meaning of the component. For example, in Tables 26 and 30, one can see that for non-expert subject one, the elements Saving and Unemployment are the dominant elements for the construct system overall. This is because they are in the first component, which accounts for nearly half of the total variance (46.80%). Thus, the interaction system for this subject shapes itself around these two elements and their relationship to, and influence on, the construct poles "does not cause worry" and "have belief in".

By examining the raw Grid data for this subject, one can see that it is Saving which is the element most strongly linked to these construct poles. Other important elements in this subject's construct system are Balance of Payments (component two), and GNP (component three). (See Appendix Q for this subject's Grid).

Tables 30 and 31 give the massgebend elements and the elements furthest away from those elements in the first principal component for the macroeconomic elements Grid for expert and non-expert subjects (see Appendix V for the second and third principal components).

# Table 30

# First Principal Component Massgebend Axes for the Macroeconomic Elements Grids of Non-Expert Subjects

Subject	Massgebend element -	Element furthest away
		from Massgebend
		element
1	-1.605 Saving	1.512 Unemployment
2	1.746 Unemployment	-1.183 GNP
3	1.911 Unemployment	-1.561 Saving
4	-1.738 Saving	1.420 Unemployment
5	1.300 Unemployment	-1.267 GNP
6	1.441 Inflation	-1.211 Saving
7	1.425 Unemployment	-1.292 Saving
8	1.665 Unemployment	-1.506 Saving
9	-1.635 Saving	1.553 Unemployment
10	1.611 Unemployment	-0.941 Exchange Rate
11	1.553 Unemployment	-1.428 GNP
12	2.075 Unemployment	-1.420 Saving
13	1.495 GNP	-1.330 Inflation
14	-1.672 GNP	1.593 Unemployment
15	1.471 Inflation	-1.136 Saving
16	1.657 Unemployment	-1.257 Saving
17	-1.443 Inflation	1.292 Unemployment
18	1.865 Unemployment	-1.311 Saving
19	1.626 Unemployment	-1.501 Saving
20	-1.505 Taxation	1.103 GNP

# Table 31

# First Principal Component Massgebend Axes for the Macroeconomic Elements Grids of Expert Subjects

Subject	Massgebend element	Element furthest away
		from Massgebend
		element
1	-1.819 GNP	1.770 Unemployment
2	1.544 Unemployment	-1.250 GNP
3	-1.236 Unemployment	1.569 Exchange Rate
4	1.512 Taxation	-1.259 Exchange Rate
5	1.446 GNP	-1.382 Inflation
6	1.469 Inflation	-1.330 GNP
7	-1.588 Unemployment	1.178 Exchange Rate
8	-1.315 Taxation	1.264 Balance of
		Payments
9	-1.400 GNP	1.258 Saving
10	1.761 Unemployment	-1.244 Balance of
		Payments
11	1.940 Unemployment	-1.518 GNP
12	-1.774 GNP	1.701 Unemployment
13	1.530 Unemployment	-1.048 GNP
14	1.588 GNP	-1.091 Unemployment
15	1.728 Unemployment	-1.442 Saving
16	-1.862 Taxation	1.363 Inflation
17	1.695 Unemployment	-1.607 Saving
18	1.468 Saving	-1.602 GNP
19	-1.730 Saving	1.515 Unemployment
20	1.893 Unemployment	-1.362 GNP

Tables 32 and 33 give the massgebend elements and the elements furthest away from those elements in the first principal component for the microeconomic elements Grid for expert and non-expert subjects (see Appendix V for the second and third principal components).

Subject	Massgebend element	Element furthest away from Massgebend element
1	-1.684 Production	1.452 Income
2	-1.463 Supply	1.432 Work
3	-1.218 Work	1.168 Demand
4	-1.501 Demand	1.379 Income
5	1.559 Money	-1.266 Production
6	-1.494 Work	1.066 Production
7	-1.676 Money	1.481 Price
8	1.404 Price	-1.205 Money
9	1.619 Income	-1.161 Demand
10	-1.514 Production	1.341 Money
11	-1.247 Income	1.216 Supply
12	1.834 Supply	-0.988 Income
13	1.173 Supply	-1.122 Work
14	-1.880 Demand	1.247 Work
15	1.511 Money	-1.395 Work
16	1.825 Price	-1.490 Work
17	-1.630 Price	1.196 Work
18	1.780 Income	-1.017 Supply
19	-1.570 Money	1.207 Demand
20	-1.718 Work	1.553 Production

## Table 32

<u>First Principal Component Massgebend Axes for the Microeconomic Elements Grids</u> of Non-Expert Subjects

# Table 33First Principal Component Massgebend Axes for the Microeconomic Elements Gridsof Expert Subjects

Subject	Massgebend element	Element furthest away
		from Massgebend
		element
1	-1.745 Demand	1.468 Supply
2	1.682 Supply	-1.489 Income
3	-1.542 Demand	1.301 Money
4	-1.677 Demand	1.113 Money
5	-1.422 Production	1.299 Supply
6	1.481 Money	-1.054 Demand
7	-1.647 Demand	1.276 Supply
8	1.469 Demand	-1.009 Production
9	1.658 Money	-1.485 Demand
10	1.713 Price	-1.493 Production
11	-1.555 Demand	1.114 Price
12	1.452 Price	-1.131 Supply
13	-1.486 Work	1.468 Price
14	1.410 Supply	-0.949 Demand
15	-1.718 Work	1.074 Price
16	-1.980 Demand	1.501 Supply
17	1.396 Work	-1.312 Demand
18	-1.787 Demand	1.103 Supply
19	1.727 Work	-1.304 Supply
20	-1.644 Demand	1.386 Supply

### 8.43.1 Common Axes

Tables 34 and 35 show the Massgebend axes (made by the massgebend elements and those elements which are furthest away from this element) which are common to expert and non-expert subjects.

Principal Component	Axis	Number of occurrences for non-expert subjects	Number of occurrences for expert subjects
One	Saving - Unemployment	10	3
······································	Unemployment - GNP	4	7
	Unemployment - Exchange Rate	1	2
	GNP - Inflation	1	2
Two	Saving - GNP	3	2
	Saving - Inflation	1	3
	Balance of Payments - Taxation	1	5
	Taxation - Exchange	2	4
Three	Balance of Payments - Taxation	1	2
······································	Unemployment - Exchange Rate	1	1
	Taxation - Exchange Rate	1	1

### Table 34 Macroeconomic Element Axes

### Table 35 Microeconomic Element Axes

Principal Component	Axis	Number of occurrences for non-expert subjects	Number of occurrences for expert subjects
One	Supply - Work	1	1
	Work - Demand	2	1
	Income - Supply	3	1
	Price - Work	2	2
	Money - Demand	1	4
Two	Demand - Price	2	1
	Money - Production	2	1
	Work - Supply	2	1
	Work - Price	3	2
	Work - Demand	1	1
	Price - Income	1	1
	Money - Demand	2	1
Three	Income - Price	2	1
	Price - Money	1	1
	Income - Supply	1	1
	Price - Supply	1	1
	Price - Production	1	1
	Demand - Production	1	1
	Money - Production	1	1
	Income - Money	2	1

A series of t tests were carried out on four of the above common axes which on visual examination appeared to be worthy of further investigation; that is, these axes occurred between four and ten times in the results of either the expert or non-expert subjects. The reason for carrying out the t tests was to see if there were any significant differences in the frequency of their occurrence between the two sets of subjects. The tests were carried out on the following common macroeconomic element axes: Saving - Unemployment, Unemployment - GNP, (both in the first component); and Balance of Payments - Taxation (in the second component); and also for the common microeconomic element axis Money - Demand which appeared in the first principal component.

The results show that there were significant differences between the expert subjects and the non-expert subjects on the number of times the axis Saving - Unemployment appeared in the results of the Principal Component Analyses, t (38) = 2.5, p < .01; with the highest number of occurrences being among non-experts; and also, for the axis Balance of Payments - Taxation, t (38) = -2.22, p < .05; with the higher number of occurrences appearing among experts.

### 8.44 Subjects' Comments on the Completion of the Grids

Subjects were invited to comment on the nature of the experiment and its procedure. The justification and rationale for this part of the Study stems from Kelly's insight into how to understand what people mean. His own focus of convenience was mainly with the area of clinical psychology, however, his approach can be seen to be relevant to any area of investigation. Kelly simply suggests that "if you do not know what is wrong with a person, ask him[/her]; [s/]he may tell you" (p.241). Naturally, the author is unable to comment on the experience of subjects who did not voice their opinions.

It was interesting to find that whereas seven of the expert subjects returned their completed Grids with very similar remarks on how they had construed the task, none of the non-expert subjects made comments on the exercise. The expert subjects' comments were as follows:

Subject Three: "It is difficult to relate the descriptive terms to the given economic terms".

Subject Six: "I cannot make explicit links between your economic factors and your descriptive terms".

Subject Eight: "Some elements do not seem to be connected with your descriptive terms".

Subject Ten: "It is difficult to see any connection between the economic terms and the descriptions. I cannot apply the terms optimistic and pessimistic to supply and demand or money. Optimism and pessimism could be applied to people, moods, expectations etc."

Subject Twelve: "It is difficult to assess in descriptive terms".

Subject Thirteen: "It is difficult to find the descriptive terms applicable to the elements".

Subject Twenty: "I find it difficult to respond; e.g. optimism: price, income etc. Does not make much sense to me. The problem is not the mechanics, but whether the exercise is meaningful".

(The implications of these comments will be discussed later in section 8.54).

### 8.5 Discussion

### 8.51 Macroeconomic Elements and their Relationship to the Constructs

By examining the results of this Study as highlighted in the many Tables and Appendices, one can see that there were aspects of similarity and differentiation in the two sets of subjects' ratings of the elements in both the micro- and macroeconomic Grids. These findings are in accordance with the Individuality, Organisation, Choice and Commonality Corollaries, (see Appendix A and section 2.3) and offer support for **hypothesis one** which states that there will be both differences and similarities between experts and non-experts in the construing of the micro- and macroeconomic elements.

In addition, in accordance with the Organisation and Individuality Corollaries, no two Grids of any subjects were identical; yet they did show some common aspects according to whether they were classified as experts or non-experts as suggested by the Commonality Corollary; this offers support for **hypothesis two**.

Making specific reference to the findings in relation to the hypotheses as outlined in section 8.2, one can see that in this experiment, the relationship between the construct Linked to the Feel-good Factor, and the macroeconomic element Saving was very clear for the non-expert subjects. The construct Linked to the Feel-bad Factor was not so clearly related to these elements; non-experts construed both Unemployment and GNP as being strongly Linked to the Feel-bad Factor. In contrast, the expert subjects were in agreement on the relationship between GNP and Linked to the Feel-good Factor, and were also clear on the link between Unemployment and the Feel-bad Factor. This finding could reflect the importance that these employed subjects

currently place on fears of unemployment and redundancy as indicated by Keegan and other economic commentators in Chapter Five.

Keegan (1994) states that there is now far more insecurity about jobs and "much of the increase in part-time working is the result not of people's spontaneous desire for part-time work, but of the absence of full-time jobs". He adds that the fact that "insecure labour markets (are now) a way of life, is no doubt contributing to the lack of what analysts call the 'feel-good factor'"(p.2). In a similar vein, 1996 figures from the Institute of Personnel and Development suggest that fifty seven percent of employees have seen colleagues made redundant over the previous five years. Many of those who do not lose their jobs go on to experience guilt and fear as part of a "survivor syndrome"; whereas those who have lost their jobs often feel elated for the first 48 hours before becoming depressed (MacErlean, 1996).

For the construct Predictable - Unpredictable, the non-expert subjects construed Taxation as being strongly linked to Predictability, however, there was no consensus on what should be construed as Unpredictable (Unemployment, Exchange Rate and GNP were all construed as being Unpredictable). Experts were also clear on the fact that they construed Taxation as being Predictable; yet they too differed among themselves by construing both Balance of Payments and Exchange Rate as being Unpredictable. In Kellian terms, the predictability of taxation may have something to do with the fact that individuals have always had experience of taxation and therefore, feel that it is within the range of convenience of their construct systems. In this respect, whether taxation is increasing or decreasing may not have much relevance for its predictability per se; the fact that these individuals believe that there is always going to be taxation can satisfy their desire to anticipate this event.

Taxation, having been construed by non-experts as being Predictable, was also construed by them as being Certain (GNP was another element construed as Certain). From Table S-6, one can see that there was some consensus among non-expert subjects that both Saving and Unemployment are Uncertain. For the expert subjects, Taxation was also clearly defined as being Certain; however, unlike the non-expert

subjects, they construed Exchange Rate and Balance of Payments as the most Uncertain elements.

It is interesting to note that expert and non-expert subjects used the constructs relating to Predictability and Certainty in different ways; that is, just because they construed an element as Predictable it did not automatically follow that it was also construed as Certain. This supports the distinction Kelly (1955) makes between predictability and certainty when he discusses "the principle of the elaborative choice". He states that the individual "lays [his/her] wagers on predictability, not merely on the certainty of the immediate venture, but in terms of what [s/he] sees as the best parlay" (p.110). Thus, in Kellian terms, prediction, and the validation of one's predictions can be concerned with both certain and uncertain events.

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Optimism versus Pessimism, as was shown in the results of Study One, is another construct, which could be related to an individual's confidence in being able to predict and control events. The non-expert subjects in Study Four, consistently construed the macroeconomic element - Saving as Optimistic and were also very clear on Unemployment being Pessimistic (see Appendix S, Table S-1). The expert subjects also construed Unemployment as Pessimistic; however, they differed from the non-experts in that they construed GNP as the most Optimistic element (see Table S-9).

Once again focusing on Saving and Unemployment, the non-expert subjects clearly construed Saving as Non-threatening and Unemployment as Threatening. It could be the case that these non-expert subjects construe Unemployment as a threat in accordance with Kelly's theoretical definition of this particular dimension of transition. That is, that the threat of unemployment makes them feel that they may be "on the threshold of deep changes in [their] way of life" (Kelly, 1955, p.284). Unemployment or redundancy could mean drastic changes in prosperity as well as self-esteem both of which may affect the individual's core constructs which maintain their selfhood and existence. As MacErlean (1996) argues, the mass insecurity surrounding unemployment has serious implications for both the individual and the

economy since "recurring unemployment is the bogey man outside the consumer's window who refuses to go away" (p.1).

The expert subjects also construed Saving as Non-threatening; however, they consistently construed both Unemployment and Inflation as Threatening (see Table S-10 in Appendix S). This latter finding is in line with Keegan's (1993) suggestion that the British economy (among others) has developed an "obsessive fear of inflation" (p.2) and that Prime Minister Major is "absolutely obsessed by inflation" (Keegan, 1994, p.2). The fact that the Government's experts wish to restrict themselves to a particular inflation target could be argued to create, as Greenspan (1994) suggests, "an unnecessary degree of rigidity"; and hence, in Kellian terms, be preemptive (cited in Keegan, 1994, p.2).

The seemingly bipolar relationship between the macroeconomic elements of Saving and Unemployment was again evident in non-expert subjects' construction of which elements were Linked to Long-term Planning and Have Belief in (Saving); and which were Linked to Short-term Planning and Have No Belief in (Unemployment). However, for experts both Unemployment and Saving achieved high scores for being Linked to Long-term Planning; and Exchange Rate and Inflation were construed as being Linked to Short-term Planning. Like the non-expert subjects, experts also had No Belief in Unemployment, but they furthermore had No Belief in Inflation. In yet another difference between the two, experts showed that they most strongly believed in GNP and not in Saving like the non-expert subjects. This could be seen to be an example of the way non-experts construe economic elements in relation to how they might affect them personally, whereas experts tended to construe these elements more in terms of their effect on the economy (this was also a finding of Study Three which had its focus on the individual's construing of saving options).

It could also be argued that the prevalence of the bipolar distinction between the elements Saving and Unemployment in the construct systems of the non-expert subjects in particular, (as indicated by Tables 18, 19 and those in Appendix S) illustrates the meaning that these elements have for these individuals. Rychlak (1977)

who suggests that meaning is only understood because of an implicit awareness of opposites can support this observation. In this experiment, Saving and Unemployment were consistently construed as opposites and linked to opposite poles of many of the supplied constructs.

There was little consensus among the non-expert subjects on which of the elements could be construed as Stimulating the Economy; Inflation, GNP, Saving and Exchange Rate were all ranked similarly on this pole of the construct (see Appendix S, Table S-5). The lack of consensus may reflect that these individuals simply do not have the necessary knowledge about economics to be able to construe certain elements which might Stimulate the Economy; that is, that for non-expert subjects, these elements may not be in the range of convenience of these constructs as outlined in the Range Corollary. In sharp contrast however, non-experts were very clear on the fact that they believed Unemployment to be the most closely linked element to the construct pole Depresses the Economy. One explanation of this could be that it is another reflection of how these non-expert subjects feel personally about Unemployment, rather than being an indication of their knowledge about which macroeconomic elements could be responsible for depressing the economy. Alternatively, these subjects may have an informal and implicit understanding of the effect unemployment has on the economy.

Results for the expert subjects were yet again different to those of the non-expert subjects. They construed GNP, followed by Exchange Rate, to be the elements which are most likely to Stimulate the Economy; they also very clearly construed Saving as the element which Depresses the Economy. Both sets of subjects were in agreement on the construing of Unemployment as being likely to Decrease Confidence; however, they disagreed on what would be likely to Increase Confidence; with non-experts believing it to be Saving, and experts believing it to be GNP and Exchange Rate. Finally, both sets of subjects agreed that Saving was the element least likely to Cause Worry; however, they disagreed on what was likely to be construed as Worrying. For non-experts it was yet again Unemployment, but for experts it was Inflation which
was the most worrying, and can be linked to the fact that the experts also found Inflation Threatening (see Appendix S-16).

### 8.52 Microeconomic Elements and their Relationship to the Constructs

Tables 18, 19 and the remainder in Appendix S, illustrate a number of interesting observations from this experiment regarding microeconomic elements. Non-expert subjects construed both Work and Income as being closely Linked to the Feel-good Factor, Increases Confidence, but also Causes Worry; and Work was also very strongly linked to the constructs Have Belief in and Uncertain. These findings can be related to those of the macroeconomic elements Grids that showed non-experts to have a similar pre-occupation with issues surrounding [un]employment. They could also be explained by Scitovsky's (1995) argument that "a person's income itself has come to be looked upon as a measure of the value that society puts on [his/her] services; and that causes [him/her] to appreciate ... income for its own sake, quite independently of how much of it [s/he] can spend" (p.99). Furthermore, Scitovsky (1995) believes that most individuals when faced with the prospect of not working "are at a loss and get seriously disturbed" (p.107). In Kellian terms, one could suggest that "employed - unemployed", and "have an income - have no income" might be core constructs for these non-expert subjects; that is, "those by which [the individual] maintains [his/her] identity and existence" (Kelly, 1955, p.356).

The microeconomic element Production was strongly Linked to the Feel-bad Factor by the non-expert subjects (see Table 18); and in contrast, the experts linked Supply to the Feel-bad Factor, and Demand to the Feel-good Factor (see Table 20). The importance of Demand in the construct systems of the expert subjects can be seen by the fact that they construed this element as Optimistic, likely to Stimulate the Economy and Increase Confidence, but also as Unpredictable and Worrying (see Appendix S, Tables S-9, S-13 S-16, and Table 21). This finding may reflect the concern that many economics commentators have demonstrated over "demand" during the early 1990's in particular. For example, in 1991, John Grieve Smith stated "Thatcherism was influenced by market economics in that there was no need for governments to influence the economy. The Government is against the demand management of Keynes. They emphasise keeping demand down to fight inflation (one-way demand management). We need an increase in demand" (p.2). Similarly, Keegan (1994) has argued that "the confidence of industrialists is worryingly thin ... [and] uncertainty about demand is a major factor inhibiting new investment" (p.2).

For non-experts there was little agreement on the Predictability of these microeconomic elements; Price, Income, Money, Production, Supply and Work were all construed as being Predictable. However, Price, Income, Work and Demand were also construed by some non-expert subjects as being Unpredictable (See Table 19). This lack of consensus was not evident among the expert subjects for this construct; they very clearly construed Income as Predictable and Demand as Unpredictable (see Table 25).

There was a similar lack of consensus among non-expert subjects on the construct Optimistic - Pessimistic. Price, Demand, Production, Work, Money, Income and Supply all were construed by some non-expert subjects to be Optimistic and by others to be Pessimistic. Again, among experts there was much more agreement; Demand was strongly linked to Optimism, and Price to Pessimism (see Appendix S-9). The results and examples in Study One support the importance placed by the experts on the relationship between Demand and Optimism.

The same pattern emerged for the construct Non-threatening - Threatening. Some of the non-experts construed Money, Work, Demand and Supply as Non-threatening whereas others construed Work, Price, Money and Demand as Threatening. Experts again showed more agreement on this construct and construed Work as Non-threatening, and Price as Threatening (see Appendix S-2 and S-10). Experts also showed consensus on the construing of elements, which are either Linked to Long or Short-term Planning with Production being linked to the former, and Money to the latter. Non-experts construed this construct in a similar way, in that they also construed Production as being Linked to Long-term Planning, but so too was Demand. In addition, non-expert subjects also construed Money and Income as being Linked to Short-term Planning (see Tables S-3 and S-11 in Appendix S).

As previously stated, there was a high level of agreement among the non-expert subjects that they Have Belief in Work; however, there was no consensus about which elements in which they did not believe: Price, Money, Production, Income and Supply were all construed by non-experts as elements in which they Have No Belief. However, in contrast, a high proportion of the expert subjects indicated that they strongly believed in Production, but Have No Belief in both Price and Money (see Appendix S, Tables S-4 and S-12).

One area of commonality between experts and non-experts was in the construing of microeconomic elements which Stimulate the Economy; both agreed that Demand was the most likely to be Stimulating, and both agreed that Price would be have the most Depressing effect on the Economy. However, on the question of which elements Increase Confidence, non-experts construed Work and Income jointly as those elements which would Increase Confidence (as previously stated); and Supply, Price and Demand as those which could Decrease Confidence.

This is an interesting finding because, from the macroeconomic elements Grid results in Table S-7, one can see that these non-expert subjects also construed Saving as the macroeconomic element which is likely to Increase Confidence. However, if Keynes (1936) is correct when he suggests that consumption increases demand, and unemployment could be due to the failure of total spending to match total output at a level that would use all resources, then by holding Saving in such a high regard, these subjects may be contributing to that which frightens them most; that is, Unemployment. However, yet again, the lay individuals in this Study do not seem to appreciate this economic link between Demand, Saving and Unemployment; and therefore, their construing does not fit in with Keynes' (1936) argument. As previously discussed, this discrepancy may have a significant influence on aspects of the economy's performance; for example, governments may base policy decisions regarding public spending and taxation on predictions of saving and income without appreciating how individuals actually construe the interplay between these elements. Scitovsky (1995) believes that Keynes (1936) viewed saving as "something akin to an anti-social act, because its limited supply keeps the demand for it from creating employment" (p.102). Keynes stated quite categorically that "unemployment develops ... because people want the moon; - [individuals] cannot be employed when the object of desire (i.e. money) is something which cannot be produced and the demand for which cannot be readily choked off" (p.235). However, Keynes' dictum is unlikely to convince "personal construct man/woman" (in contrast to the economists' "rational economic man/woman"), that they should desist in the type of saving behaviour, which for them carries a great deal of meaning within their construct systems, and which has great portent for their experience of control in an uncertain world. Particularly in the uncertain economic world with which they are currently confronted.

In contrast, to the non-expert subjects, and more in line with Keynes' (1936) position, the experts clearly construed Demand as the key to Increasing Confidence, and Money as the element which is likely to Decreases Confidence (see Table 25 and Table S-15 in Appendix S). They also showed agreement on which elements they thought were Certain; that is Supply, and which they thought were Uncertain, that is, Price, followed by Demand and Income. Non-experts again showed a lack of consensus on what they construed as being Certain in the economy; Price, Work, Money, Demand, Supply and Production were all construed as Certain. However, there was much more agreement on the fact that they construed Work as Uncertain.

Finally, non-experts did not agree on which elements Do Not Cause Worry; these being, Supply, Production, Demand and Money; whereas Work and Income were both construed as Worrying. Yet again, the experts were much more clear on the fact that they construed Demand as Worrying, and Supply as not worrying (see Appendix S, Tables S-8 and S-16)

# 8.53 Massgebend Elements and Axes

The axis which is made by taking the highest loading (massgebend) element and the element which is "furthest away" from that element can be seen to be the most

important dimension in the component. All elements and constructs in that component are seen in relation to this axis. Therefore, it is important to examine the axes, which dominate each subject's system (See Tables 30 - 35 and Appendices T and U for examples of element tables and plots).

## 8.53.1 Macroeconomic Element Axes

The axis Saving - Unemployment was the most common axis for ten of the twenty non-expert subjects in their first principal component (see Table 34) and was typified by all of the constructs except Predictable - Unpredictable. In all but three cases, Saving was related to the positive poles of the constructs and Unemployment to the negative poles (one subject construed Unemployment as Non-threatening, and two subjects construed Unemployment as Certain). In contrast, Saving - Unemployment was only an axis for three of the expert subjects in the first principal component; but here too, Saving was identified with the positive poles and Unemployment with the negative poles.

The most common axis among the expert subjects was the Unemployment - GNP axis (seven subjects had this axis in their first principal component, with GNP being construed positively). Unemployment - GNP also featured as an axis for four of the non-expert subjects who similarly construed GNP positively. These results add further support to the importance that saving and unemployment have for these subjects, and may reflect the lack of feel-good in many British people at this time.

In the second principal component, the axis Saving - GNP occurred three times in non-expert Grids; whereas for experts the axis Taxation - Balance of Payments was found in five of the twenty Grids. Finally, in the third principal component, there were no commonly shared axes among non-expert subjects, and for experts, the axis Inflation - Taxation occurred three times.

Unemployment was always associated with the negative poles of constructs for both sets of subjects no matter which element was its contrasting pole in the axis. For nonexperts, Saving was always associated with the positive pole of the constructs unless its contrast in the axis was Taxation or Inflation; Taxation would then be construed as being Linked to Long-term Planning, and Inflation would be construed as Optimistic. Similarly, if Saving was paired with Balance of Payments or GNP then the latter would both be construed as being Optimistic and Saving would be construed as Pessimistic. Experts also construed GNP and Balance of Payments in this positive light; they were both construed as likely to Stimulate the Economy; however, unlike the non-experts, Inflation was much more negatively construed by experts, (supporting many of Keegan's examples in Chapter Five) who, in addition, varied much more in their construing of Saving, with some subjects construing it positively and others, construing it negatively.

There was a high level of consensus by both sets of subjects that Exchange Rate was both Uncertain and Unpredictable, although experts construed it as Stimulating to the Economy as well. Non-experts construed Taxation as Threatening and Worrying whereas experts focused on the Long-term planning aspect of Taxation. Both sets of subjects construed Taxation as Predictable and Certain. Balance of Payments was generally construed in a positive manner, and Inflation was generally construed 'negatively' by experts (unless it was paired in the axis with Saving or Taxation). Non-experts, on the other hand, construed Inflation in a generally positive light, and this difference between the expert and the non-expert subjects' construction of Inflation is very interesting. It highlights the fact that even though the Government is striving for an inflation rate of between 1 and 4 %, and frequently insist that low inflation signifies a healthy economy, many people appear to miss the fact their pay packet used to significantly increase every year, that interest rates on their savings accounts were in double figures, and that in the back of their minds they had the secure feeling that even though they may have only recently bought their house or flat, it was worth twice as much as they paid for it. All of these factors were associated with the high inflation levels of the 1980's, and it may be that individuals perversely prefer these aspects of the economy's performance than those of low prices and low mortgage interest rates.

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### **8.53.2 Microeconomic Element Axes**

In contrast to the axes for the macroeconomic elements, there were few common axes for the microeconomic elements (see Table 35). In the first principal component, Money - Demand was the most common axis for four of the expert subjects whereas Income - Supply was the most common for three of the non-expert subjects. In the second principal component, Work - Price was the most common axis for both nonexperts (three subjects) and experts (two subjects). Finally, in the third principal component there were no commonly shared axes among experts, but two non-expert subjects shared the axes Income - Price and Income - Money.

Overall, Income and Work were generally construed in a less threatening manner by the expert subjects, who perhaps felt more secure in their employment than nonexpert subjects were. This would be in line with MacErlean's (1996) suggestion that "employees with the worst chance of re-employment are those who ... have a limited range of skills and are used to working in a hierarchical structure (see Appendix P for an illustration of the types of positions held by non-expert subjects).

Both sets of subjects construed Supply and Money more in line with the negative/contrast poles of the constructs; and non-experts construed Price and Demand in a fairly mixed way, with both elements being construed in line with positive and negative constructs. Experts however, construed Price in a generally negative light, but Demand in a positive light. For experts, it was Production, which caused the most mixed reaction, with subjects construing this element in line with both the positive poles and negative contrasting poles of the constructs. This may be a reflection of the current uncertainty in the economy over demand; that is, if demand is uncertain, there may be confusion about how one should construe Production. Finally, as with the macroeconomic axes, the construing of any element in the axis depended on the element with which it is paired; for example, Income was construed by non-experts as Linked to the Feel-good Factor, Increases Confidence, Linked to Long-term Planning and Have Belief In when it was paired with Supply, however, when it was paired with Demand, it was construed as Linked to Short-term Planning, Uncertain, Unpredictable, Pessimistic and Depresses the Economy.

## 8.54 Subjects' Comments (8.44) on the Completion of the Grids

The fact that non-experts did not make any comments on their experience of completing the Grids could be interpreted in a number of ways and this is perfectly in line with the philosophical spirit of constructive alternativism. It is possible that the non-expert subjects did not fully understand the nature of the task, and therefore, merely completed the Grids in a naive and haphazard way; or it could be argued, that they felt at ease with the task and construed no incompatibility or contradiction in finding a relationship between the supplied elements and the supplied constructs. It is unlikely that the former is the more accurate interpretation due to the fact that inconsistent or incorrectly completed Grids are quite easy to identify by their contradictions. Thus, it is may be the second interpretation which fits the description of the non-expert subjects' approach to the task or indeed, one of many other interpretations could be more applicable.

In sharp contrast, seven of the expert subjects made it very clear that for them, the supplied elements were not in the range of convenience of the supplied constructs. That is to say, that these subjects could not construe the economic elements in terms of emotional or psychologically related constructs; despite the fact that the findings of Studies One and Three have shown how prevalent these types of constructs are in economic and political debate/decision making. Thus, it would appear that over one third of the expert subjects in this Study found it difficult to construe economic elements using constructs such as Optimistic - Pessimistic, Threatening - Non-threatening and Increases Confidence - Decreases Confidence.

The above finding is perhaps not surprising if one considers it in the light of the historically uneasy marriage between the two disciplines of economics and psychology as delineated in section 1.2. This Study has therefore, succeeded in finding empirical support for the fact that for many individuals who have expertise in the areas of economics, business, finance and accounting, the relationship between their disciplines and psychological factors is an uncomfortable one. They appear to display constriction which may, as Kelly (1955) suggests, allow them to narrow the types of elements which are to be construed as part of macro- and microeconomics,

excluding anything of a psychological nature in order to increase their control or understanding of economic/business issues. It may also be the case that the method used in this Study was not as effective as the methods used in the other Studies. That is, it may be better to use statements and phrases as constructs and elements in order to explore an individual's construing.

### **8.6 Conclusion**

### 8.61 The Macroeconomic Elements Grids

There was only one construct for which there was most agreement between the two sets of subjects. That is, for the construct Threatening - Non-threatening. Experts and non-experts agreed that Unemployment was the most Threatening and Saving was the most Non-threatening. However, there was some similarity on some poles of the other constructs. For example, there was agreement: that Taxation was the most Predictable and Certain element; that Saving did Not Cause Worry; and that Unemployment was strongly Linked to the Feel-bad Factor, Pessimistic, Decreases Confidence, and the element in which they had No Belief. Interestingly, there were no extreme scores (either very low or very high ranks) among non-expert subjects on GNP, Exchange Rate or Balance of Payments. This may be due to the fact that they could not relate to these elements in the same way as they could to those of Unemployment and Saving (perhaps due to a lack of knowledge/experience as discussed previously).

Also of interest was the fact that experts placed much less emphasis than the nonexperts did on Saving as a panacea; in fact the experts in this Study construed Saving as having a Depressing effect on the Economy. However, without further exploration, one is unable to discern whether the subjects are construing the term - depressing in the same way; that is, do they construe it as - keeping down the economy, or in the more clinical - feeling down about the economy? Either way, support can be argued for Keegan's (1992) suggestion that "in Europe there is a crisis of confidence [which] calls for classic Keynesian action by governments to counteract the depressing effect of excessive savings by a gloomy private sector" (p.30). As previously stated, Saving and Unemployment could be viewed as a bipolar construct in itself for non-experts whose construing of the macroeconomic elements overall was typified by this "construct". This emphasis on Saving would seem to support and reflect Katona's (1975) assumptions about changes in levels of personal saving according to whether or not the economy is in recession or in an upswing. He predicted that during a recession net saving grows, because it is not reduced by incurring extensive credit or withdrawals from the bank, and also because the motivation to save is very strong. Thus, one could argue that the reason non-experts in this Study were so positive about Saving was due to the fact that they still felt insecure about economic recovery in Britain in the mid 1990's. Study Three also found this important link between non-experts' construing of saving and investment options, and feelings of security. Feeling safe seems to be the sine qua non of Kelly's (1955) assertion that individuals strive to increase their control of their world so that they can anticipate and predict events.

Related to the non-expert subjects' focus on Saving and Unemployment, Keynes (1936) argues that unemployment is likely to be due to a failure of total spending in the economy to match total output at a level that would ensure all resources are being used. That is, consumption increases demand. However, the non-experts in this Study did not appear to make this connection between not spending (saving) and unemployment. Unemployment is construed by them as an unwanted threat, and saving as a "cure-all"; however, the economic link between the two is not appreciated, and therefore, the construing of the non-expert subjects in this Study does not match the argument posited by Keynes (1936) above. This discrepancy has important implications for the economy's performance and well being. For example, governments may base policies on public spending and taxation on predictions of saving and income, without understanding how individuals actually construe these elements in relation to each other, to other macroeconomic elements, or in relation to microeconomic elements such as demand and supply.

Despite the fact that Saving was linked to nearly all of the positive poles of the supplied constructs, including being Linked to the Feel-good Factor and Increasing

Confidence, it was not construed by non-experts as the element most likely to Stimulate the Economy; in this case, it was Inflation. However, one could argue that this shows itself to be a slight contradiction for these subjects; for if it is Inflation which Stimulates the Economy, (presumably through increased spending), then by definition, Saving (which is decreased spending) is not going to stimulate the economy. However, these non-expert subjects simultaneously believe that Inflation stimulates the economy, but Saving Increases Confidence, and is Linked to the Feelgood Factor. This may be an example of the Fragmentation Corollary (See 2.32.9), and thereby offers support for **hypothesis three**. That is, in this instance, saving and spending may appear inferentially incompatible on the level indicated by the example above, but on a more superordinate level they might seem to make more sense. It may be that a more superordinate construct pole of "having money" (versus "not having money") could subsume both Inflation and Saving.

From Tables 18, 19, 22 - 25 and those in Appendix S, one can see that there were many more variations in the construing of the macroeconomic elements among the expert subjects compared with the non-experts. The highest and lowest ranks were distributed much more among all of the elements whereas non-experts tended to opt for the dichotomous distinction between Saving and Unemployment for each construct. Often, experts construed a number of different elements as being important and relevant to particular constructs. For example, according to the expert subjects, GNP and Exchange Rate both have a Stimulating effect on the Economy, and are likely to Increase Confidence; similarly, GNP and Balance of Payments are both construed as being Linked to the Feel-good Factor. This again may be a reflection of experts' greater knowledge and experience in this area.

# 8.62 The Microeconomic Elements Grids

Interestingly, only two of the poles of all of the constructs did not produce clear consensus among the expert subjects; these being Have no Belief in, and Depresses the Economy. This needs to be sharply contrasted with the fact that the non-experts did not show clear agreement on fifteen of the microeconomic elements and their relationship to the constructs. These being those elements which are Linked to the

Feel-good Factor, which are Predictable and Unpredictable, Optimistic and Pessimistic, Non-threatening and Threatening, which are Linked to Long and Short-term Planning, what they Do Not Have Belief In, what is Certain, Worrying and Not Worrying, and finally, what can Increase of Decrease Confidence.

These results should be compared firstly, to the results of the macroeconomic Grids, where non-experts only disagreed on the relationship between the elements and four construct poles (Linked to the Feel-bad Factor, Unpredictable, Stimulates the Economy and Certain); and secondly, in contrast to the expert subjects who did not agree on the relationship between the macroeconomic elements and six of the construct poles (Unpredictable, Threatening, Linked to Long-term Planning, Linked to Short-term Planning, Have No Belief In and Uncertain). This shows that for non-experts there was much more commonality on the macroeconomic elements.

These results could be due to the fact that non-experts may be less familiar with a high number of the macroeconomic elements, and therefore, were unable to construe them in a highly discriminatory fashion; instead they may have focused on Saving and Unemployment as the two most familiar elements. In contrast, they may have more knowledge or experience of the microeconomic elements, and therefore, could make more discriminations among these elements resulting in less consensus. However, this is only one possible interpretation, alternatively, it could be the case that there was simply more disagreement between the non-experts on the relationship between the microeconomic elements and the constructs.

In the United Kingdom of the mid 1990's, which one could argue is still striving for economic recovery, attention should be paid to the important question of what stimulates the economy since in many people's view the country is still not on the road to economic recovery and prosperity. Interestingly, Demand was construed by both the experts and the non-experts as important in this area; with experts also construing Demand as the key to Increasing Confidence and being strongly Linked to the Feel-good Factor. In contrast, the non-expert subjects placed their emphasis for these two (latter) constructs on Work and Income; again illustrating a pre-occupation among these non-expert subjects with elements related to employment. This would appear to support John Grieve Smith's (1991) belief that many people are in danger of adopting a "fatalistic acceptance of mass unemployment" (p.2), and Trade Secretary Ian Lang's (1996) description of job insecurity as being "a state of mind" (cited in MacErlean, 1996). Moreover, Scitovsky (1995) suggests that people are now "more anxious to earn money than to spend it and keep accumulating wealth whether or not they have any use for it" (p.99). This hoarding of wealth may be another example of what Earl (1990) defines as a type of behaviour that serves as a means to the end of prediction and control.

## Chapter 9

### **Review, Conclusions and Future Research**

### 9.1 Review

The sine qua non of Kelly's theory is its emphasis on the individual, and therefore, the focus of this research has been the individual in the economy. The author has taken the individual as the basis of any methodology which has been devised in this thesis to experimentally test hypotheses derived from Personal Construct Theory; and it is Kelly's notions of hypothesis and theory which underpin the methodology. It was part of the aim of the project to work within the constraints and definitions of the Psychology of Personal constructs as defined in the fundamental postulate and the eleven corollaries, and in this way, to return to the original work of George Kelly and apply this to the construction of economic behaviour. This theoretical orientation is not one of the reader who is unfamiliar with the details of Kelly's theory may find this research unconventional if not perplexing at times.

Throughout the Studies, the interpretation of results has been made through the appropriate corollaries and is consistent with the philosophy of constructive alternativism. The author's interpretations of findings are only one limited construction and other constructions are possible. The author's theory on the nature of economic construing is one which is underpinned by the differences in individual preference for certain kinds of economic behaviour. The challenge is to find out just who will prefer which kinds of policies and also which kinds of policies will provoke constructions of fear and anxiety rather than a sense of opportunity. It is the discussion of anxiety, confidence and feel-good which has arisen from this research which could draw together the strands of inquiry from psychologists, economists and economic psychologists. The importance of these emotional and psychological constructs should not be underestimated.

In terms of what has been achieved in this research project and thesis, firstly, and in contrast to previous research in the area, the author has used the self-contained

Psychology of Personal Constructs and its theoretical principles to underpin a number of experiments, using methods previously exploited in other psychological domains in addition to methods developed for particular experiments in this project. Secondly, through the development of this methodology, Kelly's theory has been extended to provide an applicable treatment of the dimensions of transition and control which hitherto have mainly been used in clinical settings, but which in this research take a prominent place in economic construing and behaviour. Therefore, thirdly, it is suggested that the research makes an important contribution to the discipline of Economic Psychology.

A pilot study was considered necessary in order to: establish a range of convenience, assess the suitability of the Repertory Grid technique to the area of economic behaviour, (which acted as a necessary precursor to Studies Three and Four which used two variations of the grid technique), explore the Flexigrid program, and generate some relevant economic constructs and elements. A novel aspect of the research was the development of a means of measuring the dimensions of transition and control, and in order to do this, statements made by economists, politicians and specialist journalists, collected over a four year period were "analysed" for psychological content in the form of expressed constructs. These were then classified according to Kelly's theoretical definitions, and form the rationale for the first two Studies. The statements devised from the findings of this Study were then presented in Study Two in a multiple choice format to subjects of known political affiliation (as indicated by the subjects). The structure and semantic of the statements was based on Kelly's theoretical definitions of preemptive, constellatory and propositional constructs.

In Studies Three and Four, two topics which are of particular interest to economic psychologists - saving/investment, and the relation between microeconomics and macroeconomics were explored. The study on saving behaviour and the study of the relative construing of microeconomic and macroeconomic elements completed the Grid based experiments. It was considered important to include a Study on the construing of saving, because (i) it is one of the few areas that economists concede

may be worthy of psychological inquiry (Lea et a., 1987); (ii) lay people appear to have difficulty in understanding saving and investment with or without the help of financial advisors, and an important tool in the attempt to improve understanding of these economic phenomena might be the application of Personal Construct Theory; (iii) there seems to be individual differences in the inclination towards saving; (iv) as the ESRC Research Programme On Economic Beliefs and Behaviour suggests, we should seek to improve our understanding of how people behave when confronted by the type of economic choices which saving, among others, provides since this kind of research will contribute to theory development in economics, psychology and practical policy-making; and (v) the recent formation of the U.K. Social Investment Forum is a further indicator of the importance placed on research into saving and investment behaviour.

# 9.2 Conclusions

Overall, the findings of all of the Studies have pointed to an inextricable link between economics and psychology, and in particular outlines the relevance of the Psychology of Personal Constructs to this area of inquiry. The importance of psychology in economic behaviour and thought cannot be over-emphasised. With specific reference to each Study, Study One illustrated that many important psychological and emotional constructs are used in economic debate; thus, supporting Katona's assertion that one must appreciate psychological variables if one is to gain an understanding of the behaviour of economic agents. Similarly, one cannot ignore the influence of a person's perceptions and evaluations of the economic reality, and their positive and negative expectations about economic affairs. Study One has shown that an appreciation of all of these factors can aid the prediction of economic behaviour.

Study One has also shown that differences can be discerned in the construing of experts according to their theoretical orientation. Therefore, Study Two set out to explore these differences among Conservative, Labour and Liberal Democrat supporters who were also experts in the field of economics, finance or business. A number of important findings came out of Study Two. Firstly, personal, economic construct systems were identified for the first time in research in this field. Secondly,

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the important theoretical link was made between on the one hand, hostility and preemption, and on the other, propositionality and aggressiveness, and their relationship to economic and political construing was highlighted. The dimensions of transition - hostility and aggressiveness - seem to be an important way of differentiating the construing of economic issues in individuals as well as groups; hence, thirdly, a way of measuring transition and control was developed. Fourthly, a number of significant differences were found between the supporters of each political party and their preference for preemptive, propositional and constellatory construing, thereby illustrating that such aspects of Kelly's (1955) theory are a suitable means of identifying economic construct systems.

Studies One and Two focused on experts (economic commentators and politicians in the former and academics in the latter); however, the construing of lay individuals in the debate of economic issues is just as important, because it is ordinary individuals who form the highest number of economic and political agents - consumers, savers and voters. Therefore, it is important to investigate how lay people construe similar issues, which have an important bearing and influence on their lives. Hence, the findings of Study Three are based on expert and non-expert subjects and indicate a number of important differences, (notably concerned with issues of security) between these subjects.

Economics alone has, as yet, failed to satisfactorily explain individual saving behaviour. Saving not only has consequences for the individual on a personal level, but it also has an influence on the economic well being of a country and the economies of the rest of the world. It was also considered important, particularly in light of the economic climate in Britain in the early 1990's, to explore the differences between lay and expert construing of saving options. In Britain during this period, the talk of feel-good, the lack of consumer confidence and spending, and the Government's insistence on there being strong signs of economic recovery all illustrate the fact that a discrepancy exists between many experts and many ordinary people in their construing of the same economic situation. The constructs used by non-expert subjects in Study Three suggest that they appear to view saving as an individual matter which has little to do with the structure of the economy. In contrast, the expert subjects construed the saving options more in terms of their function within the economy. Such a difference in construing between experts and non-experts may account for the fact that the signs of economic recovery in Britain in the early 1990's did not coincide with a general increase in the feel-good factor. The distances between particular pairs of elements seem to be characteristics of special interest in the dispersions in the construct spaces, most of all when the elements are massgebend, and something has been learned from comparing them in the different Grids in Studies Three and Four. For example, differences in the relative positions of Bank and Shares in Study Three, and Saving and Unemployment in Study Four. The importance of massgebend elements should not be understated since "an exceptionally large sum for one element in comparison with the others ... orientates the entire construct system" (Slater, 1967, p.5).

As previously stated saving is one specific type of macroeconomic behaviour which has an important place within the lives of both experts and lay individuals and which is of interest to economic psychologists. However, there are other macroeconomic elements, and also microeconomic elements, which influence the economy and the results of Study Four showed additional interesting and important differences in the construing of the expert and non-expert subjects.

For example, Keynes (1936) believes that there is an important link between unemployment and saving and argues that spending increases demand, and demand uses up resources, thereby creating employment. However, the lay individuals in this Study do not seem to see this connection between not spending (saving) and unemployment. They construed unemployment as a serious threat and saving as a panacea; however, they did not show an appreciation of the economic link between the two. Hence, the construing of the non-expert subjects in Study Four did not match the argument posited by Keynes (1936) above. In contrast, the experts in this Study did appear to show an awareness of the relationship between spending, demand and unemployment; and this discrepancy could have important consequences for the performance of any economy. For example, when governments base their policies of public spending and taxation on predictions of levels of saving and income, without having an understanding of the way individuals actually construe these elements.

These findings and the discussion of massgebend elements which has arisen from Studies Three and Four may have important implications for the micro macroeconomic issue, and could be related to the importance of understanding microeconomics at the level of individual construing, particularly the reflexive and possibly contrasting relationship with the consensus rationale which permeates the decisions coming from macroeconomics which has a significant influence on individual behaviour. The results could clarify the aggregation debate and the consensus climate generated by the policy decisions emanating from macroeconomic research. In Kellian terms, macroeconomics could be seen to preemptively promote the acceptance of policies by arguing that it is the aggregation of behaviour, which is, important, thereby reducing the level of independent economic decision making in the individual and complicating the whole notion of microeconomics. In effect, policy makers can claim that aggregated economic behaviour (that is, the aggregation of individual behaviour) is what drives policy since it informs macroeconomics. Over time, this then becomes a self-fulfilling prophecy. Alternatively, the propositional nature of microeconomics, which this thesis argues is to be found at a level more consistent and comfortable with individual construing, would be more representative of an economy determined by individual consumers.

In terms of a critique of the appropriateness of Personal Construct Theory for research into economic behaviour, and the strengths/weaknesses and advantages/disadvantages of this theory, one can make a number of observations. Firstly, on the whole it is assumed in Personal Construct Theory that the researcher and the subject share meaning, and that they have a common understanding of the elements and constructs used. However, this may become problematic when constructs are offered (supplied) by the researcher as in the case of Study Four, or when terms used by the subject are translated as they are recorded by the researcher as in Study Three. In practice, it may be the case that the same word is being used differently by the researcher and the subject, and verbal labels can be misinterpreted leading to an inaccurate assessment of an individual's personal construct system or meaning system. Ultimately, the interpretation of the Grid and of the results is, by definition, a subjective one.

Secondly, the success and effectiveness of the Grid methodology is very much dependent on the choice of suitable elements. Each one must be personally meaningful to the subject and within their range of convenience. In addition, it is crucial that each construct is relevant to the particular context (in this case to economic decision making). If these prerequisites are not met the efficacy of the Grid and the results produced could be meaningless.

Thirdly, as Slater (1977) argues, "the contents of a grid are bound to be restricted. It can amount to no more than a single exposure – a snap of a small part of a private universe" (p.13). This has implications for what one can say with confidence about the consistency of an individual's construing over time. In fact, Kelly himself proposed omitting the chapters on the grid technique from his revised edition of The Psychology of Personal Constructs, and the Theory of Personality (1963) contained no references to it at all. Nevertheless, it is the author's opinion that the Grid does have potential as a technique for efficient analysis since it is able to extend the reach of exploration into the psychological space of the individual, and, as has been argued in this thesis, it seems able to indefinitely aggrandise its focus of convenience. The experimental application of the theory and the methodology appear to have been successful with regards to the construing of economic behaviour.

# 9.3 Future Research

It was the author's intention to explore the psychological factors, which have a considerable influence on the construing of everyday economic issues and concerns. It is hoped that the data which have been generated from the empirical studies in this research might contribute to the ongoing development of a more psychological theory of economic behaviour, which could form the basis of an alternative, but complimentary approach to the exploration of economic thought. In addition, because the disciplines of economics and psychology have different levels of data extraction,

that is, economic theory at a high level of abstraction and psychology at a lower experiential level, each could benefit from the present research through the methodology developed and used in the Studies. In this way, it is argued that a new and original theoretical contribution has been made to both the field of economic psychology and to the Psychology of Personal Constructs.

Thus, it is hoped that the disciplines of economics, psychology and economic psychology will gain from this research and the findings of the Studies, and that future researchers will extend the boundaries of present Studies through an increased understanding of certain aspects of economic behaviour and by considering such actions and thought through the theory and methodology of the Psychology of Personal Constructs.

Researchers in economic psychology, psychology and economics are invited to continue this type of research; and ultimately, it is hoped that in line with Kelly's (1955) definition of a good scientific theory, the present research has been fertile in producing and illuminating areas which need to be explored more fully, as well as new areas which are in need of exploration. In the light of the findings of this research, it is expected that even more questions now need to be answered, and it is hoped that it is this piece of research, which has contributed to the number, and type of questions that need answering.

In particular, a number of avenues for further investigation have come to light. Earl (1990) believes that lay models of the world differ from those construed by experts, and this notion has been supported by a number of the results of Studies Three and Four. Therefore, as Earl suggests, it is worth devoting attention to understanding how decision makers uncover the nature of the problems they face, and "how they construe the constraints, areas of irreducible uncertainty and the cause and effect relationships that have implications for the appropriateness of rival choices" (p.720). Future research needs to address these differences in the construing of experts and non-experts further. Also, future studies could further extend the themes raised in this thesis regarding choice and the individual's drive for more control over the economic

environment, which may be reflected in the experience of the feel-good factor. That is, when an individual feels that s/he can anticipate events and control the uncertainties in the environment, s/he may be said to have the feel-good factor. Feelgood was found to be one of many psychological and emotional factors, which can be seen to be an influence on, as well as be an outcome of, economic behaviour.

It might also be interesting to extend the present research by utilising laddering methods and implication grids to probe beneath the surface views of subjects. A deeper investigation into confidence, feel-good-factors and why some economic behaviour/policies prove to be much more anxiety provoking than others could be carried out in a future study. Hinkle's (1965) implication grid technique as an extension of Repertory Grid methods could be a powerful tool for doing this. Similarly, as an extension of Study Two, or as an alternative to using the multiple-choice statements, implication grids could be used to explore concepts such as resistance to change, core constructs and permeability. It might also be worthwhile to investigate the kinds of constructs people use in other areas of their lives and link them to how they construe economic issues. For example, do individuals who avoid risky savings options consistently construe other aspects of their lives in a risk avoidance manner? Longitudinal studies involving training, and which focus on change may also enhance these types of research questions.

Finally, the findings of this thesis have suggested to the author a number of ways in which Personal Construct Theory and economic psychology could be used in an occupational setting, particularly in the area of reward, compensation and benefits. All employees are different, what motivates one may not motivate another, and what is seen as a valued reward by one may be inconsequential to another. As a result of this fundamental of human nature, one needs to assess what type of investment is the most appropriate for different individuals in an organisation. For example, if an employer wants to increase the performance of a particular manager, does s/he offer a new company car or a profit sharing scheme, or would private health and dental care be more suitable and effectual still?

These questions need to be answered so that organisations can make the most effective use of their money and resources. The theory and methodology of Personal Construct Theory could be used to this end; that is, they could increase the understanding of how individuals make their own economic and financial decisions, and how they construe different economic or financial choices. This knowledge may contribute to increasing job satisfaction and decreasing turnover levels among employees who consistently make ineffective choices and who therefore, need to look for higher salaries elsewhere. Personal Construct Theory could facilitate these illuminating and empowering processes. Thus, there is much more research to be done and it is hoped that those familiar with Kelly's work and how it relates to other areas of psychology may be inspired in such directions.

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## Appendix A

# **Glossary of Personal Construct Theory Terms (Kelly, 1955)**

**Constructive Alternativism:** Kelly's philosophical position which assumes that all of our perceptions/constructions of events are open to review and reconstruction.

Accumulative Fragmentalism: The contrasting position to constructive alternativism which assumes that truth and facts can be accumulated bit by bit and are not open to alternative constructions.

**The Fundamental Postulate:** "A person's processes are psychologically channelized by the ways in which [s/he] anticipates events".

# **Corollaries:**

Construction Corollary: "A person anticipates events by construing their replications". Individuality Corollary: "Persons differ from each other in their constructions of events".

Organisation Corollary: "Each person characteristically evolves, for [his/her] convenience in anticipating events, a construction system embracing ordinal relationships between constructs".

Dichotomy Corollary: "A person's construction system is composed of a finite number of dichotomous constructs".

Choice Corollary: "A person chooses for [him/herself] that alternative in a dichotomized construct through which [s/he] anticipates the greater possibility for extension and definition of [his/her] system".

Range Corollary: "A construct is convenient for the anticipation of a finite range of events only".

Experience Corollary: "A person's construction system varies as [s/he] successively construes the replication of events".

Modulation Corollary: "The variation in a person's construction system is limited by the permeability of the constructs within whose ranges of convenience the variants lie". Fragmentation Corollary: "A person may successively employ a variety of construction subsystems which are inferentially incompatible with each other".

Commonality Corollary: "To the extent that one person employs a construction of experience which is similar to that employed by another, [her/his] psychological processes are similar to those of the other person".

Sociality Corollary: "To the extent that one person construes the construction processes of another, [s/he] may play a role in a social process involving the other person".

**Range of Convenience:** "the range of convenience of a construct would cover all those things to which the user found its application useful".

Focus of Convenience: "A construct may be maximally useful for handling certain matters. The range of these matters its called its focus of convenience".

**Circumspection-Preemption-Control Cycle (C-P-C Cycle):** "is a sequence of construction which involves in succession, circumspection, preemption, and control, and leads to a choice precipitating the person into a particular r situation".

## **Dimensions of Constructs:**

Kelly (1955) suggests a number of dimensions along which constructs may be plotted. For example, the following construct dimensions refer to the nature of the control a construct has over its elements, be it: <u>preemptive</u>, <u>constellatory</u> or <u>propositional</u>.

A preemptive construct "is one which preempts its elements fro membership in its own realm exclusively - for example, species names: 'Anything which is a ball can be nothing but a ball'; 'This is nothing but a ball'".

A constellatory construct "is one which fixes the realm membership of its elements - for example, stereotypes: 'Anything which is a ball has got to be ... 'Since this is a ball, it must be round, resilient, and small enough to hold in the hand".

A propositional construct "is one which does not disturb the other realm memberships of it s elements - for example, 'philosophical attitudes': 'Any roundish mass can be considered, among other thins, as a ball'; 'Although this is a ball, there is no reason therefore to believe that it could not be lopsided, valuable, or have a French accent'".

## **Dimensions of Transition:**

Anxiety - "the awareness that the events with which one is confronted lie outside the range of convenience of one's construct system".

Threat - "the awareness of imminent comprehensive change in one's core structures". Fear - "The awareness of an imminent incidental change in one's core structures". Hostility - "the continued effort to extort validational evidence in favour of a type of social prediction which has already proved itself a failure". Aggressiveness - "the active elaboration of one's perceptual field".

**Constriction:** "occurs when a person narrows [her/]his perceptual field in order to minimize apparent incompatibilities".

**Dilation:** "occurs when a person broadens [her]his perceptual field in order to reorganize it on a more comprehensive level.

Core Construct: governs "the person's maintenance processes".

Loose Construct: "leads to varying predictions but retains its identity".

Tight Construct: "leads to unvarying predictions".

### Appendix B

Feature Article\_



Stella Theodoulou is a final year PhD research student at the London Guildhall University. She is interested in the field of Economic Psychology. Drawing on the work of George Kelly, the title of her thesis is "Construing Economic and Political Behaviour". We are pleased to publish the following article which provides an interesting overview of this innovative approach to economic psychology.

# **ECONOMIC PSYCHOLOGY - WHY?**

Economic behaviour does not take place in a vacuum or separate from other aspects of human behaviour. For too long, the expression "ceteris paribus" has been the catch-all of economic modelling and when pressed for examples of 'other things being equal' invariably many of these are psychological factors. Research in the field of 'economic psychology' has, as yet, not received the same amount of interest in the UK as it has in other countries in Europe and in the USA, and thus far, research has mainly been social and consumer orientated. In general, however, studies have found that economics alone has been unable to explain the 'whys' and 'hows' of economic thought.

### BRIEF HISTORICAL BACKGROUND

The first person to be credited with the concept of 'economic psychology' was Tarde in 1881; his book *La Psychologie Economique* was published in 1902. At the time, economists did not take much notice of his call for a greater involvement of psychology in economics; this was in part due to the fact that psychology as a 'science'

was still in its infancy. By the 1940's however, psychology had established itself as a 'science' and in the USA in 1951, Katona was one of the first researchers to start re-using the concept of economic psychology (Katona 1977). He argued that "the basic need for psychology in economic research consists in the need to discover and analyse the forces behind economic processes, the forces responsible for economic actions, decisions and choices". He believed that economics without psychology had not succeeded in explaining many important economic processes, but by the same token, psychology without economics, had no chance of explaining some of the most universal aspects of human behaviour.

Economics, as a discipline is, as Meyer (1982) has suggested, possibly the most theoretically developed discipline among the social sciences. Yet it is probably also the most criticised discipline among the advanced sciences. He argues that apart from Marxist criticism, only one issue remains which is common to all critics; that is, "the allegedly totally false conception of human nature and of human behaviour implicit in economic thinking".

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The definition of economic psychology was agreed upon at the founding of the International Association for Research in Economic Psychology, As Warneryd (1988) states, "economic psychology as a discipline thus studies the psychological mechanisms and processes that underlie consumption and other economic behaviour. It deals with preferences, choices, decisions and factors influencing these, as well as the consequences of decisions and choices with respect to the satisfaction of needs. Furthermore, it deals with the impact of external economic phenomena upon human beings and well being. These studies may relate to different levels of aggregation: from the household and individual consumer to the macro level of whole nations". It may be argued that in terms of levels of aggregation, such studies are better able to contribute to the understanding of small group behaviour than large group behaviour.

Maital (1982) proposes that economic psychology must tackle the 'why' questions about economic behaviour. Why do people buy what they do and have the jobs they do; why do they save, give or gamble? These are questions about 'motivation' therefore, we must utilise theories which make some reference to 'motivation' behind economic decision making. According to Van Raaij (1981) such economic decisions may involve, among other things, "money, time, and effort to obtain products, services, work, leisure, the choice between product alternatives and spending vs. saving decisions. In fact, all decisions that involve a choice or trade-off of some alternatives or an investment that will bring future profits or benefits may be called an economic decision".

Historically, economists have not believed that psychology has anything to offer in the way of elaborating the predictive usefulness of its theories and models. Until fairly recently, the successful 'marriage' of the two disciplines, as in 'Economic

Psychology'or 'Psychological Economics', has been dogged by the vexed issues of, motivation, rationality and the stability and consistency of behaviour and preferences (among others). Economic theory itself works at a much more abstract level than most of the psychological theories that have tried to aid the explanation of certain economic problems and concerns and this has led to difficulties in applying ideas from one discipline to the other. Warneryd (1988) argues, that a good deal of economic theory is, to a large extent, "deductive, depending on mathematical reasoning in its development of models";whereas psychological research operates at a low level of abstraction, i.e. close to the empirical data. Therefore, economic psychology, as a discipline, can draw on many alternative approaches and does not necessarily need to limit its focus.

### THE ECONOMISTS' REJECTION OF PSYCHOLOGY AND VICE VERSA

In the United States during the 1920's, there was much controversy over the link between psychology and economics, three positions have been discerned by Coats (1976). Firstly, the view existed that "psychology of any kind was irrelevant to economics, since it was exclusively concerned with exchange values or prices irrespective of the motives of those entering into market transactions." Secondly, there was the "diametrically opposite contention that developments in psychology had so undermined the subjective theory of value, that a wholesale reconstruction of the foundation of economics was required" and thirdly, there was "an intermediate response from those who considered that the new ideas could be assimilated, either wholly or in part, by means of a change in terminology, shifts in theoretical formulations or interpretations, or modifications in theoretical conclusions". Coats believes that

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in the main the supporters of the first position 'won' and thus, similar arguments can be seen to exist even now between the protagonists of each discipline.

Coats argues that by the end of the 1920's, the "essential components of the hard core of orthodox demand analysis had emerged" and by implication, the assumption that basic economic theory was to be "abstract, static and general in form" with the fundamental assumptions being "simple, uniform and constant, neither 'realistic' nor subject to falsification". It was also assumed that consumers aim to maximize their satisfactions, but have limited incomes and unlimited wants. One might argue with this supposition and suggest that not all consumers have *limited* incomes, and 'needs' and 'wants' are relative.

Consumers are also assumed to have perfect knowledge of all the relevant market conditions and thus, make rational decisions about the alternative allocations of resources which are independent of other individuals. It can be argued that these assumptions are unrealistic and untenable and as Coats (1976) suggests, the list is debatable, but does allow for the possibility of adding positive heuristics.

According to Katona (1964), the resistance to psychology by some economists has come in three main areas: firstly, economists believe that their discipline should provide broad generalisations about economic processes which are valid at all times and under all conditions. Secondly, that information on the interrelationships among economic data such as profits, sales, investment and other "results of behaviour" suffices for the understanding of economic processes. Thirdly, that motives and expectations are fleeting, vague and uncertain so that information about them does not contribute to objective scientific analysis.

Davenport (1913) also believes that some

economists "flatly denied that any psychology whatsoever was relevant to economics, arguing that economists should concentrate their attention on catallactics. the science of exchanges in which the only element of value to be included were exchange values, or prices, without reference to the motives of those entering into exchanges". In 1892, a King by the name of Fisher I stated categorically that the "foistering of psychology on economics seems... inappropriate and vicious ... to fix the idea of utility the economist should go no further than is serviceable in explaining economic facts. It is not his province to build a theory of psychology".

Thus, one might suggest that the major area of overlap between psychology and economics, can be seen to be in choice behaviour. Economists use ordinal utility theory (Hicks 1939), revealed preference theory (Samuelson 1947) and modern utility theory (Von Neumann and Morgenstern 1944) to account for choice behaviour. Simon (1959) pointed out that actual behaviour did not follow the assumptions of modern utility theory and instead argued that individuals act as satisficers with bounded rationality when they make decisions. A person only samples some of all prices and goods in the market and chooses the 'best' of that sample; one that satisfies their criteria of choice. Simon argues that it is impossible for anyone to process all the information available (and necessary) in order to maximize utility.

The maximization of utility hypothesis has been criticised by psychologists and others on two major fronts. Firstly, criticism is levelled at the possibility and plausibility of fulfilling all the necessary conditions for maximisation. Even economists such as Shackle (1973) have argued that this is an impossible feat; a consumer is never in possession of all the information necessary to deliberately maximise. Alternatively, Boland (1981) retorts that one does not need

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### proof that one has all the knowledge available and it does not have to be true knowledge. It is enough for the consumer to believe that his/her theory of what is the shape of his/her utility function is true. Secondly, Simon (1979) accepts the logical validity of the maximization hypothesis, but denies the truth of the premise of the hypothesis. If the consumer is a maximizer then the hypothesis would be a true explanation of behaviour. However, Simon argues that consumers are not necessarily maximizers, therefore, behaviour cannot be determined on that basis; any more than it could be determined by prestige or social convention rather than utility. In response, Boland argues that critics cannot know that the premise is false as it is too complex to assess and "the logical impossibility of proving or disproving the truth of any statement does not indicate anything about the truth of that statement". One might suggest that all of this is a tautology and does not further the understanding of any hypothesis nor the premises on which it is based. As an example, one might look at the current 'phenomenon' of Personal Equity Plans and the behaviour of those who purchase them. Is this the behaviour of a maximizer? It may be a new form of delayed gratification as the small print on PEP forms and advertisements always states that the value of investments and the income from them can go down as well as up and to benefit one must consider the PEP as a long term investment.

This argument for some kind of 'bounded rationality' is supported by Watkins (1970) who differentiates between *optimal* and *optimum* decision making in his analysis of therationality principle. He states "an optimal decision is one that could not be bettered, though it might be equalled. An optimum decision is one such that any alternative to it would be less good". Watkins argues that it would obviously be more rational to take the former in decision making, however, he suggests that "the idea of optimal

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decision-making involves such wildly optimistic assumptions about our capacity for self-knowledge, especially when risks and uncertainties are introduced, that it would not serve even as a normative principle". In this way, individuals follow the 'imperfect rationality principle' rather than the 'rationality principle'.

Thus, one might argue, as the Editor of the British Journal of Social Psychology (1982) does, that "relations between economists and psychologists have traditionally been poor and genuine co-operation non-existent. Each area has been so sure of the superiority of its own behavioural model that if there were any interest at all in what the other side was doing, it was domination and not co-operation that was intended . Co-operation cannot develop between missionaries who are out to save each others souls, but only between equal partners who feel that to join forces in some areas would be mutually advantageous".

#### THE VISION OF A NEW APPROACH

Earl (1983) takes a controversial step by rejecting outright many of the beliefs at the heart of classical economic theory. For example, he suggests that there is no demand function, no marginal rate of substitution, no equalisation at the margin, no continuity of preferences. He dismisses the idea that the consumer is sovereign and argues that there is no maximization of utility. He admits that his ideas may be alarming to economists, but they may be of interest to those who believe that choice is uncertain and the formation of expectations is important and therefore, irreconcilable with the notion of equilibrium.

For Earl, who in his analysis of economic behaviour, makes reference to Kelly's Personal Construct Theory (1955), by commenting that the "origins and forms taken by the perceptions of decision makers

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become a subject for serious investigation". He also suggests in the Kellian tradition, that economic agents are 'inquiring'; they choose one or more of their alternative interpretations of the world on the basis of 'covert reasoning' and then 'test' the 'chosen models empirically with the help of overt trial and error'. In this way, the lay individual's vision of the world differs from that construed by economic experts, thus, economists may be better able to forecast aggregate responses to changes in the 'state of affairs' if they stop assuming rational expectations and start to study methods that are commonly employed by lay decision makers.

Studies investigating the differences between government ministers and lay individuals have been carried out by Lewis and Furnham (1986) who showed that "overall, the broadly monetarist policies of the Conservative government in Britain ... do not form a substantial part of the lay economic consciousness". Tyszka and Sokolowska (1992) also support this difference in 'expert' and lay perception; they found that "a vast majority of US citizens were unable or at least not inclined to think ideologically about political and social issues. They could not properly distinguish between the ideologies of the two major parties". Highlighting the differences between government economists and business leaders, Gordon (1948) has also argued that traditional economists have not paid enough attention "to the fact that the businessman's certainty that changes will occur and his uncertainty as to the nature of future changes strongly influences his appraisal of the information that is available to him and the way in which he reacts to it".

Earl (1990) suggests that because lay models of the world differ from those construed by experts, it is worth devoting attention to understanding *how* decision makers uncover the nature of problems they face and "how to construe the constraints, areas of irreducible uncertainty and the cause and effect relationship that have implications for the appropriateness of rival choices". He suggests that the things people buy are 'means' to the 'ends' of prediction and control and when making their choices, people decide upon the activity which offers them the greater chance for either clearer definition or a broader view of the world. It is for this reason that he believes that the Psychology of Personal Constructs may offer a better understanding of economic decision making.

Some Justifications for a New Approach Economic choices can often be seen to be linked to psychological factors such as: fear, hope, safety, danger, fun, plan, conflict, time, duty and custom; particularly when they are linked to risk. Lopes (1987) argues that many psychologists themselves, often pay little attention to such factors when talking about choices involving risk. It could also be argued that in classical economic theory there is little reference to terms such as confidence, optimism, pessimism and belief. Schoemaker (1993) states that beliefs are a very important consideration if one is trying to understand, for example, the activities of entrepreneurs. These individuals are often convinced that ultimately they will be successful and that their success is based on skill and not luck.

Rychlak (1977) suggests that such belief in the self and feelings of conviction are a reflection of our confidence; he argues that individuals intuitively understand about the bipolarities in meanings. Therefore, confidence and a sense of conviction are a reflection of our recognition of our tautologizing nature. He adds that such concepts as "doubt, distrust, rejection, disbelief, wavering between aftirmation and negation, conjecture, the concoction of possibilities" etc. are a reflection of such dialectical machinations; the "operations of our intellects".

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Confidence may well be one of the most important factors in economic affairs; as the Editor of The Observer states: "Economics is a behavioural science, not a mathematical one. Confidence is all" (6.3.94). However, in economic theory there is little reference to the individual's emotions, confidence or belief (even though there is the implication of the economist's belief in their own theories); despite this fact, politicians and economic commentators refer to such concepts as optimism, pessimism, faith, obsession, uncertainty, fear, threat, worry, confidence, gloom, terror and hope, nearly every day (For example, William Keegan Economics Editor of The Observer). In support of this, Van Witteloostuijn (1990) states that economic decisions are often made in "a penumbra of doubt and uncertainty, vague hypothesis and inarticulate fears".

Recently, the elusive 'feel good factor' has become a very important concept when talking about economic recovery or lack thereof. Keegan (1993, 1994, 1995) suggests that the Governor of the Bank of England and the Chancellor have acknowledged that, whatever the official statistics might say about economic recovery the 'feel good' factor was conspicuous by its absence, they believe that this lack of a 'feel-good' factor is holding back investment. One could also argue that the vexed issue of 'feel good' has influenced the discussion around, and the timing of, the interest rate increases from the latter part of 1994 to well into 1995.

#### A WAY FORWARD

McCain (1992) also argues that, the shortcomings of modern economics can be grouped under three headings: empirical, pragmatic, and philosophic. He states that "the key problem for neo-classical economics is the growing evidence that individual economic activity is not rational, in the limited neo-classical sense; namely, Feature Article

that the rationality theory is a biased and inefficient predictor of human behaviour". However, he adds that "since the work of Kahneman, Slovic, and Tversky (1982), it has become increasingly clear that it is the individual choices themselves that cannot be rational in the neo-classical, maximizing sense". This theory of individual choice is central to economic theory and in neo-classical economics, "the same theory of choice is taken both to determine individual decisions and thus, indirectly, to determine market phenomena, and to reveal individual preferences, thus defining rationality. It will be necessary to divorce those two functions, but choice theory will nevertheless be central to the task". In McCain's view, the time has come for a new theory of choice that can admit of less-than-perfectly-rational choices in economic theory; however, this will mean surrendering the existing concept of rationality and admitting that economic behaviour is human decision and choice behaviour. As such, one must appreciate psychological variables if one is to gain an understanding of the behaviour of economic agents; otherwise, economics without psychological research will remain as Simon (1986) says, "a one bladed scissors". One way forward from this point, is to view economic behaviour from the perspective of the self contained psychological theory which is Personal Construct Theory. In this way, one can utilise the cognition of construction in order to further the understanding of such economic behaviour and action.

references overleaf

#### Feature Article.

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### Appendix C

### An Example of the Completed Multiple Choice Statements

### **Multiple Choice Questionnaire**

Age: <u>S7</u> Sex: <u>MF</u> If you had to support one political party would it be:(please circle <u>one</u> Labour Conservative, Liberal Democrat, Other (please state).....

Please rank the following statements in order of your agreement: 1, (most agree) 2 (agree) and 3 (least agree). Please make your three choices for every question.

### Rank

- 3 1. Do you believe that:
  - a) anyone who is unemployed must also be work shy.
- 1. b) the unemployed may be considered, among other things, as casualties of economic policies and industrial change.
- $\boldsymbol{\nu}$  c) the unemployed are only unemployed because they do not want to work.
- **3** 2. Do you believe that:
  - a) the objective of macroeconomic policy is to beat inflation.
- b) there are a number of different things on which macroeconomic policy could focus, such as inflation growth and increasing employment.
- c) a policy which deals with inflation must also control the money supply with high interest rates.

3. Do you believe that:

- a) jobs can be created not only by the private sector, but also by a return of confidence and/or by governments increasing expenditure.
- **3** b) jobs can only be created by the private sector.
- c) for jobs to be created, labour markets must not only be flexible, but also deregulated and efficiently priced.
  - 4. Do you believe that:
- a) saving can be considered a good thing if it also leads to investment.
- 3 b) saving in times of recession can only be a bad thing.
- c) undersaving can cause, among other things, budget and trade deficits.
  - 5. Do you believe that:
- 3 a) budget deficits can only be seen as financial mismanagement.
  - b) budget deficits may mean that the books are not balanced, but alternatively
- they may be a way of stimulating the economy if money is used to increase expenditure and reduce taxes.
- c) a policy which aims to reduce budget deficits must also be one which cuts public spending in all areas.

6. Do you believe that:

- 2 a) if a policy is hurting it must also be working.
- b) there are no alternatives to present government policies.
  - c) there are always alternatives even if this means a change of direction or Uturn.

7. Do you believe that:

- a) increasing VAT may reduce consumption, but alternatively, may also aggravate the balance of payments problem through reducing tax revenue.
- 3 b) anything which is a tax must, at the same time, raise revenue as well as restrain spending.
- **b** c) the national debt can only be reduced by cutting spending.

8. Do you believe that:

- **3** a) the government's job is not to influence demand, because the economy is self regulating.
- b) there may be times when the government should seek to influence demand in order to stimulate the economy.
- c) any macroeconomic policy which aims to conquer inflation, must also focus on growth and employment.

9. Do you believe that:

- a) in times of recession, the government has a number of options to help stimulate the economy, one of which, may be to increase spending on the infrastructure.
- **2** b) in order for economic recovery to be influenced by an increase or decrease in taxes, there must also be other measures in operation at the same time.
- c) the only way to get the economy out of recession is to reduce interest rates and let this action take effect.

10. Do you believe that:

- 3 a) Britain does not need a manufacturing base if at the same time it has enough oil and financial services.
- b) inflation is caused by the government's excessive borrowing from the banking system.
- c) in order to finance increases in expenditure, the government could, draw on a number of alternatives, such as, borrowing from the banking system.

Thank you for your help.

### Appendix **D**

### Flexigrid 5.1 Principal Components Analysis Output for the Pilot Study Grids

Data transformation: 1 ): Correlate CONSTRUCTS (standardize CONSTRUCTS): MOST COMMON angular construct distances and normed element distances a) Maximal nr. of components = 3 b) Minimum relative variance of a component (1 recommended by Kaiser) 0 if b) gives K components then nr. of components will be: M = MIN( 3 ,K) Maximal nr. of components for VARIMAX = 3 PLOT and/or TARGET from ROTATED matrices

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This table provides you with the minimum, mean, maximum and standard deviation of each variable

POLE	/CONTRAST	VBL.	MIN.	MEAN	MAX.	STD.DEV.	X OF TOTAL VAR.
UNHAPPINESS	/PEACE OF MIND	1	0	0.42	1	0.49	8.86
NEEDINESS	/WELL BEING	2	0	0.33	1	0.47	8.10
EXCHANGE	/NO INTERACTION	3	0	0.33	1	0.47	8.10
FORCED UPON	/CHOSEN	4	0	0.33	1	0.47	8.10
WEALTHY	/POOR	5	0	0.50	1	0.50	9.11
PERSONAL	/GLOBAL	6	0	0.58	1	0.49	8.86
ECONOMIC DISADVANTAGE	/LOADSA MONNEY	7	0	0.42	1	0.49	8.86
CONCEPTS	/REALITY	8	0	0.33	1	0.47	8.10
INABILITY TO PROVIDE	/PROVIDING	9	0	0.42	1	0.49	8.86
SELF FULFILLING	/UNATTAINABLE	10	0	0.17	1	0.37	5.06
INCREASED SELF RESPECT	/DECREASED SELF RESPECT	11	0	0.50	1	0.50	9.11
SUCCESS	/FAILURE	12	0	0.42	1	0.49	8.86
		Total r	nean	0.40	,	fean var.	0.23

Correlation table, showing the relationships between all the variables Angular distances between constructs in upper right part

3 4 5 6 9 1 2 7 8 10 11 12 1.00 33.2 126.7 33.2 147.7 88.4 0.0 126.7 48.9 58.1 147.7 135.6 1 0.84 1.00 120.0 51.3 135.0 96.9 33.2 120.0 61.4 80.9 135.0 126.7 2 0.60 -0.50 1.00 120.0 69.3 76.2 126.7 75.5 103.8 108.4 69.3 61.4 3 0.84 0.63 -0.50 1.00 135.0 96.9 33.2 120.0 61.4 50.8 135.0 126.7 4 5 -0.85 -0.71 0.35 -0.71 1.00 80.3 147.7 69.3 147.7 116.6 0.0 32.3 0.03 -0.12 0.24 -0.12 0.17 1.00 88.4 96.9 88.4 67.8 80.3 88.4 6 1.00 0.84 -0.60 0.84 -0.85 0.03 1.00 126.7 48.9 58.1 147.7 135.6 7 -0.60 -0.50 0.25 -0.50 0.35 -0.12 -0.60 1.00 103.8 108.4 69.3 83.1 8 0.66 0.48 -0.24 0.48 -0.85 0.03 0.66 -0.24 1.00 58.1 147.7 135.6 ٥ 10 0.53 0.16 -0.32 0.63 -0.45 0.38 0.53 -0.32 0.53 1.00 116.6 112.2 -0.85 -0.71 0.35 -0.71 1.00 0.17 -0.85 0.35 -0.85 -0.45 1.00 32.3 11 -0.71 -0.60 0.48 -0.60 0.85 0.03 -0.71 0.12 -0.71 -0.38 0.85 1.00 12 2 5 4 ή. 5 6 7 5 9 10 11 17 0.579 Mean absolute value Intensity (root mean square) 0.515

titensity (foot mean aquale) 0.379 Mean absolute value 0.3

Distances between elements (expected value = 1)

3 6789 1 2 4 5 10 - 11 2 1.12 1.13 0.57 3 1.13 0.57 0.00 4 0.99 0.98 0.97 0.97 5 0.67 1.31 1.31 1.31 1.20 6



### Table of principal components

POLE	/CONTRAST	VEL.	1	2	3	DIST.	VAR-R	XACC.	
UNHAPPINESS	/PEACE OF MIND	1	0.968	0.060	0.170	0.984	1.000	96.911	
NEEDINESS	/WELL BEING	2	0.805	-0.209	0.264	0.873	1.000	76.134	
EXCHANGE	/NO INTERACTION	3	-0.574	0.225	-0.401	0.736	1.000	54.097	
FORCED UPON	/CHOSEN	4	0.845	0.064	0.199	0.871	1.000	75.816	
WEALTHY	/POOR	5	-0.929	0.147	0.278	0.981	1.000	96.185	
PERSONAL	/GLOBAL	6	-0.051	0.892	-0.114	0.901	1.000	81.107	
ECONOMIC DISADVANTAGE	/LOADSA MONNEY	7	0.968	0.060	0.170	0.984	1.000	96.911	
CONCEPTS	/REALITY	8	-0.525	-0.308	-0.586	0.845	1.000	71.457	
INABILITY TO PROVIDE	/PROVIDING	ģ	0.775	0.062	-0.490	0.919	1.000	84.399	
SELF FULFILLING	/UNATTAINABLE	10	0.578	0.620	-0.116	0.855	1.000	73.133	
INCREASED SELF RESPECT	T/DECREASED SELF RESPECT	11	-0.929	0.147	0.278	0.981	1.000	96.185	
SUCCESS	/FAILURE	12	-0.818	0.149	0.356	0.905	1.000	81.852	
XVAR I ANCE		•	59.765	12.085	10.165	82.016			

•

### Factor scores

\*\*\*\*\*\*\*

			-	_					
	VBL.	1	2	3	DIST-N		DIST.	VAR-R	XACC.
A DEBT	1	0.944	-0.008	-0.121	0.952	*	0.731	0.944	56.616
B SECURITY	2	-0.795	-0.589	1.362	1.683	*	0.780	0.762	79.871
C MORTGAGE	3	-0.979	0.988	0.474	1.470	*	0.845	0.830	86.068
D BUYING	4	-0.979	0.988	0.474	1.470	*	0.845	0.830	86.068
E DEMAND	5	-0.152	-1.239	-2.674	2.951	*	0.962	1.012	91.538
F POVERTY	6	1.410	1.233	-0.029	1.874	*	1.172	1.469	93.451
G GROWTH	7	-0.734	-0.001	-0.440	0.855	*	0.584	0.773	44.186
H TAXATION	8	0.990	-1.247	1.229	2.012	*	0.963	1.069	86.701
I RECESSION	9	1.209	-1.161	0.415	1.727	*	1.026	1.126	93.556
J UNEMPLOYMENT	10	1,172	1.539	-0.488	1.996	*	1.064	1.344	84.225

K PROSPERITY	11	-0.951	-1.040	0.342	1.450	*	0.826	0.887	76.982
L AFFLUENCE	12	-1.135	0.537	-0.545	1.369	*	0.914	0.955	87.428

Variance of transformed data= .9999997 Variance of derived data= .8201551 Correlation transformed, derived .9056243

### Table of VARIMAX rotated components

POLE	/CONTRAST	VBL	. 1	2	3	DIST.
UNHAPPINESS	/PEACE OF MIND	1	0.625	0.132	0.749	0.984
NEEDINESS	/WELL BEING	2	0.482	-0.161	0.710	0.873
EXCHANGE	/NO INTERACTION	11 a <b>3</b>	-0.221	0.215	-0.668	0.736
FORCED UPON	/CHOSEN	4	0.512	0.121	0.624	<u>٩.871</u>
WEALTHY	/POOR	5	-0.907	0.024	-0.373	0.981
PERSONAL	/GLOBAL	6	-0.101	0.890	-0.093	0.901
ECONOMIC DISADVANTAGE	/LOADSA MONNEY	7	0.625	0.132	0.749	0.984
CONCEPTS	/REALITY	8	0.011	-0.285	-0.796	0.845
INABILITY TO PROVIDE	/PROVIDING	9	0.890	0.193	0.118	0.919
SELF FULFILLING	/UNATTAINABLE	10	0.422	0.682	0.298	0.855
INCREASED SELF RESPECT	/DECREASED SELF RESPECT	11	-0.907	0.024	-0.373	0.981
SUCCESS	/FAILURE	12	-0.871	0.027	-0.242	0.905
XVARIANCE			39.246	12.495	30.275	82.016

### Transformation matrix

	1	2	3
1	0.765	0.096	0.637
2	-0.149	0.988	0.031
3	-0.626	-0.119	0.770
	•		

Rotated factor scores

\*\*\*\*\*\*\*\*

							:
	•	VBL.	1	2	3	DIST.	
	DEBT	1	0.800	0.097	0.508	0.952	
B	SECURITY	2	-1.374	-0.820	0.525	1.683	•
С	MOR7GAGE	3	-1.194	0.826	-0.228	1.470	•
D	BUYING	4	-1.194	0.826	-0.228	1.470	
E	DEMAND	5	1.744	-0,922	-2.195	2.951	,
F	POVERTY	6	0.913	1.357	0.914	1.874	·
G	GROWTH	7	-0.286	-0.019	-0.806	0.855	
H	TAXATION	8	0.173	-1.284	1.539	2.012	
I	RECESSION	9	0.838	-1.081	1.054	1.727	
J	UNEMPLOYMENT	10	0.973	1.692	0.418	1.996	
K	PROSPERITY	11	-0.787	-1.159	-0.374	1.450	
L	AFFLUENCE	12	-0.607	0.487	-1.126	1.369	٠
	Time: 0 : 2 :	30 .					

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12 FAILURE 11 DECREASED SELF RESPECT 5 POOR

· ·.

6 GLOBAL 8 CONCEPTS 3 NO INTERACTION 2 NEEDINESS

10 UNATTAINABLE 4 CHOSEN 9 PROVIDING 7 LOADSA MONNEY 1 PEACE OF MIND

COMPONENT 2

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RESULTS OF INDIVIDUAL 1

This table provides you with the minimum, mean, maximum and standard deviation of each variable

POLE	/CONTRAST	VBL	. MIN.	MEAN	MAX.	STD.DEV.	% OF TOTAL V	/AR.
HAPPINESS	/UNHAPPINESS	1	. 1	4.67	8	2.53	9.17	
WELL BEING	/NEED INESS	2	1	5.25	8	2.35	7.93	
WEALTHY	/POOR	3	1	4.92	8	2.43	8.49	
SELF RESPECT	/NO SELF RESPECT	4	1	5.25	8	2.17	6.73	
SUCCESS	/FAILURE	5	1	5.33	8	2.69	10.37	
PROVIDING	/INABILITY TO PROVIDE	6	1	5.08	8	2.75	10.88	
SECURE	/INSECURE	7	1	4.92	8	2.56	9.44	
INTERNAL CONTROL	/EXTERNAL CONTROL	8	1	4.42	8	2.06	6.09	
WANTED	UNWANTED	9	1	4.83	8	2.97	12.64	
LUXURIES	/NEEDS	10	1	4.00	6	1.63	3.83	
POWERFUL	/WEAK	11	2	5.25	8	1.53	3.38	
REALITY	/ABSTRACT	12	2	4.75	8	2.77	11.04	
		Total	mean	4.89		Mean var.	5.80	

Correlation table, showing the relationships between all the variables Angular distances between constructs in upper right part

	1	2	3 /	4	5	6	7	8	9	10	11	12
1	1.00	19.9	28.7	29.8	28.9	20.2	20.9	59.5	20.5	83.0	49.9	129.1
2	0.94	1.00	22.7	20.3	26.2	24.3	19.3	64.8	29.9	82.5	52.6	127.2
3	0.88	0.92	1.00	22.7	20.7	18.6	22.9	50.3	28.8	81.6	58.7	121.5
4	0.87	0.94	0.92	1.00	21.4	26.9	29.0	56.2	25.6	75.0	54.3	120.2
5	0.88	0.90	0.94	0.93	1.00	19.5	30.4	53.7	22.1	82.4	51.2	111.0
6	0.94	0.91	0.95	0.89	0.94	1.00	19.0	50.2	18.1	85.7	52.6	125.9
7	0.93	0.94	0.92	0.87	0.86	0.95	1.00	59.2	29.0	87.7	48.6	134.9
8	0.51	0.43	0.64	0.56	0.59	0.64	0.51	1.00	49.3	65.1	72.0	112.1
9	0.94	0.87	0.88	0.90	0.93	0.95	0.87	0.65	1.00	83.1	49.5	121.4
10	0.12	0.13	0.15	0.26	0.13	0.07	0.04	0.42	0.12	1.00	80.4	87.9
11	0.64	0.61	0.52	0.58	0.63	0.61	0.66	0.31	0.65	0.17	1.00	100.4
12	-0.63	-0.60	-0.52	-0.50	-0.36	-0.59	-0.71	-0.38	-0.52	0.04	-0.18	1.00

. . ..

Intensity (root mean square)

0.698 Mean absolute value

0.635

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POLE	/CONTRAST	VBL	1	2	3	DIST.	VAR-R	XACC.
HAPPINESS	/UNHAPPINESS	1	- 0.958	-0.103	0.016	0.964	1.000	92.837
WELL BEING	/NEEDINESS	2	- 0.953	-0.120	0.045	0.961	1.000	92.398
WEALTHY	/POOR	3	. 0.954	0.007	-0.039	0.955	1.000	91.232
SELF RESPECT	/NO SELF RESPECT	4	- 0.945	0.079	0.047	0.950	1.000	90.194
SUCCESS	/FAILURE	5	- 0,943	0.043	0.188	0.963	1.000	92.743
PROVIDING	/INABILITY TO PROVIDE	6	- 0.978	-0.069	-0.016	0.981	1.000	96.237
SECURE	/INSECURE	7	- 0.962	-0.185	-0.031	0.980	1.000	95.998
INTERNAL CONTROL	/EXTERNAL CONTROL	8	_ 0.639	0.491	-0.346	0.877	1.000	76.954
WANTED	/UNWANTED	9	0.957	0.007	0.053	0.959	1.000	91.882
LUXURIES	/NEEDS	10	0.176	- 0.903	-0.102	0.926	1.000	85.784
POWERFUL	/WEAK	11	- 0.664	0.084	- 0,557	0.871	1.000	75.780
REALITY	/ABSTRACT	12	-0.608	0.327	-0,623	0.930	1.000	86.408
%VARIANCE			71.393	10.364	7.280	89.037		

### Element loadings (Factor scores \* SQR(Root/12))

		VBL.	1	2	3	DIST-N	*	DIST.	VAR-R	XACC.
A	DEBT	1	-0_838_	0.369	-0.134	1.595	*	0.926	0.995	86.104
8	SECURITY	2	0.905	-0.410	0.049	1.673	*	0.995	1.023	96.661
C	MORTGAGE	3	0.340	0.306	0.355	1.672	*	0.579	0.455	73.599
D	BUYING	4	0.625	0.000	-0.204	1.057	*	0.657	0.555	77.812
E	DEMAND	5	-0.213	-0.075	-0.620	2.323	*	0.660	0.508	85.665
F	POVERTY	6	-1.431	-0.366	0.135	2.100	*	1.483	2.285	96.294
G	GROWTH	7	0.519	-0.363	-0.050	1.297	*	0.635	0.486	82.912
H	TAXATION	8	-0.191	-0.249	0.512	2.060	*	0.600	0.448	80.439
1	RECESSION	9	-0.605	-0.280	-0.117	1.208	*	0.677	0,787	58.212
J	UNEMPLOYMENT	10	-1.231	0.497	0.053	2.132	*	1.329	1.831	96.425
κ	PROSPERITY	11	0.991	0.173	-0.022	1.292	*	1.006	1.103	91.696
L	AFFLUENCE	12	1.130	0.397	0.044	1.827	*	1.199	1.523	94.392

Variance of transformed data= .9999993 Variance of derived data= .8903732 Correlation transformed, derived .943596

Relations between CONSTRUCTS and ELEMENTS expressed as cosines (correlations)

### Appendix E

### A Copy of the Author's Published Article 'Construing economic and political

reality'



Journal of Economic Psychology 17 (1996) 499-516



### Construing economic and political reality

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#### Abstract

A number of theoretical aspects of the Psychology of Personal Constructs (Kelly, 1955) were applied to the analysis of economic and political discussion of economic experts during the period 1991–1995. A list of bipolar constructs relating to psychological factors was produced to illustrate how prevalent such constructs are in the debate about economic and political issues. Economic and political examples were also described in terms of Kelly's notions of *transition* and *control*. A second study with 57 Labour, Conservative and Liberal Democrat economics and business 'experts' found, as hypothesised, that there was a significant difference between Labour and Conservative Party supporters in their preference for (the Kellian definitions of) propositional and aggressive construing (Labour) and preemptive and hostile construing (Conservative). Other results are discussed.

PsycINFO classification: 2900; 2960

#### 1. Introduction

Economic behaviour does not take place in a vacuum or separate from other aspects of human behaviour. For too long, the expression *ceteris paribus* has been the catch-all of economic modelling and when pressed for examples of 'other things being equal', invariably many of these are psychological factors.

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	<sup>1</sup> For those unfamiliar with Personal Construct Theory, refer to Appendix A.	
these constructs have over their related econo		
structs which are employed in such discussi		
commentators' own construct systems. The i	"Economics is a behavioural science, not a mathematical one. Confidence is	
discussions over a certain time period; it	most important factors in economic affairs; as the Editor of The Observer states:	
audience, is a means of studying those cons	As a bipolar construct, confidence-lack of confidence may well be one of the	
construe the political events and economic	offer an explanation of certain aspects of economic decision making.	
A detailed examination of the way econ	use of preemptive, constellatory or propositional construing can be seen to	
basis of the Fundamental Postulate.	factors in economic construing. Similarly, constructs relating to control and the	
Kelly's definitions of the Organisation and C	and hostility can also be seen to be relevant to the analysis of psychological	
forecasting techniques do not prove to be con	relating to the dimensions of transition i.e. threat, anxiety, fear, aggressiveness	
control' and makes the world appear more p	alternative courses of action ( <i>Choice Corollary</i> and <i>C</i> - <i>P</i> - <i>C</i> cycle). Constructs	
tious behaviour" (p. 125). Such superstitiou	theory as it enables him to account for the way individuals choose between	
"future-orientated techniques is a manifest	Bipolarity, as stated in the Dichotomy Corollary, is an important part of Kelly's	
and ability to cope with the world. They	bility' in any individual's system is formally stated in the Modulation Corollary.	
relieve the anxiety of an uncertain future and	resistant to change or to the recognition of alternatives. This notion of 'permea-	
forecasting and planning. Gimpl and Dakin	identity or which are fundamental to the ideological position; these may prove	
In business, as in many other situations	constructs may be identified which form an integral part of the individual's	
good'.	ideology specific, according to the Commonality Corollary. Certain 'core'	
encompassing feel about it which is necess	structs may be individual specific, according to the Individuality Corollary or	
incidental change in one's core structures an	constructs with which they can anticipate and interpret events. <sup>1</sup> These con-	
whereas fear is incidental. Fear is defined	attempt to organise and control their lives by developing a system of bipolar	
be the most appropriate description as in Kell	consistently use to make sense of the world. According to Kelly (1955), people	
person's maintenance processes). It is 'threat	systems of thought which may be viewed as different strategies which they	
hensive changes in their core structures (or c	same policies and all of their implications. Different individuals have different	
'threat'; that is, that people are aware of th	in the way politicians and economic 'experts' construe different policies, the	
Constructs, one might link this lack of a 'fee	The belief that individuals construe reality in different ways is clearly evident	
holding back investment' (p. 5). In term	important influence on economic thought and behaviour.	
conspicuous by its absence (this) lack of	information as a means of exploring the psychological factors which are an	
statistics might say about economic recov	construe economic issues and their related decisions and choices, or to use this	
and the Chancellor have recently acknowl	Until now, there has been very little attempt to discover the way people	
recovery. Keegan (1994) states "both the C	in an attempt to provide alternative explanations to traditional economic models.	
bad factor' have become very important con	logical theories and have merely applied them to various economic phenomena	
In recent times, the elusive 'feel good fa	ology (Scitovsky, 1977). Researchers have tended to 'adopt' particular psycho-	
uncertainty, vague hopes and inarticulate fea	1988; Furnham and Lewis, 1986), behaviourism (Alhadeff, 1982), psychophysi-	
he states "economic action is often decide	models and argued for the inclusion of findings from social psychology (Baxter,	
dence, gloom and terror. Van Witteloostuijn	psychology has tended mainly to criticise classical economic theory and its	
optimism, pessimism, faith, obsession, unce	1990; McCain, 1992). Much of previous research in the area of economic	
confidence or belief, but economic commentation	(Katona, 1951, 1977; Van Raaij, 1981, 1986; Wärneryd, 1988; Earl, 1983, 1986,	
all" (6.3.94, p. 26). In economic theory the	$\mathbf{S}_{\mathbf{M}}$	
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d upon in a penumbra of doubt and ators often refer to concepts such as rs..." (p. 200). re is little reference to emotion or ertainty, tear, threat, worry, confi-(1990) emphasises this point when

d this does not have the global, all ary to describe the nature of 'feel ctor' and its bipolar opposite 'fee e possibility of imminent, compreel good factor' to Kelly's notion of s of the Psychology of Personal very, the 'feel good' factor was ledged that, whatever the official overnor (of the Bank of England) cepts when talking about economic ian terms, threat is comprehensive ' rather than 'fear' which seems to ore constructs; those which rule the a 'feel-good' factor was certainly as the awareness of an imminent

is behaviour offers the 'illusion of ation of anxiety-relieving superstialso suggest that the use of such hoice Corollaries and is in fact the rect. Again, this has parallels with redictable even though often these (1984) suggest that these activities help managers in their predictions confidence is often achieved by

ions, and the nature of the control omic elements is an important way tructs which are pertinent to such issues of the day, for a particular dentification of psychological conis also a way of examining the omic commentators and 'experts

of emphasising the inextricable role these psychological constructs play in the economic world. One can also discern from such an analysis, the way these 'experts' may set the agenda for their audiences and 'tell' them what is and what is not important at any particular time.

Thus, the aim of the following studies was to tease out some of these psychological factors as used by economic 'experts' and politicians from discussions in the British quality press and also from an 'expert' sample in an endeavour to elucidate specified, economic problems by examining the reflexive relationship of the effect of the economy on the individual or group's construing and the individual or group's place in the aggregation of economics.

### 2. Study 1

### 2.1. Procedure

The author carried out a detailed analysis of the psychological constructs used by economic 'experts' and politicians as described in the economic editorial of a British, quality newspaper between November 1991 and March 1995. Constructs relating to psychological factors were selected and classified according to Kelly's notions of *transition: threat, fear, anxiety, hostility, aggressiveness* and of *control: preemptive, constellatory* and *propositional.* The author's selection of relevant constructs was informed by the results of a pilot study which had established a high level of inter-rater reliability.

# 2.2. Outcome of analysis

A. Table 1 shows a selection of expressed, bipolar, psychological constructs used by economic commentators and politicians between 1991 and 1995.

B. Kelly's dimensions of transition as an interpretation of economic and political statements

1. Threat: The awareness of an imminent comprehensive change in one's core structures.

structures. 1991

Statement: "The persistence of mass unemployment in the 1990's could once again pose a threat to European democracy as it did in the 1930's."

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Table 1 Expressed bipolar psychological constructs used by economic commentators and politicians 1991–1995

Pole	Contrast
Unite holief in	Have no belief in
To talk up the	To not talk up the
Optimism	ressumsru
Fear	to tea
Have confidence	Lack Of Completion
Pose a threat	Fux his ultrat
Have faith	Taba antimistic
To be gloomy	To be optimistic
To be worried	
To be terrified	INOLID DE LETHIEU
To be of psychological benefit	10 De a financiar and poincaí beneint
To be obsessed	To he montain
To be anxious	Fredictability of physical /chemical behaviour
Unpredictability of financial states of the second	Certainty
Self confident	Lack of self confidence
Depressing	Stimulating
Despair	Cherruiness
Have hope	Have no nope
Self belief	The family instrument
To feel threatened	I O JEEL UNINFERIENCU
Нарру	Unhappy
Have doubts	Have no doubts
'Feel good factor'	No teel good factor
Caution	Contidence
Insecurity	Security
Rigidity	Flexibility
Preemptive acts	Acts after the fact
How people feel	What people are told
The economy lived in by the individual	The economy written about by economists
To be concerned	To have no worries

Interpretation: An attack on democracy and the implications that would have in society represents the recognition of change and upheaval in the way we view the very nature of ourselves in society.

2. Fear: The awareness of an imminent incidental change in one's core structure.

1992

Statement: "People are terrified of the prospect of unemployment. Fear is feeding on fear, and with some grounds."

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	Interpretation: Unemployment as it affects the individual, is the awareness by that individual that certain aspects of their life are going to undergo incidental changes.	c
	3. Anxiety: The awareness that the events with which one is confronted lie outside the range of convenience of one's construct system. 1993	s = >
-	Statement: "We are experiencing an extraordinary bout of European pes- simism – epitomised by the belief that we should worry about economic performance in China and South East Asia."	0,7 4
	Interpretation: If economic performance in Asia improves then we will not be able to anticipate and control future events which will ensue.	s c
	4. Hostility: The continued effort to extort validational evidence in favour of a type of social prediction which has already been recognised as a failure. 1994	3
	Statement: "Conservatives' do not like change. They often have to accept it. But every time further change heaves in sight, they resist in curmudgeonly fashion until there is not much alternative."	× d
	Interpretation: Even though policies may be proved incorrect, the amount of investment in one's construct system demands that these policies be upheld; changing one's mind means that other alternatives which may be unwelcome,	<i>o</i> o <i>a</i>
	5. Aggressiveness: The active elaboration of one's perceptual field.	s
	Statement: "Active macroeconomic policy is needed to cure structural unem- ployment." Interpretation: Action rather than waiting for things to happen is the call of the day. Government must seek out alternatives and intervene to solve problems.	n
	A preemptive construct – preempts its elements for membership in its own realm exclusively. Kelly (1955) characterises preemptive constructs by their restrictive and exclusive nature. They are typified by such comments as 'any-	فن فن
	the possibility of other alternatives.	

1992 Statem

Statement: "Lamont says that it is the *private* sector that generates growth and creates jobs."

Interpretation: Any investment which is needed for jobs or to generate growth can only come from the private sector; this is not the realm of the Government.

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Statement: "There Is No Alternative."

Interpretation: (The acronym TINA was frequently used by Margaret Thatchet /hen discussing the 'impossibility' of changing government policy).

A constellatory construct – fixes the realm membership of its elements. Constellatory constructs allow their elements to be members of other realms, but at the same time fix any possible alternative constructions. For example, 'anything which is a ball must also be something which is round and will bounce'. This type of construing is typical of stereotyping, as elements are only allowed to be certain other specified things and not others. This is also a restrictive way of construing and does not permit further elaboration and reviewing of the construct.

30.000. 1993

Statement: "The government has propagated the myth that one did not need a nanufacturing base provided one had enough oil and financial services."

Interpretation: If the UK has oil and financial services then by definition it did not also need a manufacturing industrial base.

A propositional construct – does not disturb the other realm memberships of its elements. Propositional constructs do not fix the realm membership of their elements; they acknowledge the possibilities of constructive alternativism and are typified by expressions such as 'possibly', 'as if' and 'may also'. 1992

Statement: "The US Federal Reserve Chairman refused to be tied down to a pecific inflation target that might 'create an unnecessary degree of rigidity'." Interpretation: At different points in the economic cycle, the level of inflation

nay need to be changed according to the prevailing circumstances. (Further examples were collected)

### 3. Study 2

3.1. Introduction

The results of Study 1 have provided evidence of how economists and politicians construe economic and political reality. These results have also informed the content and nature of the second experiment which has its focus on the construing of 'voters'. The design of the experiment was aimed at differentiating experimentally between various *dimensions of transition*, as defined in Personal Construct Theory terms, and in relation to economic and political

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statements. The theoretical bases underlying the experimental procedure devised for this purpose were: (a) the theoretical definitions of *preemptive*, *constellatory* and *propositional* construing and (b) the theoretical definitions of *hostility* and *aggression*. Another important aim of this research was to prove that the methodology of Personal Construct Theory is a suitable test for the identification of economic construct systems.

The following hypotheses were tested in this study:

*Hypothesis 1*: There will be a significant difference between Conservative and Labour Party supporters in their preference for *propositional* and *preemptive* construing, with Labour favouring *propositional* and *aggressive* construing and Conservatives favouring *preemptive* and *hostile* construing. That is, Labour supporters will be more open to the possibility of alternative courses of action and will favour active and elaborative choices. In contrast, Conservative supporters will be reluctant to consider the possibility of any alternatives and will continue to hold on to beliefs which have already been proven a failure.

Hypothesis 2: Liberal Democrats' preference for different kinds of construing will show some similarities with Labour supporters and other similarities with Conservatives in accordance with the Commonality and Sociality corollaries.

*Hypothesis 3:* There will be no significant difference in Conservative, Labour and Liberal Democrat supporters' preference for statements which are *constellatory* in their nature.

### 3.2. Method

### 3.2.1. Subjects

An 'expert' sample of 57 male and female Economics, Business, and Finance, Lecturers, at the London School of Economics and Political Science and London Guildhall University. 23 stated their political affiliation was with the Labour Party, 22 with the Conservative Party and 12 with the Liberal Democrat Party. The subjects' ages ranged from 27 to 64.

## 3.2.2. Materials

A multiple choice type questionnaire, developed by the author, consisting of ten sets of three multiple choice statements (see Appendix B). The statements were adapted by the author from remarks made by politicians, economists and economic commentators. Thus, the content of the statements was determined by individuals with varying political affiliations and theoretical orientations. The structure of the statements was based on the theoretical aspects of Kelly's

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preemptive, constellatory and propositional constructs and Kelly's theoretical definitions of *hostility* and *aggressiveness*. Each of the ten questions dealt with a different economic or political topic and comprised three statements: one *propositional*, one *preemptive* and one *constellatory*. The author's choice and structure of statements was informed by the results of a pilot study which had established a high level of inter-rater reliability.

# 3.2.3. Procedure

The multiple choice questionnaire was sent to 174 subjects. Subjects were asked to rank, out of three, the three statements which made up each question in order of their agreement with those statements. 57 correctly completed questionnaires were returned giving a response rate of 32.8%.

### 3.3. Results

The questionnaires were scored for each subject and subjects who had stated the same political affiliation were grouped together. Parametric and non parametric tests were performed on the data to ensure that the ipsative nature of the ranked scores did not unduly influence the outcome of the analyses (Non parametric results are reported).

A Kruskal–Wallis test revealed that overall, there was a significant difference between supporters of different Parties and their preference for statements which were preemptive (df = 2,  $\chi^2 = 32.01$ , p < 0.001) or propositional (df = 2,  $\chi^2 = 31.79$ , p < 0.001) in their construction, but not for statements which were constellatory in their construction (df = 2,  $\chi^2 = 1.02$ , p = 0.60).

With specific reference to supporters of each political Party, Mann Whitney tests revealed that, in accordance with Hypothesis 3, there was no significant difference between the supporters of each political Party and their preference for *constellatory* type statements (Labour vs. Conservative U = 209, p = 0.31; Labour vs. Liberal Democrat U = 122, p = 0.57; Conservative vs. Liberal Democrat U = 127.5, p = 0.87). In accordance with Hypothesis 1, there was a significant difference between Labour and Conservative supporters in their choice of *preemptive* type statements (U = 25, p < 0.001) and *propositional* and Conservative supporters in their poles choosing *preemptive*. Conservative and Liberal Democrat supporters differed significantly in the preference for *preemptive* type statements (U = 20.5, p < 0.001) and *propositional* and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* and propositional type statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements (U = 25, p < 0.001) and *propositional* statements and Liberal Democrat suppreservatives preferring *propositional* statements. Finally, there were no significant differ-

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								3. Ineodoullow / Journal of Communic Laborations / 1990
ional statement	wing the diff	stions	cores betwe	een each Pa	rty on the p	reemptive,	constellato	4. Discussion
tive		Constellato	уry		Proposition	al		According to Kelly (1955), choice of any action tends to be in the direction of
L vs. LD	C vs. LD	C vs. L	LD vs. L	C vs. LD	L vs. C	L vs. LD	LD vs. C	increased definition (more clear cut) or extension (more meaningful). The
0.209	0.178	0.106	0.513	0.480	0.034 *	0.166	0.445	Choice Corollary implies that an individual will tend to opt for increasing their
• 0.083	0.015	0.939	0.257	0.340	0.001	0.072	0.010	predictive efficiency; this can be seen to have parallels with the economic theory
• 0.933	0.014	0.002	0.360 N 481	0.020	0.001	0.604 0 542	0.001	of utility and may, in fact, be argued to form the basis of an individual's utility
• 0.797	0.001 * *	0.319	0.813	0.351	0.001	0.958	0.001	curve. Thus, choosing to construe in a preemptive and hostile manner or in a
• 0.488	0.001 **	0.256	0.488	0.660	0.001	1.000	0.007 **	manasitional and accressive manner is all part of the individual's attempt to
• 0.318	0.009	0.061	0.667	0.268	0.007	0.837	0.088	propositional and no make them more predictable. Different
1.000	0.004	0.898	0.022 *	0.082	0.002	0.022	0.306	annocipate events in the norte and transition and control in a different range
* 0.635 * 0.005	0.004	0.109	0.192	0,903	0.001	0.070	0.004	people may use constructs relating to <i>transition</i> and control in a different way to how Kelly
0,96.3	0,000	0.412	0.000	0.310	0.002	0.0/4	0.001	of convenience to each other and possibly even in a direction way to non-twing
• p < 0.05.								can still be accounted for by the Individuality, Commonality and Sociality
C = Conservat	tive, LD = L that type of	iberal Demo statement is	ocrat. In the s cited first	e case of a s at the top of	ignificant di f the colum	ifference, th n.	e Party wi	Corollaries; and ultimately, the Fundamental Postulate can encompass the
								The continuum which ranges from preemptive and constellatory constructs
ween Labe	our and L	iberal D	emocrat	support	ers in the	eir prefei	rence fo	Kelly makes that individuals do not use one type of construct exclusively, but
statement	$\sum_{n=1}^{\infty} (U = 1)$	22, p =	0.57). T	he simil	arities of	1 some (	tuestion	oscillate between the three. Individuals can, however, be characterised by their
ifferences	on other	question	s betwee	n the Li	beral Dei	nocrat su	ipportei	predominant use of one particular type of <i>transitional</i> consuluct over another and the propositional
2 shows th	or me om hreakde	own of t	he result	ts of Ma	nn White	ypouresi nev tests	s 2. for eac	construers and this has been borne out by the results of the second experiment.
each type	e of state	ment, fo	or all ter	n questi	ons; thus	making	specifi	These results have supported the hypotheses and have shown that Labour Party
to the eco	nomic/p	olitical t	opic of e	each que	stion.			supporters prefer the use of <i>propositional</i> constrainty over that of constrainty
hough over	rall there	was no s	ignificar	nt differe	nce betw	een the I	Parties i	and preemptive in a very definite manner, whereas, conservation and preferred choice, ers are less likely to make propositional construing their preferred choice,
n for each	question	shows th	nat there	is a sigr	ificant di	ifference	betwee	instead favouring a mixture of <i>preemptive</i> and <i>constellatory</i> construing. Liberal
nd Conser	vative su	opporters	and Co	onservati	ve and I	iberal I	Democra	Democrats were snown to layour an even more valied mining preference among
arkete mus	st not onl	ry statuti lv he file	vihle h	nt alen d	ereculate	id and et	fficientl	Conservative Party supporters for preemptive statements compared with that of
The direc	tion of t	the diffe	rence be	ting that	Conserv	atives s	howed	the Labour Party supporters for propositional statements; as one might expect,
vel of agro	eement v	vith this	stateme	int than	both Lal	bour and	Libera	there was very little similarity in construing between supporters of these two
supporter	s. There	was also	o a signi	ificant d	ifference	betweer	Labou	Parties In accordance with the theoretical definition of <i>constellatory</i> construing, it
Icroeconon	nic policy	which	aims to	conquer	inflation	must al	so focu	was found, as hypothesised, that there was no significant difference among the
h and emp	oloyment'	) with	Liberal I	Democra	ts showi	ng greate	r agree	Parties in their preference for <i>constellatory</i> type statements. This may be seen we had due to the fact that the ability to formulate stereotypes, which are the nature
1 Labour si	upporters	•						of <i>constellatory</i> constructs, helps individuals to freeze events into some kind of
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igid structure; total <i>propositionality</i> would lead to terminal indecision and exclusively <i>preemptive</i> thinking would lead to inflexible dogma. Therefore, it was expected that supporters of all Parties would make use of <i>constellatory</i>	already been recognised as failures, but which they refuse to recognise as such (e.g. adhering to a punishingly high exchange rate within the Exchange Rate Mechanism and the events leading up to 'Black Wednesday'). These experimen-
It is also possible to explore the above choices in terms of Kelly's theoretical lefinitions of <i>hostility</i> and <i>aggressiveness</i> . One can see how the limiting and	one hand, <i>hostility</i> and <i>preemption</i> and on the other, <i>propositionality</i> and <i>aggressiveness</i> , and their relationship to economic and political construing.
estrictive nature of <i>preemptive</i> construing (which excludes the possibility of Iternatives) may be characteristic of <i>hostility</i> . Kelly's defines <i>hostility</i> as the	
continued attempt to extort validational evidence in favour of a prediction which	5. Conclusion
nas already been recognised as failure. He cites the story of Procrustes, who would stretch or cut his guests down to a size that would fit the bed he owned.	This scope of this piece of research obviously has its limitations and has
Alternatively, aggressiveness which is the active elaboration of an individual's percentual field may be seen to be typical of propositional construing which	this area. In future research it might be worthwhile to investigate the type of
loes allow for further exploration of alternatives and elaboration of one's	constructs which individuals employ in other areas of their lives in order to more
construct system. Thus, the results of these studies can be examined $\mu_{000}$ in other angle and one can argue that Labour Party supporters can be seen to be	Similarly, one could examine differences among economists, politicians and
nore aggressive in their construing than Conservatives who are more hostile in heir construing. In sum, aggression is characterised by propositional and	notions of control; for example, in core constructs, permeability, resistance to
constellatory constructs and hostility by preemptive and constellatory con- structs.	Construct Theory, could also be utilised in order to gain a deeper understanding
The ten questions in the multiple choice questionnaire represented a number of different economic and political issues: unemployment, macroeconomic	of individuals personal construct systems, or compary and events and (Hinkle, 1965), and implication and other Repertory Grids.
policy, job creation, saving, budget deficit, policy direction, revenue, govern-	Regarding this piece of research however, it can be seen that a number of
ment intervention, growth and inflation. Table 2 highlights the issues upon which there are most similarities and differences between the three Parties. For	work of Earl (1986) and the identification of the (seemingly ever-increasing)
example, the only significant differences between the Labour and Liberal	importance of psychological factors in the construing of economic issues. In particular feelings of confidence and lack of confidence have important ramifi-
and the <i>constellatory</i> and <i>propositional</i> statements in Question 9 which deal	cations for economic thought and behaviour, and it would appear that an
with levels of government intervention and measures to stimulate the economy respectively. Thus, it would seem that Labour and Liberal Democrat supporters	terms of Personal Construct Theory, the numerous references to confidence in
share a similarity in construing most of the topics contained in this questionnaire	relation to <i>economic</i> decision making suggest the formulation of a new <i>annen-sion of transition</i> . It was an important finding from the first study that when
that of Conservative Party supporters (with Labour showing the greater differen-	confidence was used as one pole of a bipolar construct, the contrast pole valued greatly; that is that the following words were used interchangeably as the
Further interesting outcomes of this research, have been the identification of group or collective <i>hostility</i> and <i>aggression</i> in members of the same Party (or	contrast pole of confidence: worried, gloomy, anxious, pessimistic, have no belief in, cautious, unhappy etc. This illustrates the fact that in economic life,
longitudinal aspect of persistent, group, <i>hostility</i> . Recent Conservative Govern- ments have illustrated this point by continuing to follow policies which have	many different contrasts; thus, for the analysis of economic behaviour and decision making, an added <i>dimension of transition</i> may be helpful. This could

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he defined in a way which is opposite to, or a bipolar construct of, the	(b) Individuality Coronary, reasons which norm each order in men consumer- tion of events.
transitional construct of anxiety. Hence, confidence: the awareness of the	(c) Organisation Corollary: Each person characteristically evolves, for his/her
constant revalidation of one's expectations and hypotheses.	convenience in anticipating events, a construction system embracing ordinal
This 'new' explanation of confidence might be able to account for the	relationships between constructs.
and drawn out recession, individuals and organisations are experiencing diffi-	finite number of dichotomous constructs.
culty in finding 'constant revalidation of their expectations'. There has not been	(e) Choice Corollary: A person chooses for him/herself that alternative in a
enough time to build up the recognition of one's predictive efficiency and for	dichotomised construct through which s/he anticipates the greater possibility
one's hypotheses about the world to again be proved valid. The ability to look	for extension and definition of his/her system.
forward and plan with some degree of certainty/predictability is an important	(f) Range Corollary: A construct is convenient for the anticipation of a finite
ingredient of optimism and confidence and hence, in today's terms, of the 'feel	(a) Empirican Configure A manage construction system variance of the
individual's behaviour is the "vearning for novelty lithel desire to know the	successively construes the replication of events.
unknown" (p. 9). This is an important source of satisfaction as long as the	(h) Modulation Corollary: The variation in a person's construction system is
novelty is manageable. Anxiety can also come from the unexpected and the	limited by the permeability of the constructs within whose ranges of conve-
uncertain when it questions our ability to manage events which appear to be	nience the variants lie.
written about the notion of liquidity: i.e. that individuals will avoid committing	(i) Fragmentation Corollary: A person may successively employ a variety of
to a particular choice of behaviour until they feel that they can anticipate events	(i) Commonality Corollary: To the extent that one person employs a construc-
(Keynes, 1936; Shackle, 1972). Once the confidence in our ability to predict	tion of experience which is similar to that employed by another, her/his
events has been restored, we will be able to bring current events and those of the	psychological processes are similar to those of the other person.
then inform our shility to anticinate the future in a more confident manner	(k) Sociality Corollary: To the extent that one person construes the construc-
	other person
Acknowledgements	Range of Convenience – the events and objects to which a construct may usefully be applied.
	C-P-C Cycle – The decision making sequence of construction, in which the
Thanks to Larry Currie for his assistance in writing this paper.	control/choice.
Appendix A. Glossary - The Psychology of Personal Constructs (Kelly,	Appendix B. Multiple Choice Questionnaire
1955)	Age:, Sex: M F If you had to support one political party would it be: (please circle one)
(1) The Fundamental Postulate – a person's processes are psychologically channelized by the ways in which s/he anticipates future events.	Labour, Conservative, Liberal Democrat, Other (please state) Please rank the following statements in order of your agreement: 1, (most
(2) The Corollares. (a) Construction Corollary: A person anticipates events by construing their	agree), 2 (agree) and 5 (least agree). Flease make your tiftee choices for every question.
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### Rank

1. Do you believe that:

- 1.1. Anyone who is unemployed must also be workshy.
- 1.2. The unemployed may be considered, among other things, as casualties of economic policies and industrial change.
- 1.3. The unemployed are only unemployed because they do not want to work.
- 2. Do you believe that:
- 2.1. The objective of macroeconomic policy is to beat inflation.
- 2.2. There are a number of different things on which macroeconomic policy could focus, such as inflation, growth and increasing employ-
- 2.3. A policy which deals with inflation must also control the money supply with high interest rates.
- 3. Do you believe that:
- 3.1. Jobs can be created not only by the private sector, but also by a return of confidence and/or by governments increasing expenditure.
- 3.2. Jobs can only be created by the private sector.
- 3.3. For jobs to be created, labour markets must not only be flexible, but also deregulated and efficiently priced.
- 4. Do you believe that:
- 4.1. Saving can be considered a good thing if it also leads to investment.
- 4.2. Saving in times of recession can only be a bad thing.
- 4.3. Undersaving can cause, among other things, budget and trade deficits.
- 5. Do you believe that:
- 5.1. Budget deficits can only be seen as financial mismanagement.
- 5.2. Budget deficits may mean that the books are not balanced, but alternatively they may be a way of stimulating the economy if money
- is used to increase expenditure and reduce taxes. 5.3. A policy which aims to reduce budget deficits must also be one which
- cuts public spending in all areas6. Do you believe that:
- 6.1. If a policy is hurting it must also be working.
- 6.2. There are no alternatives to present government policies
- 6.3. There are always alternatives even if this means a change of direction
- or U-turn.

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- 7. Do you believe that:
- 7.1. Increasing VAT may reduce consumption, but alternatively, may also aggravate the balance of payments problem through reducing tax revenue.
- 7.2. Anything which is a tax must, at the same time, raise revenue as well as restrain spending.
- 7.3. The national debt can only be reduced by cutting spending.
- 8. Do you believe that:
- 8.1. The government's job is not to influence demand, because the economy is self regulating.
- 8.2. There may be times when the government should seek to influence demand in order to stimulate the economy.
- 8.3. Any macroeconomic policy which aims to conquer inflation, must also focus on growth and employment.
- 9. Do you believe that:
- 9.1. In times of recession, the government has a number of options to help stimulate the economy, one of which may, be increase spending on the infrastructure.
- 9.2. In order for economic recovery to be influenced by an increase or decrease in taxes, there must also be other measures running at the same time.
- 9.3. The only way to get the economy out of recession is to reduce interest rates and let them take effect.
- 10. Do you believe that:
- 10.1. Britain does not need a manufacturing base if at the same time it has enough oil and financial services.
- 10.2. Inflation is caused by the government's excessive borrowing from the banking system.
- 10.3. In order to finance increases in expenditure, the government could draw on a number of alternatives, such as, borrowing from the banking system.

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### **Appendix F**

An Example of the Keegan Articles 'In my view'

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### Appendix G

### An Example of the Inter-rater Questions on Preemptive, Constellatory and <u>Propositional Constructs</u>

Kelly suggests that there are three styles of construing: *preemptive, constellatory* and *propositional* and these styles can be discerned in the way people express themselves.

*Preemptive* constructs are characterised by their restrictive and exclusive nature. They are typified by such comments as *"anything which is a ball can be nothing but a ball"*. Thus, a preemptive construct preempts its elements for membership in its own realm exclusively. This type of construing rules out the possibility of other alternatives.

Constellatory constructs allow their elements to be members of other realms, but at the same time fixes any possible alternative constructions. For example, "anything which is a ball must also be something which is round and will bounce". This type of construing is typical of stereotyping, as elements are only allowed to be certain other specified things and not others. This is also a restrictive way of construing and does not permit further elaboration and reviewing of the construct.

**Propositional** constructs may be seen to be at the other end of the continuum. They do not fix the realm membership of their elements; they acknowledge the possibility of alternative constructions. They are typified by expressions such as "possibly", "as if", "may also". For example, "this roundish mass may be a ball, but on the other hand it could also be the sun, a pellet etc..."

Below are 30 statements expressed by economic 'experts'. Please state next to each one, whether you think it is a *preemptive*, *constellatory or propositional* type of statement.

1) anyone who is unemployed must also be work shy.

2) the unemployed may be considered, among other things, as casualties of economic policies and industrial change.

3) the unemployed are only unemployed because they do not want to work.4) the objective of macroeconomic policy is to beat inflation.

5) there are a number of different things on which macroeconomic policy could focus, such as inflation growth and increasing employment.

6) a policy which deals with inflation must also control the money supply with high interest rates.

7) jobs can be created not only by the private sector, but also by a return of confidence and/or by governments increasing expenditure.

8) jobs can only be created by the private sector.

9) for jobs to be created, labour markets must not only be flexible, but also deregulated and efficiently priced.

10) saving can be considered a good thing if it also leads to investment.

11) saving in times of recession can only be a bad thing.

12) undersaving can cause, among other things, budget and trade deficits.

13) budget deficits can only be seen as financial mismanagement.

14) budget deficits may mean that the books are not balanced, but

alternatively they may be a way of stimulating the economy if money is used to increase expenditure and reduce taxes.

15) a policy which aims to reduce budget deficits must also be one which cuts public spending in all areas.

16) if a policy is hurting it must also be working.

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17) there are no alternatives to present government policies.

18) there are always alternatives even if this means a change of direction or U-turn.

19) increasing VAT may reduce consumption, but alternatively, may also aggravate the balance of payments problem through reducing tax revenue.20) anything which is a tax must, at the same time, raise revenue as well as restrain spending.

21) the national debt can only be reduced by cutting spending.

22) the government's job is not to influence demand, because the economy is self regulating.

23) there may be times when the government should seek to influence demand in order to stimulate the economy.

24) any macroeconomic policy which aims to conquer inflation, must also focus on growth and employment.

25) in times of recession, the government has a number of options to help stimulate the economy, one of which, may be to increase spending on the infrastructure.

26) in order for economic recovery to be influenced by an increase or decrease in taxes, there must also be other measures in operation at the same time.

27) the only way to get the economy out of recession is to reduce interest rates and let this action take effect.

28) Britain does not need a manufacturing base if at the same time it has enough oil and financial services.

29) inflation is caused by the government's excessive borrowing from the banking system.

30) in order to finance increases in expenditure, the government could, draw on a number of alternatives, such as, borrowing from the banking system.

### THANK YOU

### Appendix H

Remaining Excerpts from the Results of Study One, Part One: Expressed Constructs Relating to Psychological Factors

### 29.9.91 "Unemployment is Major's secret agenda ...

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How absurd to *believe* that exchange rate depreciation can be used as a means of increasing activity or competitiveness! Nowadays, one simply lets unemployment rip ... The Major Government may have a secret agenda i.e. to *talk up* the 'victory' over inflation and the consequent 'recovery'. All *'optimistic'* forecasts about the economy are now based on *pessimistic* assumptions about unemployment. Much is riding on the translation of lower mortgage payments into actual spending, but it is an open question how much spending may be constrained by the *fear* of unemployment and by repayment and servicing of outstanding debt ... It was *fear* of the rise of the left in general and communism in particular that made capitalist economies take unemployment was an 'election loser' that continued to keep full employment on the agenda. There is certainly no *threat* on the first score at present, and most politicians now believe there is no *threat* on the second either".

### 3.11.91 "One way street to an economic dead end ...

Despite the success of Keynesian demand management in achieving full employment after the war, a generation has grown up that is in danger of adopting the inter-war *attitude* of fatalistic acceptance of mass unemployment. ...

Thatcherism was influenced by market economics in that there was no need for governments to influence the economy. The government is against the demand management of Keynes. They emphasise keeping demand down to fight inflation (one way demand management). We need an increase in demand and an increase in getting the unemployed working, but this depends on industry being *confident* that business conditions will continue to improve. Also, there needs to be an agreement on pay bargaining to avoid an increase in inflation. Unions and employers have to agree on the general magnitude of increases in pay, but they must be *confident* that if they make an agreement so will others ... Unless we generate the political will to achieve full employment and adapt our economic policies to that end, the persistence of mass unemployment in the 90's ... could once again pose a *threat* to European democracy as it did in the 30's" (John Grieve Smith).

### 19.1.92 "Budgeteering' that taxes the patience ...

When the chairman of the Conservative Party Chris Patten is quoted as wanting a responsible Budget what he means is a Budget responsible for winning the election". Keegan is branded as a *pessimistic* forecaster. *Optimists* said there would be recovery in '91, but Keegan cannot see one now either. He states "Few people would have *believed* 25 years ago that in 1992 there would be so many unemployed, so many homeless and so many begging in the streets".

### 23.2.92 "Come in Keynes for a better recession ...

The government's rediscovery of Keynesianism is wonderfully unashamed. Students should have great fun going back to the texts of the early 1980's. A whole generation of nonsense has been quietly buried. ...

"The general public have now discovered that they were *conned* by the Government. Some in the South East are experiencing unemployment for the first time. They *believed in* the Thatcher/Lawson miracle. There has been a collapse in *confidence*, this points to a deeper and longer recession". Others *believe in* the Government's propaganda too and accuse people like Keegan of *pessimism*. "History suggests there will be a recovery eventually, but I find it absurd when people accuse me of being *gloomy* when all one is doing is looking in vain for the evidence to back up the propaganda they want to *believe in*. The Governor of the Bank of England has said that the recent loss of *confidence* among exporters could affect their expenditure decisions and output plans ... The other day the PM ranted on and on at the Despatch box about flying pickets and other spectres from the past...He should not place so much *faith* in the ghosts of the 1970's as pre '79 growth rates were rather impressive by comparison with the '80's".

### 8.3.92 "Lamont's last chance for fiscal freedom ...

The best stimulus the Chancellor could give to the economy would be to announce that he wants devaluation of the  $\pounds$  within the European ERM. ...

Lawson's first law was that income tax must only ever fall. There were millions of people who wanted to *believe in* Lawson's Last Fantasy - that an Economic Miracle had been wrought in Britain by him personally. This then led to increase borrowing and then to slump. Lamont is on the bridge of the great oil-tanker of state on his own, but with an *anxious* crew".

### 15.3.92 "Situation Norman all fouled up ...

It worried me that the PM sat with a gleefully knowing smile throughout the speech; they had a great jape up their sleeves, but was it a Budget. ...

Did Lamont regret not having unveiled a mini Budget in November '91 to stimulate *confidence* in time for an election? The *desire* to wrongfoot the Labour Party has become an *obsession* for Conservatives ... It is strange that a Government that was so interested in 'money' during its early phases has failed to understand that this is a financial recession. They talk about the reductions in interest rates eventually feeding through into a recovery, but have not reduced them since early September, which means - given the falling trend of inflation - that real interest rates have been rising throughout this period. People are *terrified* out there beyond the walls where

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Chancellorial purdah takes place ... The *fear* of debt still oppresses people, more people than the immediate sufferers".

### 29.3.92 "PSBR and the charge of the Right brigade ...

The Conservatives have looked shifty in promising to take note of the ground swell of *opinion* in favour of higher government spending, while charging onwards into the valley of the 20p basic rate. ...

Margaret Thatcher attacked the public sector and this led to an erosion of *confidence* in the public sector. The financial markets are projecting high and rising public sector deficits for an indefinite period and do not *believe* the Treasury's economic growth forecasts which would bring down the deficit. There could be a great *psychological* not to say financial and political benefit from a PSBR which was re-presented so that current borrowing was seen to be but a fraction of the present global PSBR figure. Unfortunately, the moment has been missed. If there is a revised presentation of the accounts now, it will *frighten* the horses even more".

### 17.5.92 "Of God, Mammon and the Recovery ...

The Archbishop was surely right to attack those who rewarded themselves for recession with vast salary increases ... The ultimate incentive under Thatcherism was to wreck your company and be highly rewarded for doing so. ...

Cheap oil was associated with the post war boom, but so were low real interest rates, more *confidence* and enlightened economic policies and a clearer sense of international co-ordination. The government's pre-election argument was that our recession was caused by foreigners. Many people *believed* it. The Bank of England still *worries* about an underlying rate of inflation of around 5% ... There have been great efforts to *talk up* The Recovery, but the evidence for more than a few green shoots is mixed. Recent findings of survey of business *confidence* - which were taken as a bull factor - bore a remarkable resemblance to the *optimistic* picture painted by the same survey before the economy plunged into recession. This shows how 'firms' *expectations* can be quite as wrong as anyone else's".

### 31.5.92 "Towering folly of the Thatcherite dream ...

While John Major wandered around eastern Europe as the apostle of economic salvation last week, the fallout from the 1980's was all too apparent in the country he had briefly left behind. ...

The Bank of England is *worried*, among other things, about the impact of a failure to rescue Canary Wharf on the reputation of the City of London, and of Britain's chances of securing the European Central Bank. ....The 1980's *obsession* with making money rather than things seems finally to have died a death. ... High real interest rates ... *cripple* small businesses and thrusting entrepreneurs ... delay economic recovery and cause great *concern* about the fragility of the financial system".

### 14.6.92 "The Axeman cometh as services goeth ...

Who wants tax cuts when so much needs to be done to improve public sector services, let alone limit the number of sprained ankles and damaged axles from the state of the pavements and roads of our major cities?"

Keegan and other critics of the Government are so very *anxious* not to be thought of as biased or blinkered that they are almost more *anxious* than the Government to catch sight of The Recovery. "It is difficult for analysts and forecasters because they are assessing *human behaviour*, not predictable physical or chemical reactions. It is not beyond the bounds of possibility that the most deflationary policies could result, perversely, in a wild boom. ... The Government is *obsessed* with tax cuts. ... People are *terrified* of the prospect of unemployment. *Fear* is feeding on *fear*, and with some grounds".

### 21.6.92 "Murder most foolish at the Treasury ...

By bringing government together with 'both sides of industry' Neddy did a lot of good work aimed at improving the supply side of British industry. Now it has been declared unemployed. How utterly stupid. ...

Uncertainty about the prospects for output growth has a larger impact in dampening investment than *uncertainty* caused by inflation. ... In the UK there is an *obsession* with talking about recovery while actively preventing it".

### 5.7.92 "Capitalism at the Munich cross-roads ...

Communism's revenge on capitalism stalks the Munich summit ... many dangers are *feared*, from militarily disruptive tank-boot sales to the prospect of hoards of migrants disturbing the high standard of living. ...

The Munich Summit is unlikely to come up with any great strategy for resolving the problems of *lack of* business and consumer *confidence* that now beset nearly all the major trading blocs - the US, Japan and the EC. ... Policy makers still feel constrained from applying traditional Keynesian solutions by the size of their existing budget deficits. These result, in some cases, from the absurdly *self-confident* state Anglo-Saxon capitalism got itself into in the 1980's. ... The Government is trying to get the Maastricht show back on the road. Do not forget that the Maastricht Treaty which John Major *believes in* contains opt-out clauses for Britain. This means that the treaty Major wants is not quite the same as Kohl and Mitterand want".

### 12.7.92 "Moscow's spectre at the Munich feast ...

Visionaries dream of a grand economic deal, under which vast assistance and loans to the former Soviet Union and its old satellites could come to the rescue of Western capitalism in its prolonged recession. ...

In Europe there is a crisis of *confidence*. This calls for classic Keynesian action by governments to counteract the *depressing* effect of excessive savings by a *gloomy* private sector".

### 26.7.92 "Penny wise and pound foolish on sterling ...

The remarkable thing is that John Major and Norman Lamont appear seriously to *believe* what they say about the sanctity of the pound's present value....

During the first half of '92, the balance of payments deficit =  $\pm 10.25$  billion. This is at the upper end of even the most *pessimistic* forecasts such as those of Wynne Godley. The most remarkable thing is that John Major and Norman Lamont appear seriously to *believe* what they say about the sanctity of the pound's present value".
#### 13.9.92 "Don't just stand there - get a policy ...

Advocacy of greater use of fiscal policy within the ERM is becoming positively fashionable in economic literature, but somehow does not seem to get through to our rulers, be they defined as Ministers or the financial markets. ...

One cannot predict human behaviour, therefore, forecasters get it wrong all the time. The return to the Gold Standard at too high an exchange rate in 1925 showed a singular lack of proportion. So did the post-war belief of the Left that nationalising everything would solve all our industrial problems. The Thatcher government's early belief that manufacturing industry did not matter also shows the loss of proportion by policy makers. ... There are signs from industry and the City that, if anything, confidence is deteriorating further. There are cries of genuine despair. ... It is remarkable how many people believe that mysterious economic forces cannot be resisted. ... The Chancellor has acknowledged that most of the deterioration in the public sector finances which so worries the financial markets is the result of recession. The country is crying out for a major programme of spending on housing and the infrastructure".

### 27.9.92 "Why Lamont should do as the Romans did ...

The fact that the government is now pursuing more sensible economic policies - or perhaps being pursued by them is not enough. The truth is we are now the *laughing stock* of the entire financial community".

## 4.10.92 "A long and lamentable performance ...

We need the devaluation because we could not possibly, as a country, pay our way in the world at the previous exchange rate. But people who are promising a wonderful 'quick fix' are very wide of the mark as it were. ...

The Labour Party had been inhibited from speaking out on the subject of the exchange rate partly from a desire not to rock the boat of state and partly from sheer *terror* at being branded, once again, as the party of devaluation. But there was also a *fear* that, when the economic situation continued to look bleak after devaluation, the Labour Party might carry the can for the failure of yet another panacea".

## 11.10.92 "The 'something-for-nothing' Tory sham ...

The rot set in with the sham panacea of Thatcherism in 1979. It was *madness* to start the battle against inflation by doubling it and it was *madness* to argue that North Sea oil meant that manufacturing did not matter. ...

The crisis of *confidence* in the Government's handling of the economy has coincided with another development: suddenly everybody has discovered the manufacturing base".

## 18.10.92 "Adding coal to the bonfire of the Tory vanities ...

Even Winston Churchill the Younger - not known widely for his economic views spoke out last week for all the world as if it were 1940 and the call had come for him to save the nation....

Capitalism has made the *perverse* decision to celebrate the demise of communism with a *loss of confidence* in itself. Britain is in an especially severe case of the *crisis of confidence* facing most of the capitalist world at present".

## 25.10.92 "U-turn leaves Major on the hard shoulder ...

John Major suddenly realised the wisdom of Keynes's dictum that 'in the long run we are all dead'. As he and the Cabinet lurched from one botched 'policy' to another, he realised he had to pull something out of the bag. ...

There is a familiar economic adage - while cheap money may be necessary for a recovery, when *confidence* is low, reducing interest rates can for a time feel like pushing a string. Governments need to fill the gap left by *lack of confidence* in the consumer and business sectors. ... Major had the eccentric *belief* that all you need for economic growth is a deflated economy. Until recently Major's economic policy had been adhering to a punishingly high exchange rate within the ERM in the *belief* or *hope* that inflation could be removed from the system".

# 1.11.92 "Why Britain needs a 10 year plan ...

It has always seemed a peculiarly British form of *myopia* to believe that economic success depended purely on the 'dogma of the day', which seemed to change as often as the dish of the day in my favourite restaurant".

Harvey Jones wanted to find something *optimistic* to write in this article. He states "we have to raise the *aspirations* and *self belief* of our people and our companies, so that they realise they can take on the best in the world" (John Harvey Jones).

#### 8.11.92 "When Bush comes to shove, society matters ...

At a time when we may be on the verge of the most unpleasant trade war since the 1930's, we see the US and France putting themselves first even before Hillary Clinton has had a chance to inspect the White House curtains. ...

For all the *gloom* in the US the new President may actually be inheriting an economic recovery. ... Against the background of *relief* that right-wing policies are now out of fashion in the world's most important economy lies the obvious *fear* for outsiders that moving on from 'jobs for Arkansas' to 'jobs for the USA' may involve an 'America First' policy. ...We shall soon see whether it was diplomatic *caution*, when the sagacious Raymond Seitz, the US Ambassador to the UK, said that he was '*hopeful*' of a resolution to the Gatt dispute during the next 30 days, in response to the question, on whether he was 'still *confident*'".

#### 15.11.92 "The Chancellor's hollow ring of confidence ...

There was a character in a Peter de Vries novel who worked in the financial markets, and his recommendations were known as *laughing stocks*. The government and sterling have joined that category in recent months. ...

Had the PM come to the startling conclusion that the best way of reviving *confidence* was to sack the Chancellor? ...This was a Budget aimed at restoring *confidence* - not just business and consumer *confidence*, but *confidence* in the Government itself. Restoration of business and consumer *confidence* had to be achieved without *antagonising* the financial markets. The blow to *confidence* on Black Wednesday, the shenanigans over Maastricht and the general impression that this Government is a bunch of amateurs had quite clearly produced the danger of yet another downturn in the economy".

#### 22.11.92 "Hopes pinned on Norman's wisdom ...

We still live in a Thatcherised country when a politician such as Heseltine can contemplate sacking 30,000 miners with equanimity. If, for his penance, he can construct a strategic industrial policy, all will not be lost. ...

There is still a manifest crisis of confidence in this economy, but their (Major and Lamont) own principal concern in recent weeks has been with the crisis of confidence in them. It remains an open question whether *confidence* in the economy can revive under their leadership. ... UK manufacturing needs to be strengthened - government, industry and the financial sector need to work together. Here again confidence will take a lot of rebuilding. Even the most ardent Thatcherite believers of the Eighties now tend to take one aside and say 'we were conned'. The strategic problem we shall face when *confidence* finally recovers is the ability to sustain economic recovery. ... Even stout Keynesians within the Government worry about the scope for expansionary measures. ... Lamont goes on and on about his belief that the Government cannot spend its way out of recession - "it is the private sector that generates growth and creates jobs". But Keynesian economics were designed to deal precisely with a situation where the private sector was keeping economic activity depressed by saving too much and spending too little. ... The Chancellor seems to be playing the fiscal worries rather well so far - letting people infer that there may be tax increases in the Budget, without exactly *threatening* them. I know of no one who is *confident* of recovery yet and of many who worry about a further downturn. Let us hope such worries are unfounded".

## 29.11.92 "United they stand, undecided they fail ...

Don't shoot the forecasters - nobody knows whether there is going to be a recovery at all. Debt, *lack of confidence* and the *all-pervading fear* of unemployment are having an impact on the economy which is impossible to quantify. ...

The National Institute of Economic and Social Research is more *hopeful* than most about the short term economic prospect, although that is not saying much. It has higher output forecasts than others. Both the CBI and the SBE see the general economic scene getting worse before it gets better and the improvements coming slowly. ... This is a Government *obsessed* with tomorrow's headlines. ... Debt, *lack of* 

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*confidence* and *fear* of unemployment are having an impact on the domestic economy. One cannot quantify the impact of these factors". ... The Cambridge Economic Review makes commentators such as Keegan sound positively *optimistic*. They state that "The UK's already enfeebled manufacturing base is forecast to decline yet further, with a loss of some 800,000 jobs in the 90's". ... "Things could *look* more *positive* they say, with a new understanding on the part of the Government and industry of the need to harness science and technology".

#### 13.12.92 "Seven Wise Men put the Treasury on trial ...

The Treasury in its heart of hearts, knows that it got the 1980's and early 1990's wrong, both in forecasting and policy advice. But it must realise that if it gets the economic cycle wrong this time the game is up. ...

The problem in the late 1980's was that in its triumphalism, the Government *believed* it had abolished the business cycle and created a permanent boom. Now the problem is that too many people once again *believe* the cycle has been abolished, but this time followed by a permanent depression. ... Lord Weinstock of GEC says "the horizon is more *hopeful*". However, even the most *optimistic* forecasters see a continuous rise in unemployment".

#### 20.12.92 "We wish you a Merry Crisis ...

It is a measure of the strategic problems facing this economy that even in this year of horrendous recession, imports of goods and services are estimated to have risen at almost twice the rate of increase in exports. ...

Among the *myths* propagated by defenders of the previous policy of adherence to the ERM at DM2.95 was that interest rates would have to rise if we devalued, that devaluation would have no impact on the trade balance, that exports were in any case doing well and that devaluation would have an impact on inflation. ... The OECD (Organisation for Economic Co-operation and Development) *believes* that the short run effects of depreciation on domestic price and wage setting are expected to be dampened by considerable labour and product market slack. Tony Norfield an economist at Hill Samuel says "It is all very well calling for a restoration of "consumer *confidence*", but the reality is that outstanding debts exceed 100% of annual personal

disposable income. *Fear* of debt is entirely rational in the current depressed economic environment. It is hardly a "*psychological*" *factor* which is easy to brush aside ...". Keegan thinks that the "Seven Wise Men are very *concerned* about the fragility of the prospects for an upturn".

# 17.1.93 "The hard road to civilisation as we knew it ...

Labour seems to be divided between those who want to woo non-supporters at the expense of alienating the bedrock and those who wish to forget the non-supporters and enjoy perpetual ostracism from office. ...

Raising taxes would hurt consumer confidence and business confidence".

## 24.1.93 "Drinking in the last Chancellor saloon ...

Although there will be two Budgets this year few people would put their own or even taxpayer's money on Lamont's chances of delivering both - it is widely felt that he is lucky to be delivering one".

Keegan, Godley, the CBI and the Institute of Directors "believe it would be madness to raise taxes now. ... There was a conference hosted by the Institute of Economic Affairs, the right wing, 'pro-market' group which played a leading role in the rise of Thatcherism had plenty of the *faithful* in the audience, but they raised not a murmur when Godley and certain City economists said that the economic policies of the past 13 yrs had reduced the British economy to the need for the intensive care unit (imported of course). True, many of the *believers* probably subscribe to the *myth* that the policy errors of the 80's began with the latter days of Lord Lawson's Chancellorship, instead of being compounded by that strange episode. ... There is an interesting difference between the medium to longer term *optimism* of monetarists and the dire picture painted by Godley. ... *Fear* of unemployment, the debt overhang, the *caution* of the banks and the *poor outlook* in Europe are great impediments to recovery".

## 31.1.93 "No resignations please, we're British ...

The mining debacle is, unfortunately, the logical consequence of that strange 1980's double act, privatisation and deregulation. A soi-disant non-interventionist Government intervened in favour of gas; the rest is geography. ...

The Government once *believed* in leaving everything to the market. Now it is different. ... Ministers have decided that John Smith neither frightens nor ridicules them and that the only thing that worries them is a Lib-Lab deal which will never happen. Ministers are now Keynesian in the sense that they tolerate large budget deficits during recession and *believe* unashamedly in intervening to steer the economy. Since policy is made by the hour, however, they have some difficulty in demonstrating consistency of action or purpose and therefore, are absolutely hopeless at regenerating that vital Keynesian ingredient: confidence. The Government has decided to let the new inflation target guide monetary policy. The target is now 1 to 4% as measured by the 12 mth growth rate of the retail price index, excluding mortgage interest payments. This measure is close to its upper limit, but did not prevent lasts week's 1% point cut in interest rates to 6%. There is every reason to believe that having warned of the inflationary consequences of the devaluation it fought against, the Government did not take these consequences into account when setting the target. The cut was necessary and welcome, due to the *frightening* acceleration in the trend of unemployment. ... Dow continues to be *gloomy* about the chances of a recovery here. ... The cries for tax increases of course reflect *fears* about the ballooning public sector deficit".

# 7.2.93 "Workfare, whiskey and wishful thinking ...

Major's fantasies about not paying unemployment benefit unless people work are offensive and stupid. His goal of a classless society may be realised, but at the present rate it will be a nation of beggars. ...

This Government is so incompetent, regarded with such derision and held in such contempt, that it is possible to *believe* almost anything of it. ... The PM is surrounded by advisers who have seen lurches in economic policy in the past and are *horrified* at the thought that what they now concede was an excessively deflationary policy may be transformed into a wildly expansionary and inflationary one. Already they know that the 20% devaluation *threatens* the one tangible element of their counter-inflation

policy - namely the 1 to 4% target. ... The OECD *believes* that the fall in inflation is entirely what one would have expected from past relationships. Inflation is still considered a serious *threat* to the sustainability of the vast balance of payments deficit".

## 14.2.93 "Now is the Winter of our Disbelief ...

One of the more amusing aspects of the present sterling crisis is that many of the people who were telling us it was fairly valued at DM2.95 now see no reason why it should not fall indefinitely. ...

People who were telling us that the pound was OK at DM2.95, now say that the £ should be left to fall indefinitely. They blame loss of *confidence* in the Government, but it is a puzzle why they ever had *confidence* in this Government. ... In 1976 *confidence* in sterling was restored only after the markets saw that the IMF had accepted that 'enough had been done'; nothing less would have done".

#### 21.3.93 "3 million reasons for an incomes policy ...

When unemployment is 3 million and vacancies number 105,000, even the least educated, entirely untrained Cabinet minister can get the message: it is not the result of the public's unwillingness to get on its bike. ...

Chancellor Lamont keeps saying his paramount objective is to defeat inflation. He keeps saying it because the financial markets may otherwise lose even more *confidence* in him than they have already and either sell sterling or refuse to buy government securities or both. ... One cannot emphasise enough the degree of failure associated with Black Wednesday. Adherence to the rate of DM2.95 within the ERM was the one and only *hope* of our rulers for altering Britain's *inflation prone mentality*. At the heart of the *pessimism* to be found in the Bank of England Inflation report is the abject confession that the attempt to change behaviour has failed".

## 28.2.93 "The Lord's prayer for economic salvation ...

Major's economic stewardship may be a disaster, but were we really governed by Big Sister Thatcher - or was it indeed a nightmare? We are so punch-drunk from ineptitude that we should be told. ... The Government has *propagated the myth* that one did not need a manufacturing base provided one had enough oil and financial services. ... Export prospects have undoubtedly improved, but domestic *confidence* remains wafer thin".

## 7.3.93 "The 'Wet' who came in from the cold ...

Not only was Major at the Treasury during the Lawson boom, but he also took stupid risks with the RPI in his 1990 Budget. He needs to understand a little more and condemn a little less.

Major is right in *believing* he inherited a neglected manufacturing sector. That in itself is going to limit the strength of the upturn which the Government are now trying *to talk* up before the Budget. They are frightfully good at *talking up* recovery".

#### 14.3.93 "Down and out in Paris and Frankfurt ...

It was unfortunate that the currency to which other European countries tied themselves was the very Deutschmark that should have had its Michelin stars suspended with the shock of unification".

Keegan remains "extremely *dubious* that there is a recovery going on. ... The CBI while noting better retail sales, is *nervous* of claiming 'a firm upward trend' and *worried* that tax increases could snuff out what little *optimism* there is".

## 28.3.93 "Now the Chancellor is taxing our patience ...

While a slowdown in the Japanese rate of growth to 2% is seen as disastrous, an expected growth rate for the UK of 1.4% is being *talked up* by some people as a 'The Great British Recovery'. ...

Those of us who *believe* the strategic situation requires a recovery with the emphasis on exports, new investment and import substitutions are still faced with the prospect that even with devaluation, this will not be a recovery with a strong lead from net exports (exports net of imports). ... Inflation is not the problem or *threat*; unemployment and social unrest are. It beggars *belief* that Governments that are so inept at running their own countries should be queuing up to advise the former Soviet Union".

## 4.4.93 "Lamont's troubles come in threes and fives ....

The Budget passage that lingers in my mind is the one in which the economic disasters of the past two years are represented as one of the most triumphant strategies in recent political history. ...

The recovery we have seen in *confidence* rests above all on one crucial foundation the dramatic progress that we have made in getting inflation down" (Norman Lamont). "The Governor of the Bank of England acknowledged that the expected £13 billion trade deficit in manufacturing 'is *worrying* ... a reflection of the output gap in the country and lack of competitiveness; it represents a very fundamental weakness in our economy ... we are not going to be able to correct it, however, in very short order, and I *believe* it is related to deeper matters, which are the components of productivity, training, education, innovation" (Governor of the Bank of England). ... A conference took place last week under the auspices of the LSE and the NIESR. Keegan "*fears* that serious academic attempts to examine whether the Thatcher years transformed British labour market performance came up against the problem that any improvements at the micro-level were dwarfed by the *horrors* of our macro-economic performance".

## 18.4.93 "Consumption is bad for Britain's health ...

The issues at stake are of staggering importance - the difference between generating, at long last, a virtuous circle of self-reinforcing growth and slipping back a further rung down the ladder toward poverty. It is very late in the day. ...

The trouble is not just that the fall in consumption has been too small; there is the additional problem that such a fall as has occurred is likely to prove temporary because it has mainly been caused by a rise in saving, which is in turn, the result of such factors as the need to pay off debt, the fall in house prices and a general *collapse in confidence*. None of these damping factors will last forever. ... Can we have any *confidence* that, if a check to consumption does make resources available on a sufficient scale, net exports will now rise fast enough to generate a real, sustainable recovery in the economy as a whole?" (Wynne Godley).

9.5.93 "Electors give Houdini enough rope ...

You can't keep an economy down for ever - or can you? There are *rumours* that the Chancellor's main source of news about green shoots are his window box in No. 11. ... The Labour Party has sometimes given the impression that it is *obsessed* with worthy and necessary longer term measures to improve the supply side and our international competitiveness".

## 16.5.93 "Come in No. Eleven, your time is up ...

A PM who indicates, after the recent election results, that he wants to 'strengthen and broaden' the economic recovery through further deregulation has *lost touch* even with himself. ...

A lack of proportion has bedevilled the entire Thatcher/Howe/Lawson/Major/Lamont effort since 1979: they were *obsessed* by small businesses while big business and manufacturing industry were *suffering*; and when it came to the point, they contrived an economic drought in which many of their precious small businesses withered too. ... If the Labour Party is serious about taking this issue on board (economic recovery) and addressing our longer term economic problems, it needs to have more *confidence* in itself rather than *panic* the way it did recently over the issue of Lord Desai. (Even though savings have been high during the recession, because of the debt overhang and people's *reluctance* to spend in the longer term, Lord Desai pointed out that "the budget and trade deficits are a sign of over consumption and undersaving")".

## 23.5.93 "Maastricht myths and a modest proposal ...

People talk as if Europe is about to sink beneath the tides of competition from Southeast Asia - as if the only logical thing is to reduce our living standards to 'compete' with the developing world. ...

You must hand it to the Bank of England for the *fearless* way in which the new Governor is demonstrating his commitment to the battle against inflation by taking a 5 yr salary freeze. One would have thought that a Government which *believed in* market forces and counting the candle ends might have thrown the Governorship open to auction, the post going to the lowest reasonably qualified bidder. ... Our principal markets in continental Europe are in a terrible state, and more and more people, from Jacques Delors downwards are *wringing their hands with despair* about high

unemployment in Europe and a general loss of competitiveness". ... Keegan is a "great *believer in* the virtuous possibilities of international economic co-ordination".

# 30.5.93 "Black Wednesday's child is full of woe ...

Dear Ken - There was no way, whatever my *doubts*, that I could reverse Major's policy on Europe and the ERM. It was the one thing for which his Chancellorship would be remembered - Yours, Norman".

#### 6.6.93 "Judgement of Paris centres on jobs ...

What the economists who rushed into eastern Europe with their big solutions did not allow for was that the kind of macro-economy they took for granted in the West simply did not exist in the east. ...

Events all around us now demonstrate that there is a severe *collapse of confidence* about the future among the policy-makers of Western industrialised countries. Almost everyone at the Paris meeting was *anxious* to *talk up* the chances of a trade agreement by the end of the year with the US. One can but *hope* that this *buoyant mood* is well founded. But the *sanguine* predictions being made last week were all too reminiscent of *hopes* expressed in exactly the same place 12 mths earlier. ... The OECD has carried out a study on unemployment. In their report there is something for the *pessimists*. The paper tries to bridge the gap between *optimists* who know that in the long run new technology for all the *fears* it arouses is a good thing; and *pessimists* who *fear* that this time the scale of technological change dwarfs anything that has gone before. The OECD *believes* that although the present high level of unemployment is in part cyclical, it is in larger part structural. The OECD *gloomily* unveiled another batch of what are laughingly called 'growth' forecasts last week; even if EC growth returns to 3% a yr there will still be a lot of structural unemployment".

# 13.6.93 "Truth is the first casualty of Cabinet warfare ...

There were those who thought Lamont's speech would all blow over in 24 hours. Yet here we are, several days later, and most of us still remember it. ...

Much of the *pessimism* now about employment prospects in Europe is reminiscent of the *fears* expressed during the oil shocks of the 70's".

#### 20.6.93 "Ken Clarke and a fate worse than deficits ...

It is now over a decade since it became axiomatic in the financial world that the US budget deficit was unsustainable. It is still there - and much larger than it was when it *frightened* the life out of everybody. ...

The new Chancellor *believes* in common with most people that he has inherited a serious problem with the budget deficit. ... 1992, until Black Wednesday, was the year Major was supposed to be building on the wonderful achievements of Thatcherism. If one looks back at the period, the disconcerting thing is that so many people *swallowed the propaganda* - or at least <u>wanted</u> to swallow it. ... Clarke wants to cut public spending, but this is a peculiar way of controlling consumer spending - and it is excessive consumer spending which is the main *threat* to the balance of payments".

## 4.7.93 "Tax Britannica - Clarke's new credo? ...

We really have reached the stage where we must alter the *passive attitude* to high unemployment and actually do something about it. ...

Lord Skidelsky pointed out last week the obsession with inflation has caused widespread industrial damage which will take a long time to repair. By contrast, to the Chancellor, the new Governor of the Bank of England Eddie George is a passionate believer in the potentially benign effects of supreme reliance on counter-inflationary policies. However much the new Governor plays this down, it is an area of potential differences. Not only does a passionate devotion to counter inflation and restrictive monetary policy tend to militate against growth and the reduction of unemployment; excessive zeal in this matter can do so much damage to the economy that it produces new inflationary bottlenecks whenever a revival does get under way, because of the deleterious impact of deflation on capacity and technical skills. ... The OECD writes 'A more broadly based expansion is expected to gather pace in the second half of the year as confidence strengthens further, corporate balance sheet adjustment tails off, spending on consumer durables gathers pace and de-stocking ends. ... All in all, real GDP growth could pick up to around 3% in 1994'. ... Even with its relatively optimistic economic forecast the OECD sees little hope for employment. ... Add the Clarke tax threat and the outlook for jobs could be even grimmer. ... Bryan Gould, Chairman of the new Full Employment Forum - states "Nothing is more symptomatic

of the Left's *loss of intellectual self confidence* and political effectiveness than its abandonment of full employment as the central objective of political action"".

## 11.7.93 "The magnificent G7 agree not to disagree ...

G7 Ministers harped on about the 'structural' nature of unemployment, as if the whole world were losing out to 'sunrise' industries on Mars. ...

Most observers *feared* that if the Uruguay Round broke down, this would be the signal for an outright rush towards protectionism. The background to such *fears* was, of course, the way the capitalist world has celebrated the collapse of Communism with a *crisis of confidence* of its own making. ... In 1979 the ERM was inaugurated as a 'zone of monetary stability'. The way the ERM has been run since the fall of the Berlin Wall has in fact been a source of economic instability. This instability has itself prevented the West from opening up its markets to the former Soviet bloc - out of sheer *terror* of the impact on its own manufacturers and farmers ..."

## 18.7.93 "Axing and taxing: The poor man's answer to deficit ...

People should beware the current vogue for slashing public spending in the strange *belief* that this will somehow restore economic growth. ...

The idea that taxes should have to go up seems to be almost as deeply embedded in the *popular psyche* as it was in the last Labour Party manifesto. ... The British government is also *worried* about the burden of high real interest rates on the budget deficit. ... We are experiencing an extraordinary bout of European *pessimism* - epitomised by such strange ideas as the *belief* that we should *worry* about improved economic performance in China and South East Asia, instead of welcoming their rising living standards, which also provide markets for our products. ... Both the unemployment problem and the *concern* about budget deficits can be alleviated, even solved, by growth policies. The only real *fear* on that front is inflation. ... Even the capital markets could be made *happy* if the attack on inflation were systematised, and not dependent on chronic recession".

## 25.7.93 "How strange Clarke's change from Major to Minor ...

While Clarke Major would not like the pound to rise further, Clarke Minor is watching the exchange markets, hoping to get a good rate for his holidays. ...

Clarke Major is in the honourable tradition of mainstream, consensus British politics, solidly in favour of a strong manufacturing industry and the quest for a decent society. Clarke Major is vehemently anti-Thatcherite, remembers his roots and would like to do something for British society; he agrees with Sir Gordon Borrie and the Commission on Social Justice that sustained economic growth and a return to full employment are essential to the successful conduct of the welfare state. Clarke Minor is an altogether different animal. In common with so many of his Cabinet colleagues, he is anxious to appease the right wing of the Conservative Party, and the Europhobes, whom he dismisses in private but courts in public. This highly political motive makes him come out with such self-evident nonsense as 'labour-markets are the crux of Europe's economic woes - over-rigid, over-regulated and over-priced'. Our new Chancellor chose Munich for this particular capitulation to the right. While he was doing so, a new report from the OECD casts doubt on the 'regulation' explanation of unemployment, emphasising that 'to account for persistence, it has to be assumed that employers are faced with continued *uncertainty* about future demand and output'. ... In his avid pursuit of the potential right-wing vote, the Chancellor once again subscribed to the view that the reduction of the budget deficit was the economic priority of the year. This was in spite of the fact that it was the first occasion on which he felt confident enough to claim that we were experiencing 'an all-round recovery' at all".

## 10.10.93 "Chancellor shows his Freudian slip ...

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Kenneth Clarke subscribes to the view that, if you draw attention to a mistake, everyone will notice. Keep going, and there is a fair chance you will get away with it.

In the 1981 Budget, the Government raised taxes although the economy was already in a severe recession. This flew in the face of the conventional Keynesian wisdom, which was - and I trust still is - that when the economy is in a hole, it is unwise to dig deeper. The 1981 Budget has acquired *mythical* status within the Conservative Party, as heralding the end of Keynesianism and the beginning of the recovery. I use the word 'mythical' advisedly; it is a complete myth that the 1981 Budget caused the recovery. What helped the economy was the subsequent, and quite dramatic easing of monetary policy and depreciation of the pound. ... In Washington recently, Clarke rightly called for 'a recovery driven by investment and exports, not consumption'. He then, more dubiously, added 'by the private sector, not the State'. ... The fact of the matter is that there is still not enough *confidence* around to signal a reliable revival in investment. But there is much that could be done, and needs to be done, in the form of public construction projects".

# 14.11.93 "Even central bankers worry about jobs ...

The situation in Europe is *frightening*. While politicians and economists continue to incant piously about 'convergence' and the elimination of budget deficits, people out there are *scared* for their jobs. ...

Messers Howard, Lilley, Redwood and Portillo - are *passionate in their belief* that their political mistress did not go far enough, and should have brought back the workhouse".

#### 5.12.93 "Matey Ken's economics of the saloon bar ...

The coming attack on the unemployed and invalidity claims strikes me as *mean*, *nasty* and potentially *dishonest*, conjuring up unpleasant echoes of the way the means test was operated between the wars. ...

But a rip-roaring consumer boom is not what we face and when the businessmen who have been cheering Clarke's small measures to help them wake up to what the Lamont/Clarke Budget is likely to do to consumer *confidence* next spring, they may change their tune".

## 12.12.93 "Revealed: The Chancellor's real tax rise ...

The combined effect of the 1993 Budgets is to raise taxes by between £15bn and  $\pounds$ 17bn over a three-year period, equivalent to a 10 pence in the basic rate of income tax. This is sensational stuff. ...

The Chancellor, in common with many of his colleagues, is *obsessed* with the *myth* of the recovery that not only followed, but in their view was caused by the 1981 Budget.

... Economies that are in retreat for *obsessive fear* of inflation or temporary budget deficits are not well placed to make the leap into the 21st century".

## 9.1.94 "Illegitimate children and other Bastards ...

I sympathise with those who suddenly find their investment income is not what it was, but this is a consequence of the fact that inflation is not what it was either. ...

The relevance of the recent fracas over family values and my loose acquaintance Tim Yeo to the economy is simple: *confidence* in the Government affects a host of economic decisions, and the latest farce is likely to reduce the already fragile level of *confidence* in the Government even further - at just the time when people had *hoped* economic recovery was finally getting under way. ... One of the ironies of the Government's present position is that, although the statistics certainly point to a minor economic recovery, few people one meets actually seem to *believe in* the recovery. Nor is their *belief in* what the Government claims assisted by *depressing* company results from popular High Street names such as Dixons".

#### 16.1.94 "Lies, Big Lies and Government tax statistic ...

Most people knew VAT offset much of the putative benefit from lower direct taxes. But not many realised that the erosion of tax allowances had such a devastating impact on the direct tax burden. ...

We are talking about the policy John Major and Norman Lamont had thrust upon them on Black Wednesday and which, at least until the advent of the Lamont/Clarke tax package, has produced a *recovery of confidence*, and led to higher output, lower unemployment, better trade figures and low inflation".

## 23.1.94 "Reports of a Boom are greatly exaggerated ...

Seldom have I seen one of the main tenets of this Government's economic *beliefs* so effectively demolished as in a recent article by the economist Frank Blackaby: 'All Conservative chancellors have repeated the dictum: 'We cannot spend our way out of a recession'. The exact opposite is true. There is no way that output can rise unless some category of real expenditure also rises: that is a simple statistical fact'".

#### 27.2.94 "Chancellor with sax appeal misses the beat ...

Are we to interpret Clarke's *obsession* with the tenor sax as a sign that he is too narrow in his approach to economic policy? One could argue that he has a greater sense of the economy's need for fine tuning. ...

For a Chancellor who has built his matey reputation on a no-nonsense approach, and on the *popular belief* that he does not understand economics, this could be very damaging indeed".

## 27.3.94 "Europhobia and Major's fear of the Job Centre ...

The question arises: can the economy save John Major? There is no shortage of economic forecasts. But some joke that they not only fail to forecast the future - they can't even forecast the past. ...

The growing *fear* among the professionals is that, if consumers do make the recovery sustainable, they will have to be stopped because the supply side cannot cope".

## 17.4.94 "Transparency that you can't quite see through ...

By allowing important disagreements between himself and the Governor of the Bank of England to be aired publicly, Kenneth Clarke seems to be reining in his own powers".

"I am *confident* that the minutes of these and future meetings will confirm the Government's commitment to sustained low inflation and sound monetary policy" (Chancellor Clarke). ... "It was plain for all to see that the Chancellor, who had been so *bullish* about the economy in his many public statements earlier this year did not in conversation with the Governor have quite such *confidence* in the ability of the economic 'recovery' to withstand his own tax increases. ... The reason why the new transparency strengthens the Bank of England's hand is that it is going to be very difficult for the Governor to be persistently overruled without causing a *collapse of* what *confidence* the financial markets have left in this Government and speculation about the Governor's resignation".

## 24.4.94 "A long crusade for white knights in Russia ...

The rule of law, the great assumption of Western capitalism, is conspicuous by its absence and the widespread *belief* is that, given the confusion of the legal system, the black economy fills a necessary vacuum".

## 1.5.94 "A modest proposal to snare the floating voter ...

The last *hope* of John Major and his Ministers is to fly selected members of the British electorate over to Russia and show them that there are people who are a lot worse off. The *confidence* of industrialists is *worryingly* thin. They may be happy about the recent trend, and that for the next four months, but '*uncertainty* about demand' is a major factor inhibiting new investment".

#### 8.5.94 "The Chancellor deserves praise, not burial ...

I has to be said that our hero was a bit vague about how the welfare state would be safe in his hands. But he distanced himself from Portillo and Lilley. Clarke would be a great leader of the Opposition. ...

Clarke asserts that: "The challenge faced by governments is to ensure that the *fear* of change does not impede that change. A strong welfare state has an important role to play in reducing these *fears* - the knowledge that a period out of employment will not necessarily mean hardship"".

## 29.5.94 "Why Labour must not give hostages to fortune ...

In its sudden *conversion* to the wonders of manufacturing industry and scientific research, education and training, the Government is like a gangster who has finally decided to become respectable. ...

One of the principal aims of most people, in their public and private lives, is to try to produce some kind of order out of chaos. I continue to believe that the Major Government reached the point of no electoral return on 16 September 1992".

## 3.7.94 "Tories and the law of diminishing incompetence ...

It is early days yet, but so far my impression is that Tony Blair will not be a sitting duck for such panaceas as abolishing the public schools or introducing some revolutionary tax system....

Clarke and his merry men's only *concern* seems to be that the 'feel-good factor' has not yet permeated through to the electorate itself. There is a simple explanation for that: whatever they *feel* about the economy, people do not *feel good* about this Government".

## 14.8.94 "Time to rejuvenate the Bretton Woods twins ...

The IMF and World Bank are facing their third age, from 50 to 74, bringing reduced economic activity and healthy leisure pursuits. It will be their fate if nothing more radical comes than the Volcker report. ...

The IMF and the World Bank often argue that their seal of approval is needed by the private sector, even when they do not put much money in, to create the *confidence* which financial markets need, by means of guarantees or co-financings. This is increasingly *doubtful*? (Christopher Johnson).

#### 21.8.94 "Golden days spent stuck in the woods ...

Portillo seems to have been allowed a kind of August dictatorship of the airwaves, to acclimatise people to what it would be like if he took over the Conservative Party. You have been warned. ...

Business *confidence* is a tender plant. ... The inflation figures continue to be somewhat less sensational than the Bank of England *fears*, although that does not rule out the realisation of a different *fear*: that manufacturing capacity was so damaged in the 1980's and early 1990's that the economy could suddenly become very overheated indeed over the next few years if consumer demand carried on apace and investment did not pick up. ... It is the nature of the business cycle (i.e. the *human behaviour* of business to invest and disinvest in concert".

# 4.9.94 "Landmines on the path to Labour victory ...

There is an added difficulty facing a future Labour government. Even at these levels of unemployment, there are *disturbing* reports of shortages of skills and restraints on production caused by lack of capacity. ...

The British economy ... requires some form of incomes policy to reinstate the opportunity to conduct broader economic policy in a virtuous circle, where businessmen have the long-term *confidence* to invest".

## 6.11.94 "Globalisation makes the world go round ...

It is difficult for governments anywhere to act in isolation. Opposition parties as well as governments are adopting policies that *appeal* to international investors - this tends to be a very conservative policy. ...

The recovery in world trade during the last year also boosted our economic performance, raising exports and business *confidence*. ... Although savings are at a high level, *uncertainty* about the future, plus the prospect of higher taxes and interest rates over the next year mean there is no '*feel-good' factor*. Thus companies will think twice before they invest. ... Tighter policy is set to slow the US and UK economies from their recent above trend growth, thereby reducing inflation *worries*. ... Even though governments throughout Europe are either cutting spending or raising taxes, deficits are likely to remain high. Thus markets will *worry* about the inflationary implications of high budgets. And these medium-term *worries* will reinforce the *caution* of central banks to keep monetary policy tight. And, judging from their Inflation Report, the Bank of England certainly remains *cautious*" (Dr. Gerard Lyons).

## 13.11.94 "Accidental birth of a very British recovery ...

The interesting thing is the terrible state the economy was in before the unsought devaluation of September 1992, and how necessary that devaluation was. We now seem to be witnessing the first fruits. ...

What matters for the average household is good economic figures for the average household, and the *confidence* that these are here to stay. It is evident that *insecurity* and lack of *confidence* are now widespread in the 'recovering' economies of the US

and UK. ... The Treasury's Panel of Independent Forecasters comprises a wide range of economic standpoints. The 'appropriate' policies to back their *optimism* about unemployment include allowing time for the capital stock of this country to be rebuilt and *common sense* about the exchange rate. ... The Chancellor can deny or contradict as long as he likes: the British economic recovery was infinitesimal until the *confidence* of industrialists and consumers alike began to be rebuilt after the interest rate reductions that followed Black Wednesday. (We should, of course, never forget that the immediate effect on *confidence* was in fact bad, because of the demonstrable ineptitude of the Government) ...

It would be disastrous at this stage, as Howard Davies, Director-General of the CBI, said last week, to embark on the old cycle of interest rate increases and exchange rate appreciation. Yet many analysts are already in the process of *talking* interest rates *up* again. A notable exception is Roger Bootle, of Midland Global Markets, who warned recently that this would damage *confidence* 'in the real economy, if not in the financial markets'. The Government has stumbled by accident on a reasonable macroeconomic policy. It may, as American experience might suggest, have precious little to do with election results and *how people feel*'.

# 20.11.94 "Structural fault in the Governor's jobs theory ...

The fact is that there are plenty of low-skilled jobs to be done if the climate was favourable to private enterprise and the public sector was not so *obsessed* by sacking people left, right and centre. ...

The present 'improvement' in the labour market is characterised by far more *insecurity* about jobs; much of the increase in part-time working is the result not of people's *spontaneous desire* for part-time work, but of the absence of full-time jobs. ... Job *insecurity* has even spread to the Treasury and Bank of England, where there was once an implicit contract that a job, or at least employment for life. ... While the prevailing *pessimistic* assumption is that in Britain and EC generally, unemployment rises to ever higher peaks in successive economic cycles, 'it is *encouraging* to note that in the current cycle unemployment peaked at a lower rate in the previous cycle {in the UK that is} and started falling much sooner - within a year of growth resuming'....

The kind of *worries* that are now expressed in almost every pub or club discussiontechnology, competition for the Far East and so on - were also fashionable in 1992. ... The combination of economic policymakers fighting the last inflationary war but one, and *insecure* labour markets as a way of life, is no doubt contributing to the lack of what analysts call *'the feel-good factor'*.

## 11.12.94 "If the economy's so hot, why do we still feel so cold? ...

When Ministers express surprise at the gap between the Government's political and economic success, the electorate expresses astonishment that its leaders should be at all surprised. ...

A government that is planning to raise taxes in order to cut them does not have a lot of moral authority. ... [The government's argument for raising interest rates 'is that they have to raise interest rates now in order to *keep* the economy in better shape than it has been for decades'. In putting this argument across, they have what is known in the trade as a *credibility* problem. Opinion poll after opinion poll suggests that most people do not share their *belief* in the present 'strength' of the economy, let alone subscribe to the view that things should be kept like this. The 'Maples Memorandum' recently confirmed these *doubts*. Too much damage has been done to too many British people and institutions for too long. When Ministers express surprise at the gap between the Government's political and economic success, the electorate expresses astonishment that its leaders should be at all surprised ...

It was clear from his interview.. that the Prime Minister, as he goes down with the ship is *obsessed* - *absolutely obsessed* - by inflation, even at these negligible levels ... [the Chancellor and the Governor should take note] of US Federal Reserve chairman Alan Greenspan's refusal to be tied down to a specific inflation target. That might, he said, 'create an unnecessary degree of *rigidity*'. Well, that's what we have here. The Governor keeps playing with the 'markets', trying to *anticipate* their *concerns*, and conducting '*pre-emptive strikes*'. But these are the kind of people who say 'Right, we've had that increase. Now when's the next one?' ... As far as the markets are concerned, one good *pre-emptive strike* deserves another".

# 22.1.95 "Hard times and a tale of two economies ...

One reason our export performance has been respectable is that capacity built up in what is still Great Britain by overseas firms is now being used to send exports to Europe. ...

I have often been struck by the *difference between the way others see the Japanese* economy and the way the Japanese see themselves ... whereas others see them as an economic giant, they tend to regard themselves as possessing a vulnerable economy, especially with regard to their dependence on imported fuel and raw materials. ... Britain's two economies are the one people live in and the one economists write about".

#### 29.1.95 "Downing tools just as the engine starts ...

While there is gloom at competition from cheap consumer goods from the 'emerging markets', the fact is that they are indeed 'markets'. They need investment goods and the tools that make investment goods. ...

A number of the machine tool manufacturers were *worried* about capacity shortages, and some said the picture on the ground was now of greater investment activity than was being picked up by the CBI survey. We must wait and see. But the investment prospect is still clouded by *worries* over future prospects for demand, and *concern* about 'inadequate rates of return'. Eddie George thinks industrialists are suffering from '*money disillusion*' and are miscalculating the rates of return they need now that we have that famous 'low inflationary environment'. Nevertheless, *concerns* about higher interest rates do not seem to have disappeared".

#### 5.2.95 "Pesos from heaven pose problems on earth ...

The rescue package is designed to bail out not only Mexico, but also US investors who poured money into the country via 'mutual funds' in - I nearly wrote 'greedy' - pursuit of higher interest rates. ...

Canada, which is host to the Group of Seven summit this year, *worried* both about the competitive *threat* from the high-tech US and the competitive *threat* from low-tech Mexico when negotiating over the North American Free Trade Area".

#### 25.6.95 "Clarke's bid for summit of common sense ....

The OECD predicts that interest rates here will rise to 8 per cent. But it is probably taking too much notice of the financial markets it once largely ignored, and could take a leaf out of Clarke's book. ...

The Governor has given a warning about the *threat* to sterling (which turned out not to be *threatened* at all). ... Clarke stated that the financial markets had shown a tendency to overestimate the level of interest rates required to meet the Government's inflation target. ... The unexpected resignation of the PM as Conservative Party leader has set the cat among the pigeons, and political *uncertainty* could well make the Governor's *fears* about the pound seem more realistic".

## 30.7.95 "Ken and Eddie's double act brings the house down ...

The curious thing about our present Chancellor and Governor is that they say what they mean and mean what they say. This has taken many longer-term students of economic policy by surprise. ...

According to government officials, the Confederation of British Industry surveys were much more 'optimistic' and realistic and heed should be paid to them. "Exports, while buoyant are not as buoyant as had been *hoped*, because the second quarter of the year has seen a check in demand in our important continental markets, notably France and Germany".

## 3.9.95 "A summer of close encounters ...

Debate has shifted in recent years from admiration for the success of Japan to energetic denigration. ...

The French *belief* in a decent public sector can be witnessed every year as one returns to the same spots and finds genuine improvements to the infrastructure".

## 19.11.95 "Control freaks have a field day - over here and over there ...

A central aim of Clinton's foreign policy has been to tailor the rest of the world to the cloth of US industry. ...

Although now and again there are *worries* about the US economy and the dollar in the markets, the truth is that the US can usually do what it likes and the rest of the world

has to put up with it. That is indeed, one reason why there are *worries* in the markets. ... Theo Waigel, the German Finance Minister, has come out with a remarkable scheme for a 'stability pact' to embrace fiscal policy in Europe. The key proposal confirms all the worst *fears* of 'Euro-sceptics', involving, in effect, greater co-ordination and control of fiscal policy (taxation and public spending) than is compatible with, say, Kenneth Clarke's famous attempt to assuage *fears* about losses of parliamentary sovereignty. ... The PSBR and *worries* about the financial markets impose restraints; (on the budget strategy) but the sluggishness of the economy is prompting calls from many sides for an old-fashioned boost to demand".

## 3.12.95 "Budget? Fudge it - or how to make a silk purse out of a sow's ear ...

The 'human face' on this Budget seems to amount to no more than playing with mirrors. ...

Clarke had to extend the 20p band if he was to remain in the Party, and although even he is tiring of the meaningless phrase 'middle England, had had to produce a Budget to *please* the marginal voter on the Basingstoke by-pass - who usually votes Tory but is flirting with Tony Blair, and who is *worried* about taxes, savings and the cost of old age, but also wants better public services".

#### 7.1.96 "Deep depression and a severe weather warning for the Tories ...

This Government is too *bitter*, *twisted* and *exhausted* even to stagger. It has all but given up. ...

Most Maastricht-orientated European governments (are) cutting budget deficits in the *hope* that long-term investment rates will fall and everybody will be *happy* ever after. Key rates have fallen with no noticeably buoyant effects on the sluggish economy of Europe - our key export market. ... I conclude that, although higher spending may sustain a number of 'return to *feel-good factor*' reports, people are going to continue *feeling pretty bad* about the economy and the government. .... Our ailing Government continues to be *obsessed* with making us into a kind of Hong Kong of Europe".

### 11.2.96 "Europe is in trouble if Germany keeps on mentioning the war ...

It would be disastrous for the strategy of UK plc if it were banned from the so-called single currency area. ...

The German Chancellor had publicly expressed *concern* about the danger of a fresh outbreak of war in Europe if we did not all knuckle under to plans for a common European currency. ... As for the Belgian Prime Minister's remarks (that countries addicted to competitive devaluation might be penalised and indeed thrown out of the 'single market' if they did not sign on the dotted euro line by 1999), it is no doubt *fear* of such a reaction that has been driving John Major's campaign for a proper study to determine the working relationship between those countries that end up within and outside the euro area. ... The *obsession* of Europeans with Europe was baffling to those who had flocked to Davos from all corners of the earth. ... The disturbing consequences of the mix of globalisation, creatively destructive technological progress and dubious economic policies were beginning to *worry* the globalisers themselves''.

#### 18.2.96 "Europe may be in crisis but we need not resort to war ...

The Keegan position is that it would probably be wise to delay the EMU deadline and relax the criteria. ...

It was one of the ironies of the 1980's that the Government insouciantly destroyed so much manufacturing industry, and then made a *laughing stock* of the system of government in order to drum up a few dubious exports to an enemy. The near coincidence of the unveiling of the Scott and the announcement of a dramatic fall in unemployment and a *cheerful* inflation forecast from the Band of England brings to mind a classic diversionary tactic of the first Thatcher Government. ... The (inflation) figures were good news, even if they did not justify the *hysteria* with which they were greeted in some sections of the press. However, one should be *cautious* about the unemployment figures. ... It is a measure of how far standards have fallen and *expectations* been shattered that an unemployment rate (7.9%) over three times the level regarded as politically intolerable in one's youth should be greeted as miraculous. It is also a sign of *desperation* that the possibility of a further one-quarter percentage point cut in interest rates should be heralded as a potential turning point in this discredited Government's fortunes. ... The Government should take note of a recent Gallup poll: this suggested that 81% of pension and insurance fund managers *expected* an improvement in economic conditions, but 95% assumed Labour would win the election. ... The Bank (of England) is clearly *worried* about the impact on us of the slowdown in Germany and France. ... A key issue is whether the *confidence* of European consumers and businesses will recover in 1996, in the face of continuing high unemployment and fiscal consolidation. ... The pro-cyclical fiscal squeeze on the Continent somehow might not prove as disastrous as many of us *fear*. ... Nobody *worries* when deficits rise drastically in wartime; on the whole, however, it would be nice to solve Europe's economic difficulties without resort to war. ... For all the talk of an 'export' and investment-led growth strategy', this Government is back in the oldfashioned business of *hoping* for a pre-election consumer boom. ... What Blair and Brown should be most *worried* about if they win is the pressure for the lid to come off the kettle which at present contains all those pressures in the public sector - in other words a thoroughly old-fashioned crisis, which could in due course *threaten* the pristine beauty of the Bank of England's inflation forecasts".

#### 25.2.96 "Crisis, what crisis? The Ministry of Half- Truths would like to know ...

It was an admission that two British Chancellors knew they could not be trusted - or trust themselves. ...

The *belief* that 'the Chancellor was right and the Governor was wrong' on monetary policy is now widely shared. ... The question arises whether, in its *obsession* with the inflationary trees, the Bank has failed to notice the non-inflationary wood. Eddie George wants to alter *expectations* and pronounce the arrival of a permanent era of low inflation. ... Huge dents could be made in unemployment, and the sense of economic *well-being* would be much stronger, if policymaker felt *confident* enough to use the tools of economic management with greater freedom. ... Having been a *cautious* central banker for much of his life, Sir Kit McMahon is not calling for a repetition of the Heath/Barber and Thatcher/Lawson booms. But he notes that we may be in an anomalous situation, with people now *expecting* more inflation than is likely; policy being too *cautious*; and 'borrowing, investing and spending decisions lower than with hindsight it will be clear they should have been - which means of course, a brake on economic growth'. ... Economic commentators such as myself are sometimes

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accused of *pessimism*, but it is our *innate optimism* that keeps us in the business. ... A poll recently conducted for (Chancellor Kohl) showed that, although most Germans are against monetary union, most *expect* it to happen".

#### 10.3.96 "Boom or no boom, Clarke's hopes have been busted ...

The allegedly 'sound money' people of the Conservative Right are the ones preaching laxity on inflation. ...

'It's always the good who *feel* rotten. Pleasure's for those who are bad'. When the Russian poet Yesenin wrote these words in 1923, he can have had little idea how phrases such as 'feeling good' and 'feeling bad' would dominate the economic debate of the Nineties. ... The Financial Times of 18 May 1990 had suggested that Labour would 'lose its gamble' if the Tories could get what was 'known to Neil Kinnock as the 'feel-good factor' positive again'. ... So much damage has been wreaked over the years, however, that most people *feel bad* about this Government and *insecure* in themselves ... the Chancellor has presided for a long time over a squeeze on real incomes, to help people feel bad. Widespread insecurity about employment has done the rest. ... Conservative *hopes* are resting on ... a consumer boom. ... The Chancellor is essentially relying on low interest rates and talk - talking up confidence so that people spend. ... The Chancellor is perfectly at liberty to talk up consumer spending and the economy, just as Gordon Brown is perfectly at liberty to dwell on people's fears of job insecurity. ... Talking up house prices is inconsistent with Clarke's general boast that 'good economics is good politics' and his claim to be serious about breaking the *inflationary psychology* for good. It was in the context of fund managers' belief that Britain has not defeated inflation that Clarke indicated to the Daily Telegraph that becoming part of the proposed Emu could be one way of restoring *confidence* in 'British' monetary policy. ... Applebaum attributes the absence of the 'feel-good factor' to the absence of inflation. ... The peak for the 'feel-good factor' was probably to Lawson boom. ... The Governor could make life very difficult for the Government if it over-does 'talking up' house prices".

## 17.3.96 "Time for Canny Ken to listen to Steady Eddie ...

The Chancellor is out on a limb over the single currency while the Governor openly expresses his *doubts*....

Hints of Chancellorial resignations do not inspire *confidence*. ... The Governor is becoming increasing open in expressing his *doubts* about (a single European currency). ... The Chancellor has been a *passionate* European all his political life. ... It seems odd that the Chancellor should have got himself into a position where he might *threaten* resignation. ... The Governor ... is likely to be *happy* with exchange rates as they are, he *believes*, as do most economists, that they are an important tool of policy in the long run. ... We know the strength of the Franco-German political commitment to Emu, but every day that goes be casts *doubt* on their ability to meet their own economic criteria".

[The opinions/comments of the following politicians and commentators have been examined:

William Keegan, John Grieve Smith, Chris Patten, Nigel Lawson, Norman Lamont, John Major, Wynne Godley, Kenneth Clarke, John Harvey Jones, Raymond Seitz, The Cambridge Economic Review, Lord Weinstock, The OECD, Tony Norfield, The CBI, The Dow Jones, Eddie George, Lord Desai, Lord Skidelsky, Brian Gould, Frank Blackaby, Christopher Johnson, Dr. Gerard Lyons, Howard Davies, Roger Bootle, Alan Greenspan, Theo Waigel, Tony Blair, Sir Kit McMahon, Anne Applebaum, Sergei Yesenin].

#### 4.31.1 Summary of Part A Results

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Table 4.1 below shows a selection of the expressed, bipolar constructs relating to emotional or psychological factors used by economic commentators and politicians in the above excerpts with their accompanying frequency.

# Appendix I Examples of the SPSS Windows Raw Data

	polaff	subjects	age	sex	qu1pre	qu1con	qu1pro
1	1	1	30	0	1.00	2.00	3.00
2	1	2	34	0	1.00	2.00	3.00
3	1	3	52	0	2.00	1.00	3.00
4	1	6	44	0	1.00	2.00	3.00
5	1	14	49	0	2.00	1.00	3.00
6	1	19	52	0	2.00	1.00	3.00
7	1	25	. 50	0	1.00	2.00	3.00
8	1	28	37	0	1.00	2.00	3.00
9	1	5	50	0	1.00	2.00	3.00
10	1	7	43	1	1.00	2.00	3.00
11	1	8	47	0	1.00	2.00	3.00
12	- 1	9	27	1	2.00	1.00	3.00
13	1	10	45	0	1.00	2.00	3.00
14	1	18	37	0	1.00	2.00	3.00
15	1	23	64	0	1.00	2.00	3.00
16	1	24	34	0	2.00	1.00	3.00
17	1	4	45	0	1.00	2.00	3.00
18	1	. 12	35	0	1.00	2.00	3.00
19	1	11	45	0	1.00	2.00	3.00
20	1	30	57	0	2.00	1.00	3.00
21	1	31	56	0	2.00	1.00	3.00
22	1	42	43	0	1.00	2.00	3.00
23	1	43	53	0	1.00	2.00	3.00
24	2	17	50	0	2.00	1.00	3.00
25	2	15	40	1	2.00	1.00	3.00
26	2	16	46	0	1.00	2.00	3.00
27	2	26	62	0	2.00	1.00	3.00
28	2	27	31	0	1.00	2.00	3.00
29	2	32	49	0	2.00	1.00	3.00
30	2	34	58	0	1.00	2.00	3.00
31	2	36	45	0	1.00	2.00	3.00
3'2	2	37	39	1	3.00	2.00	1.00
33	2	38	47	0	3.00	2.00	1.00
34	2	39	35	1	2.00	1.00	3.00

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	polaff	subjects	age	sex	qu1pre	qu1 con	qu1pro
35	2	13	50	0	2.00	1.00	3.00
36	2	40	60	0	2.00	1.00	3.00
37	2	44	57	0	2.00	1.00	3.00
38	2	46	44	1	2.00	1.00	3.00
39	2	47	56	0	2.00	1.00	3.00
40	2	48	51	1	3.00	2.00	1.00
41	2	49	38	1	2.00	1.00	3.00
42	2	51	55	0	3.00	2.00	1.00
43	2	53	39	0	1.00	2.00	3.00
44	2	54	35	1	2.00	1.00	3.00
45	2	56	50	0	1.00	2.00	3.00
46	• 3	20	29	1	1.00	2.00	3.00
47	3	22	57	0	3.00	2.00	1.00
48	3	. 21	64	1	2.00	1.00	3.00
49	3	29	40	1	1.00	2.00	3.00
50	3	33	64	0	2.00	1.00	3.00
51	3	35	46	1	1.00	2.00	3.00
52	3	41	44	0	2.00	1.00	3.00
53	3	45	40	0	1.00	2.00	3.00
54	3	50	48	0	1.00	2.00	3.00
55	3	52	48	0	2.00	1.00	3.00
56	3	55	30	0	1.00	2.00	3.00
57	3	57	43	0	2.00	1.00	3.00

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	qu2pre	qu2con	qu2pro	qu3pre	qu3con	qu3pro	qu4pre
1	1.00	2.00	3.00	1.00	2.00	3.00	1.00
2	3.00	1.00	2.00	1.00	2.00	3.00	2.00
3	` 1.00	2.00	3.00	1.00	2.00	3.00	2.00
4	1.00	2.00	3.00	2.00	1.00	3.00	1.00
5	1.00	2.00	3.00	2.00	1.00	3.00	1.00
6	2.00	1.00	3.00	1.00	2.00	3.00	2.00
7	1.00	2.00	3.00	1.00	2.00	3.00	1.00
8	2.00	1.00	3.00	2.00	1.00	3.00	2.00
9	1.00	2.00	3.00	1.00	2.00	3.00	1.00
10	1.00	2.00	3.00	1.00	2.00	3.00	1.00
11	2.00	1.00	3.00	1.00	2.00	<b>3.00</b>	1.00
12	2.00	1.00	3.00	1.00	2.00	3.00	2.00
13	1.00	2.00	3.00	1.00	2.00	3.00	1.00
14	1.00	2.00	3.00	1.00	2.00	3.00	· 1.00
15	2.00	1.00	3.00	1.00	2.00	3.00	1.00
16	2.00	1.00	3.00	1.00	3.00	2.00	2.00
17	1.00	2.00	3.00	1.00	2.00	3.00	1.00
18	1.00	2.00	3.00	1.00	2.00	3.00	1.00
19	1.00	2.00	3.00	1.00	2.00	3.00	2.00
20	1.00	2.00	3.00	1.00	2.00	3.00	1.00
21	1.00	2.00	3.00	1.00	2.00	3.00	2.00
22	2.00	1.00	3.00	1.00	2.00	3.00	1.00
23	1.00	2.00	3.00	1.00	2.00	3.00	1.00
24	2.00	1.00	3.00	2.00	3.00	1.00	1.00
25	3.00	2.00	1.00	3.00	2.00	1.00	3.00
26	1.00	2.00	3.00	1.00	2.00	3.00	2.00
27	3.00	1.00	2.00	2.00	1.00	3.00	2.00
28	2.00	1.00	3.00	1.00	3.00	2.00	1.00
29	2.00	1.00	3.00	2.00	3.00	1.00	3.00
30	2.00	1.00	3.00	1.00	3.00	2.00	1.00
31	3.00	2.00	1.00	1.00	2.00	3.00	2.00
32	3.00	2.00	1.00	3.00	2.00	1.00	2.00
33	3.00	2.00	1.00	, <b>3.00</b>	2.00	1.00	3.00
34	3.00	1.00	2.00	1.00	3.00	2.00	2.00

	qu2pre	qu2con	qu2pro	qu3pre	qü3con	qu3pro	qu4pre
35	2.00	3.00	1.00	2.00	1.00	3.00	1.00
36	2.00	1.00	3.00	2.00	3.00	1.00	2.00
37	1.00	2.00	3.00	1.00	3.00	2.00	1.00
38	3.00	1.00	2.00	1.00	3.00	2.00	2.00
39	2.00	3.00	1.00	2.00	3.00	1.00	2.00
40	3.00	1.00	2.00	2.00	3.00	1.00	2.00
41	2.00	3.00	1.00	2.00	3.00	1.00	1.00
42	3.00	2.00	1.00	3.00	2.00	1.00	3.00
43	2.00	1.00	3.00	1.00	3.00	2.00	3.00
44	3.00	2.00	1.00	3.00	2.00	1.00	2.00
45	· 2.00	3.00	1.00	1.00	2.00	3.00	2.00
46	2.00	1.00	3.00	1.00	2.00	3.00	2.00
47	1.00	3.00	2.00	2.00	1.00	3.00	2.00
48	1.00	2.00	3.00	1.00	2.00	3.00	1.00
49	1.00	2.00	3.00	1.00	2.00	3.00	1.00
50	2.00	1.00	3.00	2.00	3.00	1.00	2.00
51	2.00	1.00	3.00	1.00	2.00	3.00	1.00
52	2.00	1.00	3.00	1.00	2.00	3.00	1.00
53	1.00	3.00	2.00	1.00	2.00	3.00	1.00
54	2.00	1.00	3.00	1.00	2.00	3.00	1.00
55	2.00	1.00	3.00	1.00	2.00	3.00	2.00
56	3.00	1.00	2.00	1.00	2.00	3.00	1.00
57	2.00	1.00	3.00	1.00	2.00	3.00	1.00

	qu4con	qu4pro	qu5pre	qu5con	qu5pro	qu6pr <del>e</del>	qu6con
1	3.00	2.00	1.00	2.00	3.00	1.00	2.00
2	3.00	1.00	3.00	1.00	2.00	2.00	1.00
3	3.00	1.00	1.00	2.00	3.00	1.00	2.00
4	2.00	3.00	1.00	2.00	3.00	1.00	2.00
5	3.00	2.00	3.00	1.00	2.00	1.00	2.00
6	3.00	1.00	1.00	2.00	3.00	1.00	2.00
7	3.00	2.00	1.00	2.00	3.00	1.00	2.00
8	1.00	3.00	1.00	2.00	3.00	1.00	2.00
9	3.00	2.00	1.00	2.00	3.00	1.00	2.00
10	3.00	2.00	1.00	2.00	3.00	1.00	2.00
11	2.00	3.00	1.00	2.00	3.00	1.00	2.00
12	3.00	1.00	1.00	3.00	2.00	1.00	2.00
13	3.00	2.00	1.00	2.00	3.00	1.00	2.00
14	3.00	2.00	1.00	2.00	3.00	1.00	2.00
15	2.00	3.00	1.00	2.00	3.00	1.00	2.00
16	1.00	3.00	2.00	1.00	3.00	1.00	2.00
17	3.00	2.00	1.00	2.00	3.00	1.00	2.00
18	2.00	3.00	1.00	3.00	2.00	1.00	2.00
19	3.00	1.00	1.00	2.00	3.00	1.00	2.00
20	3.00	2.00	1.00	2.00	3.00	1.00	2.00
21	3.00	1.00	1.00	2.00	3.00	2.00	1.00
22	2.00	3.00	1.00	2.00	3.00	1.00	2.00
23	2.00	3.00	1.00	2.00	3.00	1.00	2.00
24	3.00	2.00	2.00	1.00	3.00	2.00	1.00
25	2.00	1.00	3.00	2.00	1.00	3.00	2.00
26	3.00	1.00	1.00	2.00	3.00	1.00	2.00
27	3.00	1.00	1.00	2.00	3.00	1.00	2.00
28	3.00	2.00	2.00	3.00	1.00	1.00	2.00
29	2.00	1.00	2.00	1.00	3.00	3.00	2.00
30	2.00	3.00	2.00	1.00	3.00	2.00	1.00
31	3.00	1.00	3.00	1.00	2.00	3.00	2.00
32	3.00	1.00	2.00	3.00	1.00	1.00	3.00
33	2.00	1.00	3.00	_ 2.00	1.00	3.00	2.00
34	3.00	1.00	2.00	3.00	1.00	2.00	1.00

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	qu4con	qu4pro	qu5pre	qu5con	qu5pro	qu6pre	qu6con
35	2.00	3.00	2.00	1.00	3.00	2.00	1.00
36	3.00	1.00	1.00	2.00	3.00	2.00	1.00
37	3.00	2.00	3.00	2.00	1.00	1.00	2.00
38	3.00	1.00	3.00	2.00	1.00	3.00	2.00
39	3.00	1.00	2.00	3.00	1.00	2.00	1.00
40	3.00	1.00	2.00	3.00	1.00	2.00	1.00
41	2.00	3.00	2.00	3.00	1.00	3.00	2.00
42	2.00	1.00	3.00	2.00	1.00	3.00	2.00
43	2.00	1.00	2.00	3.00	1.00	2.00	3.00
44	3.00	1.00	3.00	2.00	1.00	3.00	2.00
45	3.00	1.00	2.00	3.00	1.00	1.00	2.00
46	3.00	1.00	1.00	2.00	3.00	1.00	2.00
47	3.00	1.00	2.00	1.00	3.00	1.00	2.00
48	3.00	2.00	1.00	2.00	3.00	2.00	1.00
49	3.00	2.00	1.00	2.00	3.00	1.00	2.00
50	3.00	1.00	1.00	3.00	2.00	1.00	2.00
51	3.00	2.00	1.00	2.00	3.00	1.00	2.00
52	2.00	3.00	1.00	2.00	3.00	1.00	2.00
53	3.00	2.00	1.00	2.00	3.00	1.00	2.00
54	3.00	2.00	1.00	2.00	3.00	1.00	2.00
55	3.00	1.00	1.00	2.00	3.00	1.00	2.00
56	2.00	3.00	3.00	1.00	2.00	1.00	2.00
57	2.00	3.00	1.00	2.00	3.00	2.00	1.00

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## Appendix J

## Examples of the SPSS Windows Analyses

Krus	kal-Wallis	1-Way Anova		
TOTCON by POLAFF	polaff			
Mean Rank	Cases			
26.39 31.20 29.96	23 22 12	POLAFF = 1 POLAFF = 2 POLAFF = 3	labour conservative liberal	
	57	Total		
Chi-Square .9962	D.F. 2	Significance .6077	Corrected Chi-Square 1.0189	for ties D.F. Significance 2 .6008
Krus	kal-Wallis	1-Way Anova		
TOTPRE by POLAFF	polaff			
Mean Rank	Cases			
17.48 44.43 22.79	23 22 12	POLAFF = 1 POLAFF = 2 POLAFF = 3	labour conservative liberal	
	5,7	Total		
Chi-Square 31.7782	D.F. 2	Significance .0000	Corrected Chi-Square 32.0126	for ties D.F. Significance 2 .0000
Krus	kal-Wallis	1-Way Anova		
TOTPRO by POLAFF	polaff			
Mean Rank	Cases			
40.91 13.75 34.13	23 22 12	POLAFF = 1 POLAFF = 2 POLAFF = 3	labour conservative liberal	
	57	Total		
Chi-Square 31.5635	D.F. 2	Significance .0000	Corrected Chi-Square 31.7891	l for ties D.F. Significance 2 .0000
, 	•••••		<b>1 . . . . .</b>	
Mann	-Whitney U	- Wilcoxon Ra	nk Sum W Test	
by POLAFF	polaff			

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Mean Rank Cases 17.30 23 POLAFF = 1 labour 19.33 12 POLAFF = 3 liberal - -35 Total Corrected for ties Z 2-Tailed P -.5635 .5731 Exact 2-Tailed P W U 122.0 232.0 .5952 - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test TOTPRE by POLAFF polaff Mean Rank Cases 10.39 21.08 23 POLAFF = 1 labour 12 POLAFF = 3 liberal - -35 Total Exact Corrected for ties 2-Tailed P Z 2-Tailed P .2079 -1.2991 .1939 W υ 101.0 253.0 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test TOTPRO by POLAFF polaff Mean Rank Cases 19.98 14.21 23 POLAFF = 1 labour 12 POLAFF = 3 liberal 35 Total Exact Corrected for ties Z 2-Tailed P -1.5975 .1101 W 2-Tailed P 170.5 .1148 υ 92.5 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test TOTCON by POLAFF polaff Mean Rank Cases 17.70 17.13 22 POLAFF = 2 conservative 12 POLAFF = 3 liberal - -34 Total Corrected for ties Z 2-Tailed P -.1641 .8697 Exact W U 2-Tailed P 205.5 .8731 127.5 - -' - - Mann-Whitney U - Wilcoxon Rank Sum W Test TOTPRE by POLAFF polaff Mean Rank Cases

22 POLAFF = 2 conservative

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22.57

8.21 12 POLAFF = 3 liberal 34 Total Corrected for ties Z 2-Tailed P -4.0299 .0001 Exact 2-Tailed P U W .0000 20.5 98.5 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test TOTPRO by POLAFF polaff Mean Rank Cases 22 POLAFF = 2 conservative 12 POLAFF = 3 liberal 12.64 26.42 - -34 Total Corrected for ties Exact W 2-Tailed P U Z 2-Tailed P 317.0 25.0 .0000 -3.8673 .0001 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU1PRE by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 17.74 28.50 - -45 Total Corrected for ties U W Z 2-Tailed P 627.0 -3.0572 132.0 .0022 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU1PRO by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 25.00 20.91 45 Total Corrected for ties W Z 2-Tailed P -2.1184 .0341 U 207.0 460.0 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU1CON by POLAFF polaff Mean Rank Cases 25.65 23 POLAFF = 1 labour

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22 POLAFF = 2 conservative 20.23 45 Total Corrected for ties Z 2-Tailed P -1.6186 .1055 W U 192.0 445.0 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU2PRE by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 15.52 22 POLAFF = 2 conservative 30.82 - -45 Total Corrected for ties W Z 2-Tailed P U 678.0 81.0 -4.1679 .0000 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU2 PRO by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 29.74 15.95 45 Total Corrected for ties Z 2-Tailed P -4.2316 υ W 98.0 351.0 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU2CON by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 22.87 23.14 ---45 Total Corrected for ties U W Z 2-Tailed P 250.0 509.0 -.0761 .9394 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test **QU3PRE** by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 17.61 28.64 - -45 Total

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Corrected for ties W Z 2-Tailed P U 630.0 .0009 129.0 -3.3257 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test OU3 PRO by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 31.26 22 POLAFF = 2 conservative 14.36 - -45 Total Corrected for ties Z 2-Tailed P U W 316.0 63.0 -4.9292 .0000 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU3CON by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 17.78 28.45 \_ \_ 45 Total Corrected for ties Z 2-Tailed P W U .0018 133.0 626.0 -3.1277 - - - Mann-Whitney U - Wilcoxon Rank Sum W Test OU4PRE by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 17.96 28.27 - -45 Total Corrected for ties Z 2-Tailed P Ũ W -2.9048 622.0 .0037 137.0 - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test QU4CON by POLAFF polaff Mean Rank Cases 23 POLAFF = 1 labour 22 POLAFF = 2 conservative 22.83 23.18 - -45 Total Corrected for ties

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Z 2-Tailed P

249.0	)	510.0	1084	.9137
Mann-	Whitney U	- Wilcoxon	Rank Sum W	Test
QU4PRO by POLAFF	polaff			
Mean Rank	Cases			
28.07	23	POLAFF = 1	labour	
17.70	22	POLAFF = 2	conservati	ve
	45	Total		
U 136.5	<b>.</b> .	W 389.5	Corrected Z -2.8691	for ties 2-Tailed P 0041
100.0	,		2.0091	
Mann-	Whitney U	- Wilcoxon	Rank Sum W	Test
	-			
by POLAFF	polaff			
Mean Rank	Cases			
15.30 31.05	23 22	POLAFF = 1 POLAFF = 2	labour conservati	ve
	45	Total		
U 76 0		W 683 0	Corrected Z -4 3987	for ties 2-Tailed P
/0.0	,	005.0	-4.3207	.0000
Manna	Whitney II	- Wilcorop	Pank Sum W	Test
	mirchey 0	WIICOADH	Kalik Dull W	1696
Dy POLAFF	polaff			
Mean Rank	Cases			
29.80	23	POLAFF = 1	labour	
15.89		POLAFF = 2	conservati	ve
	45	Total		
U		W	Corrected	for ties 2-Tailed P
96.5	5	349.5	-4.0338	.0001
Mann-	Whitney U	- Wilcoxon	Rank Sum W	Test
QU5CON by POLAFF	polaff			
	porarr			
Mean Rank	Cases			
21.33 24.75	23 22	POLAFF = 1 POLAFF = 2	labour conservati	ve
	 45	Total		
			Corrected	for ties
U 214.5	5	W 544.5	Z 9976	2-Tailed P .3185

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t-tests for independent samples of TITLE title

Variable	Number of Cases	Mean	SD	SE of Mean
ECOCONS				
non expert	8	.3750	.744	.263
expert	7	4.0000	1.915	.724

Mean Difference = -3.6250

Levene's Test for Equality of Variances: F= 1.151 P= .303

t-te:	st for Equ	ality o	f Means		95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal Unequal	-4.96 -4.71	13 7.58	.000	.730 .770	(-5.203, -2.047) (-5.401, -1.849)

#### Appendix K

## Constructs Used in Bank and Building Society Leaflets

Constructs Used in Bank and Building Society Leaflets

safe - unsafe	high return - low return	survival - no survival
expert - non-expert	difficult - easy	early - late
act now - act later	invest - not invest	unpredictable-predictable
saving - spending now	tragedy - joy	flexible - inflexible
best use of money - not	death - life	easy access - not easy
financially protected - not	free of money worries - not	regular income - not
tax free benefits - taxed	well looked after financially	• not
comfortable - not	risk - no risk	

['emotionally charged' constructs, or those relating to psychological factors are in italics]

### Appendix L

## Supplied Savings and Investments Elements

Supplied Elements Relating to Saving and Investment Options

Bank Building Society Personal Equity Plan Pension Plan Shares Stocks Endowment Mortgage Life Assurance Premium Bonds Land Saving Stamps Post Office Property Art/Antiques

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#### Appendix N

#### and Investments Grids

each variable 1.00 15 1.00 **7**4 1.00 -0.19 -0.32 deviation of OF TOTAL VAR. 13 1.00 -0.05 0.47 21 1.20 1.00 -0.63 -0.32 -0.71 variables standard D.DEV. 8 11 1.00 0.28 -0.44 0.18 -0.21 Mean var. 10 35 the and 0 1.00 0.24 0.29 0.23 0.41 0.04 all σ IRLIN MAX between 1.00 -0.47 -0.47 -0.11 -0.19 -0.30 0.00 maxi æ mean, 1.00 0.06 0.42 0.24 0.24 0.55 0.55 0.56 0.58 relationships MIN 0 0 00000000 mean minimum, 1.00 -0.45 -0.21 0.53 0.17 -0.53 -0.17 -0.33 VBL. ø 50 54991999 8011999 8011999 Total 1,00 -0.34 -0.34 -0.55 -0.37 -0.45 0.45 0.19 0.45 the ŝ /weit /could lose orig /exciting e provides you with t /CONTRAST on /dont mak mon /wait the 1.00 -0.30 0.21 -0.17 -0.17 -0.11 -0.11 -0.26 0.30 0.00 /can get loan /no mon made /dont forg /use in olda showing -'need lots for poor dn  $\begin{array}{c} 1.00\\ -0.30\\ 0.39\\ -0.12\\ 0.26\\ 0.25\\ -0.12\\ 0.52\\ -0.52\\ -0.52\\ 0.52\\ -0.75\\ 0.52\\ 0.75\\$ / advent 'overdr m /slow /tied table, 1.00 -0.24 -0.30 -0.33 -0.33 -0.33 -0.33 -0.33 -0.33 -0.33 -0.35 -0.35 -0.35 -0.35 -0.35 -0.37 -0.55 -0.37 -0.55 -0.37 -0.55 -0.37 -0.55 gd if die youn / not tied up / cent get loan / cautious / 2 orig lots mon quick can make mon D DCorrelation **DThis table** 1,00 0.30 0.30 0.30 0.30 0.32 0.32 0.32 0.32 0.32 0.30 0.32forget cant overd for rich dont need ] immed ben cant lose o iamed acc ~ more mon poring

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	, auvent		7 0	. 795	-0.416	0.109	0.904	1.000
Inore mon	Ino mon ma	de	0-8	.177	-0.791	-0.394	0.901	1.000
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LUE FICH	/ tor poor		11 -0	.839	0.290	-0.307	0.939	1.000
time the section of t	/need lots		12 0	.867	0.256	-0.199	0.926	1.000
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D meneion al a	<b>.</b> .	-0.398	-0.215	0.6	20 0.	167 *	0.353	0.569
R sheres	æ ,	0.141	-0.650	1.0	45 1.2	\$39 *	0.493	0.530
	<u>,</u>	-1.265	0.693	-0.2	18 1.4	158 *	0.872	0.875
f and the second second	، ف	-1.177	0.347	-0.6	59 1.5	* £68	0.804	0.836
	cgage 7	-0-04	-1.464	1.0	56 1.8	105 *	0.782	0.880
T THE BESUTANCE	41	0.253	-1.532	1.3	05 2.0	•29 *	0.871	0.880
I premuum bonds	α,	-0-404	2.074	0.7	52 2.2	* 643	1.037	1.347
	10	-1.087	-0.181	8°0-	46 1.3	* 68	0.762	0.696
T now office		1.271	1.802	1.1	75 2.4	* 66	1.242	1.754
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N ert/erticie	ET	-0.369	-0.854	-1.3	90 1.6	* 213	0.683	0.801
משרה מוודלתבא	<b>b</b> 7	-1.174	0.165	-0.4(	1.2	53 *	0.767	0.735

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immed ret	/wait	-	0	0.36	-	0 48	7 50		
inmed ret	/wait	2	0	0.36	. •••	0.48	2 50		
safe	/risky	m	0	0.57		67 0	8 00		
oldage	/not oldage	47	0	0.14		0.35	4 D5		
earn œ	/not earn	ŝ	0	0.93	-	0.26	010		
exp	/ nonexp	9	0	0.36		0.48	7.59		
safe	/unsafe	7	0	0.57		0.49	8.09		
safe	/risky	80	0	0.57	**	0.49	60.8		
make little	e/make more	6	٥	0.36	~	0.48	7.59		
get loan	/no loan	10	0	0.29		0.45	6.75		
functional	/nonfuncti	11	0	0.29	-	0.45	6.75		
safe	/not safe	12	0	0.57	-	0.49			
gamble	/no gemble	13	0	0.29	-	0.45	6 75		
longt	/shortt	14	0	0.29		45	1 C V		
death	/not death	15	0	0.86		0.35	4.05		
		Total r	nean	0.45	~	fean var.	0.20		

DCorrelation table, showing the relationships between all the variables

15														1.00
14													1.00	-0.65
13												1.00	-0.05	0.26
12											1.00	-0.41	-0.41	0.06
11										1.00	0.23	-0.40	-0.40	0.26
10									1.00	0.30	0.55	-0.40	-0.40	0.26
6								1.00	0.19	-0.14	0.65	-0.14	-0.47	0.30
80							1.00	0.65	0.55	0.23	1.00	-0.41	-0.41	0.06
٢						1.00	1.00	0.65	0.55	0.23	1.00	-0.41	-0.41	0.06
Ø					1.00	-0.56	-0.56	-0.56	-0.14	0.19	-0.56	0.52	-0.14	0.30
ŝ				1.00	0.21	-0.24	-0.24	-0.37	0.18	-0.44	-0.24	0.18	0.18	-0.11
ব			1.00	0.11	-0.30	-0.06	-0.06	-0.30	-0.26	-0.26	-0.06	-0.26	0.65	-0.42
m		1.00	-0.06	-0.24	-0.56	1.00	1.00	0.65	0.55	0.23	1.00	-0.41	-0.41	0.06
~	1.00	0.04	-0.30	0.21	0.07	0.04	0-04	0.38	0.19	-0.47	0.04	0.19	1.4.0-	U.JU
1.00	1.00	0.04	-0.30	0.21	0.01	0.04	0.04	0.38	0.19	-0-47	0.04	61.0		0.30
, <b>H</b>	0	m	4	ŝ	9	-	8	о,	10		12	ר ק ק		r,

UTable of p	principal compor	lents						
POLE	/CONTRAST	VBL.	-1	2	m	DIST.	VAR-R	SACC.
immed ret	/wait	-	0.166	0.822	0.449	0.951	1.000	90.453
immed ret	/wait	7	0.166	0.822	0.449	0.951	1.000	90.453
safe	/riskv	'n	0.963	-0.148	0.064	776.0	1.000	95.403
oldage	/not oldage	ł	-0.204	-0.633	0.436	0.795	1.000	63.182
earn œ	/not each	S	-0.311	0.188	0.387	0.531	1.000	28.227
exp	/ nonekp	9	-0.560	0.441	-0.495	0.868	1.000	75.318
safe	/unsafe	5	0.963	-0.148	0.064	0.977	1.000	95.403
safe	/riskv	80	0.963	-0.148	0.064	176.0	1.000	95.403
make little	e/make more	6	0.745	0.262	0.236	0.824	1.000	67.928
det loan	/no loan	10	0.613	0.140	-0.131	0.642	1.000	41.197
functional	/nonfuncti	11	0.281	-0.228	-0.892	0.963	1.000	92.690
aafe	/not safe	12	0.963	-0.148	0.064	0.977	1.000	95.403
damble	/no gamble	13	-0.458	0.511	0.006	0.686	1.000	47.117
longt	/shortt	14	-0.556	-0.651	0.388	0.940	1.000	88.304
death	/not death	15	0.204	0.633	-0.436	0.795	1.000	63.182
<b>&amp;VARIANCE</b>			38.591	21.959	14.760	75.311		
a								

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LFactor scores									
	VBL.	-1	0	m	DIST-N	*	DIST.	VAR-R	BACC.
A bank	-	1.159	0.831	0.890	1.681	•	0.887	0.871	90.396
B building society	2	1.159	0.831	0.890	1.681	•	0.887	0.871	90.396
C bebs	1.00	-1.398	0.078	-0.353	1.444	*	0.880	1.001	77.333
D cension plan	- 44	-1.121	-1.094	0.670	1.704	×	0.902	1.167	69.802
E shares	· •	-1.066	1.557	0.105	1.890	*	0.986	1.027	94.700
F stocks	4	-1.066	1.557	0.105	1.890	¥	0.986	1.027	94.700
G endowment mortgage	~	-1.121	-1.094	0.670	1.704	*	0.902	1.167	69.802
H life assurance	~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0.123	-2.005	1.466	2.487	•	1.098	1.400	86.147
I premium bonds	. 0	0.630	0.039	0.181	0.657	*	0.398	0.705	22.476
J lend	10	0.677	-0.250	-1.537	1.698	*	0.734	0.845	63.823
K saving stemps	:=	1.121	-0.679	-1.397	1.916	•	0.935	1.567	55.824
L most office	12	0.925	0.738	1.021	1.563	*	0.777	0.731	82.560
M Drobertv	11	0.879	-0.529	-1.071	1.483	*	0.727	0.762	69.377
N art/antiques	14	-0.903	0.019	-1.639	1.871	*	0.843	0.861	82.619
0									



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DThis table   POLE /(	provides you CONTRAST	with VBL	the mi: . MIN.	imum, MEAN	mean, MAX.	maximum an STD.DEV.	d standard & OF TOTI	deviation L VAR	of e	ach	variable
	certain 	~	0	0.50	٦	0.50	7.14				
	LISKY	~	0	0.50	~	0.50	7 14				
correlated /1	indep	e	0	0.36	~	940					
uncertain /c	certain	4	0	0.57							
low risk /t	nigh risk	5	0	0.50	4	0.50					
high risk /l	low risk	9	c	0 50	4 -		- 14 				
low risk /h	nigh risk		• c		• •	000	1.14				
low risk /h	nigh rist		> c		-	00	7.14				
lou riek	bick utak	0	5	00		0.50	7.14				
	High risk	5	0	0.50		0.50	7.14				
privac /p	oublic	10	0	0.79		0.41	4 81				
seit mged /e	xpert mged	11	0	0.36	-	0.48	22.2				
IOW FISK /h	igh risk	12	0	0.50	-	0.50					
self nogd /e	xpert mgd	13	0	0.36	-	0.49	20 2				
expert mgd /s	elf mgd	14	0	0.64	•						
priv /p	ldu	1.			۰,	01.0	90.9				
		;	>	61.0	-	0.41	4.81				
		Total	mean	0.52	4	tean var.	0.23	•			
		Total	mean	0.52	4	tean var.	0.23				

DCorrelation table, showing the relationships between all the variables

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1.00 -0.75 1.00 0.75 -1.00 1.00 -0.52 0.39 -0.39 1.00 15 [5 1.00 5 -0.87 1.00 1.00 5 -0.87 1.00 1.00 5 -0.87 1.00 -1.00 5 -0.87 1.00 -1.00 9 0.66 -0.52 0.52 -0 5 -0.67 1.00 -1.00 9 0.65 -0.75 0.75 -0 9 -0.65 0.75 -0.75 -0 1.00 0.65 0.75 0.75 0.75 0.75 0.39 0.69 0.39 1 2 1.00 1.00 -1.00 0.75 0.87 -0.87 -1.00 1.00 -0.52 -0.75 -0.55 -0.55 -0.55 -0.55
-0.55 5488268465486648484

D'Table of	principal components						
rout richt	CONTRAST VB	г. 1	2	¢	DIST.	VAR-R	ACC.
t t t t t t t t t t t t t t t t t t t		-0.982	-0.020	-0.181	0.999	1.000	90 705
201C	/ LISKY 2	0.982	0.020	0.181	0.999	1.000	201 00
Cortelated	1 / Indep 3	-0.789	-0.142	0.067	0.805	1 000	
uncertain	/certain 4	-0.684	0.165	101-0-	206-0	1 000	200 10
low risk bidh viek	/high risk 5	0.982	0.020	0.181	666.0	1.000	010-10
Tow risk	/ TOW FISK 6	-0.982	-0-020	-0.181	0.999	1.000	99.705
lou rish	/ high state	0.982	0.020	0.181	0.999	1.000	99.705
low risk		0.982	0.020	0.181	666-0	1.000	99.705
nrivat	/ myn tisk y	0.982	0.020	0.181	0.999	1.000	207.66
eelf mood		-0.597	0.752	0.276	666.0	1.000	99.760
	/ Expert mged II	-0.834	-0.308	0.452	0.997	1,000	99.462
self mod	Vergent LISK 12	0.982	0.020	0.181	666.0	1.000	207.68
Sett ING	/expert mgd 13	-0.834	-0.308	0.452	766.0	1.000	99 462
copert myu	/selt mgd 14	0.834	0.308	-0.452	1997	1.000	99 462
PLAT EVDDTENCE	/ brant 12	-0.597	0.752	0.276	0.999	1.000	99 760
3 MALANUE		79.421	9.780	6.945	96.145		

8ACC. 98.068 98.068 90.748 81.922 81.922 99.291 99.291 99.291 99.291 99.291 99.291 99.291	
VAR-R 0.807 0.807 0.807 0.807 0.807 1.000 1.017 0.768 0.768 0.768 0.768 0.768 1.100 1.259 1.259 1.259 1.259	
DIST. 0.889 0.889 0.889 0.879 0.879 0.889 0.911 0.883 0.889 1.122 1.122 1.122 1.122 1.122 1.045	
*****	
DIST-N 1.584 1.584 2.362 1.584 1.586 1.153 2.524 1.386 1.913 1.913 1.913 1.386 1.386 1.386	
3 0.762 0.762 0.566 0.556 0.558 0.493 0.493 0.533 0.533 0.633 0.633	
2 1.059 1.059 1.059 1.059 1.058 1.058 1.058 1.058 1.05599 1.0559 1.0559 1.0559 1.0559 1.0559 1.0559 1.0559 1.0559 1.05	
1 0.899 0.899 0.899 0.899 0.899 -1.146 0.899 0.899 0.899 1.143 1.143 1.143 1.143	
VBL - 22 - 22 - 22 - 22 - 22 - 23 - 23 - 2	
A bank B building society C peps D pension plan E shares F stocks G endowment mortgage G endowment mortgage G endowment mortgage I premium bonds J land K saving stamps L post office M property M art/antiques	



PLOT: UNFOTATED results ELEMENTS IN THE CONSTRUCT SPACE

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EXPERT' SUBJECT 1

UThis table provides you with the minimum, mean, maximum and standard deviation of each variable VAR.

POLE	/ CONTRAST	VBL.	MIN	MEDN	MDY	CTD DEV	
st sym	/not se	-	c				T OLAF
		•	5	1	-1	65.0	1.5 . 6
dep int rat	/not dep int r	2	0	0.14	٦	0.35	4.73
little ris	/more r	m	c	0.14	*	0 35	
for other sea	/ 2016	•	• •		1		~~~ <b>.</b>
	1 Tac /	Ŧ	<b>0</b>	0.14	<b>r</b> 4	0.35	4.73
need bus mind	/not need bus mind	ŝ	0	0.93	1	0.26	2.56
tor wealthy	for ordin	9	0	0.36		0.48	8.88
need know	/not need know	1	0	0.43	1	0.49	9.47
cash in	/bills	89	0	0.93	-1	0.26	2.56
need spare cash	/for poor	6	0	0.50	F	0.50	9.66
not govt infl	/govt infl	10	0	0.93	-	0.26	2.56
Cash in	/wiat	11	0	0.64		0.48	8.88
pay tax	/taxfre	12	0	0.57	-	0.49	9.47
tor big inv	/for smal	13	0	0.29	٦	0.45	7.89
rely on co perf	/rely on self	14	0	0.21	-1	0.41	6.51
ret dep econ	/not dep on econ	15	0	0.71	-1	0.45	7.89
		Total 1	nean	0.49	Σ	kean var.	0.17

DCorrelation table, showing the relationships between all the variables

	3														1.0
;	57														0.33
, ,	57												1 00		-0.30
с <del>г</del>	77											1 00		20.01	0.41
	11										1 . 00	0.56	0.47	44.0-	-0.14
01	1									1.00	-0.21	-0.24	0.18	0 14	-0.18
đ	•								1 00	0.28	0.45	0.00	0.63	0 17	-0.32
α	•							1.00	0.28	-0,08	0.37	0.32	0.18	0.14	0.44
٢	•						1.00	0.24	0.29	0.24	-0-26	-0.13	0.41	0.25	60.0-
9	•					1.00	0.26	0.21	0.75	0.21	0.56	0.34	0.85	-0.03	-0.19
ŗ	•				1.00	0.21	0.24	1.00	0.28	-0.08	0.37	0.32	0.18	0.14	. 44
4	I			1.00	0.11	-0.30	0.06	0.11	-0.41	0.11	-0.55	-0.47	-0.26	0.28	0.26
m			1.00	-0.17	0.11	0.55	-0.35	0.11	0.41	0.11	0-30	0.35	0.19	-0.21	0.26
8		1.00	-0.17	-0.17	0.11	-0.30	-0.35	11.0	-0.41	-0.68	0.30	0.35	-0.26	-0.21	0.26
<b>H</b>	1.00	-0.35	0.47	-0.35	0.24	0.86	0.13	0.24	0.87	0.24	0.65	0.17	0.73	-0.10	-0.41
	-	2	m	¢	'n	ø	~	œ	on	10	11	12	13	14	15

0

91.229 71.391 31.473 55.114 88.484 83.564 65.342 69.677 46.426 68.589 88.484 81.619 47.279 86.094 48.524 BACC. 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 VAR-R 1.000 0.845 0.561 0.742 0.941 0.928 0.688 0.955 0.903 0.697 0.681 0.828 68.219 DIST. 0.941 0.835 0.914 0.808 -0.108 -0.208 -0.126 0.542 0.711 -0.024 0.503 0.503 -0.282 -0.087 0.025 0.624 0.565 16.428 0.181 0.075 m -0.176 0.776 0.472-0.115 0.472 -0.280 -0.642 0.497 0.701 -0.209 -0.260 0.567 20.056 0.193 -0.208 -0.415N -0.261 0.512 0.512 0.395 0.395 0.218 0.218 0.395 0.395 0.808 -0.085 -0.213 31.735 0.933 0.713 ---VBL. ----0 M 4 9 - 8 ŝ ð 10 112112 /not need bus mind /not dep on econ /not ss /not dep int r /for ordin /not need know DTable of principal components POLE /CONTRAST /for smal /rely on self /for poor /govt infl more r /taxfre /bills /self /wiat pay tax for big inv rely on co perf ret dep econ \$VARIANCE cash in need spare cash for other sec need bus mind not govt infl dep int rat little ris for wealthy need know cash in st sym 

DFactor scores									
	VBL.	-	~	ę	N-TSIQ	*	DIST	4-94V	5000
A bank		-0.401	0.750	-0.126	0.859	*	0.408	0-411	40 449
B building society	~	-0.557	1.487	-0.367	1.630	*	0.751	0.800	70.520
C peps	m	-0.471	-0.742	1.275	1.549	*	0.669	0.798	56 152
U pension plan	4	-0.621	0.126	0.526	0.823	*	0.413	0.533	32.060
te unares E -to-to	ŝ	1.183	-0.278	0.878	1.499	*	0.766	0.938	62.505
r stocks	ja i	1.325	-0.484	-0.246	1.432	*	0.784	0.852	72.148
u lister connection age	-	-1.201	-0.475	1.431	1.927	*	0.916	1.148	73.102
T Turner descurance	30 (	-1.065	-0.543	1.226	1.712	*	0.816	0.961	69.314
T DECEMBER BOUGS	ر م	0.287	-0.442	-0.590	167.0	*	0.350	0.629	19.502
V Laid V contine stores	10	1-441	0.395	-0.297	1.523	*	0.840	1.062	66.384
Schubis Duitves A	11	-1.426	-1.703	-2.563	3.392	*	1.519	2.396	96 252
T bost office	12	-0.720	2.316	-0.652	2.512	*	1.145	1-661	78 866
H property	13	1.066	0.549	-0.320	1.240	*	0.661	666.0	47 459
N art/antiques	14	1.159	-0.955	-0.175	1.512	*	0.784	0.891	68.978

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sviation of each variable			0.50 8.24	0.49 R N7			U.41 5.55	0.50 8.24	0.49 P. 07	0.41 5.55			57.3 A.S.	0.35 4.03	0.35 4.03	0.48 7.56	0.41 5.55	0.49 8.07	0.45 6.72	Mean var. 0.20
tard de	I MAN		-		-	• •	•			-		•	••	-	1	1		7	1	
i stanc	MEAN		00.0	0.43	0.14		12-0	0.50	0.43	0.21	0.43	0 50		6T-D	0.14	0.36	0.21	0.43	0.71	0.36
maximum and	VBL. MIN.	, ,	-	0	0 8		5 ·	ۍ 0	0	7 0	8	6			11 0	12 0	13 0	14 0	15 0	rotal mean
UTRIS table provides you with the minimum, mean,	TCMTRAST	call inc or dec ncv /pred ncv	Pred ncv	Dron wht fact	From the tack for the former of the tack	deponngtoff /notdeponnnoff	not dep on ch /rhance	Can inc or der now /	den on mot s	act on mof f	pred nev	cant use valu / can dec valu	lumed access /indire arc	Prop mkt fac /amit mtt f.	Dred nrv	equity wht for 1 can inc of dec ncv	inditiant and the second of the second secon	defourt white a start (dir thed to prop cy	are and to ac mgt/ nudel outco	

DCorrelation table, showing the relationships between all the

	15		1.00
	14	1.00	0.55
	13	0.60	0.33
	12	1.00 -0.39	-0.52
ables	11	1.00 -0.30 -0.21 -	0.26
Je vari	10	-0.17 -0.17 -0.21 -0.35	0.20
	6	-0.41 -0.41 -0.45 -0.14 -0.23	- U . 32
libown	æ	0.41 0.41 0.41 0.41 0.41 0.41 0.41 0.41	
	~		· • • • •
101071	9		
	ŝ	00.11.00 0.29 0.29 0.41 0.41 0.52 0.52 0.52	
	4	1.00 -0.17 -0.17 -0.17 -0.17 -0.17 -0.21 -0.21 -0.21 -0.21 -0.21 -0.21 -0.21 -0.21 -0.17 -0.27 -0.17 -0.27 -0.17 -0.27 -0.17 -0.27 -	
	ŕ	1.00 -0.21 0.41 0.47 -0.21 -0.17 -0.17 -0.17 -0.21 -0.25 -0.35	
	2	1.00 -0.35 -0.10 -0.10 -0.10 1.00 1.00 0.41 0.41 0.85 0.85 0.85 0.85 0.41 0.41 0.41	I
	1 1.00	-0.87 0.41 0.17 0.13 0.43 0.41 0.41 0.41 0.41 0.41 0.29 0.29	
	-	54676666495664848 111111	

<b>UTable of principal</b> POLE can inc or dec nev	Components /CONTRAST /Dred Prov	VBL.	7	0	m	DIST	VAR-R	BACC.
pred ncv	/can incr or den nor		0.919	0.014	0.156	0.932	1.000	86.932
prop mkt fact	/equities wet for	<b>v</b> 1	-0.925	-0.072	-0.028	0.928	1.000	86.158
dep on mgt of f	/not den on mof f	<b>n</b> •	0.520	-0.710	0.209	0.905	1.000	81.835
not dep on ch	/chance	<b>7</b> u	980-0	0.703	0.628	0.946	1.000	89.581
can inc or dec ncy	/pred nrv	<b>n</b> (	0.475	-0.213	-0.244	0.575	1.000	33.034
dep on mgt f	/not den en mof f	01	0.807	-0.253	0.127	0.855	1.000	73.182
pred ncv	/rep ind or for rec.	~ .	0.086	0.703	0.628	0.946	1.000	89.581
cant dec valu	/ can der unt.	20 1	-0.925	-0.072	-0.028	0.928	1.000	86.158
immed access	/indiae acc	5n (	-0.718	-0.031	-0.217	0.751	1.000	56.344
prop mkt fac	Andre acc	07:	-0.552	-0.204	-0.216	0.627	1.000	39.281
pred ncv	fran ing or dor not	11	0.520	-0.710	0.209	0.905	1.000	81.835
equity mkt fac	/den on mat fil	12	-0.899	-0.160	0.259	0.949	1.000	90.105
indi tied to er rv	Air tios the construction	13	0.261	0.516	-0.529	0.784	1.000	61.471
def outc subj to ar m	dat undef cuted to prop cy	14	0.448	0.724	-0.426	0.952	1.000	90.650
	Art mindel offeco	15	0.466	0.085	-0.473	0.669	1.000	44.749
& VARIANCE			40.68	1 19.88	5 12.16	1 72.72	-	

Factor scores							
t hout	VBL-	1	2	m	N-TSID	٠	DIST.
	-	-1.352	-0.499	-0.529	1.535	¥	0.909
b puttuing society	~	-1.352	-0.499	-0.529	1.535	*	0.909
C peps	~~ ·	-0.378	0.577	-1.935	2.054	*	0.761
E shares	•	-1.194	0.782	2.061	2.507	¥	1.103
	<b>••</b> •	0.840	1.853	0.216	2.046	*	0.988
f andorment rest.	60 1	1.039	0.533	-1.322	1.764	*	0.842
W 315	-	0.779	0.254	-0.347	0.890	*	0.524
T premium brad	80	0.848	1.403	1.331	2.112	*	0.948
I lend	<b>6</b> , 1	-0.025	0.395	-0.897	0.980	*	0.359
K taving stamp	3:	1.273	-1.740	0.511	2.216	*	1.137
t that office	11	-1.107	-0.510	0.115	1.224	*	0.743
M Droperty	1:	-1.027	-0.346	0.621	1.249	*	0.707
<pre>N art/articity</pre>		1.273	-1.740	0.511	2.216	•	1.137
	7 <del>4</del>	0.382	-0.463	0.193	0.630	*	0.326

#ACC. 75.105 75.105 64.780 93.768 93.768 82.768 82.768 83.109 94.510 94.510 94.510 14.568

VAR-R 1.101 1.101 1.101 1.305 1.305 0.629 0.629 0.590 0.590 0.598 0.852 0.852 0.852 0.730 0.730



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EXPERT' SUBJECT 6

& OF TOTAL VAR. Urhis table provides you with the minimum, mean, maximum and standard deviation of each variable ..12 5.87 4.27 8.54 4.27 7.12 7.12 7.12 4.27 7.12 8.54 8.54 7.12 8.72 1.27 MAX. STD.DEV. Mean var. 0.41 0.35 0.45 0.35 0.45 0.49 0.45 0.45 0.49 0.49 0.45 0.50 0.35 0.45 0.35 MEAN 0.79 0.86 0.57 0.29 0.57 0.14 0.86 0.57 0.50 0.71 0.71 0.29 0.61 0.71 VBL. MIN. c 0 0 0 0 0 0 0 0 a ٥ mean 10 Total 15 23 11 33 14 private /govt owned /govt owned dont need mngmnt of fund /need mngmnt of fund no income for life /income for life poss of incr int invest /no poss incr int invest ret not link to int rat /link to int rat value not det by govt pol/value det by govt pol /unable to offer mortg /higher ret on perf /not dep on econ perf cant offer 2nd function /offer 2nd function fixed time limit /ret guarant /life insu cover /gambling /contractual sav /CONTRAST no higher ret on perf ret dep on econ perf not contractual sav able to offer mortg no fixed time limit no life ins cover ret not guarant longt investm private

D Occrrelation table, showing the relationships between all the variables

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	13													1.00	0.41	-0.63
ç	77												1.00	0.63	0.65	-1.00
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onents / CONTRAST	/not dep on econ perf /govt owned	/need mngmnt of fund /income for life	/no poss incr init invest /link to int rat	/contractual sav 1/value det bv dovt mol	/offer 2nd function	/higher ret on perf	/fixed time limit /ret guarant	/life insu cover	/gambling	
Urable of principal comp POLE	ret dep on econ perf private	dont need mngmut of fund no income for life	poss of incr init invest ret not link to int rat	not contractual sav Value not det by govt pol	cant offer 2nd function able to offer morta	no higher ret on perf	ret not guarant	no life ins cover	Longt investm &VARIANCE	

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2 0.510 -0.069 -0.066 0.714 0.026 0.026 0.005 0.005 0.708 0.708 0.005 -0.005 -0.005 19.170

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c heba	m	-1.221	0.544	~0.012
D pension plan	4	-1.259	-0.896	0.220
E shares	ŝ	0 005		
F storks	• •			600.0
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H life assurance	8	-1 712	104	
I premium honds			101.0	811.0-
	א	1.052	-0.762	-1.412
	10	0.460	-0.906	1.453
seving stamps	11	0,985	-0.365	-2.229
o post office	12	0.779	1.098	-0.395
h property	13	0.460	-0.906	1.453
art/antiques	14	0.747	-1.804	0.013



PLOT: UNFOTATEd results ELEMENTS IN THE CONSTRUCT SPACE

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### Appendix O

# Remaining Principal Components Analysis Tables from Chapter Seven, Study Three: The Individual's Construing of Saving and Investment Options

Table O-1

Results of the Principal Components Analysis for Non-Expert Subject One

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.833	for others	30.14%	-1.876 Bank
Two	-0.832	these have a non-functional value	26.98%	-1.983 Saving Stamps
Three	0.695	you can use these immediately	14.82%	2.210 Building Society

Table O-2

Results of the Principal Components Analysis for Non-Expert Subject Three

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.977 0.977 0.977 0.976 0.976	these are more secure these are safe, because I understand them these are safe no risk attached your money is guaranteed	60.28%	-1.610 Stocks
Тwo	0.783	easy to invest your money	13.99%	-2.451 Endowment Mortgage
Three	-0.751	don't have to be an expert	10.44%	2.147 Property

Table O-3					
Results of the Princi	pal Component	ts Analysis for	r Non-Expe	ert Subject Fo	our

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.898	these are the cautious choice	48.08%	-1.538 Stocks
Two	-0.753	can do these on your own	12.96%	-1.888 Endowment mortgage
Three			10.42%	

Table O-4

Results of the Principal Components Analysis for Non-Expert Subject Five

Principal Component	Principal Component loading	Construct Pole	% Variance	Massgebend element
One	-0.924 0.924	can make money while young potential to earn more, but long-term	42.82%	1.563 Land, Property, Art/Antiques
Тwo	0.922 -0.763	unlikely to forget about these own something solid	20.39%	1.529 Saving Stamps
Three	0.792	benefit before you die	13.58%	-2.854 Life Assurance

Table O-5

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Results of the Principal Components Analysis for Non-Expert Subject Six

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.963	these are safe	38.59%	-1.398 PEPs
Two	0.822 -0.651	offer an immediate return can be sold immediately	21.96%	-2.005 Life Assurance
Three	-0.892	these are not functional	14.76%	-1.639 Art/Antiques

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.884 0.884 0.884	these are not risky these are safe these offer fixed rate of return	44.27%	-1.831 Art/Antiques
Two	0.675	not based on luck	16.86%	-2.435 Premium Bonds
Three	0.798 0.738	don't have to be an expert don't need advice	15.21%	-1.448 Pension Plan, Endow Mortgage

Table O-6Results of the Principal Components Analysis for Non-Expert Subject Seven

Table O-7

Results of the Principal Components Analysis for Expert Subject Two

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.925	can increase or decrease in net current value	40.68%	-1.352 Bank, Building Society
Two	0.724	indirectly tied to economic cycles	19.895%	1.853 Shares
Three	-0.529	depends on management of fund	12.16%	2.061 Pension Plan

Table O-8

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Results of the Principal Components Analysis for Expert Subject Three

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.914	these offer security	41.04%	1.566 Premium Bonds
Two	-0.761 0.761	collective investment institutional investment	24.05%	-1.670 Property
Three	-0.704	privately owned	9.88%	-1.790 Saving Stamps

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.889	these are small investments	34.97%	1.842 Post Office
Two	0.973	these are private	25.51%	-1.380 Land, Art/Antiques
Three	0.580	investment now	15.49%	1.804 Bank, Building Society

Table O-9Results of the Principal Components Analysis for Expert Subject Four

Table O-10Results of the Principal Components Analysis for Expert Subject Five

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	-0.894	stable	34.67%	-1.764 Land,
	0.809	no decrease of investment		Property
Two	0.919	possible short-term investment	32.41%	-1.682 PEPs
	0.919	present orientated		
Three			9.12%	

#### Table O-11

Results of the Principal Components Analysis for Expert Subject Six

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.946 0.946	non-contractual savings no fixed time limit	39.93%	-1.792 Endowment Mortgage
Two	0.714	no income for life	19.17%	-1.804 Art/Antiques
Three	0.692	possibility of increasing investment	12.63%	-2.229 Saving Stamps

Principal Component	Principal Component loading	Construct pole	% variance	Massgebend element
One	0.905	variable short-term investments	49.65%	-1.371 Property, Land
Two	-0.783	low risk	22.25%	-1.499 PEPs, Shares, Stocks
Three	-0.820	variable short-term commitments	18.26%	-1.851 Endowment Mortgage

Table O-12Results of the Principal Components Analysis for Expert Subject Seven

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## Appendix P

# Study Four Non-Expert Subjects' Job Titles

Study Four Job Titles:

'Non-Expert' Subject No:	Job Title
1	Information Assistant
2	Media Technician
3	Assistant Librarian
4	Research Assistant
5	
6	Student Accommodation Manager
7	Lecturer
8	Research Assistant
9	Draughtsperson
10	Assistant Librarian
11	Database Operator
12	Health and Safety Officer
13	Careers Advisor
14	Director student affairs
15	Personnel Officer
16	Subject Librarian
17	Senior Engineer
18	Word Processor Operator
19	Electrician
20	Marketing and PR Director

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Appendix Q

# Examples of Completed Micro- and Macroeconomic Elements Grids

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K IAND PLY EY DME DUCTION LE		
NORI DEMI JUPP JONE NCO ROD RICI	DESCRIPTIVE	OPPOSITE
	LINKED TO THE FEEL GOOD' FACTOR	LINKED TO THE 'FEEL BAI
36521TT	PRENICTARIE	UNPREDICTABLE
- - - - - - - - - -	OPTIMISTIC	PESSIMISTIC
	NON THREATENING	THREATENING
	LINKED TO LONGTERM PLANNING	LINKED TO SHORT TERN
	HAVE RELIEF IN.	HAVE NO BELLET IN
	STIMULATES THE ECONOMY	bepresses the Gone
	CERTAIN	UNCERTAIN
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KARKIN (*	DECREASES CONFIDENCE	WICERTAIN	DEPRESSES THE ECONOMY	HAVE TO BELIEF IZ	LINKED TO SHORT TERM PLANNING	THREATENING	PESSIVIISTIC	UNPREDICTABLE	UNKED TO THE FEEL BAD' FACTOR	OPPosiTES

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		UNPREDICTABLE
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	INCREASES CONFIDENCE	CERTAIN	STIMULATES THE CLONOMY	HAVE BELIEF IN	LINKED TO LONGTERM PLANNING	Now THREATENING	OPTIMISTIC	PREDICTARSIE	"LINKED TO THE FEELGOOD' FACTOR	DESCRIPTIVE TERMS
	DECREASES CONFIDENCE	WICERTRIN	DEPRESSES THE GONOMY	HAVE NO BELIEF IZ	LINKED TO SHORT TERM PLANNINI	THREATENING	PESSIVIISTIC	UNPREDICTARIE	UNKED TO THE FEEL GAD' FACTOR	OPPositES

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KANYETIE	
NEVONOR NEVONOR NEVONOR NEVONOR TERMS	OPPOSITE
2476153 ALINKED TO THE FEEL GOOD' FACTOR	LINKED TO THE 'FEEL BAD' FACTOR
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4126357 C OPTIMISTIC	PESSIMISTIC
2453176 NON THREATENING	THREATENING
5267314 ELINKED TO LONGTERM PLANNING	LINKED TO SHORT TERM PLANNING
3257146F HAVE BELIEF IN.	HAVE NO BELIEF 12
41732566 STIMULATES THE ECONOMY	DEPRESSES THE GONDARY
2714567H CERTAIN	UNCERTAIN
5/643271 INCREASES CONFIDENCE	DECREASES CONFIDENCE
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#### Appendix **R**

### Covering Letter and Instructions for Micro- and Macroeconomic Elements Grids

Stella Theodoulou BA(Hons.), MSc. Dept. Psychology, Calcutta House. ext. 2072

14.8.95

Dear Sir/Madam,

I am currently in the third year of my PhD in Psychology and am in the process of collecting data for my final experiment. I am writing to request your assistance in this matter and am enclosing two grids which I hope you will complete. I understand that you are probably very busy, however, I really need your help if I am to finish my research; I am sure you will appreciate how difficult it is to recruit 'volunteers'!

If you could find the time to complete and return the grids I would be very grateful. If you have any comments on the experiment please enclose those too.

Thank you for your time in advance.

Yours faithfully,

Stelle Trevdenle

Stella Theodoulou

#### Instructions

This 'test' is designed to help the researcher understand the way you think about economic and political issues. There are no right or wrong answers, what is important is what you think.

1. If you look at the attached sheets, you will see that there are two grids with seven economic terms across the top of the grids and ten descriptive terms (with their opposites) down the right-hand side of the grids.

2. Please rank each economic term on a scale of 1 to 7 in relation to each of the *descriptive terms (not their opposites)*; 1 being the most applicable or which best describes the term and 7 being the least applicable. For example, on the first line of grid one, how do each of the economic elements rate on the descriptive term 'linked to the feel good factor'? If you think that this description is most applicable to 'money', put a 1 in the box under money. If you think that it is second most applicable to 'roduction', put a 2 in the box under 'production' and so on, until there is a different number between 1 and 7 in each of the boxes on the first line.

3. Now consider the second line and the descriptive term 'predictable'; complete the boxes as before and carry on until you have finished the whole grid in a similar way. Then do exactly the same thing for grid two.

4. Please return the grids to Stella Theodoulou, Dept of Psychology, Calcutta House. LONDON GUILBHALL UNIVERSITY, OLD CASTLE ST. Thank you very much. Your assistance is greatly appreciated!

EL TNT.

#### Appendix S

### Remaining Tables from Chapter Eight, Study Four: The Construing of Micro-

### and Macroeconomic Elements in Expert and Non-Expert Subjects

Table S-1

Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-Expert Subjects on the Construct "Optimistic-Pessimistic"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Optimistic		Lowest scoring elements strongly linked to Pessimistic	
Optimistic - Pessimistic		Macro	Micro	Macro	Micro
	1	saving	production	unemployment	income
	2	taxation	demand	unemployment	work
	3	saving	work	unemployment	demand
	4	saving	demand	unemployment	income
	5	unemployment	production	taxation	money
	6	saving	demand	taxation	income
	7	saving	money	inflation	price
	8	saving	money	unemployment	price
	9	saving	work	unemployment	price
	10	saving	demand	unemployment	money
	11	gnp	supply	exchange rate	work
	12	saving	work	gnp	supply
	13	unemployment	price	exchange rate	production
	14	balance of payments	price	exchange rate	work
	15	unemployment	income	gnp	money
	16	saving	income	taxation	price
	17	inflation	price	unemployment	demand
	18	saving	price	unemployment	work
	19	saving	price	unemployment	production
	20	inflation	production	taxation	work

# Table S-2 Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-Expert Solitiests on the Construct Diagonal Interview Theorem in The

Subjects on the Construct "Non-threatening-Threatening"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Non- Threatening		Lowest scoring elements strongly linked to Threatening	
Non-		Macro	Micro	Macro	Micro
threatening -					
Threatening					
	1	saving	production	unemployment	income
	2	gnp	supply	unemployment	work
	3	unemployment	work	saving	money
	4	saving	work	unemployment	supply
	5	gnp	production	taxation	money
·	6	gnp	supply	taxation	price
	7	saving	money	unemployment	price
	8	saving	money	unemployment	demand
	9	saving	money	unemployment	demand
	10	saving	money	unemployment	price
	11	gnp	demand	unemployment	money
	12	saving	supply	unemployment	demand
	13	gnp	work	unemployment	production
	14	unemployment	demand	gnp	work
	15	saving	money	inflation	income
	16	saving	work	unemployment	price
	17	saving	price	unemployment	work
	18	saving	demand	unemployment	work
	19	saving	money	unemployment	work
	20	saving	work	taxation	production

## Table S-3

Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-Expert Subjects on the Construct "Linked to Long-term Planning-Linked to Short-term Planning"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Long- term Planning		Lowest scoring elements strongly linked to Short-term Planning	
Linked to		Macro	Micro	Macro	Micro
Long-term					
planning -				-	
Linked to					
Snort-term					
planning	1	ann	demand	unemployment	nrice
	2	unemployment	supply	saving	money
	2	saving	work	unemployment	demand
	<u> </u>	saving	production	exchange rate	income
	5	balance of payments	production	unemployment	work
	6	unemployment	work	taxation	production
	7	saving	production	unemployment	money
	8	saving	demand	unemployment	money
	9	saving	demand	unemployment	income
	10	saving	income	gnp	production
	11	balance of payments	work	saving	supply
	12	unemployment	production	gnp	money
	13	inflation	demand	unemployment	work
	14	gnp	demand	saving	income
	15	gnp	demand	exchange rate	money
	16	saving	production	unemployment	price
	17	saving	money	gnp	production
	18	inflation	production	unemployment	income
	19	taxation	demand	exchange rate	income
	20	inflation	production	saving	income

# Table S-4Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-ExpertSubjects on the Construct "Have Belief In-Have No Belief In"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Have Belief In		Lowest scoring elements strongly linked to Have Non Belief In	
Have Belief	:	Macro	Micro	Macro	Micro
in - Have No Belief in					
	1	saving	income	unemployment	price
	2	gnp	work	unemployment	supply
	3	saving	price	unemployment	work
	4	saving	work	unemployment	price
	5	exchange rate	money	inflation	work
	6	saving	supply	balance of payments	production
	7	saving	money	inflation	price
	8	saving	work	unemployment	price
	9	saving	work	unemployment	money
	10	saving	work	unemployment	income
	11	balance of payments	work	unemployment	supply
	12	saving	work	unemployment	money
	13	saving	work	exchange rate	supply
	14	gnp	demand	inflation	production
	15	saving	work	inflation	money
	16	saving	work	inflation	money
	17	taxation	supply	gnp	income
	18	taxation	supply	unemployment	income
	19	saving	production	inflation	price
	20	inflation	work	saving	production

# Table S-5Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-ExpertSubjects on the Construct "Stimulates the Economy-Depresses the Economy"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Stimulates the Economy		Lowest scoring elements strongly linked to Depresses the Economy	
Stimulates		Macro	Micro	Macro	Micro
the Economy			-		
- Depresses					
the Economy					
	1	balance of payments	demand	unemployment	production
	2	balance of payments	production	unemployment	money
	3	taxation	production	unemployment	work
	4	saving	demand	unemployment	income
	5	inflation	demand	unemployment	price
	6	inflation	money	unemployment	work
	7	exchange rate	money	unemployment	price
	8	saving	production	unemployment	work
	9	exchange rate	demand	inflation	price
	10	gnp	money	unemployment	income
	11	inflation	demand	saving	income
	12	inflation	demand	unemployment	work
	13	gnp	demand	taxation	price
	14	gnp	demand	inflation	price
	15	exchange rate	demand	inflation	supply
	16	gnp	demand	unemployment	price
	17	inflation	demand	unemployment	price
	18	saving	demand	exchange rate	price
	19	taxation	demand	unemployment	money
	20	inflation	work	unemployment	production

# Table S-6Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-ExpertSubjects on the Construct "Certain-Uncertain"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Certain		Lowest scoring elements strongly linked to Uncertain	
Certain -		Macro	Micro	Macro	Micro
Uncertain	1	1-1		in Questions	
	1	balance of payments	production	inflation	WORK
	2	unemployment	money	saving	work
-	3	taxation	work	saving	money
	4	unemployment	demand	saving	money
	5	unemployment	work	balance of payments	income
	6	gnp	price	saving	supply
	7	taxation	price	gnp	income
	8	balance of payments	work	unemployment	price
	9	taxation	demand	saving	income
	10	taxation	supply	exchange rate	money
	11	taxation	price	unemployment	work
	12	saving	work	unemployment	demand
	13	saving	work	unemployment	demand
	14	gnp	price	unemployment	work
· · · · · · · · · · · · · · · · · · ·	15	taxation	supply	exchange rate	income
	16	taxation	price	unemployment	work
	17	inflation	money	gnp	work
	18	gnp	demand	unemployment	income
	19	gnp	money	inflation	work
	20	inflation	money	saving	work

### Table S-7

Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-Expert Subjects on the Construct "Increases Confidence-Decreases Confidence"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Increases Confidence		Lowest scoring elements strongly linked to Decreases Confidence	
Increases		Macro	Micro	Macro	Micro
confidence -					
Decreases			• •		
confidence					
	1	saving	demand	unemployment	production
	2	saving	work	unemployment	supply
	3	saving	income	unemployment	demand
	4	saving	income	unemployment	supply
	5	saving	money	unemployment	price
	6	inflation	money	gnp	supply
	7	gnp	income	unemployment	price
	8	saving	money	unemployment	supply
	9	saving	work	unemployment	price
	10	saving	work	unemployment	supply
	11	gnp	income	unemployment	demand
	12	inflation	work	unemployment	supply
	13	inflation	work	gnp	demand
	14	gnp	income	unemployment	demand
	15	balance of payments	income	unemployment	price
	16	saving	demand	unemployment	price
	17	saving	work	unemployment	price
	18	taxation	income	gnp	supply
	19	saving	work	unemployment	supply
	20	taxation	money	gnp	demand

# Table S-8Highest and Lowest Scoring Macro- and Microeconomic Elements for Non-ExpertSubjects on the Construct "Does Not Cause Worry-Worrying"

Construct	Non- expert subjects	Highest scoring elements strongly linked to Does Not Cause Worry		Lowest scoring elements strongly linked to Worrying	
Does not		Macro	Micro	Macro	Micro
Cause Worry					
- Worrying					
	1	saving	production	unemployment	income
	2	gnp	supply	unemployment	income
	3	unemployment	supply	inflation	money
	4	saving	work	taxation	price
	5	unemployment	production	saving	income
	6	exchange rate	supply	inflation	work
	7	saving	money	unemployment	price
	8	saving	supply	unemployment	money
	9	saving	supply	unemployment	work
	10	saving	demand	unemployment	money
	11	gnp	production	unemployment	income
	12	saving	work	unemployment	income
	13	gnp	production	unemployment	price
	14	exchange rate	demand	unemployment	work
	15	saving	money	unemployment	work
	16	saving	price	unemployment	production
	17	gnp	supply	unemployment	work
	18	gnp	production	unemployment	income
	19	balance of payments	money	unemployment	work
	20	saving	demand	taxation	work

# Table S-9Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjectson the Construct "Optimistic-Pessimistic"

Construct	Expert subjects	Highest scoring elements strongly linked to Optimistic		Lowest scoring strongly linked to	elements Pessimistic
Optimistic - Pessimistic		Macro	Micro	Macro	Micro
	1	gnp	demand	unemployment	production
	2	gnp	income	inflation	price
	3	inflation	demand	unemployment	money
	4	gnp	demand	exchange rate	price
	5	inflation	demand	saving	supply
	6	gnp	income	inflation	price
	7	gnp	demand	unemployment	price
	8	unemployment	work	exchange rate	production
	9	gnp	income	inflation	money
	10	inflation	work	taxation	price
	11	gnp	demand	unemployment	price
	12	gnp	work	unemployment	production
	13	gnp	demand	inflation	price
	14	gnp	work	saving	supply
	15	saving	supply	unemployment	work
	16	taxation	demand	saving	money
	17	saving	demand	unemployment	work
	18	exchange rate	demand	saving	supply
	19	saving	price	unemployment	work
	20	gnp	demand	unemployment	price

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### Table S-10

Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects

on the Construct "Non-Threatening-Threatening"

Construct	Expert subjects	Highest scoring elements strongly linked to Non- threatening		Lowest scoring strongly linked to	gelements Threatening
Non-		Macro	Micro	Macro	Micro
threatening -					
Threatening					
	1	gnp	work	saving	price
	2	taxation	income	inflation	demand
	3	inflation	work	taxation	supply
	4	saving	work	unemployment	price
	5	inflation	work	gnp	supply
	6	exchange rate	production	inflation	price
	7	gnp	income	inflation	production
	8	saving	work	unemployment	production
	9	gnp	demand	inflation	money
	10	saving	income	unemployment	price
	11	saving	work	unemployment	price
	12	gnp	supply	unemployment	price
	13	saving	price	unemployment	production
	14	gnp	production	inflation	supply
	15	saving	income	inflation	price
	16	taxation	work	inflation	money
	17	saving	demand	unemployment	work
	18	saving	work	inflation	supply
	19	saving	money	unemployment	production
	20	saving	work	unemployment	price

# Table S-11Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjectson the Construct "Linked to Long-term Planning-Linked to Short-term Planning"

Construct	Expert subjects	Highest scoring strongly linked to Plannin	elements Long-term g	Lowest scoring strongly linked to Plannin	elements Short-term
Linked to		Macro	Micro	Macro	Micro
Long-term					
planning -		•			
Linked to					
Short-term					
planning			1 -		8
· · · · ·	1	taxation	production	exchange rate	supply
	2	taxation	production	inflation	money
	3	unemployment	production	exchange rate	money
	4	unemployment	production	exchange rate	money
	5	unemployment	work	saving	supply
	6	gnp	production	inflation	money
	7	unemployment	production	exchange rate	money
	8	taxation	money	saving	supply
	9	saving	income	inflation	work
	10	unemployment	production	taxation	money
	11	unemployment	production	gnp	money
	12	gnp	production	unemployment	income
	13	saving	production	balance of payments	price
	14	saving	work	exchange rate	money
	15	saving	work	unemployment	money
	16	taxation	production	inflation	money
	17	saving	income	gnp	supply
	18	gnp	production	inflation	money
	19	inflation	production	gnp	work
	20	unemployment	production	exchange rate	money

# Table S-12 Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects

on the Construct "Have Belief In-Have No Belief In"

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Construct	Expert subjects	Highest scoring strongly linked to in	elements Have Belief	Lowest scoring elements strongly linked to Have No Belief In	
Have Belief in - Have No Belief in		Macro	Micro	Macro	Micro
Denerm	1	gnp	production	unemployment	money
	2	taxation	income	inflation	price
	3	taxation	production	inflation	money
·····	4	gnn	production	unemployment	price
	5	unemployment	production	exchange rate	supply
···········	6	taxation	production	inflation	money
	7	enn	income	inflation	money
	8	balance of payments	demand	exchange rate	production
<u> </u>	9	gnp	money	saving	work
	10	gnp	production	unemployment	price
	11	gnp	production	unemployment	price
	12	gnp	production	unemployment	price
	13	exchange rate	work	unemployment	price
	14	balance of payments	income	inflation	money
	15	saving	work	inflation	money
	16	gnp	work	exchange rate	money
	17	saving	work	unemployment	price
	18	balance of payments	production	inflation	money
	19	gnp	work	unemployment	income
	20	gnp	production	unemployment	price

### Table S-13

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Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects

on the Construct "Stimulates the Economy-Depresses the Economy"

Construct	Expert subjects	Highest scoring elements strongly linked to Stimulates the Economy		Lowest scoring elements strongly linked to Depresses the Economy	
Stimulates the Economy - Depresses		Macro	Micro	Macro	Micro
the Economy					
	1	gnp	demand	saving	supply
	2	exchange rate	income	balance of payments	supply
	3	exchange rate	demand	saving	money
•	4	gnp	demand	saving	price
	5	exchange rate	demand	gnp	price
	6	inflation	demand	saving	money
	7	exchange rate	demand	saving	supply
	8	gnp	money	saving	production
	9	exchange rate	demand	saving	price
	10	gnp	production	saving	price
	11	gnp	demand	unemployment	price
	12	gnp	work	taxation	supply
	13	gnp	demand	unemployment	price
	14	inflation	income	balance of payments	work
	15	exchange rate	demand	unemployment	price
	16	exchange rate	money	saving	supply
	17	saving	income	unemployment	money
	18	gnp	demand	saving	production
	19	inflation	demand	unemployment	supply
	20	gnp	demand	saving	price
## Table S-14Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects

on the Construct "Certain-Uncertain"

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Construct	Expert	Highest scoring elements		Lowest scoring elements	
	subjects	strongly linked to	Certain	strongly linked to	o Uncertain
Certain -		Macro	Micro	Macro	Micro
Uncertain					
	1	taxation	supply	exchange rate	income
	2	unemployment	supply	exchange rate	income
1	3	taxation	demand	exchange rate	price
	4	taxation	work	exchange rate	income
	5	taxation	demand	exchange rate	work
	6	taxation	supply	exchange rate	income
	7	unemployment	supply	balance of	demand
				payments	
	8	taxation	income	balance of	demand
				payments	
	9	unemployment	work	balance of	price
				payments	
	10	gnp	supply	balance of	demand
				payments	
	11	taxation	supply	balance of	price
				payments	
	12	taxation	work	saving	price
	13	gnp	work	exchange rate	price
	14	unemployment	money	balance of	demand
				payments	
	15	taxation	income	balance of	price
				payments	
	16	taxation	supply	saving	demand
	17	taxation	demand	unemployment	income
	18	taxation	supply	saving	production
	19	inflation	income	saving	price
	20	taxation	supply	exchange rate	price

## Table S-15Highest and Lowest Scoring Macro- and Microeconomic Elements for Expert Subjects

on the Construct "Increases Confidence-Decreases Confidence"

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Construct	Expert subjects	Highest scoring elements strongly linked to Increases confidence		Lowest scoring strongly linked to confider	elements Decreases Ice
Increases confidence - Decreases confidence		Macro	Micro	Macro	Micro
	1	gnp	demand	unemployment	price
	2	gnp	demand	unemployment	supply
	3	exchange rate	demand	balance of payments	price
	4	gnp	demand	unemployment	money
	5	exchange rate	production	gnp	supply
	6	balance of payments	work	saving	money
	7	exchange rate	demand	taxation	price
	8	unemployment	demand	balance of payments	production
	9	gnp	income	balance of payments	money
	10	gnp	price	unemployment	money
	11	gnp	demand	unemployment	supply
	12	gnp	income	unemployment	money
	13	gnp	income	taxation	work
	14	exchange rate	work	unemployment	money
	15	exchange rate	work	unemployment	money
	16	inflation	demand	taxation	money
	17	saving	work	unemployment	price
	18	gnp	demand	taxation	money
	19	saving	income	unemployment	demand
	20	exchange rate	demand	unemployment	money

on the Construct "Does Not Cause Worry-Worrying"

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Construct	Expert subjects	Highest scoring strongly linked Not Cause V	elements to Does Vorry	lentsLowest scoring elementsloesstrongly linked to Worryingy	
Does not Cause Worry - Worrying		Macro	Micro	Macro	Micro
	1	unemployment	supply	inflation	demand
	2	saving	money	inflation	income
	3	taxation	supply	balance of payments	production
	4	saving	supply	inflation	production
	5	unemployment	supply	gnp	production
	6	gnp	demand	saving	money
	7	gnp	supply	inflation	demand
	8	saving	money	taxation	supply
	9	saving	supply	inflation	work
	10	saving	income	unemployment	demand
	11	saving	income	inflation	demand
	12	gnp	supply	unemployment	price
	13	unemployment	work	saving	demand
	14	taxation	supply	inflation	demand
	15	saving	work	inflation	demand
	16	taxation	work	inflation	demand
	17	saving	demand	unemployment	work
	18	saving	money	inflation	demand
	19	saving	supply	inflation	work
	20	saving	supply	inflation	demand

#### Appendix T

#### Remaining Principal Component Analysis Tables from Chapter Eight, Study Four: The Construing of Micro- and Macroeconomic Elements in Expert and Non-Expert Subjects

#### Non-Expert Subjects Macroeconomic Elements Grids

Table T-1Results of the Principal Components Analysis of the Macroeconomic Elements Gridfor Non-Expert Subject One

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.956 PC1 0.912	does not cause worry have belief in	46.80%	-1.605 Saving
PC2 0.885 PC2 0.740	linked to long term planning increases confidence	25.60%	-1.495 Balance of Payments
PC3 -0.798 PC3 0.681	depresses the economy linked to the feel-good factor	17.09%	-1.441 GNP

Table T-2

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Two

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.912	non-threatening	56.32%	1.746
PC1 0.912	does not cause worry		Unemployment
PC2 -0.872	linked to the feel-bad factor	25.93%	2.090 Saving
PC3 0.609	optimistic	11.72%	-2.027 Taxation

<u>Results of the Principal Components Analysis of the Macroeconomic Elements Grid</u> for Non-Expert Subject Four

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.985 PC1 0.985 PC1 -0.936 PC1 0.884 PC1 0.877	optimistic non-threatening uncertain have belief in stimulates the economy	65.41%	-1.738 Saving
PC2 0.785	predictable	14.77%	-1.377 Unemployment
PC3		10.42%	

Table T-4

Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Five

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.975	uncertain	53.60%	1.300 Unemployment
PC2 0.744	optimistic	22.45%	-1.727 Unemployment
PC3		10.16%	

Table T-5

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Six

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.914	optimistic	32.40%	1.441 Inflation
PC2 0.778 PC2 0.715	increases confidence linked to the feel-good factor	29.71%	1.693 GNP
PC3 0.709	predictable	19.20%	2.164 Balance of Payments

Table T-6<u>Results of the Principal Components Analysis of the Macroeconomic Elements Grid</u>for Non-Expert Subject Seven

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.977	optimistic	67.70%	1.425
PC1 0.958	non-threatening		Unemployment
PC1 0.951	linked to the feel-good		
	factor		
PC1 0.922	increases confidence		
PC2 0.964	predictable	20.88%	-1.516 Taxation
PC3		7.26%	

Table T-7

Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Eight

Princi	pal	Construct pole	% variance	Massgebend
Comp	onent loading			element
PC1	0.963	threatening	76.10%	1.665 ·
PC1	0.962	increases confidence		Unemployment
PC1	0.958	linked to long-term		
PC1	0.958	linked to the feel-good factor		
PC1	0.943	optimistic		
PC1	0.943	stimulates the economy		
PC2 0	.894	predictable	12.39%	1.791 Balance of Payments
PC3			6.03%	

Table T-8

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Nine

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.987 PC1 0.935 PC1 0.907	increases confidence linked to the feel-good factor have belief in	70.92%	-1.635 Saving
PC2		17.45%	
PC3		6.27%	

Table T-9Results of the Principal Components Analysis of the Macroeconomic Elements Gridfor Non-Expert Subject Ten

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.923	does not cause worry	60.91%	1.611 Unemployment
PC2 0.858 PC2 0.808	predictable linked to long term planning	24.69%	-2.171 Saving
PC3		6.91%	

Table T-10

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Eleven

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.966 PC1 0.962 PC1 0.962	have belief in increases confidence does not cause worry	60.99%	1.553 Unemployment
PC2 0.822 PC2 0.714	linked to long term planning predictable	21.87%	-1.943 Taxation
		7.64%	

Table T-11

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Twelve

Princ	ipal	Construct pole	% variance	Massgebend
Com	ponent loading			element
PC1	0.885	have belief in	39.14%	2.075
PC1	0.885	certain		Unemployment
PC1	0.842	does not cause worry		
PC2	0.821	optimistic	20.51%	-1.488 Inflation
PC2	0.757	non-threatening		
PC3	0.837	linked to the feel-good	19.33%	1.428 GNP
		factor		
PC3	0.760	linked to long-term		
	·	planning		

## Table T-12Results of the Principal Components Analysis of the Macroeconomic Elements Gridfor Non-Expert Subject Thirteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.945	linked to the feel-good factor	64.48%	1.495 GNP
PC1 0.905	predictable		
PC2 0.824	certain	21.43%	2.186 Unemployment
PC3		7.92%	

Table T-13

Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Fourteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC10.938PC10.938PC10.938PC10.914	linked to long-term planning have belief in stimulates the economy increases confidence	61.27%	-1.672 GNP
PC2 0.770 PC2 0.770	predictable certain	19.51%	-1.386 Inflation
PC3 0.703	optimistic	8.97%	-1.810 Balance of Payments

Table T-14

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Fifteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.969 PC1 0.960 PC1 0.922	have belief in non-threatening does not cause worry	52.79%	1.471 Inflation
PC2 -0.703	depresses the economy	17.64%	2.331 Exchange rate
PC3 0.732	linked to the feel-good factor	13.50%	-2.097 GNP

Table T-15 <u>Results of the Principal Components Analysis of the Macroeconomic Elements Grid</u> for Non-Expert Subject Sixteen

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1	0.991	linked to long-term planning	65.78%	1.657 Unemployment
PC1	0.991	increases confidence		
PC1	0.991	does not cause worry		
PC2	0.752	certain	17.24%	-2.226 Taxation
PC3	0.692	predictable	10.73%	2.000 Saving

Table T-16

Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Seventeen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.912 PC1 0.839	non-threatening predictable	36.36%	-1.443 Inflation
PC2 0.907 PC2 0.818	increases confidence does not cause worry	33.37%	1.359 Unemployment
PC3 0.860	optimistic	19.07%	-1.463 GNP

Table T-17

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Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Eighteen

Princ Com	cipal ponent loading	Construct pole	% variance	Massgebend element
PC1	0.904	optimistic	35.57%	1.865 Unemployment
PC2	0.845	increases confidence	30.01%	1.973 GNP
PC3	0.800	certain	18.87%	1.403 Unemployment

Table T-18Results of the Principal Components Analysis of the Macroeconomic Elements Gridfor Non-Expert Subject Nineteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.952 PC1 0.915	non-threatening linked to the feel-good factor	54.10%	1.626 Unemployment
PC2 -0.837	worrying	26.28%	1.607 Balance of Payments
PC3 0.724	stimulates the economy	12.74%	1.624 GNP

Table T-19

Results of the Principal Components Analysis of the Macroeconomic Elements Grid for Non-Expert Subject Twenty

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.945 PC1 -0.908	threatening worrying	64.06%	-1.505 Taxation
PC2 0.856	optimistic	17.35%	1.871 Saving
PC3 0.632	predictable	12.86%	2.111 Unemployment

#### Expert Subjects Macroeconomic Elements Grids

# Table T-20Results of the Principal Components Analysis of the Macroeconomic Elements Gridfor Expert Subject One

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.847 PC1 0.782	increases confidence stimulates the economy	36.15%	-1.819 GNP
PC2 0.929	linked to long-term planning	29.53%	-1.574 Taxation
PC2 0.830	certain		
PC2 0.751	does not cause worry		
		16.28%	

Table T-21

Results of the Principal Components Analysis for Expert Subject Two

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.886 PC1 0.864	optimistic baye belief in	45.16%	1.544 Unemployment
PC2 0.755 PC2 0.715	linked to the feel-good factor predictable	22.39%	-1.810 Balance of Payments
PC3 -0.808	depresses the economy	20.23%	1.712 Exchange Rate

Table T-22

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Results of the Principal Components Analysis for Expert Subject Three

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.950	linked to the feel-bad factor	45.19%	-1.236 Unemployment
PC2 0.728	increases confidence	24.05%	-1.479 Taxation
PC3 0.695 PC3 0.624	non-threatening linked to long-term planning	14.39%	1.651 Exchange Rate

## Table T-23Results of the Principal Components Analysis for Expert Subject Four

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.891	linked to short-term planning	33.12%	1.512 Taxation
PC1 0.807	have belief in	29.97%	-2 090 GNP
PC3 -0.830	linked to the feel-good factor	17.50%	1.563 Inflation
PC3 0.666	does not cause worry		

Table T-24

Results of the Principal Components Analysis for Expert Subject Five

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1	0.954	non-threatening	53.84%	1.446 GNP
PC1	0.951	linked to the feel-good		
		factor		
PC1	0.938	stimulates the economy		
PC1	0.922	optimistic		
PC2	0.884	have belief in	22.90%	1.848 Exchange
PC2	0.779	predictable		Rate
PC2	0.730	certain		
PC3	-0.742	linked to short-term	10.01%	1.382 Balance of
		planning		Payments

Table T-25

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Results of the Principal Components Analysis for Expert Subject Six

Princ Comr	ipal conent loading	Construct pole	% variance	Massgebend element
PC1 PC1 PC1	0.904 0.861 0.861	does not cause worry increases confidence linked to the feel-good factor	47.11%	1.469 Inflation
PC2 PC2	0.753 0.740	predictable certain	25.63%	1.691 Exchange Rate
PC3	0.786	stimulates the economy	13.31%	-2.064 Taxation

### Table T-26 Results of the Principal Components Analysis for Expert Subject Eight

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.937 PC1 0.913	optimistic increases confidence	58.57%	-1.315 Taxation
PC2 0.932	stimulates the economy	16.96%	1.764 Saving
PC3 0.607	certain	13.27%	1.371 Exchange Rate

Table T-27

Results of the Principal Components Analysis for Expert Subject Nine

Princ Comp	ipal conent loading	Construct pole	% variance	Massgebend element
PC1	0.945	have belief in	37.33%	-1.400 GNP
PC2	0.907	does not cause worry	24.31%	1.993 Inflation
PC3	0.668	predictable	14.03%	-1.993 Taxation

Table T-28

Results of the Principal Components Analysis for Expert Subject Ten

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.921	linked to the feel-good factor	38.03%	1.761 Unemployment
PC1 0.853 PC1 0.840	increases confidence have belief in		
PC2 -0.801 PC2 -0.801	threatening worrying	36.95%	-1.872 GNP
PC3 0.676	optimistic	14.36%	-1.997 Inflation

Table T-29

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Results of the Principal Components Analysis for Expert Subject Eleven

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1	0.909	linked to the feel-good factor	46.28%	1.940 Unemployment
PC2 PC2	0.962 0.796	predictable certain	25.10%	-1.492 Taxation
PC3	0.928	does not cause worry	17.78%	-1.867 Saving

Princ Com	ipal conent loading	Construct pole	% variance	Massgebend element
PC1	0.929	non-threatening	57.24%	-1.774 GNP
PC1	0.908	linked to the feel-good		
		factor		
PC1	0.908	optimistic		
PC1	0.904	does not cause worry		
PC2	0.761	certain	21.41%	-2.165 Taxation
PC3	0.616	stimulates the economy	11.92%	-1.554 Inflation

Results of the Principal Components Analysis for Expert Subject Thirteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1         0.933           PC1         0.918           PC1         0.903	non-threatening stimulates the economy linked to the feel-good factor	60.27%	1.530 Unemployment
PC2 0.926 PC2 0.801	linked to long-term planning certain	24.99%	1.484 Exchange Rate
PC3		8.85%	

Table T-32

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Results of the Principal Components Analysis for Expert Subject Fourteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.881	decreases confidence	41.24%	1.588 GNP
PC2 0.847	linked to long-term planning	27.13%	1.801 Inflation
PC3	•	14.21%	

## Table T-33Results of the Principal Components Analysis for Expert Subject Fifteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1         0.910           PC1         0.890           PC1         0.873	have belief in does not cause worry non-threatening	48.25%	1.728 Unemployment
PC1 0.830	linked to long-term planning		
PC2 0.911 PC2 0.878 PC2 -0.811	certain predictable depresses the economy	33.22%	1.505 Balance of Payments
PC3		6.64%	

#### Table T-34

Results of the Principal Components Analysis for Expert Subject Sixteen

Principal Component loading		Construct pole	% variance	Massgebend element
PC1	0.947	linked to long-term planning	44.62%	-1.862 Taxation
PC1	0.925	non-threatening		
PC2	0.893	stimulates the economy	23.90%	1.788 Saving
PC2	0.779	optimistic		
PC3	0.531	linked to the feel-good	13.13%	-1.564 Balance of
		factor		Payments

Table T-35

#### Results of the Principal Components Analysis for Expert Subject Seventeen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1         0.992           PC1         0.992           PC1         0.984           PC1         0.983	increases confidence non-threatening stimulates the economy linked to the feel-good factor	66.00%	1.695 Unemployment
PC2 0.858 PC2 0.843	linked to long-term planning predictable	21.85%	-1.673 Taxation
PC3 0.637	certain	7.56%	1.831 Inflation

Principal Component loading		Construct pole	% variance	Massgebend element
PC1	0.993	linked to the feel-good factor	36.36%	1.468 Saving
PC1	0.906	predictable		
PC1	0.901	increases confidence		
PC2	0.961	does not cause worry	31.52%	-1.646 Saving
PC3	0.731	optimistic	15.14%	-2.108 Taxation
PC3	0.541	have belief in		

Results of the Principal Components Analysis for Expert Subject Nineteen

Principal Component loadi	ng Construct pole	% variance	Massgebend element
PC1 0.972 PC1 0.915 PC1 0.828	non-threatening does not cause worry increases confidence	42.45%	-1.730 Saving
PC2 0.945 PC2 0.884	stimulates the economy linked to long-term planning	26.44%	1.723 Unemployment
PC3 0.562 PC3 0.508	predictable certain	15.42%	1.637 Exchange Rate

Table T-38

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Results of the Principal Components Analysis for Expert Subject Twenty

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.900	increases confidence	36.65%	1.893
PC1 0.850	non-threatening		Unemployment
PC2 0.876	predictable	31.10%	1.295 Balance of
PC2 0.824	certain		Payments
PC3		15.39%	

#### Non-Expert Subjects Microeconomic Elements Grids

#### Table T-39

Results of the Principal Components Analysis of the Microeconomic Elements Grid for Non-Expert Subject One

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.927 PC1 0.927	predictable certain	60.57%	-1.684 Production
PC2 0.594	linked to long-term planning	17.29%	-2.229 Demand
		9.92%	

#### Table T-40

Results of the Principal Components Analysis for Non-Expert Subject Two

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.982	decreases confidence	66.10%	-1.463 Supply
PC1 0.960	does not cause worry		
PC1 -0.928	linked to the feel-bad factor		
PC2 0.830	stimulates the economy	23.33%	2.112 Money
PC2 -0.791	uncertain		
PC3		4.68%	

Table T-41

#### Results of the Principal Components Analysis for Non-Expert Subject Four

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.992	optimistic	54.35%	-1.501 Demand
PC1 0.976	certain		
PC1 0.958	predictable		
PC1 0.938	stimulates the economy		
PC2 0.900	linked to the feel-good	33.23%	-1.749 Work
	factor		
PC2 0.889	increases confidence		
PC3		5.93%	

## Table T-42Results of the Principal Components Analysis for Non-Expert Subject Five

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1 PC1	0.980 0.971	non-threatening optimistic	55.21%	1.559 Money
PC2	0.885	have belief in	22.45%	1.628 Price
PC3	0.819	predictable	12.72%	1.464 Work

Table T-43

Results of the Principal Components Analysis for Non-Expert Subject Six

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.908	non-threatening	38.51%	-1.494 Work
PC2 0.948 PC2 -0.945	linked to the feel-good factor worrving	28.00%	1.569 Supply
PC3 -0.703	have no belief in	15.80%	2.072 Price

Table T-44

Results of the Principal Components Analysis for Non-Expert Subject Seven

Princ Comp	ipal conent loading	Construct pole	% variance	Massgebend element
PC1 PC1	0.966 0.965	increases confidence have belief in	64.58%	-1.676 Money
PC2	0.774	linked to long-term planning	16.23%	1.599 Price
PC3	0.795	does not cause worry	9.70%	1.715 Income

## Table T-45 Results of the Principal Components Analysis for Non-Expert Subject Eight

Principal Component loading		Construct pole	% variance	Massgebend element
PC1 PC1 PC1 PC1	0.965 0.928 0.910 0.904	optimistic have belief in increases confidence linked to the feel-good factor	63.01%	1.404 Price
PC2	0.831	linked to long-term planning	18.53%	-1.803 Demand
PC3	0 634	non-threatening	9.87%	-2.183 Supply

#### Table T-46

Results of the Principal Components Analysis for Non-Expert Subject Nine

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1	0.945	linked to long-term planning	44.32%	1.619 Income
PC1	0.941	certain		
PC1	0.933	predictable		
PC2	0.806	optimistic	30.05%	-1.564 Work
PC2	0.806	have belief in		
PC3	0.620	linked to the feel-good factor	12.98%	1.906 Production

Table T-47

Results of the Principal Components Analysis for Non-Expert Subject Ten

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.911	does not cause worry	34.53%	-1.514 Production
PC2 0.958	non-threatening	32.26%	-1.368 Work
PC3 0.704	linked to the feel-good factor	17.71%	1.314 Money

Principal Component loading		Construct pole	% variance	Massgebend element
PC1	0.966	linked to the feel-good factor	71.08%	-1.247 Income
PC1	0.966	increases confidence		
PC1	0.944	linked to long-term planning		
PC1	0.944	have belief in		
PC2	0.774	predictable	17.25%	1.563 Work
PC3			6.52%	

Results of the Principal Components Analysis for Non-Expert Subject Twelve

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.944 PC1 0.940	optimistic linked to the feel-good factor	35.74%	1.834 Supply
PC2 -0.899 PC2 0.891	depresses the economy have belief in	31.46%	-1.994 Work
PC3 0.875	linked to long-term planning	14.83%	1.494 Money

Table T-50

Results of the Principal Components Analysis for Non-Expert Subject Thirteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.940	have belief in	65.32%	1.173 Supply
PC2 -0.652	uncertain	19.36%	1.691 Production
PC3 0.767	stimulates the economy	9.61%	2.016 Price

 Table T-51

 Results of the Principal Components Analysis for Non-Expert Subject Fourteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.903	does not cause worry	38.99%	-1.880 Demand
PC1 0.866	non-threatening		
PC1 0.804	stimulates the economy	l	
PC2 -0.922	linked to the feel-bad factor	29.63%	-1.515 Price
PC3 0.813	predictable	12.33%	1.521 Price

Table T-52

Results of the Principal Components Analysis for Non-Expert Subject Fifteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.99 PC1 0.978 PC1 -0.950	worrying optimistic threatening	58.78%	1.511 Money
PC2 0.897	linked to long-term planning	22.47%	1.725 Income
PC3		7.56%	

Table T-53

Results of the Principal Components Analysis for Non-Expert Subject Sixteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.963	uncertain	46.81%	1.825 Price
PC2 0.953	linked to the feel-good factor	26.59%	-1.763 Income
PC3 -0.674	have no belief in	16.74%	2.163 Production

Table T-54

Results of the Principal Components Analysis for Non-Expert Subject Seventeen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.884	does not cause worry	57.49%	-1.630 Price
PC2 0.934	linked to long-term planning	24.39%	1.240 Production
PC3 -0.743	threatening	11.55%	1.480 Income

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.884	decreases confidence	39.57%	1.780 Income
PC2 0.913	stimulates the economy	32.56%	-1.667 Demand
PC3 0.906	linked to long-term planning	14.83%	-1.688 Production

Results of the Principal Components Analysis for Non-Expert Subject Nineteen

Princ Comp	ipal conent loading	Construct pole	% variance	Massgebend element
PC1 PC1	0.959 0.932	non-threatening certain	45.00%	-1.570 Money
PC2 PC2	0.846 0.750	increases confidence predictable	24.32%	1.612 Supply
PC3	0.644	optimistic	14.49%	1.669 Income

Table T-57

Results of the Principal Components Analysis for Non-Expert Subject Twenty

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.987	linked to the feel-good factor	58.48%	-1.718 Work
PCI 0.951	non-threatening		
PC2 0.807 PC2 0.714	linked to long-term planning	27.41%	-1.868 Money
PC3		8.10%	

#### **Expert Subjects Microeconomic Elements Grids**

# Table T-58Results of the Principal Components Analysis of the Microeconomic Elements Grid forExpert Subject One

Principal Component loading		Construct pole	% variance	Massgebend element
PC1	0.974	stimulates the economy	42.61%	-1.745 Demand
PC2	0.806	non-threatening	28.34%	1.897 Production
PC2	0.732	predictable		
PC3	0.866	certain	11.86%	1.470 Income

Table T 59

Results of the Principal Components Analysis for Expert Subject Two

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.876	uncertain	41.15%	1.682 Supply
PC2 0.821	linked to long-term planning	23.57%	1.605 Money
PC3 0.926	non-threatening	17.27%	-1.715 Income

Table T-60

Results of the Principal Components Analysis for Expert Subject Three

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.928 PC1 0.923	have belief in stimulates the economy	56.09%	-1.542 Demand
PC2 -0.842	threatening	19.51%	-1.875 Supply
PC3		13.60%	

Principal Component loading		Construct pole	% variance	Massgebend element
PC1 0. PC1 0.	.877 .840	stimulates the economy linked to long-term planning	44.22%	-1.677 Demand
PC2 0. PC2 0.	.843 .725	does not cause worry predictable	25.65%	1.708 Production
PC3 0.	.602	certain	12.71%	1.509 Price

Results of the Principal Components Analysis for Expert Subject Five

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.977	linked to the feel-good factor	61.40%	-1.422 Production
PC1 0.952	increases confidence		
PC1 -0.952	worrying		
PC2 0.879	certain	29.08%	1.692 Work
PC2 0.830	predictable		
PC2 0.807	linked to short-term		
PC3		4.33%	

Table T-63

#### Results of the Principal Components Analysis for Expert Subject Six

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.869 PC1 0.869 PC1 0.860	have belief in stimulates the economy linked to the feel-good factor	55.42%	1.481 Money
PC2		17.62%	
PC3 0.650	non-threatening	11.86%	-1.608 Production

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.943	have no belief in	53.18%	1.469 Demand
PC2 0.858	non-threatening	28.08%	-1.684 Money
PC2 0.758	increases confidence		
PC3		7.32%	

Results of the Principal Components Analysis for Expert Subject Nine

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Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1 PC1	0.916 0.898	increases confidence non-threatening	31.17%	1.658 Money
PC2	0.808	does not cause worry	25.23%	2.294 Work
PC3	0.744	have belief in	17.59%	-1.667 Demand

Table T-66

Results of the Principal Components Analysis for Expert Subject Ten

Principal Component loading		Construct pole	% variance	Massgebend element
PC1	0.938	predictable	42.56%	1.713 Price
PC1	0.928	linked to long-term planning		
PC1	0.877	have belief in		
PC1	0.838	optimistic		
PC2	0.874	does not cause worry	24.14%	-1.447 Income
PC2	0.873	linked to the feel-good		
		factor		
PC3	0.909	certain	13.18%	-1.316 Income

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.934 PC1 0.890	stimulates the economy optimistic	45.79%	-1.555 Demand
PC2 0.796 PC2 0.746	non-threatening does not cause worry	21.75%	-1.920 Income
PC3 0.983	certain	18.24%	1.692 Price

Results of the Principal Components Analysis for Expert Subject Twelve

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1 PC1 PC1	0.944 0.924 0.864	does not cause worry non-threatening linked to long-term planning	39.57%	1.452 Price
PC2 PC2 PC2	0.844 0.838 0.826	optimistic stimulates the economy linked to the feel-good factor	32.36%	1.392 Price
PC3 PC3	0.745 0.733	increases confidence have belief in	16.09%	-1.612 Production

#### Table T-69

#### Results of the Principal Components Analysis for Expert Subject Thirteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.973 PC1 0.967 PC1 0.958	have belief in certain linked to long-term planning	35.63%	-1.486 Work
PC2 0.852 PC2 -0.822	stimulates the economy worrying	30.52%	1.716 Price
PC3 0.811 PC3 0.724	increases confidence linked to the feel-good factor	18.64%	-1.839 Income

## Table T-70Results of the Principal Components Analysis for Expert Subject Fourteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.912	uncertain	49.20%	1.410 Supply
PC2 -0.876	linked to the feel-bad factor	28.40%	-1.492 Work
PC3 0.559	predictable	10.03%	1.951 Production

Table T-71

Results of the Principal Components Analysis for Expert Subject Fifteen

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1	0.867	linked to the feel-good factor	35.29%	-1.718 Work
PC1	0.813	non-threatening		
PC1	0.802	does not cause worry		
PC2	0.969	predictable	27.50%	-1.606 Supply
PC2	0.882	certain		
PC3	0.841	have belief in	17.42%	1.768 Money
PC3	0.739	linked to long-term		

#### Table T-72

Results of the Principal Components Analysis for Expert Subject Sixteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.829 PC1 -0.796	uncertain unpredictable	40.79%	-1.980 Demand
PC2 0.757	linked to long-term planning	31.11%	2.194 Money
PC3 0.632 PC3 0.632	non-threatening have belief in	18.33%	-1.906 Work

## Table T-73Results of the Principal Components Analysis for Expert Subject Seventeen

Princ Com	ipal ponent loading	Construct pole	% variance	Massgebend element
PC1 PC1	0.972 0.935	does not cause worry non-threatening	57.05%	1.396 Work
PC2	0.975	have belief in	27.21%	-1.371 Work
PC3	0.731	stimulates the economy	9.91%	-2.013 Income

Table T-74

Results of the Principal Components Analysis for Expert Subject Eighteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.921	worrying	39.595	-1.787 Demand
PC1 -0.832	linked to the feel-bad factor		
PC2 0.901	linked to long-term planning	27.78%	-1.792 Production
PC2 -0.774	uncertain		
PC3 0.581	predictable	13.46%	-1.589 Income

Table T-75

Results of the Principal Components Analysis for Expert Subject Nineteen

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 -0.958 PC1 -0.909	linked to the feel-bad factor depresses the economy	44.46%	1.727 Work
PC2 0.853	predictable	24.81%	-1.624 Income
PC3 0.626 PC3 0.609	increases confidence non-threatening	12.92%	1.540 Price

Principal Component loading	Construct pole	% variance	Massgebend element
PC1 0.886 PC1 0.824 PC1 0.782	increases confidence stimulates the economy linked to the feel-good factor	39.39%	-1.644 Demand
PC2 0.859 PC2 0.803	predictable non-threatening	29.41%	2.140 Price
PC3 -0.691	pessimistic	14.21%	-1.373 Production

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 Table T-76

 Results of the Principal Components Analysis for Expert Subject Twenty

Appendix U

**Macroeconomic Elements Grids** 

UThis table provides	you with the minimum,	me an,	maximu	m and	standa	rd deviati	ton of each variable
POLS	/ CONTRAST	VBL.	MIN.	MEAN	MAX.	STD.DEV.	8 OF TOTAL VAR.
feelgood factor	/feelbad factor	-		4.00	L	2.00	10.00
predictable.	/unpredictable	2	1	4.00	7	2.00	10.00
optimistic	/pessimistic	ę	-	4.00	5	2.00	10.00
threatening	/unthreatening	4	Ч	4.00	٢	2.00	10.00
longterm planning	/shortterm planning	ŝ	-1	4-00	٢	2.00	10.00
have belief in	/have no belief in	Q	-1	4.00	٢	2.00	10.00
depressing	/ stimulating	~	-	4.00	٢	2.00	10.00
certain	/uncertain	œ	1	4.00	7	2.00	10.00
increases confidence.	/decreases confidence	¢1	-	4.00	٢	2.00	10.00
worrying	/not worrying	10	-1	4.00	L	2.00	10.00
		Total	DeAD	4.00		Mean var.	4.00

D DCorrelation table, showing the relationships between all the variables

	<b>H</b>	2	٣	4	ŝ	9	٢	80	σ	10
٦	1.00	-0.61	0.61	-0.57	0.68	0.32	0.11	-0.57	0.79	-0.04
~		1.00	-0.04	0.54	-0.68	-0.11	-0.21	0.39	-0.39	0.43
m			1.00	-0.50	0.39	0.75	0.32	0.04	0.71	-0.07
4				1.00	-0.96	-0.68	-0.18	0.14	-0.86	0.68
ŝ					1.00	0.57	0.07	-0.32	0.62	-0.64
9						1.00	0.07	0.18	0.54	-0.57
۲							1.00	0.61	0.32	-0.29
8								1.00	-0.21	-0.39
9									1.00	-0.32
10										1.00

#ACC. 87.049 97.210 91.910 91.910 96.940 69.283 46.283 46.283 98.845 93.373 93.373	
VAR-R 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000	
DIST. 0.933 0.933 0.956 0.955 0.985 0.985 0.984 0.994 0.994 0.994 0.994 0.994 0.994	8ACC. 87.971 91.924 60.278 95.409 86.192 86.192 87.538
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2 -0.465 0.303 0.182 -0.182 -0.182 0.373 0.374 0.374 0.526 0.526 0.526 1.143 21.143	DIST. 0.877 1.250 0.638 1.399 0.638 0.830 0.830 0.176 0.176
1 0.773 0.664 0.939 0.705 0.705 0.705 0.705 0.705 49.572 49.572	775 * * 1775 * * 512 * * 896 * * 782 *
С В 10 8 8 9 6 6 4 8 9 2 1 1 10 8 8 9 6 6 6 4 8 9 7 1 10 8 8 9 6 6 7 8 8 9 7 1 10 8 8 9 7 8 1 10 9 7 8 1 10 8 9 7 8 1 10 9 7 8 1 10 8 9 7 8 1 10 9 7 8 1 10 10 10 10 10 10 10 10 10 10 10 10 1	034 DJ 034 DJ 071 1. 071 1. 067 2. 171 0.
or e anning ef in ıfidence	2 669 -0. 081 -0. 057 1. .807 -0. .807 1. .093 1.
workst wrragr predictabl predictabl predictabl sisimistic threatenn ortterm pl ortterm pl ortterm timulating timulating timulating trease cor t worrying	1 -0.603 -1 -1.561 1 0.156 -1 1.915 0 1.915 0 0.232 0 0.402 -0
cipal com r /fe /ur /ur /un /un /un /a /a /a /a /a /a /a /a /a /o /a /o /o /o /o /o /o /o /o /o /o	VBL. 1 2 2 3 6 5 8 2 1 6 5 8 2 1
UTable of prin Folls for dector feelgood factor predictable optimistic threatening longterm planni have belief in depressing certain increases confi worrying \$VARIANCE D factor scores	A taxation B saving C inflation D unemployment E exchange rate F bel payments G gnp







# NON-EXPERT' SUBJECT 3 MICROECONOMIC

standard deviation of each variable MAX. STD.DEV. % OF TOTAL VAR. 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 2.00 5 CThis table provides you with the minimum, mean, maximum and VBL. MIN. ۵ 8 o 10 increases confidence/decreases confidence /shortterm planning /have no belief in /feelbad factor /unpredictable /pessimistic /unthreatening / stimulating /not worrying /uncertain /CONTRAST longterm planning have belief in feelgood factor predictable threatening optimistic depressing orrying certain POLE

Correlation table, showing the relationships between all the variables

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4.00

Mean var.

Total mean

DIST. 0.985 0.977 0.982 0.954 0.963 0.984 0.992 94.104 -0.410 -0.008 -0.021 0.193 0.339 9.931 0.395 0.551 0.184 -0.371 m -0.46 v... 0.75 0.39 0.96 -0.24  $\dots$ 0.64 -0.64 -0.11 -0.61 1.00 -0.79 0.64 -0.64 -0.11 -0.68 0.93 1.00 -0.04 0.57 -0.11 -0.68 0.93 -0.46 1.00 0.89 0.46 0.82 -0.57 0.86 -0.54 -0.61 -0.29 1.00 0.89 0.46 0.82 -0.57 0.86 -0.54 -0.61 -0.29 1.00 0.89 0.46 0.82 -0.57 0.86 -0.54 -0.61 -0.29 1.00 0.89 0.46 0.82 -0.57 0.86 -0.54 -0.61 -0.29 1.00 0.89 0.46 0.82 -0.57 0.86 -0.54 -0.51 -0.29 1.00 0.576 0.999 0.359 26.633 -0.020 -0.118 0.840 -0.084 -0.413 -0.479 -0.281 10 2 σ 0.902 0.529 0.896 0.929-0.783 -0.006 -0.301 -0.835 0.923 57.541 -0.861 æ 10 m 4 10 0 m 860 ~ increases confidence/decreases confidence ଡ shortterm planning have no belief in /feelbad factor 'unpredictable 'unthreatening ŝ stimulating /not worrying pessimistic uncertain UTable of principal components 4 0.25 1.00 0.14 -0.18 'n 1.00 longterm planning N feelgood factor have belief in DFactor scores 0.64 0.64 -0.46 0.75 1.00 predictable threatening optimistic depressing -BVARIANCE WOFFYING certain POLE 6 01 ø 8 a

91.523 95.451

96.383 91.079 81.784 92.646 99.799

> 1.000 1.000

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97.094

BACC.

VAR-R 1.000 1.000 1.000

0.957

96.893 98.391

1.000 1.000

1.000

BACC.	98.366	89.111	96.324	95.048	97.710	96.573	69.892
VAR-R	1.600	0.975	0.775	1.225	1.050	0.925	0.450
DIST.	1.255	0.932	0.864	1.079	1.013	0.945	0.561
*	*	*	*	*	٠	•	•
N-TSIC	2.282	1.296	1.392	1.841	1.908	1.841	1.325
ŝ	1.274	-0.019	-0.354	0.489	-1.497	1,230	-1.122
7	-1.449	-0.561	-1.000	1.475	-0.070	1.045	0.560
-1	-1.218	1.168	0.902	-0.987	-1.181	0.887	0.429
VBL.	-1	••	m	-	ŝ	9	-
	A WORK	B demand	c supply	u money	E Income	r production	G price


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.

UThis table provides you with the minimum, mean, maximum and standard deviation of each variable POLE VEAN MAX. STD.DEV. & OF TOTAL VAR.

POLE	/ CONTRAST	VBL.	MIN.	MEAN	MAX.	STD.DEV.	8 OF TOTH
feelcond factor	/feelbad factor	Ч	-1	4.00	ر ر	2.00	10.00
nredictable	/unpredictable	0	-1	4.00	1	2.00	10.00
ortigieric	/pessimistic	m	-	4.00	٢	2.00	10.00
threatening	/unthreatening	4	н	4.00	7	2.00	10.00
longterm of anning	/shortterm planning	ŝ	-1	4.00	٢	2.00	10.00
bave helief in	/have no belief in	9	-	4.00	Ľ	2.00	10.00
derressing	/ stimulating	5		4.00	2	2.00	10.00
cortain cartain	/uncertain	80	-	4.00	٢	2.00	10.00
increases confidenc	ce/decreases confidence	01		4.00	۲	2.00	10.00
worrving	/not worrving	10	1	4.00	٢	2.00	10.00
		Total	mean	4.00		Mean var.	4.00

D DCorrelation table, showing the relationships between all the variables

10										1.00	
a									1.00	0.68	
æ								1.00	-0.82	-0.29	
۲							1.00	-0.68	0.75	0.68	
9						1.00	0.29	-0.43	0.68	0.64	
ŝ					1.00	0.86	0.43	-0.25	0.68	0.75	
4				1.00	0.89	0.86	0.61	-0.50	0.86	0.89	
m			1.00	0.93	0.79	0.86	0.71	-0.68	0.86	0.82	
3		1.00	-0.14	0.11	0.21	0.14	-0.50	0.75	-0.36	0.25	
-	1.00	-0.14	0.93	0.89	0.71	0.64	0.86	-0.61	0.82	0.89	
	-1	~	e	4	ŝ	9	1	8	9	10	

Table of principal	component s							
DOTE	/ CONTRACT	VBL.	-	~	'n	DIST.	VAR-R	PACC.
			130 0	000	0 250	0.986	1.000	97.278
feelgood factor	/feelbad factor	-1	TCATO	-070.04	~~~~~			
redicted a	/unnredictable	2	-0.155	0.964	0.118	0.984	1.000	96.806
	/ remains at in	(*	779.0	0.018	-0.079	0.981	1.000	96.152
upermise.		) <b>ব</b>	0.958	0.255	-0.039	0.992	1-000	98.438
chreatening	/ unchreatenthy /	• 4	0 820	0.428	-0.154	0.937	1.000	87.875
Tongreem plaining		ט ר	0.004	0 340	-0.458	0.986	1.000	97.260
nave beliet in	Indve no bettet in	, ,		422	0.442	0.989	1.000	97.846
depressing	/ stimulating	~ 1	011.0			000 0	1 000	96 913
certain	/uncertain	*	-0.6/9	0.0.0				
increases confident	/decreases confidence	σ	0.922	-0.232	-0.119	0.958	1-000	91.195
untrating	/not unreving	10	0.857	0.334	0.366	066.0	1.000	98,055
BVARIANCE			67.704	20.878	7.259	95.842		
0								

DFactor scores

								1	
	VRT.	•-	~	m	DIST-N	*	DIST.	VAR-R	BACC.
		•	1	,			< . Z .		376 30
B tavation	~	0.329	-1.516	-0.548	1.645	×	0./38	0.000	CO1 . CA
	•					•		1 600	22 023
B seving	2	-1.292	-1.274	-0.166	1.822	ı	1.612		
	. (	L 0 C +	174	0 480	1 282	*	1.069	1.175	97.250
C INTIATION	ÿ	1.02.1	-CT'D-						() <b>1</b> ()
D unemployment	V	208 1	0.170	0.966	1.730	*	1,204	1.500	700.04
a dicing and a mour	٣	) 3				•		0 6 6 0	GE 221
R exchange rate	ď	-0.077	1.490	-1.444	2.077	r	191.0	0.00.0	1 3 2 - 6
	,				000 0	•	127 0	0 575	92 841
F bal Davments	6	-0.579	195.0	1 6 A - 1	5.004	ι	10.0		
						•	0 050	1 000	91,995
G gnp	~	-1.093	0.722	VCI.0-	1.320	ı	<i></i>		



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ach variable	YTAL VAR.											
ion of ea	S OF TO	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4.00
ard deviat:	. STD.DEV.	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	Mean var.
stand	XHA	٢	2	2	2	7	~	2	~	-	~	
and	MELAN	4.00	4.00	4.00	1.00	1.00	1.00	1.00	1.00	<b>1</b> .00	.00	1.00
maximum		н	н	~	-	н	-	-	-	-	-	mean
mean, ver		-	2	m	4	ŝ	0	-	89	σ	10	Total
<pre>you with the minimum, /CONTRAST</pre>	/feelbad factor		/ unpredictable	/ hessingere	/ untercatening	Value of a substanting	/ THING NO DELIET IN	build intervention	/ docertain	vecreases contidence	LINC WOLFYING	
LThis table provides POLE	feelgood factor	Dredictable	optimistic	threatening	longterm planing	have belief in	debregaina	Certain	increases confidence	MOLTVING CONTUCTION	n for form	ū

D DCorrelation table, showing the relationships between all the variables

•	01									1.00
c	n								00 +	0.39
٥	•							1 00		-0.18
۲	•						1.00	-0.71	0.75	0.39
s	•					1.00	0.68	-0.82	0.96	0.50
5	,				1.00	-0-46	-0.14	0.25	-0.43	0.04
4	•			1.00	-0.14	0.68	0.89	-0.71	0.64	0.54
m			1.00	0.50	-0.39	0.93	0.61	-0.79	0.96	0.46
2		1.00	-0.79	-0.71	0.25	-0.82	-0.71	1.00	-0.86	-0.18
~	1.00	-0.57	0.68	0.29	-0.82	0.71	0.18	-0.57	0.64	0.21
	+	~	m	4	S	e ,	-	8	9	10

Utable of principal

	auodiana Te	nts								
FULE	/ CONTRA	ST		VBL.	Ч	2	e	DIST	0-94V	
reeigood tactor	/feelba	d factor		7	0.696	-0.661	0.151	0.971	1.000	94 310
predictable	/unpred	ictable		2	-0.908	-0.070	0.361	0.979	1.000	95.896
threatering	/ pessin	istic		m	0.912	-0.106	0.109	0.925	1.000	85.557
longterm plansa	/ unthre	atening		4	0.776	0.456	0.028	0.901	1.000	81.160
have belief in	/ shortte	erm plann	ting	Ś	-0.450	0.774	-0.119	0.903	1.000	81.582
denreasing	/ nave no	o belief	in	Q	0.965	-0.071	0.124	0.975	1.000	95.076
Certain	acimu.	iating		L	0.786	0.457	-0.111	0.916	1.000	83.934
increases confident		ule 1		80	-0.908	-0.070	0.361	0.979	1.000	95.896
Morrisha CUILIDER	ice/decrea:	ses confi	dence	9	0.966	-0.039	-0.016	0.967	1.000	93.559
AVAP TANCE	/ DOL MOI	crying		10	0.452	0.377	0.795	0.989	1.000	97.907
					64.557	16.227	9.703	90.488		
Factor scores										
VBL.	1	8	m	DIST-1	*	DIST.	VAR-R	BACC.		
A WOLK	-0.297	1.026	-0.037	1.069	*	0.478	0.500	45.603		
remand 2	0.449	-0.536	-0.923	1.157	*	0.509	0.375	69.127		
	0.561	-0.981	-0.903	1.447	*	0.662	0.550	79.673		
	-1.676	0.247	-1.108	2.024	*	1.394	2.000	97.130		
	-1.052	0.084	1.715	2.014	*	1.001	1.025	97.702		
E Production 6	0.535	-1.439	1.060	1.866	*	0.794	0.650	96.934		
a https://	1.481	1.599	0.196	2.188	*	1.354	1.900	96.556		



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'EXPERT' SUBJECT 8 MACROSCNOMIC FLEXIGRID v5.2 September 1992. Copyright (C) 1992 by Finn Tschudi. University of Oslo. NoRWAY FPCA analysis

ird deviation of each variable	STD.DEV. 8 OF TOTAL VAR.	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	2.00 10.00	Mean var. 4.00
stande	MAX.	2	2	"		5	٢	٢	~	7	۲	
m and	MEAN	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
maximu	MIN.	-	1	-1	-1	1	-1	-1	1	F	-1	mean
me an,	VBL.	-1	7	m.	4	ŝ	9	"	80	ð	10	Total
you with the minimum,	CONTRAST	/feelbad factor	/unpredictable	/pessimistic	/unthreatening	/shortterm planning	/have no belief in	/ stimulating	/uncertain	/decreases confidence	/not worrying	
<b>UThis table provides</b>		residood factor	predictable	optimistic	unreatening	for planning	nave bellef in	depressing	certain	Increases confidence,	, party and	c

D OCorrelation table, showing the relationships between all the variables

												"	-0.275
10	2									1.00		~	0.259
ð	h								1.00	-0.57			688
a	•							1.00	0.57	-0.29		L. 1	0
"	•						1.00	-0.36	-0.14	0.21		ey	H
9	•					1.00	0.50	0.11	0.04	0.04			
ŝ	,				1.00	0.36	0.14	0.64	0.64	-0.75			actor
4				1.00	-0.75	-0.07	0.11	-0.29	-0.79	0.93	onents	<b>FRAST</b>	Ibad f
m			1.00	-0.82	0.64	0.21	-0.29	0.57	0.93	-0.64	1 comp	/ CON	/fee.
~		1.00	0.86	-0.54	0.68	0.32	-0.29	0.86	0.79	-0.43	incipa		tor
-	1.00	0.61	0.82	-0.89	0.75	0.18	0.18	0.32	0.89	-0.71	et pr		od fac
	7	N	e	4	ŝ	9	~	8	6	10	Table	POLE	feelgo

/pessimistic         3         0.937         0.101         0.053         0.944         1.000         99.178           /unthreatening         4         -0.690         -0.0101         0.053         0.944         1.000         99.178           /unthreatening         4         -0.690         -0.051         0.429         0.969         1.000         97.897           /shortterm planning         5         0.856         0.275         0.058         0.901         1.000         81.229           /nave         0.480         0.911         0.008         812         1.000         81.229           /nave         0.206         0.745         0.058         0.947         1.000         82.812           /not wortying         7         -0.155         0.932         -0.942         1.000         89.766           /uncertain         8         0.654         -0.300         0.667         0.942         1.000         84.674           /untertain         8         0.654         -0.300         0.667         0.917         1.000         84.674           /untertain         9         0.913         -0.065         0.917         1.000         84.674           /not worrying         10 <th>/CONTRAST or /feelbad factor /unbredictable</th> <th>VBL. 1</th> <th>1 0.889 0.849</th> <th>2 0.259 -0 126</th> <th>3 -0.275</th> <th>DIST. 0.966</th> <th>VAR-R 1.000</th> <th>8ACC. 93.270</th>	/CONTRAST or /feelbad factor /unbredictable	VBL. 1	1 0.889 0.849	2 0.259 -0 126	3 -0.275	DIST. 0.966	VAR-R 1.000	8ACC. 93.270
<pre>/untineatening 4 -0.690 -0.051 0.429 0.989 1.000 97.897 /shortterm planning 5 0.255 0.058 0.901 1.000 81.229 /ave no belief in 6 0.206 0.745 0.491 0.910 1.000 82.812 / stimulating 7 -0.155 0.932 -0.065 0.947 1.000 88.674 /uncertain 8 0.654 -0.300 0.607 0.942 1.000 88.674 /uncertain 9 0.913 -0.082 -0.027 0.917 1.000 84.030 /not worrying 10 -0.783 0.058 0.470 0.915 1.000 83.751 58.568 16.961 13.274 88.802</pre>	/pessimistic	4 M ·	0.937	-0.101	0.053	186-0	1.000	97.418 89.178
/ have no belief in         6         0.206         0.745         0.480         0.910         1.000         82.812           / stimulating         7         -0.155         0.932         -0.065         0.947         1.000         89.766           / uncertain         8         0.654         -0.300         0.607         0.942         1.000         89.674           / uncertain         8         0.654         -0.300         0.607         0.942         1.000         88.674           / uncertain         8         0.654         -0.300         0.607         0.942         1.000         88.674           / decreases confidence         9         0.913         -0.082         -0.027         0.917         1.000         84.030           / hot worrying         10         -0.783         0.058         0.470         0.915         1.000         83.751           / not worrying         10         -0.783         0.058         0.470         0.915         1.000         83.751	/untnreatening /shortterm planning	<b>4</b> v)	-0.690 0.856	-0.051 0.275	0.429 0.058	0.989 0.901	1.000	97.897
<pre>/ stimulating 7 -0.155 0.932 -0.065 0.947 1.000 89.766 /uncertain 8 0.654 -0.300 0.607 0.942 1.000 88.674 /ucertain 9 0.0913 -0.082 -0.027 0.917 1.000 84.030 //ot worrying 10 -0.783 0.058 0.470 0.915 1.000 83.751 /not worrying 10 -0.783 16.961 13.274 88.802</pre>	/have no belief in	9	0.206	0.745	0.480	0.910	1.000	82.812
/uncertain 8 0.654 -0.300 0.607 0.942 1.000 88.674 /decreases confidence 9 0.913 -0.082 -0.027 0.917 1.000 84.030 /not worrying 10 -0.783 0.058 0.470 0.915 1.000 83.751 58.568 16.961 13.274 88.802	/ stimulating	٢	-0.155	0.932	-0.065	0.947	1.000	89.766
/decreases confidence 9 0.913 -0.082 -0.027 0.917 1.000 84.030 /not worrying 10 -0.783 0.058 0.470 0.915 1.000 83.751 58.568 16.961 13.274 88.802	/uncertain	80	0.654	-0.300	0.607	0.942	1.000	88.674
/not worrying 10 ~0.783 0.058 0.470 0.915 1.000 83.751 58.568 16.961 13.274 88.802	/decreases confidence	6	0.913	-0.082	-0.027	0.917	1.000	84.030
58.568 16.961 13.274 88.802	Inot worrying	10	-0.783	0.058	0.470	0.915	1.000	83.751
			58.568	16.961	13.274	88.802		

**UFactor** scores

	VBL.	-4	~	ų	DIST-N	*	DIST.	VAR-R	ACC.
A taxation	~	-1.315	0.494	-0.604	1.529	*	1.050	1 275	86.465
B saving	2	0.973	1.764	191.1-	2.340	*	1.127	1.300	97.748
C inflation	ŝ	-0.143	-0.117	0.500	0.533	*	0.218	0.100	47.495
D unemployment	4	-1.076	0.365	1.322	1.743	*	0.965	1.100	84.740
E exchange rate	ŝ	1.016	0.129	1.371	1.711	*	0.926	0.975	87.884
F bal payments	ø	1.264	-1.371	-0.272	1.884	×	1.124	1.375	91.932
g gnp	1	-0.719	-1.265	-1.126	1.840	*	0.862	0.875	84.850
5									



B seving

G gnp F bal payments **6**44

10 worrying 9 decreases confidence 3 pessimtstic 2 unpredictable 8 uncertain 7 depressing

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6 have belief in

4 unthreatening
1 feelgood factor
5 longterm planning





able R. 'EXFERT' SUBJECT 8 MICROECONOMIC FLEXIGRID v5.2 September 1992. Copyright (C) 1992 by Finn Tschudi. University of Oslo. NoRWAY FPCA analysis

							a af aach vari
This table provides	you with the minimum,	mean, me	NX1 mum	and st	andard	D DEVIALIO	I OT COCI ANTA
PULE	CONTRAST	VBL.	MIN.	MEAN	MAX.	STD.DEV.	& OF TOTAL VAN
		•	•	00	٢	00 0	
feelgood factor	/feelbad factor	~	-1	4.00	•	×.00	10.01
nredictable	/unnredictable	2	T	4.00	٢	2.00	10.00
				00 1	٢	00 6	10 00
optimistic	/ pessimistic	'n	4		•	2.12	00-0T
threatening	/unthreatening	4	-1	4.00	5	2.00	10.00
	/-borttorm planning	ď	-	4.00	5	2.00	10.00
Antrinipid waanhunt	Antiminard wrathing /	,	•				10.00
have belief in	/have no belief in	9	-1	4.00	-	2.00	10.00
denrees in a	/ stimulating	٢	-	4.00	٢	2.00	10.00
furrecord on			••	•	r	00 0	10.00
certain	/uncertain	80	-•	nn - #	-	× • • • •	00-0T
increases confidence	Adecreases confidence	ð	<b>e</b> -1	4.00	5	2.00	10.00
		•	•	00	r	00 0	10 00
DULTING	/not worrying	1	4	nn - 4	-	2.2	00-01
1		Total n	nean	4.00	-	Mean var.	4.00

Ocorrelation table, showing the relationships between all the variables

													222	605.56	96.922	94.180	73.873	94.256	94.747	93.500	76,825	SAC AQ		83.303											
													VAR-R	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1 000		1.000	1.000											
													DIST.	0.966	0.985	0.970	0.859	0.971	0.973	0.967	910 0	0.0.0	126.0	0.913	88.575			BACC.	76.989	83.159	88.609	95.129	78.6/4	91.296	91.545
													m	0.346	0.373	0.189	-0.034	0.029	-0 015	-0.540		1.0.4	0.315	-0.188	7.317			VAR-R	0.725	1.400	1.150	1.175	0.575	1.325	0.650
10									~	7 1.00			0	-0.272	0.316	0.721	0.858	0.503	0 242	0.670		0.129	0.758	0.282	28.076			DIST.	0.747	1.117	1.009	1.057	0.673	1.100	0.771
a									1.0	0-0-				860	.855	621	039	820			0.1	.862	.417	848	.182			*	+	*	*	*	*		*
89							0	9 1.00	0 -0.32	1 0.57			VBL. 1	1 -0.	0. 0	3 -0.	4	i c				0 0 8	0- 6	10 0.	53.			N-LSIO	1.182	1.866	1.964	2.218	1.397	1.904	1.329
٢							1.0	-0-2	0.5	-0.2			•																15	44	26	10	96	54	34
9						1.00	0.68	-0.71	0.61	-0.75									<b>N</b> 1				dence					m	-0.1	-1.1	1.3	1.3	-1.0	0.5	-0.8
ŝ				_	1.00	-0-64	-0.11	0.75	0.11	0.89		n		factor	table	1.1	aning	ביינים ב	merd a	Deller	ting		s confi	ying	•			0	-0.843	0.121	0.949	-1.684	-0.373	1.516	0.314
4				1.00	0.39	0.11	0.54	0.21	0.43	0.14		onent	TRAST	lbad	redic				LLLCE	e No	THUT	ertai	rease	NOLL					820	469	560	607	782	600	985
m			1.00	0.61	-0.18	0.71	0.61	-0.50	0.86	-0.32		Comp	/00/	/tee	/unc				ous /	Van ,	/ 3t	/unc	ce/dec	/not				-	0	1.			°.	-1-	-0-
8		1.00	-0.25	0.32	0.86 -	-0.71	-0.39	0.89 -	-0.04	0.68 -		incipal	,	tor					, furmi	11			nfidenc				5	VBL.	-	(1	ŝ	-	ŝ	9	٢
1	1.00	-0.68	0.36	-0.21	-0.82	0.75	0.11	-0.68	0.21	-0-93		le of pr	•	good fac	ictable		atooin.	atentig		bellet	essing	ain	eases co	ving	IANCE		or score		rk	mand	pply	nev	come	oduction	ice
	-1	2	m	4	ŝ	ø		80	9	10	D	Urab	POLE	feel	Dered			1000	fount	have	depr	Cert	incr	NOLL	<b>BVAR</b>	0	Fact		A W	B de	C BL	OM C	E in	F pr	Jd 5

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'EIPERT' SUBJECT 7 MACROECONOMIC

Crist table provides you with the minimum, mean, maximum and standard deviation of each variable of a solution of each variable of the solution of

POLE	/CONTRAST	VBL.	MIN.	MEAN	-XEM	STU.DEV.	LIOT JO P
faelend fertor	/feelbad factor	-	-1	4.00	7	2.00	10.00
TCATROOM TOLLOT		•			7	00.0	
predictable	/unpredictable	2	-1	4.00	-	2.00	10.00
		~	-	4.00	~	2.00	10.00
optimizero	http://www.com/	,	•		• •		00 01
threatening	/unthreatening	4	-	4.00	-	2.00	10.01
	/-touteour olonoine	ď	-	00.4	~	2.00	10.00
Tondrerm prenning	Success press press	2	•		• 1		
have belief in	/have no belief in	0	-1	4.00	-	2.00	10.00
		•	-	4 00	-	2.00	10.00
depressing	/ Stimuisting	•	4	201	•		
restain	/uncertain	œ	-1	4.00	~	2.00	10.00
inerocent confidence	o/decreases confidence	•	1	4.00	-	2.00	10.00
TRATEGRAGE CONTINUE	בי הברו בשמבמ הכווידתקוורה	•	,		•	000	00.00
worving	/not worrying	10	-1	4.00		2.00	10.01
		Total	mean	4.00		Mean var.	4.00

D DCorrelation table, showing the relationships between all the variables

													DIST.	0.818	0.959	0.859	0.986	0.855	0.985	0.922	0.947	0.947	0.879	04 175	~! T * # Q
												,	m	-0.010	-0.075	-0.630	0.335	-0.246	-0.103	0.479	0.542	0.146	0 145		FUC.11
10										1.00			~	0.381	0.278	0.292	0.798	-0.192	0.770	0.055	-0.363	0.135	0 0 0		863.42
6									1.00	0.18			••••	724	.915	506	472	796	605	786	687	926			.013
œ								1.00	-0.68	-0.36			3L. ]	9	0	1				0	0	-		2	.85
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9						1.00	-0.50	0.07	-0.43	0.50								, na				once h	ותכוורב		
ų					1.00	0.36	-0.75	0.46	-0.75	-0.29		20		Factor	rahle.			ביים ביים	a parata ang ar		<u> </u>			but	
4				1.00	0.11	0.89	-0.18	0.21	-0.25	0.61		ponent:	<b>TRAST</b>	had	1 iber			unteat.	1 C C C C C C C C C C C C C C C C C C C		o ture o			C MOLL	
ę			1.00	-0.21	-0.43	-0-04	0.29	-0.64	0.29	0.18		al com	00/	1 600									100 /200	/not	
2		1.00	-0.21	0.64	0.68	0.79	-0.64	0.57	-0.86	0.04		cincipe		tor					501100E				JHI TOEL		
٦	1.00	-0.50	0.43	-0.04	-0.39	-0.11	0.64	-0.61	0.79	0.29		e of pi		ood fa	cteble		13110		term par		Antor		ממנים בי	Dut	ANCE
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66.944 91.946 97.173 73.766 97.173 73.102 97.006 84.981 89.766 89.766

VAR-R 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000

BACC.

**MFACtor scores** 

worrying &variance

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	¢	-0 460	5 5 C	1.119	1.331	¥	0.56/	0.000	100
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	•					4	101	1 475	89 147
<b>D</b> unemployment	4	-1 588	0.213	-0.645	1.21.1	ĸ	121.1	1-1-1	
	•					4	040 -	031	95,443
E exchange rate	s n	1.178	0.116	-1.929	2.263	ĸ	1.040		
	•					•	022 0	0 825	71.802
f bal payments	ø	0.955	0.065	1.153	1.499				
	4	• • •		0.00	301 0	*	100	د/2°1	288.94
dub g	1	0.402	-2.129	0.338	061-7				



v





D

UThis table provides you with the minimum, mean, maximum and standard deviation of each variable POLE /CONTRAST /CONTRAST

VAR.

		VBL.	- NTW	MEAN	MAX.	STD. DEV.	9 OF TOTAL
feelgood factor	/feelbad factor	-1	1	4.00	~	2.00	10.00
predictable	/unpredictable	~	m	4.00		2.00	10.00
optimistic	/pessimistic	m	-	4.00	~	2.00	10.00
threatening	/unthreatening	<b>4</b>	-1	4.00	۲	2.00	10.00
longterm planning	shortterm planning	ŝ	4	4.00	7	2.00	10.00
nave belief in	/have no belief in	Q	-4	4.00	2	2.00	10.00
depressing	/ stimulating	5	-1	4.00	2	2.00	10.00
certain	/uncertain	8	-	4.00	7	2.00	10.00
Increases contidence	Adecreases confidence	a	-	4.00	٢	2.00	10.00
MOLLYING	Inot worrying	10	-1	4.00	٢	2.00	10.00
		Total n	ne an	4.00	2	lean var.	4.00

D DCorrelation table, showing the relationships between all the variables

10	•									1.00
0	•								1.00	-0.93
œ	•							1.00	-0.89	0.89
2	•						1.00	-0.71	0.75	-0.75
6						1.00	0.57	-0.43	0.57	-0.68
ŝ					1.00	0.61	0.29	-0.75	0.64	-0.79
4				1.00	-0.32	0.46	0.61	0.07	0.11	-0-11
m			1.00	0.29	0.21	0.68	0.36	-0.18	0.46	-0-36
0		1.00	-0.21	0.32	-0.29	0.04	-0.32	0.54	-0.64	0.57
ы	1.00	0.43	-0.04	0.54	0.36	0.64	0.43	-0.18	0.07	-0.36
	-1	N	ო	ব	ŝ	9	~	æ	Ø	10

UTable of principal components

POLE	/CONTRAS	sr		VBL.	1	2	m	DIST	VAR-R	0008
feelgood factor	/feelbac	d factor			0.389	0.734	-0.501	0.970	1.000	94.046
predictable	/unpred	ictable		7	-0.474	0.722	-0.340	0.928	1.000	86.063
optimistic	/pessimi	istic		m	0.506	0.159	0.549	0.763	1.000	58.235
chreatening	/unthre	atening		4	0.235	0.840	0.395	0.957	1.000	91.635
longterm planning	/ shortte	erm plann	ning	ŝ	0.741	-0.236	-0.558	0.958	1.000	91.692
nave belief in	/have no	o belief	in	9	0.776	0.481	-0.058	0.914	1.000	83.597
lepressing	/ stimul	lating		٢	0.819	0.262	0.256	0.898	1.000	80.596
certain	/uncerte	in		œ	-0.873	0.312	0.161	0.941	1.000	88.618
Increases confidenc	e/decreas	ses confi	dence	5	0.932	-0.249	0.161	0.978	1.000	95.672
vorrying	/ not wor	rying		10	-0.974	0.133	0.100	0.988	1.000	97.661
IVARIANCE					50.896	23.219	12.668	86.782		
Factor scores										
VBL.		2	e	DISP-I	*	DIST.	VAR-R	BACC.		
work 1	0.137	-1.020	-0.177	1.044	*	0.505	0.375	68.021		
demand 2	-1.647	0.537	-0.751	1.889	¥	1.233	1.550	98.048		
aupply 3	1.276	0.208	-1.079	1.683	*	666.0	1.275	77.315		
money 4	0.568	0.432	-1.123	1.331	*	0.606	0.750	49.005		
Income 5	-0.829	-1.740	0.438	1.977	*	1.038	1.125	95.780		
production 6	-0.620	1.553	1.059	1.980	*	0.948	0.925	97.068		
price 7	1.115	0.030	1.633	1.978	*	0.985	1.000	97.119		

F production G price

E income D money







#### Appendix V

## <u>Remaining Massgebend Tables from Chapter Eight, Study Four: The</u> <u>Construing of Micro- and Macroeconomic Elements in Expert and Non-Expert</u>

#### Subjects

#### Non-Expert Subjects Macroeconomic Grids

Table V-1

Second Principal Component Massgebend Axes for the Macroeconomic Elements Grids of Non-Expert Subjects

Subject	Massgebend element	Element furthest away from Massgebend
		element
1	-1.495 Balance of	1.377 Unemployment
	Payments	
2	2.090 Saving	-1.298 GNP
3	-1.669 Taxation	1.093 Exchange Rate
4	-1.377 Unemployment	1.352 Exchange Rate
5	-1.727 Unemployment	1.636 Saving
6	1.693 GNP	-1.236 Saving
7	-1.516 Taxation	1.490 Exchange Rate
8	1.791 Balance of Payments	-1.203 Inflation
9		
10	-2.171 Saving	1.174 GNP
11	-1.943 Taxation	1.509 Saving
12	-1.488 Inflation	1.376 Taxation
13	2.186 Unemployment	-1.024 Saving
14	-1.386 Inflation	1.043 Exchange Rate
15	2.331 Exchange Rate	-0.913 Unemployment
16	-2.226 Taxation	0.848 GNP
17	1.359 Unemployment	-1.129 Saving
18	1.973 GNP	-1.232 Taxation
19	1.607 Balance of Payments	-1.570 Taxation
20	1.871 Saving	-0.843 Inflation

# Table V-2<u>Third Principal Component Massgebend Axes for the Macroeconomic Elements Grids</u>of Non-Expert Subjects

Subject	Massgebend element	Element furthest away
		from Massgebend
		element
1	-1.441 GNP	1.435 Inflation
2	-2.027 Taxation	1.568 Exchange Rate
3	-1.713 GNP	1.452 Exchange Rate
4		
5		
6	2.164 Balance of Payments	-0.866 Taxation
7		
8		
9		
10		
11		
12	1.428 GNP	-1.359 Taxation
13		
14	-1.810 Balance of	1.177 Saving
	Payments	
15	-2.097 GNP	1.337 Taxation
16	2.000 Saving	-1.046 Balance of
		Payments
17	-1.463 GNP	1.407 Saving
18	1.403 Unemployment	-1.166 Exchange Rate
19	1.624 GNP	-1.233 Inflation
20	2.111 Unemployment	-1.007 Inflation

### Expert Subjects Macroeconomic Elements Grids

Table V-3

Second Principal Component Massgebend Axes for the Macroeconomic Elements Grids of Expert Subjects

Subject	Massgebend element	Element furthest away
-		from Massgebend
		element
1	-1.574 Taxation	1.212 Exchange Rate
2	-1.810 Balance of	1.758 Taxation
•	Payments	
3	-1.479 Taxation	1.184 Balance of Payments
4	-2.090 GNP	1.008 Unemployment
5	1.848 Exchange Rate	-1.297 Taxation
6	1.691 Exchange Rate	-0.982 Taxation
7	-2.129 GNP	1.427 Inflation
8	1.764 Saving	-1.371 Balance of
		Payments
9	1.993 Inflation	-1.470 Saving
10	-1.872 GNP	1.509 Saving
11	-1.492 Taxation	1.247 Balance of Payments
12	-2.165 Taxation	0.907 Balance of Payments
13	1.484 Exchange Rate	-1.281 GNP
14	1.801 Inflation	-1.145 Saving
15	1.505 Balance of Payments	-1.168 Saving
16	1.788 Saving	-1.204 GNP
17	-1.673 Taxation	1.044 Exchange Rate
18	-1.646 Saving	1.627 Inflation
19	1.723 Unemployment	-1.645 Inflation
20	1.295 Balance of Payments	-1.238 Taxation

# Table V-4<u>Third Principal Component Massgebend Axes for the Macroeconomic Elements Grids</u>of Expert Subjects

Subject	Massgebend element	Element furthest away from Massgebend
		element
1		
2	1.712 Exchange Rate	-1.041 Unemployment
3	1.651 Exchange Rate	-1.488 Inflation
4	1.563 Inflation	-1.454 Exchange Rate
5	1.382 Balance of Payments	-1.295 Taxation
6	-2.064 Taxation	1.114 Saving
7	-1.929 Exchange Rate	1.153 Balance of Payments
8	1.371 Exchange Rate	-1.191 Saving
9	-1.993 Taxation	1.301 Balance of Payments
10	-1.997 Inflation	1.566 Taxation
11	-1.867 Saving	1.576 Inflation
12	-1.554 Inflation	1.448 Saving
13		
14		
15		
16	-1.564 Balance of	1.359 Exchange Rate
	Payments	_
17	1.831 Inflation	-1.261 Taxation
18	-2.108 Taxation	1.339 Inflation
19	1.637 Exchange Rate	-1.253 Taxation
20		

### Non-Expert Subjects Microeconomic Elements Grids

Table V-5Second Principal Component Massgebend Axes for the Microeconomic ElementsGrids of Non-Expert Subjects

Subject	Massgebend element	Element furthest away
		from Massgebend
		element
1	-2.229 Demand	0.846 Price
2	2.112 Money	-1.183 Production
3	1.475 Money	-1.449 Work
4	-1.749 Work	1.358 Price
5	1.628 Price	-0.844 Money
6	1.569 Supply	-1.298 Work
7	1.599 Price	-1.439 Production
8	-1.803 Demand	1.601 Money
9	-1.564 Work	1.184 Price
10	-1.368 Work	1.285 Price
11	1.563 Work	-1.053 Income
12	-1.994 Work	1.318 Demand
13	1.691 Production	-1.204 Demand
14	-1.515 Price	1.401 Income
15	1.725 Income	-1.300 Demand
16	-1.763 Income	1.177 Demand
17	1.240 Production	-1.102 Money
18	-1.667 Demand	1.686 Price
19	1.612 Supply	-1.530 Work
20	-1.868 Money	1.427 Demand

## Table V-6<u>Third Principal Component Massgebend Axes for the Microeconomic Elements Grids</u>of Non-Expert Subjects

Subject	Massgebend element	Element furthest away from Massgebend element
1		
2		
3		
4		
5	1.464 Work	-1.234 Supply
6	2.072 Price	-1.274 Production
7	1.715 Income	-1.108 Money
8	-2.183 Supply	1.303 Price
9	1.906 Production	-1.350 Demand
10	1.314 Money	-1.257 Income
11		
12	1.494 Money	-0.925 Demand
13	2.016 Price	-1.348 Income
14	1.521 Price	-1.317 Money
15		
16	2.163 Production	-0.883 Money
17	1.480 Income	-1.162 Supply
18	-1.688 Production	1.676 Supply
19	1.669 Income	-1.531 Price
20 •		

### Expert Subjects' Microeconomic Elements Grids

Table V-7Second Principal Component Massgebend Axes for the Microeconomic ElementsGrids of Expert Subjects

Subject	Massgebend element	Element furthest away
		from Massgebend
		element
1	1.897 Production	-1.002 Income
2	1.605 Money	-1.265 Demand
3	-1.875 Supply	1.187 Income
4	1.708 Production	-1.066 Income
5	1.692 Work	-1.280 Supply
6		
7	-1.740 Income	1.553 Production
8	-1.684 Money	1.516 Production
9	2.294 Work	-1.067 Price
10	-1.447 Income	1.098 Money
11	-1.920 Income	1.503 Production
12	1.392 Price	-1.264 Work
13	1.716 Price	-1.320 Demand
14	-1.492 Work	1.473 Demand
15	-1.606 Supply	1.244 Demand
16	2.194 Money	-1.237 Production
17	-1.371 Work	1.239 Price
18	-1.792 Production	1.160 Work
19	-1.624 Income	1.588 Price
20	2.140 Price	-1.042 Income

# Table V-8<u>Third Principal Component Massgebend Axes for the Microeconomic Elements Grids</u>of Expert Subjects

Subject	Massgebend element	Element furthest away
		from Massgebend
		element
1	1.470 Income	-1.026 Supply
2	-1.715 Income	1.127 Demand
3		
4	1.509 Price	-1.259 Production
5 ·		
6	-1.608 Production	0.995 Demand
7	1.633 Price	-1.123 Money
8		
9	-1.667 Demand	0.889 Price
10	-1.316 Income	1.267 Demand
11	1.692 Price	-1.492 Supply
12	-1.612 Production	0.980 Work
13	-1.839 Income	1.583 Demand
14	1.951 Production	-1.243 Income
15	1.768 Money	-1.050 Production
16	-1.906 Work	1.247 Production
17	-2.013 Income	1.251 Money
18	-1.589 Income	1.159 Price
19	1.540 Price	-1.380 Money
20	-1.373 Production	1.291 Demand