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# Psychosocial variables involved in the construction of lay thinking about the economy: Results of a cross-national survey

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## Abstract

This study explores the relations between psychosocial variables and lay economic thought. A number of studies have described cultural variations of individual differences variables, such as locus of control (LOC) and belief in a just world. The aim of this project is to test the strength of the relationships between these variables and economic beliefs and attitudes across a wide cross-national sample. Data were collected from eight countries (Austria, France, Greece, Israel, New Zealand, Slovenia, Singapore and Turkey) and nearly 2000 respondents. Lay economic thinking appears to be organised around economic phenomena (such as inflation and unemployment) rather than economic integrative theories (such as whether consumption or business activities drive the economy). Overall, the results verify the relationship between internal LOC, belief in a just world, a free-enterprise view of the economy and higher satisfaction with private and public economy.

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## 1. Introduction

The present report describes the conception and overall findings of the *Adult Economic Model and Values Survey* conducted between 1997 and 1999 in Austria, France, Greece, Israel, New Zealand, Slovenia, Singapore and Turkey. The survey was organised by David Leiser at Ben-Gurion University of the Negev in Israel and aimed at investigating psychosocial variables (i.e. locus of control (LOC)) and general attitudes (i.e. belief in a just world) that may be related to lay peoples' attitudes and beliefs about the economy.

Since Katona's (1975) early work, research has focused on explanations of economic behaviour as influenced by inner psychological factors as well as external economic forces. In this perspective, the correlates of adult beliefs and values have received particular attention, for instance in terms of defining consumer demand (Pickering, Greatorex, & Laycock, 1983; Van Raaij & Gianotten, 1990; Winer, 1985) or financial behaviour such as saving and indebtedness (Adair, Roland-Lévy, & Viaud, 1994; Dessart & Kylen, 1986; Furnham, 1986b). Studies have examined relationships between economic beliefs and personality variables, such as optimism vs. pessimism (Furnham, 1997), or value orientations, such as internally or externally oriented values (Roland-Lévy, 1998; Wharton & Harmatz, 1995).

While lay people may not possess formal knowledge on the functions of the economy, they do reason about economic phenomena in daily decision-making regarding their finances. Unquestionably, lay theories about the economy provide information that is important for the definition and advancement of economic policies and practice. Lynn (1992) for instance, investigating the increase of an object's desirability as a function of its scarcity, concluded that naïve economic theorising is responsible for phenomena that are not predicted by formal economic theory. In an earlier work, Salter (1986) described what he called tacit theories of the macroeconomy, that is, lay people's causal models explaining how the economy functions. The author interviewed a convenience sample of adults from New York with a series of causal questions about the economy. Data analyses suggested two basic types of tacit theories, representing two fundamentally different ways of looking at the economy: (i) consumption drives the economy (demand-side point of view), or (ii) business activities drive the economy (supply-side point of view). Salter reports that people who hold the first assumption consider individual (aggregated) action as the major force in creating events, and maintain a stronger notion of personal responsibility. People who hold the second view see causal factors as connected to abstract "exterior" forces. On the basis of this description, the author formulates the following comparative interpretations and predictions: from the demand side economic view, balancing advantages and disadvantages is possible, which implies the use of negotiation, compromise and taking risks in order for secondary benefits to be gained from otherwise unsuccessful actions. In contrast, the supply side view considers that external forces operate in order to cause only good (or only bad) events. Therefore, for demand-side adherents the world is not such an orderly or well understood place, while in the supply side view, specific causes must lead to specific desired effects; when they do not, it is because the necessary means have not been correctly implemented. Salter writes:

In summary, we have one view (demand side) in which individuals are important causal agents, in which the same events or causes may have both positive and negative consequences and in which some uncertainty inheres in the outcomes of actions. The supply side view, although explicitly stressing the importance of individual initiative, sees causal forces in the economy as para-individual and abstract, sees unalloyed good flowing from purely implemented proper policies and sees those good effects as following those proper policies inevitably (Salter, 1986, p. 188).

Salter underlines that the simplicity of what he calls “the supply side delusional system”, characterised by consistency (good things come from and result in good things) and balance (what is good for the individual is generally good), is highly appealing to the individual, in particular in the voting situation where demand side or supply side policies are proposed. He suggested that treating these theories as dependent variables would be a difficult endeavour, as they may not be simply seen as the product of social-economic status or political affiliation; rather, they would be related to deep set values concerning the relationship between individual and society. Finally, he recommends that in treating tacit economic theories as independent variables one may expect the view held by individuals (demand vs. supply) to be a mediating variable in the explanation of voting behaviour and to be related to specific types of economic behaviour.

Leiser and Briskman-Mazliach (1996) identified several key questions (statements of causal inference) that may be used as first-order diagnostics of Salter's tacit theories of economy, which we refer to as lay economic models (Economic Model Questionnaire, EMQ). The present study attempted to verify Salter's assumptions regarding the psychological profiles pertaining to the two types of tacit economic theorising (supply vs. demand views), by investigating the relationships between lay economic models and two psychosocial variables, (i) external or internal orientation regarding the source of rewards and reinforcements (LOC), and (ii) belief in a just world (BJW). In addition to the economic model, attitudes and beliefs regarding specific aspects of the economy were assessed: trust in the business world as a reliable institution; support for government intervention in price control and in social welfare; general satisfaction with the distribution of resources and opportunities in the economy, as well as fair treatment of workers under the current system; and feelings of personal economic efficacy vs. feelings of economic alienation and helplessness.

The LOC construct is one of the most popular in cognitive social psychology, it refers to the extent to which one believes that life events depend on one's own actions or qualities (dimension of internality). The concept has also been widely used in economic psychology research. Correlates of internality include strong Protestant work ethic and endorsement of conservative or free enterprise economic beliefs (Furnham, 1987b). In reference to fighting unemployment for example, internals would be more inclined to endorse hard line measures rather than increased government spending (Heaven, 1990). In general, internal LOC is associated with higher perceived control of finances, higher satisfaction with financial status and more positive perceptions of

the effects of changes in the financial environment (Danes & Rettig, 1993; Hira, Fitzsimmons, Hafstrom, & Bauer, 1993; Sumarwan & Hira, 1993). Further, externals report feeling more personally affected by economic crises than internals (Chebat & Filiatral, 1984). It follows that internality is linked to high levels of perceived psychological well-being: internally oriented individuals respond more adequately to stress, as beliefs in one's own control over outcomes seem to play a buffering role in stressful economic and job events (Krause & Stryker, 1984; Lange & Byrd, 1998).

The just world postulate has also stimulated much research over the past two decades. Initially proposed by Lerner (1965) it refers to the people's need to feel that they live in a world where one gets what one deserves. It is hypothesised to be a "fundamental delusion" which helps people to confront their environment and sustain their actions with a measure of confidence in some kind of order and fairness. Early on, Lerner and Miller (1978) argued that when unjust situations occur, this belief motivates individuals to cognitively rectify the injustice and view the situations as just: either by derogating the victim of the injustice, especially if they feel complicity to the injustice, or by holding victims responsible for their fate. Extensive attributional research has underlined the correlations between holding a just world belief and negative attitudes toward socially disadvantaged targets: poor people (Furnham & Gunter, 1984; Smith, 1985; Wagstaff, 1983), or poor countries (Harper & Manasse, 1992; Harper, Wagstaff, Newton, & Harrison, 1990), immigrants and foreign workers (Dalbert & Yamauchi, 1994), the unemployed (Montada & Mohiyeddini, 1998). In addition to the sphere of social judgment, BJW is active in the sphere of psychosocial adjustment. It appears that BJW helps people to cope with witnessing injustice (Montada & Lerner, 1995), to accept one's own hardships (Dalbert, 1998) or to deny ones' own unjust treatment (Bastounis & Minibas, 2000). It follows that believing the world is just enhances perceived psychological well-being (Dalbert, 1998). Finally, strong correlations have been reported between BJW, authoritarianism (Connors & Heaven, 1987; Lambert, Burroughs, & Chasteen, 1998), right-wing ideologies (see also Lambert & Raichle, 2000) as well as general political and ideological conservatism (Dittmar & Dickinson, 1993; Wagstaff & Quirk, 1983; Zucker & Weiner, 1993).

As the cultural variations of these psychosocial measures have received ample attention and comparative studies have yielded sturdy results (see for example Furnham, 1993; Smith, Trompenaars, & Dugan, 1995) the following analyses aimed to test the endurance of the relations between such variables and lay economic thought across a wide heterogeneous cross-cultural sample. A separate report (Allen, Leiser, & Ng, in preparation) deals with the co-variation of the same psychosocial measures and economic beliefs with national differences in economic development and modernization, taking into account variables such as countries' level and pace of modernization, human capital, social civil capital, government social capital and type of welfare state (conservative or socialist).

The belief in a just world supports the belief that positive outcomes for oneself are well deserved and therefore not the result of luck or others' actions, it should therefore be negatively correlated with externality. This assumption was tested in the present study. Based on the available literature, it was expected that internality and high

belief in a just world should correlate with feelings of satisfaction with one's own financial situation, belief in the fairness of the economic system and trust in the business world as a reliable institution. Externality and weak just world belief were expected to relate to feelings of economic alienation and helplessness and support for government intervention in welfare and pricing. Finally, it was hypothesized that psychosocial variables and economic beliefs should be related to the way people understand the economy as indexed by the EMQ.

## 2. Method

### 2.1. Measuring instruments

#### 2.1.1. Psychosocial variables

The study employed the *Internal–External Control Scale* (Rotter, 1966), a classic tool that has been used in a variety of studies. This instrument is composed of 22 items and measures the extent to which one believes that reinforcements and rewards are a function of one's own behaviour (internal locus) or a function of chance, fate or powerful others (external locus). Each item proposes a forced choice between two propositions. A high score indicates external locus of reinforcement and a low score indicates internality. This scale was used in preference to a more specific economic LOC scale because the latter was not shown to have any special advantage over the general scale (Furnham, 1986a) while Rotter's instrument was already translated and validated in participant countries.

Belief in a just world was measured with the instrument proposed by Dalbert (English version, see Dalbert & Yamauchi, 1994). This scale was developed following criticism (see for example Ambrosio & Sheehan, 1986; Furnham & Procter, 1989; Lipkus, 1991; see also Couch, 1998) of the internal validity of the scale proposed by Rubin and Peplau (1973, 1975) measuring belief in a just world and in an unjust world. Dalbert's is a six-item Likert-type scale, with answers ranging from 1 (completely disagree) to 6 (completely agree). A high score indicates agreement with the just world hypothesis.

#### 2.1.2. Lay economic model, economic attitudes and beliefs

The EMQ is a multiple choice instrument designed by Leiser and Briskman-Mazliach (1996) tapping lay causal explanations of economic phenomena. Conceptually derived from Salter's work (1986), it aims to differentiate individuals who believe the economy is motivated by the forces of demand from those who conceive the economy as run by the forces of supply. Five items refer to unemployment (example items, S5: *In order to solve the problem of unemployment what should the government do?* S13: *How would a dramatic increase in all taxes affect unemployment?*) and four questions refer to inflation (example items, S3: *What is the main factor that influences the rate of inflation?* S11: *What will happen to inflation if the interest rate increases?*). Finally, four filler questions measure satisfaction with the economy and government action. Proposed answers reflect the action of either supply or demand forces (e.g.

the government, the business world, banks, vs. consumption, personal savings or credit, etc. respectively). Answers are scored 1 (supply forces) to 0 (no supply forces), a high score indicating support for the supply view and a low score support for the demand view.

The economic values inventory (EVI) developed by O'Brien and Ingels (1984) aims to measure beliefs about the economy; it has been validated in previous research and is shown to have both internal reliability and construct validity (see for example, Furnham, 1987a). The original EVI includes 49 items tapping eight validated dimensions. The present study used a shorter 29-item version, testing the six dimensions most pertinent to the aims of the study. The items are rated on an agree-disagree bipolar scale. High scores code disagreement:

- (i) Five items concern the role of business; a high score here indicates low trust in the business world as a reliable institution providing useful services and goods. Example item: "*Businesses could provide more jobs, goods and services if they didn't have to pay so much in taxes*".
- (ii) Seven items tap perception of personal economy efficacy, where high scores indicate feelings of adequacy in personal finance matters. Example item: "*It's no use worrying about the economy; I can't do anything about it anyway*".
- (iii) Five items concern the role of the government in providing social welfare to the disadvantaged where a high score indicates an anti-social welfare opinion. Example item: "*The poor and the ill have a right to help from the government*".
- (iv) Two items regarding the role of government for price control where a high score indicates low support of government intervention. Example item: "*Companies should only be allowed to charge a government-controlled price for their products*".
- (v) Four items measuring opinions regarding economic unfairness, where a high score indicates the feeling that workers receive unfair treatment in the economic system. Example item: "*The average worker today is getting less than his or her fair share*".
- (vi) Four items measuring general satisfaction with the economy, where a high score indicates the opinion that resources and opportunities are equally distributed in the economic system. Example item: "*We need a way to make incomes more equal in this country*".

## *2.2. Procedure*

Data were collected in Vienna, Austria (19.34% of the total data set,  $N = 514$ ); Paris, France (12.12%,  $N = 235$ ); Athens, Greece (5.1%,  $N = 98$ ); Beer Sheva, Israel (10.37%,  $N = 201$ ); Singapore (9.23%,  $N = 179$ ); Ljubljana, Slovenia (12%,  $N = 231$ ); Wellington, New Zealand (27%,  $N = 514$ ); and Istanbul, Turkey (5.4%,  $N = 105$ ). The selection of participant countries is detailed in Allen et al. (in preparation) who focus on cross-national comparisons in particular. In brief, we aimed at including nations with varying levels of economic development and modernisation, different types of welfare state, as well as nations representing most of the major world cultural groups and value systems (i.e. historically English speaking/Protes-

tant, Catholic, Orthodox, Muslim, Asian – Buddhist and Jewish; see Huntington, 1996). The instrument was translated into each language and back-translated by bilingual speakers to check for linguistic discrepancies. Minor changes were then made in each version whenever necessary. The questionnaire was self-administered.

### 2.3. Sample

The total sample is composed of 1938 respondents, 62% males, age ranging from 19 to 65 years ( $M = 42$ ,  $SD = 12.2$ ). Sampling varied across countries but mainly followed convenience procedures. Participants fall into four main occupational categories: managers (25% of the sample, e.g. employers, executives, etc.), independent professionals (20%, e.g. doctors, lawyers, architects, artists, etc.), employees in the private sector (16%), and state employees (17%, e.g. civil servants, teachers, etc.). Other occupations include retired (6%), unemployed (9%), students (4%), and no response (3%).

## 3. Results

### 3.1. Instrument validity and reliability

#### 3.1.1. Psychosocial measures

LOC findings reported in this paper do not refer to New Zealand (27% of data set) because LOC measurements were not taken in that country. The reliability of LOC and belief in a just world (BJW) scales in the entire data set was satisfactory (Cronbach alphas LOC = 0.87 and BJW = 0.78). Furthermore, as expected, the two scale scores were significantly negatively correlated. Data distribution was not normal for both scales and so the correlation was estimated with the Spearman coefficient ( $\rho = -0.17$ ,  $p = 0.01$ ).

#### 3.1.2. Economic model questionnaire

Analyses were conducted on the entire data set to verify a tendency to endorse the whole supply-motivated view of the economy as predicted by Salter. An index was computed for each participant called “Supply” as the sum of the participant’s answers that support the supply-motivated view of the economy. The values of this variable range between 0 (no “supply view” answers) to 10 (“supply view” answers only). A bimodal distribution of this variable would indicate that participants adhere in a coherent manner to either supply or demand views. The distribution was in fact normal ( $\chi^2 = 1320.30$ ,  $p = 0.01$ ) indicating no supply vs. demand coherence in the observed responses. The distribution of subsets of questions (referring only to inflation or unemployment) yielded similarly normal distributions.

Subsequent analyses were conducted to examine the pattern of resemblance between supply-endorsing answers. Ascending hierarchical classification using Ward’s method and City-block distances yielded three clusters. Alternative methods of clustering (Euclidian distances) yielded the same solution. The first cluster grouped

responses to four items (S3, S6, S9, S11) referring to inflation; the second and third clusters grouped two (S2, S7) and four items (S5, S10, S12, S13) referring to unemployment. These classifications were verified with multi-dimensional scaling performed on the total data set (goodness of fit indexes: stress = 0.069; alienation = 0.116, see Fig. 1).

These findings warranted the use of two content-oriented variables in subsequent analyses: unemployment (composed of the combined scores of items S5, S10, S12 and S13) and inflation (composed of the combined scores of items S3, S6, S9 and S11). According to the answer scoring criterion, the inflation variable expresses the degree to which people believe that inflation is regulated by supply, in terms of quantity of goods in circulation, government spending, business growth, high interest rates and money availability. Similarly, the unemployment variable defines the degree to which people believe that unemployment is regulated by supply forces and that it can be fought through business and industry expansion, increased saving and investment in stocks and business activities. As the variables express the action of supply forces on the two economic phenomena, they were weakly but significantly correlated ( $r = 0.16$ ,  $p = 0.01$ ).

### *3.1.3. Economic values inventory*

The reliability check performed for the six subscales yielded relatively low Cronbach alpha coefficients: trust in the business world  $\alpha = 0.43$ ; personal economic efficacy  $\alpha = 0.61$ ; social welfare  $\alpha = 0.51$ ; general satisfaction with the economy,  $\alpha = 0.64$ ; economic unfairness  $\alpha = 0.77$ . The two items of the government price control sub-

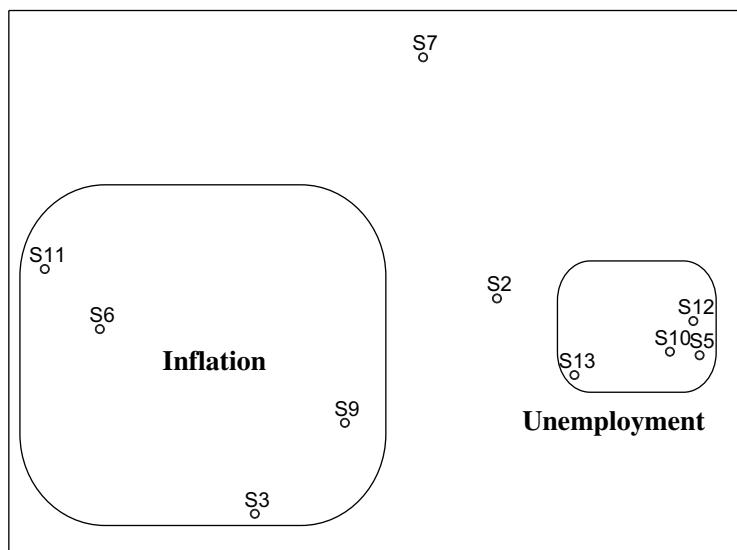


Fig. 1. Two-dimensional scatterplot: multidimensional scaling of 10 EMQ item responses.

scale were positively correlated ( $r = 0.37$ ,  $p < 0.01$ ). National scale alphas, means and variances are provided in Allen et al. (in preparation).

### 3.2. Hypothesis testing

#### 3.2.1. Psychosocial variables, lay economic beliefs and attitudes

Spearman correlation coefficients were computed because scale data were overall not normally distributed. Correlations computed between scale scores (see Table 1) define the following pattern of two contrasting belief constellations: on the one hand, general satisfaction with the economy is strongly correlated to feelings of personal economic efficacy ( $\rho = 0.29$ ,  $p < 0.01$ ) and to low support for government intervention both in social welfare ( $\rho = 0.40$ ,  $p < 0.01$ ) and price control ( $\rho = 0.20$ ,  $p < 0.01$ ). On the other hand, low trust in the business world is correlated with the belief that workers are unfairly treated in the economic system ( $\rho = 0.05$ ,  $p < 0.05$ ). The attitudes and beliefs belonging to each of the two belief constellations were all significantly negatively correlated with those of the other constellation. As is logically expected, belief in economic unfairness regarding the treatment of workers is negatively correlated with general satisfaction with the economy ( $\rho = -0.30$ ,  $p < 0.01$ ), feelings of personal economic efficacy ( $\rho = -0.05$ ,  $p < 0.05$ ) and low support for government intervention both in welfare ( $\rho = -0.17$ ,  $p < 0.01$ ) and price control ( $\rho = -0.08$ ,  $p < 0.01$ ) thus indicating high support for government intervention. Similarly, low trust in the business world was negatively correlated with general satisfaction with the economy ( $\rho = -0.10$ ,  $p < 0.01$ ), personal economic efficacy ( $\rho = -0.10$ ,  $p < 0.05$ ) and low support for government intervention (no welfare,

**Table 1**  
Spearman correlations between all psychosocial and economic belief variables for the entire data set

Variable	LOC	1	2	3	4	5	6	7	8
1. Belief in a just world		-0.20**							
2. (Anti-) business world	0.08**	-0.30**							
3. Personal economic efficacy	-0.22*	0.09**	-0.10**						
4. (Anti-) social welfare	-0.17*	0.16**	-0.19**	0.12**					
5. (Anti-) price control	-0.02	0.01	-0.15**	0.20**	0.10**				
6. Economic unfairness	0.03	-0.15**	0.05*	-0.05	-0.17**	-0.08**			
7. Satisfaction with the economy	-0.21**	0.18**	-0.10**	0.29**	0.40**	0.20**	-0.30**		
8. Unemployment	0.02	-0.00	0.09**	-0.10**	-0.01	-0.03	0.07**	-0.04	
9. Inflation	-0.10**	-0.02	0.06	0.08**	0.08**	0.06*	0.01	0.15**	0.17**

Note: \* $p < 0.05$ ; \*\* $p < 0.01$  (2-tailed).

$\rho = -0.19, p < 0.05$  and no price controls,  $\rho = -0.15, p < 0.05$ ). Conceptually, these attitude constellations may be considered to define one rather liberal, pro-free enterprise and satisfied profile, opposed to a dissatisfied profile that supports a welfare-state type of regime.

Spearman correlations with the inflation and unemployment variables were also computed. These were low overall but verified the expected tendencies. Thus, the belief that business activities (supply) influence unemployment is correlated with the pro-welfare state constellation of attitudes expressing low trust in the business world ( $\rho = 0.09, p < 0.01$ ) and belief in economic unfairness concerning the treatment of workers ( $\rho = 0.07, p < 0.01$ ). Views on unemployment were also negatively correlated with the second constellation of variables although these relationships were not significant, with the exception of personal economic efficacy ratings ( $\rho = -0.10, p < 0.01$ ). The inflation variable on the other hand, expressing the view that business expansion and government spending regulate inflation, was positively correlated with low trust in the business world ( $\rho = 0.06, p < 0.01$ ), low support for government welfare ( $\rho = 0.08, p < 0.01$ ) and price control ( $\rho = 0.06, p < 0.05$ ), and, rather surprisingly, with general satisfaction with the economy ( $\rho = 0.15, p < 0.01$ ).

The pattern of correlations observed further verifies the role of psychosocial variables in the definition of economic beliefs. Again, New Zealand did not provide LOC measures and was excluded from the analyses regarding internality and externality correlates. In the remaining seven countries, externality (high LOC score) was positively correlated with anti-business world beliefs ( $\rho = 0.08, p < 0.01$ ). Internality (low LOC score) was positively correlated with the elements composing the “liberal” belief constellation, that is, general satisfaction with the economy ( $\rho = -0.21, p < 0.01$ ), high personal economic efficacy ratings ( $\rho = -0.22, p < 0.01$ ), and disapproval of government social welfare ( $\rho = -0.17, p < 0.05$ ). The belief that the world is a just place was negatively correlated with items of the same “liberal” constellation in the eight-country data set (anti-business world,  $\rho = -0.30, p < 0.01$ ; economic unfairness,  $\rho = -0.15, p < 0.01$ ). Believing that the world is just was similarly correlated with economic satisfaction both on the personal efficacy ( $\rho = 0.09, p < 0.01$ ), and general economy level ( $\rho = 0.18, p < 0.01$ ), as well as with disapproval of government social welfare ( $\rho = 0.16, p < 0.05$ ).

Once bivariate significant relations were defined, multiple regressions were computed to check if the relationships between variables were independent. The first model regressed inflation on LOC, personal economic efficacy, economic satisfaction, anti-social welfare and anti-business world attitudes. LOC, general economic satisfaction and anti-business world attitudes remained significant predictors (see Table 2). Similar results were found with the regression of unemployment on anti-business world attitudes, personal economic efficacy and economic unfairness (see Table 2), which all remained significant predictors. As would be expected from the heterogeneity of the sample, explained variance was minute (unemployment, adjusted  $R^2 = 0.023$ ; inflation, adjusted  $R^2 = 0.027$ ) and did not increase after calibration of unemployment and inflation scores among national samples. These findings did not therefore warrant additional analyses to verify the direction of the effects observed.

Table 2

Multiple regression analysis of psychosocial variables and economic attitudes on beliefs about unemployment and inflation (beta values)

Independent variables	Unemployment	Inflation
LOC	N/A	-0.082**
(Anti-) business world	0.058*	0.055*
Personal economic efficacy	-0.105**	ns
(Anti-) social welfare	N/A	ns
(Anti-) price control	N/A	N/A
Economic unfairness	0.09**	N/A
Satisfaction with the economy	N/A	0.107**
R <sup>2</sup>	0.023	0.028
F	14.32**	7.98**

Note: \* $p < 0.05$ , \*\* $p < 0.01$ .

#### 4. Discussion

The purpose of this investigation was to examine the role of psychosocial variables that describe general attitudinal orientations on lay people's thinking about economic phenomena, using a large cross-national sample composed of heterogeneous cultures. Further, we aimed to promote research on lay economic views with the development of a new instrument to measure beliefs about the causes of events in the sphere of the economy.

Combined results from seven of the eight countries verified the role of general LOC expectancy on the individuals' views on the economy as indexed with the EVI and the EMQ. Externality was positively correlated with a constellation of correlated economic beliefs that indicate low trust in the business world and that protest against the unfair treatment of workers. In other words, people who feel they do not control their lives as much as external agents do, see the world as an unjust place, they rather support government intervention in welfare and are not satisfied by the economy on a personal or national level. Further, they distrust supply forces that they see as causing inflation. Conceptually, this profile may be interpreted as representing left wing ideologies and economic views. Another constellation of economic attitudes describing satisfaction with the economy and disapproval of government intervention was positively linked to internality and to believing that the world is just. This means that people who believe that they are the agents of their destiny in a world where people get what they deserve, report stronger feelings of personal economic efficacy and satisfaction with the economic system, do not support government intervention but support business activities which they see as a means to fight inflation. This profile may be seen as representative of a more conservative right wing political orientation.

The present findings concur with previous reports in the field of economic psychology outlining the importance of personality variables in defining economic attitudes. However, the data do not support the models of tacit economic theories proposed by Salter (1986). Salter's models coincide with the established terminology

in economic sciences (supply vs. demand) and they were tested here with a multiple choice instrument describing causes or consequences of economic phenomena such as inflation, unemployment, interest rates and taxation policies. Analyses revealed that participants' answers were only thematically coherent, that is, organized around familiar objects of opinions and attitudes (i.e. unemployment and inflation) and did not reflect the supply vs. demand dimensions. These phenomena show lay knowledge to consist generally of fragmentary local pieces of knowledge rather than overall explanatory theories (see Leiser, 2001). Further, the findings seem to endorse the proposition that the public remain ignorant about the specific functions of economic activities (Furnham, 1998), in particular those related to fiscal issues (Lewis, 1982) and government finances (Fisher, 1985; Francken, 1986). Indeed, EMQ items often refer to the effects of fiscal or general government policies, that is, topics that may be difficult for lay people to grasp in depth.

Tyszka (1994) studied how people perceive economic activities and reported that cognitive representations of this sphere varied according to the method used to elicit this representation. The low consistency of the multiple choice EMQ instrument suggests that the field may be more accurately examined with tools that allow respondents to define their own lay theory, by using their own terms and associations, their own "inner logic" (see Williamson & Wearing, 1996). Such a perspective is followed by social representation studies which attempt to describe and account for variations in lay thought regarding phenomena that acquire their meaning through debate in the social sphere (for a general theoretical discussion see Farr & Moscovici, 1984; Moscovici, 1988; for works on social representations of the economy see Viaud & Roland-Lévy, 2000; Roland-Lévy, 2001; on methodological aspects of the approach see Vergès & Bastounis, 2001).

Another interpretation of the failure to confirm Salter's predictions is based on a careful juxtaposition of his predictions in the light of the individual differences literature regarding control expectancies and just world beliefs. Extensive reports have defined the individual correlates of internality, which include strong belief in a just world and vice versa. According to Salter, the demand view is related to the idea that consumption drives the economy, that is, the individual is seen as the main causal agent, which should be coherent with internal control expectancy. Further, Salter (1986, p. 108) states that "the demand view supposes that the world is not such an orderly place" which is consistent with unjust world beliefs. Yet such a correlation between internality in terms of LOC and rejection of the just world view contradicts the existing literature. Salter's supply view involves a similar inconsistency: an individual who would argue that business activities drive the economy would attribute causal agency to external abstract forces, coherent with the externality postulate. At the same time and according to Salter (1986, p. 113), this view implies that "external forces cause only good or only bad events" and that "well-implemented policies lead to specific effects", which is compatible with a just world view. Again this association between externality and endorsement of the just world view contradicts the existing literature. It would therefore be surprising to find an exclusive demand or supply coherence in participants' responses, as this would reflect a rather paradoxical socio-psychological profile.

Finally, several shortcomings limit the scope of our results. Although the entire sample is of a considerable size, individual country samples were not equal, participants were not matched for demographic variables and the samples are not in any way representative of the national populations. Another methodological problem involves the specificity of instruments developed in the Anglo-Saxon world and used in other cultural contexts. This variance may account for low EVI subscale reliabilities observed in the present data set.

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### References

- Adair, P., Roland-Lévy, C., & Viaud, J. (1994). *L'impact de l'évolution de la structure familiale sur les processus d'endettement*. Paris: Crédit Mutuel.
- Allen, M. W., Leiser, D., & Ng, S. H. (in preparation). Adult economic model and values survey: Cross national differences in economic beliefs. *Journal of Economic Psychology*.
- Ambrosio, A. L., & Sheehan, E. P. (1986). Factor analysis on the just world scale. *The Journal of Social Psychology*, 130(3), 413–415.
- Bastounis, M., & Minibas, J. (2000). Perceived gender inequality in the workplace: Psychological predictors of causal attributions. In E. Hözl (Ed.), *Fairness and cooperation. IAREP/SABE 2000 conference proceedings* (pp. 43–47). Vienna, Austria: WUV Universitätsverlag.
- Chebat, J. C., & Filiault, P. (1984). Locus of control, economic crisis, and political affiliations. *Journal of Psychology*, 118(1), 75–77.
- Connors, J., & Heaven, P. C. (1987). Authoritarianism and just world beliefs. *The Journal of Social Psychology*, 127(3), 345–346.
- Couch, J. V. (1998). Another psychometric evaluation of the just world scale. *Psychological Reports*, 82, 1283–1286.
- Dalbert, C. (1998). Belief in a just world, well-being, and coping with an unjust fate. In L. Montada, & M. J. Lerner (Eds.), *Responses to victimizations and belief in a just world* (pp. 87–105). New York: Plenum Press.
- Dalbert, C., & Yamauchi, L. A. (1994). Belief in a just world and attitudes toward immigrants and foreign workers: A cultural comparison between Hawaii and Germany. *Journal of Applied Social Psychology*, 24, 1612–1626.
- Danes, S. M., & Rettig, K. D. (1993). The role of perception in the intention to change the family financial situation. *Journal of Family and Economic Issues*, 14(4), 365–389.
- Dessart, W. C., & Kylen, A. (1986). The nature, extent, cause and consequences of problematic debt situations. *Journal of Consumer Policy*, 9, 311–334.

- Dittmar, H., & Dickinson, J. (1993). The perceived relationship between the belief in a just world and sociopolitical ideology. *Social Justice Research*, 6(3), 257–272.
- Farr, R., & Moscovici, S. (1984). *Social representations*. Cambridge: Cambridge University Press.
- Fisher, R. C. (1985). Taxes and expenditures in the US: Public opinion surveys and incidence analysis compared. *Economic Inquiry*, 23(3), 525–550.
- Francken, D. A. (1986). Consumer perceptions and preferences for public expenditure. *Journal of Economic Psychology*, 7, 179–195.
- Furnham, A., & Gunter, B. (1984). Just world belief and attitudes toward the poor. *British Journal of Social Psychology*, 23, 265–269.
- Furnham, A. (1986a). Economic locus of control. *Human Relations*, 39(1), 29–43.
- Furnham, A. (1986b). Why do people save? Attitudes to, and habits of saving money in Britain. *Journal of Applied Social Psychology*, 15, 354–374.
- Furnham, A. (1987a). The determinants and structure of adolescents' beliefs about the economy. *Journal of Adolescence*, 10, 353–371.
- Furnham, A. (1987b). Predicting Protestant work ethic beliefs. *European Journal of Personality*, 1(2), 93–106.
- Furnham, A. (1993). Just world beliefs in twelve societies. *Journal of Social Psychology*, 133, 317–329.
- Furnham, A. (1997). The half full or half empty glass: The views of the economic optimist vs. pessimist. *Human Relations*, 50(2), 197–209.
- Furnham, A. (1998). *Lay theories: Everyday understanding of problems in the social sciences*. Oxford: Pergamon Press.
- Furnham, A., & Procter, E. (1989). Belief in a just world: Review and critique of the individual difference literature. *British Journal of Social Psychology*, 28, 365–384.
- Harper, D. J., & Manasse, P. R. (1992). The just world and the third world: British explanations for poverty abroad. *The Journal of Social Psychology*, 13(6), 783–785.
- Harper, D. J., Wagstaff, G. F., Newton, J. T., & Harrison, K. R. (1990). Lay causal perceptions of third world poverty and the just world theory. *Social Behavior and Personality*, 18(2), 235–238.
- Heaven, P. C. (1990). Suggestions for reducing unemployment: A study of protestant work – ethic and economic locus of control beliefs. *British Journal of Social Psychology*, 29, 55–65.
- Hira, T. K., Fitzsimmons, V. S., Hafstrom, J. L., & Bauer, J. W. (1993). Factors associated with expectation of household's future financial condition. *Journal of Family and Economic Issues*, 14(3), 237–256.
- Huntington, S. P. (1996). *The clash of civilisations and the remaking of the world order*. New York: Simon and Schuster.
- Katona, G. (1975). *Psychological economics*. New York: Elsevier.
- Krause, N., & Stryker, S. (1984). Stress and well-being: The buffering role of locus of control beliefs. *Social Science and Medicine*, 18(9), 783–790.
- Lambert, A. J., Burroughs, T., & Chasteen, A. L. (1998). Belief in a just world and right-wing authoritarianism as moderators of perceived risk. In L. Montada, & M. J. Lerner (Eds.), *Responses to victimizations and belief in a just world* (pp. 17–125). New York: Plenum Press.
- Lambert, A. J., & Raichle, K. (2000). The role of political ideology in mediating judgments of blame in rape victims and their assailants: A test of the just world, personal responsibility, and legitimization hypotheses. *Personality and Social Psychology Bulletin*, 26(7), 853–863.
- Lange, C., & Byrd, M. (1998). The relationship between perceptions of financial distress and feelings of psychological well-being in New Zealand university students. *International Journal of Adolescence and Youth*, 7(3), 193–209.
- Leiser, D. (2001). Scattered naive theories: Why the human mind is isomorphic to the internet web. *New Ideas in Psychology*, 19(3), 175–202.
- Leiser, D., & Briskman-Mazliach, R. (1996). *The economic model questionnaire*. Beer Sheva: Ben-Gurion University.
- Lerner, M. J. (1965). Evaluation of the performance as a function of performer's reward and attractiveness. *Journal of Personality and Social Psychology*, 1, 355–360.

- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin, 85*, 1030–1050.
- Lewis, A. (1982). *The psychology of taxation*. Oxford: Martin Robertson.
- Lipkus, I. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional belief in a just world. *Personality and Individual Differences, 12*(1), 1171–1178.
- Lynn, M. (1992). Scarcity's enhancement of desirability. The role of naïve economic theories. *Basic and Applied Social Psychology, 13*(1), 67–78.
- Montada, L., & Lerner, M. J. (1998). *Responses to victimizations and belief in a just world*. New York: Plenum Press.
- Montada, L., & Mohiyeddini, C. (1998). BJW and self-efficacy in coping with observed victimization: Results from a study about unemployment. In L. Montada, & M. J. Lerner (Eds.), *Responses to victimizations and belief in a just world* (pp. 41–54). New York: Plenum Press.
- Moscovici, S. (1988). Notes toward a description of social representations. *European Journal of Social Psychology, 18*, 211–250.
- O'Brien, M., & Ingels, S. (1984). *The development of the economic values inventory*. NORC. Chicago: University of Chicago Press.
- Pickering, J. F., Greatorex, M., & Laycock, P. J. (1983). The structure of consumer confidence in four EEC countries. *Journal of Economic Psychology, 4*, 353–362.
- Roland-Lévy, C. (1998). Psychologie économique de la consommation et de l'endettement. In C. Roland-Lévy, & P. Adair (Eds.), *Psychologie économique: Théories et applications* (pp. 299–316). Paris: Economica.
- Roland-Lévy, C. (2001). Financial behaviour of households and social representations. In C. Roland-Lévy, E. Kirchler, E. Penz, & C. Gray (Eds.), *Everyday representations of the economy* (pp. 67–92). Vienna: WUV Universitätverlag.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monograph, 80*(1), whole no 609.
- Rubin, Z., & Peplau, L. A. (1973). Belief in a just world and reactions to another's lot: A study of participants in the National Draft Lottery. *Journal of Social Issues, 29*(4), 73–93.
- Rubin, Z., & Peplau, L. A. (1975). Who believes in a just world? *Journal of Social Issues, 31*(3), 65–89.
- Salter, W. J. (1986). *Tacit theories of economy*, unpublished Ph.D. dissertation, Yale University.
- Smith, K. B. (1985). Seeing justice in poverty: The belief in a just world and ideas about social inequalities. *Sociological Spectrum, 5*, 17–29.
- Smith, P. B., Trompenaars, F., & Dugan, S. (1995). The Rotter locus of control scale in 43 countries. A test of cultural relativity. *International Journal of Psychology, 30*(3), 377–400.
- Sumarwan, U., & Hira, T. K. (1993). The effects of perceived locus of control and perceived income adequacy on satisfaction with financial status of rural households. *Journal of Family and Economic Issues, 14*(4), 343–364.
- Tyszka, T. (1994). How do people perceive economic activities? *Journal of Economic Psychology, 15*, 651–668.
- Van Raaij, W. F., & Gianotten, H. J. (1990). Consumer confidence, expenditure, saving and credit. *Journal of Economic Psychology, 11*, 269–290.
- Vergès, P., & Bastounis, M. (2001). Toward the investigation of social representations and economy: questionnaire methods and techniques. In C. Roland-Lévy, E. Kirchler, E. Penz, & C. Gray (Eds.), *Everyday représentations of the economy* (pp. 19–48). Vienna: WUV Universitätverlag.
- Viaud, J., & Roland-Lévy, C. (2000). Households when facing debts and credit: A positional and representational analysis of consumption. *Journal of Economic Psychology, 21*, 411–432.
- Wagstaff, G. F. (1983). Correlates of the just world in Britain. *The Journal of Social Psychology, 121*, 145–146.
- Wagstaff, G. F., & Quirk, M. A. (1983). Attitudes to sex roles, political conservatism and belief in the just world. *Psychological Reports, 2*, 151–176.
- Wharton, Z., & Harmatz, H. R. (1995). Responses to the economy among two value orientation segments. *Journal of Economic Psychology, 16*, 205–222.

- Williamson, M., & Wearing, A. (1996). Lay people's cognitive models of the economy. *Journal of Economic Psychology, 17*, 3–38.
- Winer, R. S. (1985). A revised behavioral model of consumer durable demand. *Journal of Economic Psychology, 6*, 175–184.
- Zucker, G. S., & Weiner, B. (1993). Conservatism and perceptions of poverty: An attributional analysis. *Journal of Applied Social Psychology, 23*(12), 925–943.