Journal of Economic Psychology 10 (1989) 473–493
North-Holland

ECONOMIC NEWS, EXPECTATIONS AND MACRO-ECONOMIC BEHAVIOUR

W. Fred VAN RAAIJ *

Erasmus University, Rotterdam, The Netherlands

Received September 2, 1988; accepted November 16, 1989

In this article the effects of economic news on the formation of expectations, and on behaviour is discussed. How do people make causal attributions, form and revise expectations and how does this influence their spending and saving behaviour? Expectations are thus seen as intervening variables between stimulus and response, both at the individual and the aggregate level. Economic and psychological approaches to expectation formation are contrasted. Aggregate effects, such as self-fulfilling and self-negating effects, and the Index of Consumer Sentiment are discussed.

Introduction

In general, aggregate numbers and integral properties are the domain of economists, although psychologists should be interested in macro-level phenomena and data as well. Economists looking for regularities and relationships between aggregate variables, have mostly implicit models in mind of how consumers or business people react to external changes and information. It is in the psychologist's domain to make these behavioural models explicit and to test these models.

In this study economic news is the input to a process of expectation formation and change with the recipients of the news. These expectations in turn affect economic behaviour at the individual and at the macro level.

Economic news

News reports in newspapers, on radio and television tend to emphasize change and the attributions for changes, mainly because the

* Author's address: W.F. van Raaij, Dept. of Economics, Erasmus University, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands.

status quo is no 'news' and does not normally get printed. Rather than stating that a recent change or event is a temporary deviation from the normal situation (regressive prediction), these changes or events are reported as an indication of the development or the aggravation of a trend (anti-regressiveness). Reporters tend to focus on the facts that suggest such a development should have happened. In hindsight they often even suggest that they knew all along that it should happen (Fischhoff 1975). As a negative effect, the press can thus speed commercial and economic failure with reports and explanations of adverse developments. They might even increase mortality with reports of increases in suicide (Phillips 1986). Obviously, there might be positive self-fulfilling effects as well, if favourable events are discussed as a trend.

These selective attributions are not made in malice. It is part of the reporter's job to communicate information and to give causal explanations. Reporters thus induce causal attributions in the public. The effect is amplified by the public itself. Selective exposure and retention are common with the mass media. People tend to attribute changes to internal rather than situational factors. Thus changes and events are explained both by the reporters and the public with underlying inherent factors. This affects knowledge and attitudes of large segments in society. The derived knowledge of people may be correct or incorrect, due to causal attribution or logical reasoning errors.

The new information is further integrated with the existing knowledge in a process of elaboration and argumentation. Overestimation of causal factors generally leads to overreaction in the observed direction (bad things will become worse) rather than regressions toward the mean (bad things will improve) (Andreassen 1987).

Another factor in the perception of news is medium authority. Newspapers and magazines develop a level of authority, based on their expertise in the analysis of backgrounds, their predictive accuracy, the famous names of their reporters, and other factors. Generally, causal attributions of changes in a respected medium will have stronger effects than in less respected media.

Attribution processes

In an attribution process a person tries to find the most likely cause of an event or a behaviour, mainly by discounting, i.e., excluding less

Table 1

Causal attributions for three criteria (Van Raaij 1987).

Criteria	Frequent attribution	Infrequent attribution
Distinctiveness		
High	Target	Agent
Low	Agent	Target
Consistency		
High	Agent or target	Circumstance
Low	Circumstance	Agent or target
Consensus		
High	Target	Agent
Low	Agent	Target

likely causes. Classes of causes are the person or the agent (internal attribution), the object or target (external attribution), or the situation or contingency (circumstantial attribution).

With several measures over time, the covariation principle (with the criteria distinctiveness, consistency, and consensus) guides the person to infer the most likely cause (McArthur 1972; Van Raaij 1987). High distinctiveness means that the effect occurs only with one particular target and not with other targets. High consistency is the repetition of the same effect over time. High consensus is the same causal attribution made by other observers. The causal attribution effects may be summarized in table 1.

With multiple measures from a single observation, the configuration principle helps to find the most plausible cause of the event or the behaviour (Van Raaij 1987). Generally, internal and external causes are distinguished. Internal causes are the volitional disposition or attitude of the agent. External causes pertain to pressure or force applied to the agent by others or by the situation.

Knowing the most likely cause is valuable for predicting the future and knowing what to expect from the person, the agent or the target. Kelley and Michela (1980) describe the consequences of attributions, e.g., the expectations one could derive from causal attributions. Distinctiveness and consistency provide the best basis for veridical attributions. Distinctiveness occurs if the behaviour cannot be attributed to a permanent attribute of the actor, or to convention. Consistency is a repetition of the effect over time. Consensus occurs if a number of independent observers come to the same causal attribution.

Cue utilization

Often cues are used to form perceptions and expectations. One has to make inferences about a person or a situation based on more or less reliable items of information: 'cues'. Stockbrokers have cues at their disposal, such as the Dow-Jones index, volume of trade, gain or loss of market share of a company. Based on these cues the stockbroker forms expectations about the future value of a certain stock. Inferential beliefs are often formed on the basis of cues.

Information items are either arguments that are directly relevant for the issue at hand, or just cues, indicators or proxies with an indirect link to the issue. Consumers might perceive price increases as an indicator of an adverse economic development, although there is no direct relationship at all. Cue utilization in consumer behaviour has been studied by Olson and Jacoby (1972) and Schellinck (1983). The use of cues as indicators is also an aspect of the 'peripheral route' to persuasion in the elaboration likelihood model (Petty and Cacioppo 1986). Source and context elements are often cues, whereas message elements are often arguments.

Not only information items may be reliable or not, the processing of the information may differ in the degree of rationality as well. Human beings are less than perfect information processors. People are biased and tend to use heuristics to collect information and to form expectations. Heuristics are either simple inferences from cues (Chaiken 1980), similar to the peripheral route, or biased processing rules: representativeness and availability (Tversky and Kahneman 1974).

The representativeness heuristic may be formulated as the expected probability that event A originates from process B, e.g. that inflation will result from a policy measure. The availability heuristic (Tversky and Kahneman 1973) pertains to the number of cases one is able to bring to mind. The expectation of a probability or frequency of an event B will be higher, if one can easily observe, find or imagine examples of B. After reading about traffic accidents in the newspapers, people will often state a higher expectation of having a traffic accident than without reading about traffic accidents in the newspapers.

Expectation formation

Tolman (1932) was one of the first psychologists to study expectations. His concept of 'expectations' refers to beliefs that behaviours will

be followed by positively or negatively valenced events. The sources of expectations are memories of actual experiences, perceptions of current stimuli, and inferences drawn from related experiences such as trial of other objects. These expectations are formed by trial and error learning over time. In our perception we are continuously constructing, testing, and revising hypotheses about what is being perceived.

Katona, studying aggregate consumer expectations, distinguished two forms of learning: learning by memorizing (repetition), and by problem solving and understanding (1975: 147–149). This resembles low and high involvement learning. Some expectations are learned by repetition and reinforcement, and extrapolated from the past. The 'psychological field' remains relatively stable under these conditions. Problem solving, however, requiring a lot of cognitive effort, often results in understanding and insights in relationships of factors. As a consequence we may arrive at expectations that are not simple extrapolations from the past. The 'psychological field' may then be reconstructed.

An example is the perception of inflation. If inflationary expectations were formed in no other way than by repetition, their strength would depend on the frequency of past experiences. The longer an inflationary period lasts, the greater would be the expected price increase. Under problem solving conditions, external factors, such as the outbreak of a war, could make people think about the possible consequences, and thus raise their inflationary expectations. Consumers might be erroneous in their causal thinking, but if many consumers believe so, it influences the levels of sales and savings. In the extreme case, expectations may be self-fulfilling. If a prediction of a recession would be widely publicized and induce consumers to postpone their purchases, the result would be that the prediction would come true.

Katona (1975) indicated the importance of mass media in the formation of expectations. Pruitt et al. (1988) investigated the effect of media presentation on the formation of economic presentations. The *Washington Post* presentation resulted in more accurate expectations regarding short-term future unemployment than did the presentations of CBS television and the *Wall Street Journal*. The authors provide an explanation of this difference based on the length and the ambiguity of the latter reports. Not only the facts as such, but also the presentation format or framing (Kahneman and Tversky 1979) affect the formation of accurate expectations.

Types of beliefs

In attitude theory (Fishbein and Ajzen 1975) 'belief' is a central concept. In the history of attitude theory, beliefs related first to the attributes of objects, later to the attributes of acts with regard to the object, and recently to the consequences of behaviour with regard to the object. Attitude theory has developed from an ontological into a teleological perspective, and returned to Tolman's (1932) original conceptualization. People engage in actions expecting positive and negative consequences of their actions, although with a preference for the positive consequences.

Several types of beliefs exist. Fishbein and Ajzen (1975) distinguish descriptive, inferential, and informational beliefs. *Descriptive beliefs* result from direct experience with the object. These beliefs are often held with much certainty and do predict behaviour relatively well (Fazio and Zanna 1981). Consumers having experience with a product know what to expect of it. The process of forming descriptive beliefs is a form of verbal learning, i.e. forming stimulus–response bonds.

Beliefs that go beyond direct experience are called *inferential beliefs*. Some reasoning, knowledge of relations, and information processing is needed to form an inferential belief. For instance, consumers may expect a high quality, knowing the high price or the brand name of a product. The process of forming inferential beliefs is a reasoning process, such as causal attribution, cue utilization, and logical reasoning.

Beliefs formed by accepting the information provided by outside sources, e.g. mass media, are termed *informational beliefs*. The degree of certainty with which an informational belief is held, depends on source characteristics, such as the reliability and expertise of the information source. Information sources can be categorized as social (parents, peers, friends), commercial (salespersons, advertising), or neutral (newspapers, magazines, government reports, consumer organizations). Advertising for new products purposefully attempts to create favourable informational beliefs among consumers.

Several ways exist to form beliefs about the consequences of behaviour and about present and future events. Direct experience is often limited; informational beliefs become more important in modern society. The main processes of expectation formation are the processes of causal attribution and cue utilization.

Aggregate effects

Causal attribution and perception of determinants affect expectations and thus behaviour. Several aggregate effects are possible, if people think to know the expectations or behaviours of others: a self-fulfilling, a self-negating, a self-displacing, a self-equilibrating, or a self-confirming effect (Schelling 1978). Examples of these aggregate effects are:

Self-fulfilling effects: The more people expect that the bank will fail, the more urgent is becomes to withdraw your funds.
Self-negating effects: The more people expect that the beach will crowded on a sunny day (and stay home), the less crowded the beach will be.
Self-displacing effects: Some people are willing to pay a little more at an auction. This pushes prices up.
Self-equilibrating effects: Many people come to a restaurant for lunch at noon. After experiencing the long waiting time, some people will come earlier or later.
Self-confirming effects: If many people expect you to be generous, you are forced to behave that way.

If the behaviours of others have a negative effect on your own outcomes and leave you little or no freedom to behave in another way, effects will be self-fulfilling or self-displacing. Counteractive forces come into play only late. One may argue that expectations thus have an autonomous effect, not cancelling out in the aggregate, creating an antiregressive climate of opinion, and an other (higher) equilibrium than each individual should like to see. If you have other behavioural alternatives, self-negating and self-equilibrating effects are likely to occur. Counteractive forces come into play almost immediately. In this case expectation effects cancel out to a regressive climate of opinion, and to an acceptable equilibrium.

Discussing the results of survey research on consumer spending and saving behaviour, Katona noted that 'rarely do many people mention both favourable and unfavourable business news at the same time. According to whether they feel that business conditions are improving or deteriorating, only good news or bad news are salient to them' (1975: 200). This may be the consequence of selectivity in perception,

retention and/or retrieval, or of a self-fulfilling or self-confirming tendency toward consistency. The above examples of the interplay between individual objectives and aggregate effects is not only the consequence of the level of aggregation, but often also of the difference between a cross-section and time series. In a cross-section individual variability dominates. In time series the variability over time dominates (Van Raaij 1984), because the individual differences are removed by an averaging process.

Different variables are more effective in a cross-section than in time-series. Okun gives an example to show the difference: 'Suppose Asian flu is a contagious disease which is known to spread gradually. Suppose that individuals are polled regularly on their expectation of catching the disease. When a few advance cases are reported in the press, the polls will record an increase in expectations and these expectations are fulfilled in the aggregate as the disease gradually spreads. Yet a cross-section study would show that the individuals that expressed a high expectation, are no more prone to catch the disease than those who expressed low expectations' (Okun 1960: 423). If individuals know their own susceptibility for Asian flu, also an effect at the individual level will be observed. People with a high susceptibility will expect a higher probability to catch the disease. In general, expectations have two components, a general one based on developments in society, and a personal one, based on personal 'susceptibility'.

In a similar way, attitudes are an indicator of a climate of opinion. In a climate of positive attitudes and optimistic expectations people will be more likely to spend and to borrow than in a climate of negative attitudes and pessimistic expectations. At the time-series level a relationship will thus be obtained between attitudes and behaviour. At the cross-section level different relations may be found between individual attitudes and behaviour. A cross-section test of predictivity is thus not enough for assuming time-series predictivity. McNeil (1974) reports that, although buying intentions were predictive of behaviour at the cross-section level, they failed to predict spending and saving behaviour at the aggregate, time-series level. (See also Adams 1964, 1965.)

Index of Consumer Sentiment

Household discretionary income, the ability to buy, needs to be augmented by consumer sentiment, the willingness to buy, in order to

explain and to predict consumer expenditure. Katona (1975) argued that the expectation of one's personal financial progress, the expectation about the business cycle developments, and the market situation influence buying and saving decisions, especially for durable goods, vacation, and recreation. The purchase of durables and vacation trips can often be postponed or cancelled, and is thus more affected by consumer expectations than the purchase of groceries and the payment of mortgage, insurance premiums, and medical bills.

In 1952 Katona constructed the Index of Consumer Sentiment (ICS), consisting of five questions, asked to consumers in regular surveys. Two questions relate to personal finances: whether the household is financially better off, worse off, or in the same situation as a year earlier, and whether it expects to be better off, worse off, or the same a year hence. Two questions concern business cycle trends: whether the next twelve months and the next five years will bring good or bad times for the economy as a whole. A fifth question regarding market conditions asks whether it is a good or a bad time to buy durable goods. The ICS is a simple average of the scores on these five survey questions. The five questions can be classified as evaluations of the present situation and expectations about the future (table 2).

The ICS, in conjunction with income data, predicts aggregate consumer spending (especially on new cars), saving, and borrowing rather well. Mueller (1963) concludes that the ICS in combination with income data contains information not obtainable from financial and business cycle indicators. Adams (1964) finds that the ICS and/or the separate survey questions perform especially well in time series, and not so well in cross-section data. Buying intentions do not improve the

Table 2

Survey questions of the Index of Consumer Sentiment.

	Evaluation	Expectation
Personal finances	Better off compared with year ago?	Better off a year hence?
Business cycle	–	Better business conditions a year/ 5 years hence?
Market conditions	Good time to buy?	–

prediction, once income and ICS questions are present in the regression equations.

Katona (1975: 185) describes a segment of the population: the 'better–better group' of households that feel to be better off than four years ago and also expect to be better off one or four years hence. For them, and for other segments such as 'worse–worse', 'same–worse' and 'worse–same', expectations correspond to past experiences. This resembles the extrapolative expectations rule (Cagan 1956). However, the experience with an increasing income and improvements in the standard of living are not the only cause for optimism. Katona (1975: 187–189) mentions three other considerations: (a) a general shift from blue-collar to white-collar jobs, reaching their peak in income later in life, (b) an increase in educational attainment, and (c) notions about progress reflecting personal achievement, attributing success to internal causes (Van Raaij 1987).

Principal components analysis of the survey questions reveals high correlations between evaluations of the present and expectations toward the future (Van Raaij and Gianotten 1990). One component is related to personal finances, the other to the economy as a whole (business cycle). In the seventies, Dutch consumers were more optimistic about their own finances than over the economy as a whole; in recent years, after the recession of 1980–1984, a reversed pattern has been observed: the optimism about the economy as a whole is greater than the optimism about one's personal finances.

As a consequence of optimistic expectations consumers tend to spend and to save more. Katona and Mueller (1968) found that consumers, expecting income gains, made both anticipatory and concurrent expenditures on discretionary items, especially on durables. An upward income trend is associated with highly valued material goals people have: the acquisition of durables and savings.

Revision of expectations

Expectations are studied in economics and in psychology, and are thus an important part of economic psychology. Economists generally assume that expectations are extrapolated from existing time series. Keynes (1936) assumed a revision process composed of past actual values, past expectations, and an unspecified updating process. Hicks

(1939) included non-economic, even psychological factors as inputs to a price expectation revision process. Psychologists are more interested in the processes of the revision of expectations: how people process incoming (external) information and integrate this new information with the existing information in memory.

The economic approach

Under the influence of econometric modelling, several expectational models were developed. Four rules of expectation revision can be distinguished (Blomqvist 1983). These rules have been employed in the study of inflationary expectations.

(a) The *adaptive expectations* rule has been used most often. The rule states that the new expectation is a weighted average of the actual level now and the expectation formed at a preceding point in time.

(b) The *extrapolative expectations* rule is based on the assumption that the recent rate is extrapolated, taking the most recent changes into account.

(c) The *adjusted long-run expectations* rule is based on the idea that the short-run expectations are derived starting from long-run expectations (seen as the 'normal' expectations), adjusted for recent changes.

(d) The *augmented* rule includes other information than just the variable to be estimated. The 'rational expectations' model (Muth 1961; see below) includes all relevant information of other variables to estimate the variable under study. The augmented rule can be considered to be quasi-rational.

Blomqvist (1983, 1988) finds in a study in Finland that uninformed (lay) subjects tend to use the adaptive expectations rule, whereas informed subjects (economists) more often use the extrapolative rule to estimate future levels of inflation. The dispersion was also greater with the uninformed group.

Nerlove (1983) states that, when economic outcomes are not undergoing a structural change, one will generally find a univariate time series relationship between a variable and its own past. Expectations are then seen as adaptive, extrapolative or adjusted, and discontinuous changes cannot be predicted. With the augmented rule and the rational expectations hypothesis a discontinuous change can be predicted.

Muth formulated his 'rational expectations hypothesis': '... expectations, since they are informed predictions of future events, are essentially the same as the predictions of the relevant economic theory' (1961: 316). Muth thus believed that consumers and business people are lay economists discovering and using economic theories. Consumers and other economic agents form and revise their expectations based on all relevant information available. The rational expectations hypothesis may be used to derive hypotheses for empirical testing, especially at the macro/aggregate level. It is however unlikely that it describes the process of expectation formation of individual consumers and entrepreneurs. Shaw (1987) states that it is impossible for the average consumer to know the 'true' economic theory, where even professional economists disagree about what is the true theory.

Later, the rational expectations hypothesis has been revised to include a learning mechanism. Learning leads to convergence to rational expectations. This assumes that the economic agents know the true economic model, but are uncertain about the values of the parameters during the learning phase. Economic agents behave like computer algorithms converging to the true values. An application of the rational expectations hypothesis in consumer behaviour is described in Oliver and Winer (1987).

Friedman (1979) introduced the 'semi-rational' model of expectation revision. The expectations depend on an optimal learning process. The expected values are a weighed average of adaptive and rational expectations. Over time the expectations converge to the rational expectations.

The economic approach to expectation revision is narrow in scope, with a simple description of the processes that are employed by economic agents: adjustment and convergence to the true value. In the economic approach, the outcomes of these processes are more important than the processes themselves. Bacharach (1986: 175) complained: 'What is missing is a satisfactory Theory of Belief for individual economic agents. A Theory of Belief deals with the way the economic agent comes by beliefs, comes to abandon them; the weight he gives to the testimony of the authorities, the strength of his beliefs, the different categories of his beliefs, his expectations about the future values, certainly, but also the theories of the economy and the proverbs about the economy he believes ...' Thus Bacharach notes the absence of a cognitive theory of expectation formation. The 'theory of the

economy and the proverbs about the economy' point toward causal maps of economic relations as people believe these to exist.

In the adaptive expectations models the trend in the time series usually is estimated by the subjects. It is expected that changes either persist or regress to a previous level, depending on the attributions that are made to explain the recent changes. Andreassen (1987) studied the expectations people have of the stock market. The mass media, playing an important role in making these expectations, tend to stress causes for changes other than just chance, and lead their audience to make less regressive changes in their expectations.

The psychological approach

Expectations that already exist in mind, tend to bias new stimuli in the direction of the existing expectations (anchoring). Existing knowledge structures serve as internalized frames of reference in which to encode incoming stimuli. An expectation is an important frame of reference (Craik and Lockhart 1972) or schema that filters and focuses further information processing. Consumers may have a reference price in mind, and from this they perceive (and recall) actual prices. The striking paradox is thus that new incoming information may not change existing behaviour, but existing information biases the perception of new incoming information. People learn less from new information than should be good for them. Research with the Bayesian perspective also points toward this conservative (regressive) tendency.

In psychology, the revision of expectations is studied as multiple cue learning, concept formation, formal inference models, and Bayesian revision of probabilities. In these models, prior expectations are revised based on new information. In some cases, the new information is feedback information on actions based on the prior information. The revision of expectations may thus be an ongoing process for the individual.

(a) In *multiple cue learning*, persons have a set of cues at their disposal describing some object in order to make an inferential judgment about the object. After each judgment the subject is given feedback as to the accuracy of the judgment. In Brunswik's 'lens model' (1956) cues provide information on an objective 'distal' crite-

rion variable. It is possible to compute a correlation between the person's prediction and the actual criterion. This correlation, the 'achievement index', reflects the accuracy of the judgment. When persons are given feedback as to the accuracy of their judgments, they progressively learn to place more appropriate weights on the various cues. Hammond and Summers (1972) have shown that accuracy is influenced not only by the appropriate weighing of the cues, but also by the way these weights are used by the person. Not only obtaining knowledge from the outside world, but also using this knowledge appropriately increases the accuracy of the judgment.

(b) The basic approach in *concept formation* is similar to multiple cue learning. Here too, concept formation consists of the learning of the attributes of a concept and learning the rule for combining these attributes. The person's task in a concept formation study is to discover the attributes and the combination rule that define a given concept (Johnson 1972). As in multiple cue learning, feedback leads to successive revisions until the concept is correctly identified.

(c) *Formal inference models* are often not descriptive but normative models of reasoning. Syllogistic reasoning and probability models exist and may be used to have a criterion to evaluate the actual human performance of belief formation. A syllogism consists of three belief statements, two premises and one conclusion, e.g.:
Premise 1: Detergents will pollute the environment.
Premise 2: Ajax is a detergent.
Conclusion: Ajax will pollute the environment.

(d) *Bayes' theorem* deals explicitly with the revision of beliefs in the light of new information. Note that Bayes' theorem is a normative model describing the optimal revisions of probabilities. A large number of studies have shown that Bayes' theorem is a reasonably good descriptive model of human information processing (Slovic and Lichtenstein 1971). Brickman (1972) studied the reactions to disconfirmed expectancies, i.e. how persons revise their probabilities consistent with Bayes' theorem. He gave some subjects information about their grades that was discrepant with their expectations, and other subjects information that was consistent with their expectations. He found that unexpected (discrepant) information produced smaller revisions than expected (consistent) information. Disconfirmation of expectations did not result in reluctance to accept the information, but was used to revise the information, although in a somewhat conservative manner.

Bayes' theorem constitutes a model of a 'rational' person using new information in an optimal way.

In the revision of expectations, as in the formation of expectations, people tend to be biased and to use heuristics. Using new information, adjustments of a prior value to a new value are typically insufficient. Anchoring occurs, if a starting value determines the final expectation. High starting values tend to result in higher estimates than low starting values (Tversky and Kahneman 1974). Consumers may use the price of their present car as an anchor for the evaluation of other cars. If their present car is cheap, this low starting value will lead to lower estimates of car prices than if their present car is expensive.

As we have seen before, expectations that already exist in mind, tend to bias new stimuli in the direction of the existing expectations. An expectation is an important frame of reference (Craik and Lockhart 1972). The striking paradox is thus that new incoming information may not change existing behaviour sufficiently, but that existing information biases the perception of new incoming information. People learn less from new information than should be good for them. Research with the Bayesian perspective also points toward this conservative (regressive) tendency.

Sentiment

Mood is a relevant concept in economic behaviour and marketing. Consumers and speculators in a good mood form more positive expectations about a product, a service or a stock. They are willing to take more risk and are thus more easily convinced to buy the particular product, service or stock. Consumers and speculators in a bad mood form more negative expectations, take less risk, and are thus less likely to buy. The macro equivalent of individual mood is collective sentiment. Katona (1975) found that a positive (optimistic) sentiment enhances spending, especially on durables, luxury services, and consumer credit, and tends to decrease consumer saving.

The ICS can be conceptualized as a measure of specific consequences of the consumers' sentiment at an aggregate level. Research with the ICS indicates that the consumers' sentiment is relatively stable over time and contributes to the prediction of consumer spending and saving (Vanden Abeele 1983, 1988). Katona (1975) states that the

relative stability of the consumers' sentiment is the result of mass media information and interpersonal communication processes. Large groups of consumers receive regular mass media information about the economic situation in general. Interpersonal communication stimulates the dissemination of such information. Together with other factors, e.g. direct personal experiences, this information influences the consumers' sentiment in a positive or in a negative direction. Such differences in sentiment influence the expectations, consumers and investors form about the future economic conditions. These expectations then influence their spending, investment, saving, and borrowing behaviour.

The mood of the individual may affect the retrieval of expectations. In a study (Bower and Cohen 1982), subjects were asked to estimate on a 0-to-100 scale the 'objective' probability of possible future events. U.S. subjects were asked, for instance, to estimate the probability that within the next three years they would take a vacation in Europe, or the probability that within the next ten years there would be a major disaster at a nuclear power plant in California. Experimentally, either a happy or a depressed mood had been induced in the subjects. Analyses of the probability estimates showed that happy subjects elevated their probability estimates of positive future events, e.g., the vacation trip to Europe, and reduced their estimates of negative future events, e.g. the nuclear power plant disaster. Exactly the opposite results were obtained for depressed subjects.

Johnson and Tversky (1983) gave subjects a newspaper report of a tragic event in order to induce a negative mood in them. Subjects in such a depressed mood gave higher estimates of the risks of undesirable events, not necessarily related to the newspaper report. An account of a happy event induced a positive mood, and decreased the likelihood estimates (expectations) of undesirable events. The mood state thus influences the retrieval of expectations in the sense that people in an unhappy mood give higher expectations of undesirable events than people in a happy mood. Consumers often store positive and negative aspects of products and services in their memory. Consumers in a good mood tend to retrieve more positive expectations about a product or a service than consumers in a bad mood (mood congruency hypothesis (Bower and Cohen 1982) or accessibility hypothesis (Isen et al. 1978)).

Relationships are found between individual mood and behaviour at the cross-section level and between collective sentiment and behaviour at the time-series level. One should however be careful in using a

cross-section test for an aggregate relationship and vice versa (Van Raaij 1984).

Short-term and long-term effects

It is important to distinguish short-term and long-term effects of new information on expectations and behaviour. Short-term effects pertain to specific immediate actions of people, mainly because the news has severe direct positive or negative effects on their well-being. Only by immediate action may these severe effects be realized or countered.

Examples of short-term effects are:

(a) News reports of violence affecting shopping behaviour (Schachter et al. 1986),
(b) Dow-Jones indexes affecting stock market behaviour (Andreassen 1987),
(c) News reports of political incidents during elections affecting voting behaviour, and
(d) Traffic information affecting traffic behaviour.

The effects of news affecting expectations and behaviour can be observed most clearly in these cases. The next morning after the news in the mass media about downtown violence less shoppers show up in the downtown area. Many stock owners sell their stock as soon as possible after the bad news of a fall of the Dow-Jones index. The political candidate gets less votes after the incident. And, less people choose the road with the traffic jam.

The shopping, voting and traffic behaviour might lead to self-equilibration. People will shop at other shopping centres or will shop at a later date. People will vote for another candidate. And people will select another route. Selling stock, however, has a self-fulfilling effect.

It depends on the causal attribution on the stability dimension, whether the behaviour will be maintained only in the short-term or will remain over a longer period. As argued before, reporters will often attribute the events to stable and thus structural causes. Immediate and often also long-term behavioural effects may then be expected.

Long-term effects pertain to a general 'climate of opinion', affecting the behaviour of many persons over a long time period. Examples are:

(e) Economic news affecting spending, saving, and borrowing behaviour (Katona 1975),
(f) Government policy measures affecting business behaviour, e. g. taxation measures.

These developments and policy measures often cannot easily be countered with immediate behavioural changes. People have to adapt to these developments. This adaptation may take time and thus may have a long-term effect on their spending, saving, and borrowing behaviour.

Conclusion

In this article, the formation and revision of expectations has been discussed, especially as determined by the mass media. If reporters interpret random and/or minor deviations from the trend as structural trends attributing the deviation to internal causes, people generally will form or revise expectations based on this information. Both mass media reporters and the public at large wil base their conclusions on imperfect information. The representativeness of the information may be low and inference processes biased. Expectations may thus be biased toward the perception of structural and stable trends.

These expectations will often lead to behaviours consistent with these expectations. The expected behaviours of others are also taken into account. Aggregate effects, such as self-fulfilling and self-equilibrating effects, are the result. Self-fulfilling effects might increase the behaviours even further. Self-equilibrating effects will spread to alternative behaviours.

Research on expectation formation and change, and the effects of expectations on behaviour will help to understand aggregate reactions of the public at large, and the role of mass media information. Politicians and reporters should understand their responsibility in interpreting economic facts and figures.

Although many studies report that people underutilize the available information in making decisions, in the formation of expectations the scarcely available information is often overinterpreted. It is a natural tendency of humans to reduce insecurity about the future. This might misleadingly be done by attaching too much weight to deviations from

normal and to attribute internal causes to events. More research should be done on how people use information in forming expectations about the future. And how they anticipate the behaviour of others in their decisions. Determinant conditions are the perceived degrees of freedom, the perceived informational advantage over others, and the perceived financial, time, or social risks.

Expectations are central to the economic behaviour of consumers and business people. Expectations guide the selection and interpretation of economic news, and guide economic behaviour. Economic abilities and opportunities have to be supplemented with psychological willingness to spend, to invest, and to save in order to support economic progress. Expectations are a major determinant of the willingness component.

References

Adams, F.G., 1964. Consumer attitudes, buying plans and purchases of durable goods: A principal components time series approach. Review of Economics and Statistics 46, 347–355.

Adams, F.G., 1965. Prediction with consumer attitudes: The time series cross section paradox. Review of Economics and Statistics 47, 367–378.

Andreassen, P.B., 1987. On the social psychology of the stock market: Aggregate attributional effects and the regressiveness of prediction. Journal of Personality and Social Psychology 53, 490–496.

Bacharach, M.O.L., 1986. 'The problems of agents' beliefs in economic theory'? In: M. Baranzini and R. Scazzieri (eds.), Foundations of economics. Oxford: Blackwell.

Blomqvist, H.C., 1983. On the formation of inflationary expectations: Some empirical evidence from Finland, 1979–1980. Journal of Economic Psychology 4, 249–266.

Blomqvist, H.C., 1988. Uncertainty and predictive accuracy: An empirical study. Journal of Economic Psychology 9, 525–532.

Bower, G.H. and P.R. Cohen, 1982. 'Emotional influences in memory and thinking: Data and theory'. In: M.S. Clark and S.T. Fiske (eds.), Affect and cognition. Hillsdale, NJ: Erlbaum. pp. 291–331.

Brickman, P., 1972. Rational and nonrational elements in reactions to disconfirmation of performance expectancies. Journal of Experimental Social Psychology 8, 112–123.

Brunswik, E., 1956. Perception and the representative design of experiments. Berkeley, CA: University of California Press.

Cagan, P., 1956. 'The monetary dynamics of hyperinflation'. In: M. Friedman (ed.), Studies in the quantity theory of money. Chicago, IL: Chicago University Press.

Chaiken, S., 1980. Heuristic versus systematic information processing and the use of source versus message cues in persuasion. Journal of Personality and Social Psychology 39, 752–766.

Craik, F.I.M. and R.S. Lockhart, 1972. Levels of processing: A framework for memory research. Journal of Verbal Learning and Verbal Behavior 11, 671–684.

Fazio, R.H. and M.P. Zanna, 1981. 'Direct experience and attitude–behavior consistency'. In: L. Berkowitz (ed.), Advances in experimental social psychology, Vol. 14. New York: Academic Press.

Fischhoff, B., 1975. Hindsight ≠ foresight: The effects of outcome knowledge on judgment under uncertainty. Journal of Experimental Psychology: Human Perception and Performance 1, 288–299.

Fishbein, M. and I. Ajzen, 1975. Belief, attitude, intention, and behavior. Reading, MA: Addison-Wesley.

Friedman, B.M., 1979. Optimal expectations and the extreme information assumptions of 'rational expectations' macromodels. Journal of Monetary Economics 5, 23–41.

Hammond, K.R. and D.A. Summers, 1972. Cognitive control. Psychological Review 79, 58–67.

Hicks, J.R., 1939. Value and capital. Oxford: Oxford University Press.

Isen, A.M., T.E. Shalker, M.S. Clark and L. Karp, 1978. Positive affect, accessibility of material in memory and behavior: A cognitive loop? Journal of Personality and Social Psychology 36, 1–12.

Johnson, D.M., 1972. A systematic introduction to the psychology of thinking. New York: Harper & Row.

Johnson, E. and A. Tversky, 1983. Affect, generalization and the perception of risk. Journal of Personality and Social Psychology 45, 20–31.

Kahneman, D. and A. Tversky, 1979. Prospect theory: An analysis of decision under risk, Econometrica 47, 263–291.

Katona, G., 1975. Psychological economics. New York: Elsevier.

Katona, G. and E. Mueller, 1968. Consumer response to income increases. Washington, DC: Brookings Institution.

Kelley, H.H. and J.L. Michela, 1980. Attribution theory and research. Annual Review of Psychology 31, 457–501.

Keynes, J.M., 1936. The general theory of employment, interest and money. London: Macmillan.

McArthur, L.A., 1972. The how and what of why: Some determinants and consequences of causal attribution. Journal of Personality and Social Psychology 22, 171–193.

McNeil, J., 1974. Federal programs to measure consumer purchase expectations, 1946–1973: A post-mortem. Journal of Consumer Research 1, 1–15.

Mueller, E., 1963. Ten years of consumer attitude surveys: Their forecasting record. Journal of the American Statistical Association 58, 899–917.

Muth, J.F., 1961. Rational expectations and the theory of price movements. Econometrica 29, 315–335.

Nerlove, M., 1983. Expectations, plans and realizations in theory and practice. Econometrica 51, 1251–1279.

Okun, A.M., 1960. 'The value of anticipations data in forecasting national product'. In: National Bureau of Economic Research, The quality and economic significance of anticipation data. Princeton, NJ: NBER.

Oliver, R.L. and R.S. Winer, 1987. A framework for the formation and structure of consumer expectations: review and propositions. Journal of Economic Psychology 8, 469–499.

Olson, J.C. and J. Jacoby, 1972. 'Cue utilization in quality perception processes'. In: M. Venkatesan (ed.), Proceedings 3rd Annual Conference of the Association for Consumer Research. College Pank, MD: Association for Consumer Research. pp. 167–179.

Petty, R.E. and J.T. Cacioppo, 1986. 'The elaboration likelihood model of persuasion'. In: L. Berkowitz (ed.), Advances in experimental social psychology, Vol. 18. New York: Academic Press. pp. 123–205.

Phillips, D.P., 1986. 'Natural experiments on the effects of mass media violence on fatal aggression: Strengths and weaknesses of a new approach'. In: L. Berkowitz (ed.), Advances in experimental social psychology, Vol. 18. New York: Academic Press. pp. 207–250.

Pruitt, S.W., R.J. Reilly and G.E. Hoffer, 1988. The effect of media presentation on the formation of economic expectations: Some initial evidence. Journal of Economic Psychology 9, 315–325.

Schachter, S., D.C. Hood, P.B. Andreassen and W. Gerin, 1986. 'Aggregate variables in psychology and economics: Dependence and the stock market'. In: B. Gilad and S. Kaish (eds.), Handbook of behavioral economics, Vol. B (Behavioral macroeconomics). Greenwich, CT: JAI Press pp. 237–272.

Schellinck, D.A., 1983. 'Cue choice as a function of time pressure and perceived risk'. In: R.P. Bagozzi and A.M. Tybout (eds.), Advances in consumer research. Ann Arbor, MI: Association for Consumer Research. pp. 470–475.

Schelling, T.C., 1978. Micromotives and macrobehavior. New York: Norton.

Shaw, G.K., 1987. Rational expectations, Bulletin of Economic Research 39, 187–209.

Slovic, P. and S. Lichtenstein, 1971. Comparison of Bayesian and regression approaches to the study of information processing in judgment. Organizational Behavior and Human Performance 6, 649–744.

Tolman, E.C., 1932. Purposive behavior in animals and men. New York: Appleton-Century-Crofts.

Tversky, A. and D. Kahneman, 1973. On the psychology of prediction. Psychological Review, 80, 237–251.

Tversky, A. and D. Kahneman, 1974. Judgment under uncertainty: Heuristics and biases. Science 185, 1124–1131.

Vanden Abeele, P., 1983. The Index of Consumer Sentiment: Predictability and predictive power in the EEC. Journal of Economic Psychology 3, 1–17.

Vanden Abeele, P., 1988. 'Economic agents' expectations in a psychological perspective'. In: W.F. van Raaij, G.M. van Veldhoven and K.-E. Wärneryd (eds.), Handbook of economic psychology. Dordrecht: Kluwer. pp. 479–515.

Van Raaij, W.F., 1984. Micro and macro economic psychology. Journal of Economic Psychology 5, 385–401.

Van Raaij, W.F., 1987. 'Causal attributions in economic behavior'. In: A.J. MacFadyen and H.W. MacFadyen (eds.), Economic psychology: Intersections in theory and application. Amsterdam: North-Holland. pp. 353–379.

Van Raaij, W.F. and H.J. Gianotten, 1990. Consumer confidence, expenditure, saving, and credit. Journal of Economic Psychology 11, forthcoming.