

Slightly revised version to appear in *Journal of Economic Psychology* 2004

Adult Economic Model and Values Survey: Cross-national differences in economic beliefs.

Michael W. Allen  
Griffith University, Australia

Sik Hung Ng  
City University of Hong Kong, Hong Kong SAR, China

David Leiser  
Ben-Gurion University of the Negev, Israel

Correspondence:

Dr. Michael W. Allen  
School of Marketing  
Griffith University  
Kessels Road  
Nathan, QLD 4111  
Australia  
Phone: 61 7 3875-7763  
Fax: 61 7 3875-7126  
Email: [M.Allen@griffith.edu.au](mailto:M.Allen@griffith.edu.au)

## Abstract

The present study investigated the extent to which the economic beliefs of participants from eight nations (Austria, France, Greece, Israel, New Zealand, Singapore, Slovenia, and Turkey) co-varied with national differences in economic development and modernisation. We predicted and found that greater human capital is associated with more economic self-efficacy and economic satisfaction; less civil social capital and more government social capital are allied with greater economic efficacy and favourable views of the business world; and that individuals in nations with higher levels of modernisation have more sympathetic views of the economy. In addition, the nations differed on all beliefs surveyed, although discriminant analysis revealed that these differences largely fell along two dimensions; 1) perceptions of economic unfairness and support for price controls, and 2) economic satisfaction, Belief in Just World, and opposition to social welfare. The first dimension is associated with less modernisation, less government social capital, and Neo-liberal/minimalist regimes, and the second dimension is linked to greater modernisation, less civil social capital, more government social capital, and the Socialist Welfare State. Implications on the relationship between personal beliefs and socio-economic structures are discussed.

Keywords: economic beliefs, cross-cultural differences, economic development, Belief in Just World, Locus of Control, human capital, social capital  
PsycINFO Classification code: 3040, 2229, 2910, 2930  
JEL Classification code: Z13, O10, C42, I00

## Adult Economic Model and Values Survey: Cross-national differences in economic beliefs

The Adult Economic Model and Values Survey (AEMVS), organised by David Leiser at Ben-Gurion University of the Negev in Israel, is an international investigation of economic and related beliefs. The survey was carried out in eight countries: Austria, France, Greece, Israel, New Zealand, Singapore, Slovenia, and Turkey. The theoretical issues underpinning the associations between economic beliefs and some psychosocial variables are advanced in Bastounis, Leiser and Roland-Lévy (in press). The aim of the present study is to explore cross-national differences in economic beliefs. In particular, given that the AEMVS measures individuals' beliefs concerning the economy and related matters (Belief in Just World, Locus of Control), it makes sense to us to structure the explorations of the cross-national differences in economic beliefs by assessing the extent to which those discrepancies co-vary with cross-national differences in economic development and modernisation. Besides considering how economic beliefs may vary across nations at different levels of development, we also take into account how economic beliefs may differ across nations at the same levels of modernisation but with different configurations (i.e., different levels of human and social capital and pace of development).

The economic beliefs surveyed in the AEMVS are in three general categories: economic self-efficacy and satisfaction, economic fairness, and attitudes toward the business world and government's roles. Accordingly, the present paper on how economic beliefs might be associated with economic development will revolve around these three categories of beliefs (for cross-cultural studies of other economic beliefs see, Furnham, Kirkcaldy, & Lynn, 1996; Kirkcaldy, Furnham, & Martin, 1997).

### Modernisation and Cultural Values

One reason to expect that cross-national differences in economic beliefs might co-vary with economic development is that modernisation theorists propose an association between economic development and general cultural values (e.g., Bell, 1973; Inglehart, 1977, 1997; Marx, 1867; Weber, 1905). Modernisation theory is a broad term that applies to any theory that describes the cultural values that are associated with economic development. Early modernisation theorists suggested that economic development leads to changes in cultural values (i.e., "economic determinism"; e.g., Marx, 1867) or that certain cultural values encourage economic development (i.e., "cultural determinism"; e.g., Weber, 1905). More recently, modernisation theorists have advocated a middle ground; that is, that some cultural values are most compatible with particular stages of development. For instance, Inglehart (1977; 1997) suggests that the transformation from pre-industrial to an industrial society is characterised by the culture's shift away from traditional values (i.e., religious and communal norms, deference to traditional authority, and survival as main goal) toward modern values (i.e., achievement motivation, deference to rational-legal authority, and maximization of economic growth as main goal). Moreover, once an industrial society reaches a level of economic development that brings about existential security in the formative years of socialisation, the society then shifts from modern to post-modern values (i.e., post-materialism, self-expression, de-emphasis on both legal and religious authority, and maximisation of subjective well-being as main goal).

Bell (1973) makes similar propositions as Inglehart (1977; 1997), but suggests that the reason that a society's values shift from traditional to modern and then to post-modern is that the society's workforce changes from agriculture to industry and to services, respectively. Bell suggests that agricultural work is under the whim of nature, industrial work seeks to control nature with

machines, and that service sector work has less contact with nature and machines and greater interaction with information and other people. In support of both Inglehart (1977; 1997) and Bell's (1973) suggestions, Inglehart and Baker (2000) found that individuals in more developed nations (i.e., higher GNP and greater proportion of the workforce in industry and services) were more likely to endorse cultural values that emphasised self-expression and respect for secular-rational authority. In contrast, individuals in nations with a lower GNP and greater proportion of the workforce in agriculture were more likely to support cultural values that gave prominence to survival-goals and deference to traditional authority.

### Modernisation and Individual Experience

Thus, if cultural values are associated with economic development, as modernisation theory proposes, then we could expect that economic beliefs are also coupled with economic development - given that human values and beliefs are cognitively linked (Rokeach, 1973). However, what complicates this reasoning is that researchers are divided regarding the extent to which human values are allied with development, and even what development constitutes (Smith & Bond, 1998; Yang, 1988). In the strictest form, modernisation theory suggests that development is a series of linear stages (e.g., Gerschenkron, 1953). Hence, as nations develop their cultural values will become more similar to other developed nations (e.g., Kerr, 1960). This so-called "convergence hypothesis" of modernisation theory has been criticised based on various observations, summarised in Smith and Bond (1998). These include; that traditional and modern values are unrelated; that other important dimensions of cultural values are "modernity-free"; and that the cultural values that predict modernisation are shifting as Asian economies expand. However, the criticism of the convergence hypothesis most relevant to the present study is that although modernisation may be a progression, modernisation itself has different configurations or patterns (see also, Yang, 1988). Thus, nations with the same level of development and modernisation may have different patterns or configurations.

Accordingly, if we make the assumption that individuals' experiences and beliefs regarding the economy are related to their nations' modernisation and development, then we need to consider not only how economic beliefs may vary across different levels of development, but also how economic beliefs fluctuate among different configurations of development. One way to distinguish among nations with different levels and configurations of development is to differentiate among the types of capital that may have led to such development. Three broad categories of capital are: human, social, and labour and physical. The lattermost capital is labour and physical holdings, such as land, structures, durable equipment, commodity stocks and foreign claims. The conventional wisdom was that labour and physical capital contributed wholly to economic development (as revealed by traditional indicators such as GNP). However, recent research has shown that frequently a nation's rate of output growth is greater than the rate of increase in the input of labour and physical holdings (e.g., Barro, 1997; Denison, 1967). Thus, the increase in economic development cannot be explained solely by labour and physical capital, and so researchers have been considering the roles of human and social capital in national development. Unlike physical and labour capital, human and social capital are located exclusively within individuals and social structures. For these reasons, and others detailed below, we conjecture that a nation's level of human and social capital may be closely linked to individual's experience of modernisation and beliefs regarding the economy.

#### I. Human Capital

Human capital is the education, training and long-term health embodied in the workforce (e.g., Bowman, 1966; Kim, 1999; Mushkin, 1962; Schultz, 1962). According to Kim (1999), a more highly educated workforce stimulates economic growth either "as a driving force of R&D and other

creative activities that enhance productivity [or] as a cumulative factor of production like physical capital” (p.1). Moreover, the economic benefits of a highly educated and trained workforce are best achieved when workers are healthy and live to retirement age. In general, most studies have found that nations with greater education and/or lower mortality rates have greater economic development (e.g., Barro & Sala-i-Martin, 1995; Benhabib & Spiegel, 1994; Denison, 1967; Knowles & Owen, 1995; Nehru, Swanson, & Dubey, 1995; Romer, 1990; Temple, 1999). From the standpoint of modernisation theory, it could be conjectured that a reasonable sum of human capital is necessary for a nation’s transition from a traditional society (i.e., mainly agricultural workforce) to a modern one (i.e., mainly industrial workforce), and that a high sum of human capital is required for the progression from a modern to post-modern society (i.e., mainly service sector workforce).

Regarding economic beliefs, we would predict that individuals in nations with insufficient human capital would likely experience a sense of personal economic inefficacy. Economic self-efficacy is the feeling that one has control over economic matters and is not helpless. According to Bandura (1982), individuals acquire their sense of self-efficacy from experiences in which they succeeded and demonstrated mastery. It seems reasonable to us that individuals who lack the education and training required by the available jobs would have fewer opportunities for successful experiences and hence feel a sense of economic inefficacy. Moreover, these individuals would also likely be dissatisfied with the economy; dissatisfaction compounded by the importance individuals in modern nations place on achievement and the work ethic (e.g., Inglehart, 1997; Furnham, Kirkcaldy, & Lynn, 1996).

## II. Social Capital

Most recently, the function of social capital in economic development and modernisation has received considerable attention from researchers (e.g., Bourdieu & Wacquant, 1992; Coleman, 1988; Fukuyama, 1995; Putman, 1993; Woolcock, 1998). Bourdieu and Wacquant (1992) define social capital as “the sum of resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition” (p 119), whereas Putman (1993) describes social capital as “those features of social organisation, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions” (p. 173). Although theorists vary in their definitions of social capital, a common view is that social capital has two basic components: individual cognitions (i.e., generalised trust, anticipation of reciprocity, agreed social norms, etc.) and social structures (i.e., horizontal organisation, participatory and transparent decision making, leader accountability, etc). In particular, horizontal (and less often vertical) social structures, participatory decision-making and agreed civic norms are associated with greater trust among individuals and anticipation of reciprocity. These characteristics foster collective decision-making and group action, which ideally lead to the betterment of the group (see also Putnam, 2000).

Beyond improving group welfare, social capital can advance national economic development through micro- and macro-level processes (e.g., Collier, 1998; Knack & Keefer, 1997; North, 1990). At the micro-level, horizontal social ties, social integration and greater interpersonal trust can foster economic development by reducing transaction costs, providing peer monitoring, enacting local level sanctions, facilitating information sharing, procuring credit, and so on. At the macro-level, participatory decision making (i.e., democratisation) and the rule of law can facilitate development by improving the efficiency of government administration, enforcing contracts, acting as a stabilizing force, enhancing the quality of government policies, reducing corruption, and increasing the credibility of the regime and foreign investment. Given that social capital can facilitate economic development through micro- and macro-level processes, researchers investigating the association between a nation’s social capital and level of economic development

have divided social capital into civil sources (i.e., kinship, local associations, social integration, etc) and government sources (i.e., democratisation, rule of law, etc). Cross-cultural studies have found that both civil and government social capital are associated with economic growth (e.g., Barro, 1996; Easterly & Levine, 1997; Grier & Tullock, 1989; Helliwell, 1994; Knack & Keefer, 1995; Knack & Keefer, 1997; Kormendi & Meguire, 1985; Rodrik, 1998; Temple & Johnson, 1998).

Nevertheless, the structure of the relationship between civil and government social capital and economic development is unclear. One view among some researchers is that civil and government social capital act in opposition; successful economies are those that use civil social capital in the early stages of development and then switch to government and other sources in later stages (e.g., Eisenstadt, 1983; Olson, 1982). In early stages of development, most economic enterprises are family owned and operated. As the enterprise grows, families find it increasingly difficult to manage and maintain sole ownership (due to the scale of enterprise and the need to raise more capital). At this stage, ownership should be vested in larger groups (e.g., joint proprietorships, joint-stock companies, etc) to ensure the continued growth of the enterprise. Such vestments have two major hurdles; first, that the family is willing to cede control (a problem Weber (1905) termed “familism”); and second, that government has a system of property rights, contract enforcement, and rule of law. Hence, the progression of economic enterprises from small and family-owned to large organisations can be inhibited by either family ties (civil social capital) that are too strong or from government social capital that is too weak (though this issue is revisited in the discussion section).

Concerning economic beliefs, we would predict that individuals in nations that have low civil social capital and high government social capital would have greater trust and favourable attitudes toward large business organisations. Conversely, individuals in nations with high civil and low government social capital would likely feel distrust and have negative attitudes towards business, including favouring restrictions on business activities. Moreover, as with insufficient human capital, we would predict that these individuals would experience economic inefficacy and dissatisfaction.

### Modernisation and Economic Beliefs

In sum, our investigation of the eight nations surveyed in the AEMVS explores the extent to which cross-national differences in economic beliefs vary with cross-national differences in: 1) levels of modernisation (i.e., GNP, percentage workforce in industry, services and agriculture), and 2) configurations of modernisation (i.e., different levels of human and social capital). Regarding the former, we would expect that individuals in nations with greater development and modernisation would have more favourable views of the economy and their place in it. In terms of configurations of modernization, individuals in nations that have low human capital may experience economic inefficacy and dissatisfaction. In addition, individuals in nations that have switched from civil to government social capital may have positive attitudes toward the business world, oppose government restrictions on business, and experience economic efficacy and satisfaction. Other economic beliefs surveyed in the AEMVS may also be associated with economic development and its configurations, though no predictions are made regarding the content and direction of these beliefs.

## METHOD

### Participants

In order to identify the effect of the national variables of interest, it is essential to ensure equivalent samples. This presents a special difficulty when countries are heterogeneous, as they were in our design: selecting a representative sample would not have allowed the types of analyses we were interested in doing, as the distribution of various subclasses in the population would be a confounding variable. Instead, we built a stratified sample, and obtained a comparable set of respondents in the different countries. The stratification variable was Occupational Role, and the specific categories sampled in each nation were: Managers (e.g., employers, executives, etc), Independent Professionals (e.g., doctors, lawyers, architects, etc), and State and Private Sector Employees. In most countries, a convenience sample obeying these requirements was used. However, some nations collected additional occupational roles and/or over sampled a role. Hence, to maximize the comparability of the samples, we 1) omitted those occupational roles that were collected in only in one or two nations (i.e., deleted the Unemployed, Retirees, Students, and no response), 2) combined the Private Sector Employee category with the Public Sector Employee category, and 3) reduced the larger-than-average number of New Zealand Managers to a comparable number by deleting randomly 100 of them from the analyses. This procedure reduced the overall sample size from 1,938 to 1,382. The demographic profile is presented in Table 1. The Managers and Professionals occupational roles are equal in size, and the Employee category is the largest (note that some samples have low cell sizes). Age was not surveyed in Greece and Turkey.

Insert table about here

All respondents were selected from urban populations: Vienna, Austria; Paris, France; Athens, Greece; Beer Sheva, Israel; Singapore; Ljubljana, Slovenia; Wellington, New Zealand; and Istanbul, Turkey. The choice of nations was largely based on convenience. Nevertheless, the eight nations measured in the AEMVS are culturally diverse and represent most of the world's major cultural groups (i.e., historically Protestant/English Speaking, Catholic, Orthodox Muslim, Asian, and Jewish)(e.g., Huntington, 1996). Moreover, the eight nations are economically varied, including nations that have experienced rapid recent economic growth (e.g., Singapore), nations that have undergone substantial shifts in economic policies (e.g., Austria, New Zealand), and nations that range from moderate to high development (e.g., Turkey to France and the like).

### Questionnaire

The Adult Economic Model and Values Survey (AEMVS) was developed by David Leiser at Ben-Gurion University of the Negev in Israel. The AEMVS questionnaire comprised the O'Brien and Ingels' (1996) Economic Values Inventory, Leiser and Briskman-Mazliach's (1996) Economic Model Questionnaire, Dalbert, Montada, and Schmitt's (1987) Belief in a Just World scale, and Rotter's (1966) Locus of Control scale. Each nation translated and back-translated the questionnaire into the local language. Leiser and Briskman-Mazliach's (1996) Economic Model Questionnaire was not examined in the present paper, but the Economic Model Questionnaire responses were analysed in Bastounis, Leiser and Roland-Lévy (in press). Rotter's (1966) Locus of Control scale, which was not included in the New Zealand survey, contains 22 yes-no items assessing whether individuals perceive the cause of events as external or internal. Dalbert, Montada, and Schmitt's (1987) Belief in a Just World scale has six items that respondents rate on a 1 "Strongly Disagree" to 6 "Strongly Agree" scale (Sample Item: I firmly believe that injustice in all areas of life, e.g. professional, family, political, is the exception rather than the rule"). The Cronbach's Alphas for the Belief in Just World and Locus of Control scales by nation and all nations combined are presented

in Appendix A, which demonstrate reasonable but modest reliabilities (except Locus of Control in Turkey).

The O'Brien and Ingels (1987) Economic Values Inventory (EVI) contains 28 items in which respondents indicate their agreement using a forced-choice format ("Disagree" vs. "Agree"). We carried out a factor analysis of the EVI with all nations combined. Principle components extraction and orthogonal rotation resulted in six factors according to the scree plot (and together accounted for 44% of the original item variance). The factor structure, reported in Appendix B, closely resembles the factor structure found in previous research (Allen & Ng, 2000; Leiser, 1995; O'Brien & Ingels, 1987). Hence, we calculated six scores for each participant based on the factor structure (each item in a factor was given equal weight in the score and negatively loading items were reverse scored). These six subscales were:

Economic Unfairness: A high value on this subscale expresses the feeling that most of the workers in the country are treated unfairly in the economic system. Four items (sample item: The average worker today is getting less than his or her fair share).

Economic Satisfaction: A high value on this subscale expresses the belief that resources and opportunities are distributed satisfactorily. Six items (sample item: The situation of the average person is getting worse, not better (reverse scored)).

Economic Efficacy: A high value on this subscale expresses the view that the ordinary citizen is not helpless. Seven items (sample item: It is no use worrying about the economy, I cannot do anything about it anyway (reverse scored)).

Anti-Price Controls: A high value on this subscale indicates opposition to government intervention in setting prices. Two items (sample item: It is not the business of the government to control prices).

Anti-business: A high value on this subscale indicates dis-trust in the business world as a social institution, a cheap institution that provides cheap and reliable goods and services. Four items (sample item: Government should listen more to what the business community has to say (reverse scored)).

Anti-social Welfare: A high value on this subscale signifies the belief that the government is not responsible for the social welfare of the disadvantaged. Two items (sample item: It is the responsibility of government to take care of people who cannot take care of themselves (reverse scored)). A third item was omitted due to it loading on several factors (i.e., Taking care of the poor and the sick is the job of families and churches, not the job of the government).

The Cronbach's Alphas for the six EVI subscales for all nations combined and each nation individually are reported in Appendix A. The subscales that yielded reasonable reliabilities were those that formed the first three factors in the factor structure (i.e., Economic Satisfaction, Economic Unfairness, and Economic Efficacy). The Alphas for Anti-Price Controls and Anti-Social Welfare subscales are low, but this is likely because each subscale only comprises two items. Supporting this interpretation is that the two items comprising the Price Control subscale are positively correlated ( $r=.39$ ,  $df=1360$ ,  $p<.001$ ), as are the two items comprising the Social Welfare subscale ( $r=.45$ ,  $df=1363$ ,  $p<.001$ ). The remaining subscale, Anti-business, exhibits low reliability and so readers should interpret this subscale with caution.

## Construction of National Indicators

Appendix C reports the country scores on the national indicators and indicator components. Appendix D presents the correlations among the indicators. Here, we describe how the indices were constructed.

### 1. Modernisation (Current Level and Pace of Modernisation)

As reviewed in the introduction section, Bell (1973) suggested that modernisation is best indicated by the shift in a nation's workforce from mainly agriculture to industry and then to services. To gauge a nation's current level of modernisation in Bell's scheme, we constructed a Level of Workforce Modernisation index by taking each nation's percentage of the workforce that is in industry and services and subtracting the percentage of the workforce in agriculture. It is noteworthy that an alternative formula for constructing the index (i.e., multiplying the percentage of a nation's workforce by one, percentage in industry by two, and percentage in services by three) did not substantially alter the pattern of associations with economic beliefs. To estimate a nation's pace of workforce modernisation, a Pace of Workforce Modernisation index was created by taking each nation's 1965-1998 value added growth in industry and services and subtracting their value added growth in agriculture. Statistics regarding the percentage change in each nation's workforce in agriculture, industry and services from 1965-1998 was not available, and so we used the closely allied concept of value added growth.

Although Bell's (1973) conceptualisation of modernisation is largely based on occupational distinctions, Inglehart's (1977; 1997) empirical studies indexed modernisation the size of a nation's economy (i.e., per capita GNP). Hence, we included in our indicators current GNP per capita and GNP per capita growth from 1965-1998 (representing pace of modernisation and development).

### 2. Human Capital

As defined, human capital is the education, training, and long-term health embodied in the workforce. To gauge each nation's total human capital, a Human Capital Index was calculated by taking the mean of each nation's Secondary Gross Enrolment Ratio, Percent University Educated, Male Mortality Rate, and Female Mortality Rate (see Gemmell, 1995, for a review of frequently used human capital indicators). Some previous studies have indexed the educational component of human capital as current educational input (i.e., high school enrolment rates), whereas other researchers have suggested that a more appropriate index is educational outcomes (i.e., percent of population with tertiary qualification, highest education level completed). As such, we used both educational input and outcome indicators in the Human Capital Index. Before computing the index, mortality rates were reversed coded and all of the index components were converted to z-scores. The Cronbach's Alpha reliability for the index is .92 (n=8).

### 3. Social Capital

Unlike human capital, which was relatively straightforward, the operationalisation of social capital is more problematic. First, some ambiguity and disagreement exists regarding social capital's essential ingredients and the social indicators that best capture those elements. Second, some ideal social indicators require specific surveys (e.g., inter-personal trust), and so are not available in national census data and related sources. Third, the components should comprise sources of social capital, not effects, which can be conceptually difficult to distinguish (e.g., Portes, 1998). Thus, we operationalised social capital with the indicators that are available in the census and related sources of the eight nations surveyed in the AEMVS, but we acknowledge that the

operationalisation is not the fairest representation of the social capital concept. As mentioned, the two broad sources of social capital are civil and government. Given that civil and government social capital may have different associations with economic beliefs, each are examined separately.

The operationalisations of civil social capital used in previous research included one or more of the following components; a nation's strength of kinship ties, the numbers of horizontal (local) associations, the level of social integration, and degree of inter-personal trust (e.g., Easterly & Levine, 1997; Fedderke & Klitgaard, 1998; Helliwell, 1994; Grootaert, 1998; Knack & Keefer, 1997; Rodrik, 1998; Temple & Johnson, 1998). The operationalisation of civil social capital chosen for the present study does not differ much from previous operationalisations: Divorce rate was taken as an indicator of the strength of kinship ties; Racial Homogeneity, Religious Homogeneity, and Income Inequality as indicators of social integration; and Theft Rate, Homicide Rate, and Incarceration Rate as indicators of both inter-personal trust and social integration. The main variations of the civil social capital construction of the present study from those used in previous research are twofold. First, an indication of the numbers of horizontal (local) associations was not available for the eight nations in the AEMVS, and so was not included in the operationalisation. Second, the results of social surveys of the extent to which individuals in each nation trust one another is not available, and so crime rates were taken as proxies for inter-personal trust (and social integration) (see also Grootaert, 1998; Kennedy, Kawachi, Prothrow-Stith, & Gupta, 1998; Rose & Todd, 1998). To measure each nation's total civil social capital, a Civil Social Capital Index was calculated by taking the mean of the z-scores for Divorce rate, Racial Homogeneity, Religious Homogeneity, Income Inequality, Theft Rate, Homicide Rate, and Incarceration Rate. The variables indicating less social capital were reversed coded before calculating the index. The scale achieved satisfactory reliability (Cronbach's Alpha = .76)(n=8).

In previous operationalisations of government social capital, the main components were a government's level of corruption, rule of law, enforcement of business contracts, decision-making quality, participatory decision-making (e.g., democracy, civil liberties), and/or citizen's economic freedom (e.g., Barro, 1996; Grier & Tullock, 1989; Knack & Keefer, 1995; Kormendi & Meguire, 1985). To resolve the extent to which a nation has each of these components, previous research relied on the World Audit Democracy Rankings, the Heritage Index of Economic Freedom, or similar indices (e.g., World Bank's freedom ratings). One neglected but vital additional indicator of government social capital is the government's policies in promoting social equality and providing a safety net (e.g., redistributive tax system, strong social welfare). As mentioned, horizontal social structures and social integration are important ingredients in social capital. The extent to which a government's social policies promote equality can be gleaned from Social Security Programs around the World (1999), which describes each nation's social welfare schemes. Conceptually, nations' that have more social welfare programs with government contributions and equal-paying benefits would have greater government social capital. In sum, to estimate each nation's total government social capital, a Government Social Capital Index was calculated by taking the mean of each nation's World Audit Democracy Ranking, Heritage Index of Economic Freedom rating, number of welfare programs with government contribution, and number of universalistic / equal-paying welfare programs. All items were first converted to z-scores, and the variables indicating less government social capital were reversed coded before calculating the index. The index produced a reasonable reliability (Cronbach's Alpha = .74)(n=8).

## RESULTS

Table 2 presents the country means for each of the economic and related beliefs. A MANOVA was carried out comparing the eight nations on Belief in Just World and the six EVI subscales (Locus of Control was omitted from the MANOVA given that New Zealand did not include Locus

of Control in their survey). The MANOVA was significant ( $F(49,9506) = 23.1, p < .0001$ ), and so Table 2 reports the univariate ANOVAs derived from the MANOVA. The ANOVAs found significant national differences for each of the beliefs, but the beliefs with the largest country differences (based on eta squared) were Anti-price Controls, Economic Satisfaction, Economic Unfairness, and Anti-Social Welfare. Using the Bonferroni tests as a guide, it can be surmised that New Zealand, Slovenia and Austria are the most opposed to price controls, whereas Greece and Turkey are the least opposed. Israel, New Zealand, and Singapore are the most satisfied with the economy, whereas Greece and Turkey are the least satisfied. Turkey, France and Greece perceived the greatest economic unfairness, Austria and Singapore the least, and the remaining countries in between. Israel and France are the most opposed to social welfare, whereas Austria, Slovenia and Turkey are the most in favour of social welfare. A separate ANOVA on Locus of Control was significant ( $F(6,1109) = 22.3, p < .0001$ ), in which Greece, Austria, France and Slovenia have the highest external Locus of Control (based on Bonferroni).

Insert table about here

Table 3 records the correlations of economic and related beliefs with the national indicators (i.e., the national means on the beliefs were correlated with the scores on the national indicators). Given that  $n=8$  for this set of correlations, we relaxed our significance requirement and mark correlations that are at  $p < .15$ . The pattern of correlations is generally consistent with expectations. Greater levels of development and modernisation (i.e., higher scores on the Level of Workforce Modernisation index and more GDP per capita) are associated with more favourable views of the economy (greater Economic Efficacy, greater Economic Satisfaction, and less Perception of Unfairness). More Human Capital is allied with greater Economic Efficacy and Economic Satisfaction (though for the latter  $p = .17$ ). Less Civil Social Capital and more Government Social Capital is associated with greater Economic Efficacy, Economic Satisfaction, and Anti-Price Controls. Anti-business attitudes are also associated with more Civil Social Capital and less Government Social Capital, but  $p = .19$  for both correlations.

Other correlations of interest in Table 3 include that nations with stronger Just World Beliefs have a faster Pace of Workforce Modernisation and GNP Capita Growth. External Locus of Control is associated with a slower Pace of Workforce Modernisation, less GNP capita growth, and greater Civil Social Capital. Anti-social Welfare attitudes are associated with a higher Level of Workforce Modernisation, more GDP per capita, and more Human Capital. Individuals in nations with a higher Level of Workforce Modernisation, slower Pace of Workforce Modernisation, and more Human Capital also tend to be Anti-price Controls. Perception of Economic Unfairness is associated with less GNP Capita Growth and less Government Social Capital.

To achieve a more concise summary of the differences in the beliefs of participants from the eight nations, a stepwise discriminant analysis was carried out in which the seven beliefs discriminated among the eight nations (Locus of Control was omitted from the discriminant analyses because New Zealand did not survey Locus of Control). Six of the seven variables significantly discriminated, resulting in six functions. However, the first two functions were much larger than the remaining four functions, and so the first two functions are reported in detail in Table 4. All six functions together correctly predicted 39% of the cases (Press'  $Q = 854, p < .001$ ), though this is largely due to the explanatory power of the first two functions. Function 1 is interpreted as the Perception of Unfairness and Support for Price Controls, and Function 2 is Economic Satisfaction, Belief in Just World and Anti-Social Welfare. The country centroids on discriminant functions are reported in Figure 1, and are considered in a later section. Given that Locus of Control was omitted from the discriminant analysis, Table 4 also reports correlations of Locus of Control with the two discriminant function scores. Locus of Control is significantly

correlated with Function 2, indicating that individuals with greater external Locus of Control have a syndrome of beliefs comprising less Economic Satisfaction, less Belief in Just World and less Anti-Welfare.

Insert table about here

Insert figure about here

Table 4 also records the correlations between scores on the discriminant functions and national indicators (again, given that  $n=8$  for this set of correlations, we relaxed our significance level and mark correlations at  $p<.15$ ). Function 1 (Perception of Unfairness and Support For Price Controls) is associated with a lower Level of Workforce Modernisation and less Government Social Capital. Function 2 (Economic Satisfaction, Belief in Just World and Anti-Welfare) is linked with a higher Level of Workforce Modernisation, more GDP per capita, less Civil Social Capital, and more Government Social Capital.

Follow-up analysis of government welfare and economic beliefs.

As reported, individuals' level of support for government social welfare emerged on the second discriminant function, indicating that the economic belief is an important distinguisher among the eight nations. In addition, government social capital was significantly correlated with economic beliefs, and an important component of government social capital was each government's scale and form of social welfare (i.e., # of programs with government contribution, # of universalistic programs). Thus, further analysing the association between economic beliefs and a government's form and level of social welfare provision is worthwhile. A conceptual starting point is Esping-Anderson's (1990) classification of government welfare regimes as Neo-liberal/ Minimalist (i.e. the government has little direct contribution to social welfare), Conservative Welfare State (i.e., the government has substantial contribution but the form of the contributions maintains status hierarchies and traditional values), or Socialist Welfare State (i.e., the government has substantial contribution and the form of the contribution is redistribute, providing nearly equal funds to all individuals).

In Esping-Anderson's (1990) original work, France and Slovenia were classified as Conservative Welfare States, but the six other countries used in the present study have not been previously classified. Thus, to classify all eight nations surveyed in the AEMVS we used a similar classification process as Esping-Anderson. Based on the information provided by U.S. Social Security Administration (1999), we counted the number each nations' social welfare schemes in five areas (old age, sickness, work injury, unemployment, family assistance) that have; 1) a government contribution, 2) equal-paying benefits / universalist, 3) unequal benefits / social insurance, or 4) are non-existent (i.e., government relies on private insurance). A K-Means cluster analysis was then carried out that included: 1) the number of welfare program the nation has with government contributions, and 2) the number of universalistic welfare programs. The solution was restricted to three clusters, which are reported in Table 5. As shown, the cluster #1 nations (which we have labelled as Conservative Welfare State) have a large number of welfare programs with government contributions but most of those programs are social insurance. The cluster #2 nations (which we have labelled as Neo-liberal/ Minimalist) have few social welfare programs with government contributions, and the cluster #3 nation (which we have labelled as Socialist Welfare State) has a large number of welfare programs with government contributions an most of those programs are universalistic. The cluster #1 / Conservative Welfare States include Esping-Anderson's original suggestions (i.e., France and Slovenia) as well as Austria and Israel. The cluster #2 Neo-liberal/ Minimalist regimes are Greece, Singapore, and Turkey, whereas New Zealand is the only Socialist Welfare State / cluster #3 nation. For comparison, Table 5 also reports

each government's total expenditure and health spending (% GDP). The governments classified in our cluster analysis as Conservative Welfare State or Socialist Welfare State do spend more funds in general and in health in particular, whereas the Neo-liberal/ Minimalist nations spend less.

Insert table about here

Having classified the eight nations as Conservative Welfare State, Socialist Welfare State, or Neo-liberal/ Minimalist, Table 6 reports the means of the economic and related beliefs by regime type. A MANOVA was carried out comparing regime types on Belief in Just World and the six EVI subscales (Locus of Control was omitted from the MANOVA given that New Zealand did not include Locus of Control in their survey), which was significant ( $F(14,2716) = 30.2$ ,  $p < .0001$ ) (univariate ANOVAs derived from the MANOVA also recorded in Table 6). Belief in Just World and EVI Anti-social Welfare were not significant, but the remaining beliefs do vary by regime. Of these, EVI Anti-price Controls, EVI Perception of Unfairness and EVI Economic Satisfaction had the largest differences (based on eta squared). Based on Bonferroni tests, it can be surmised that individuals in Conservative Welfare States and Socialist Welfare State oppose government price controls more than residents of Neo-liberal/ Minimalist regimes. Residents of Neo-liberal/ Minimalist regimes perceived the greatest economic unfairness, followed by Socialist Welfare State, then Conservative Welfare States. Individuals in the Social Welfare State are more satisfied with the economy than those in Conservative Welfare States and Neo-liberal/ Minimalist regimes.

Insert table about here

Also reported in Table 6 is a separate ANOVA on Locus of Control, which was significant and shows that individuals in Conservative Welfare States have a more external Locus of Control than residents of Neo-liberal/ Minimalist nations. Additional ANOVAs were carried out on the two discriminant functions (see lower section of Table 6). Regarding Function 1, individuals in Neo-liberal regimes perceive the greatest unfairness and are most supportive of price controls, whereas individuals in the Socialist Welfare State perceive the most fairness and are least supportive of price controls. On Function 2, residents of the Socialist Welfare State have the greatest Economic Satisfaction, Belief in Just World and Anti-Welfare views. Neo-liberal/ Minimalist regimes have the lowest mean on Function 2, and the Conservative Welfare State mean is in the middle of Neo-liberal/ Minimalist and Socialist Welfare State regimes.

## DISCUSSION

Taken together, the national differences in economic beliefs and their associations with national indicators are generally consistent with expectations;

- Individuals in nations with more human capital have greater economic efficacy and economic satisfaction (though  $p = .17$  for the latter).
- Those in nations with less civil social capital and more government social capital have greater economic efficacy and more favourable views of the business world in terms of opposition to price controls. Anti-business attitude was also positively correlated with civil social capital and negatively correlated with government social capital (but  $p = .19$  for each).

- Those in nations with higher levels of modernisation and development (i.e., more GDP per capita, and greater workforce modernisation) have more favourable views of the economy: greater economic efficacy, greater economic satisfaction, and less perceived unfairness.

The nations differed on each of the beliefs, although the discriminant analysis revealed that these differences largely fell along two dimensions; 1) perceptions of economic unfairness and support for price controls, and 2) economic satisfaction, Belief in Just World, and opposition to social welfare (see Figure 1). The first dimension is associated with less workforce modernisation, less government social capital, and Neo-liberal/minimalist regimes. The second dimension is linked to greater modernisation (in both GDP per capita and workforce modernisation), less civil social capital, more government social capital, and the Socialist Welfare State.

We had reasoned that individuals in nations with more human capital would perceive greater economic self-efficacy, which we found. Conceivably, nations that make inadequate investments in education (and health) may lead to residents feeling a sense of personal economic inefficacy because self-efficacy arises from successful/mastery experiences. The feeling of personal economic inefficacy may then lead to economic dissatisfaction. On the other hand, research has found that individuals with high personal self-efficacy are more resilient to failure and consequently achieve more (e.g., Bandura, 1982). Indeed, a longitudinal study by Schabo Grabowski, Call and Mortimer (2001) found that participants' levels of economic self-efficacy in high school predicted their educational attainment later in life. Thus, the direction of causation between human capital and economic self-efficacy and satisfaction is an important avenue for further research.

We had also predicted that individuals in nations that have shifted the source of their social capital (i.e., have low civil and high government social capital) would feel greater economic efficacy and have favourable attitudes toward the business world because some researchers suggest that successful economies are those that use civil social capital in the early stages of development and then switch to government and other sources in later stages (e.g., Eisenstadt, 1983; Olson, 1982). That is, that economic growth depends on family-owned enterprises vesting ownership in larger business organisations, which presumably requires trust and favourable attitudes toward the business world and a system of property rights, rule of law, and other sources of government social capital. Not only did our study find that economic efficacy and favourable business views are associated with high government social capital and low civil social capital, but civil and government social capital have opposite associations with many other beliefs such as economic satisfaction and perception of unfairness (see Table 3). In addition, Appendix D shows civil social capital is negatively correlated with government social capital. Moreover, indicators of modernisation (i.e., GDP per capita, and workforce modernisation) are positively correlated with government social capital and negatively associated with civil social capital, patterns that are consistent with the position that more government social capital and less civil social capital are features of successful economies. Notwithstanding these findings, not all economists agree that economic success is linked to social capital and some social commentators lament the decline of civil social capital in developed nations (e.g., Putman, 2000).

One economic belief worth considering further is economic unfairness. As shown in Table 3, fairness perceptions seem largely an issue of development; individuals in nations with a greater level and faster pace of modernisation perceive more fairness than individuals in poorer and slower growing economies. The main social psychological accounts of perceptions of economic distributive justice are diverse, including those based on attribution theory (e.g., Cohen, 1982), Belief in Just World (e.g., Rubin & Peplau, 1975), ideology (e.g., Zinni, 1995), allocator self-justification (e.g., Mikula, 1980), and self-interest (e.g., Alves & Rossi, 1978). These conceptual frameworks seek to explain individuals' subjective perceptions of the general economy, but

generally do not take into account the objective economic conditions (see Ng, 1984). Theoretically, if one considers the level of modernisation as an indicator of inequality between nations, then the results of the present study imply that perceptions of economic unfairness might be more about inequality between nations than within. The EVI Economic Unfairness subscale is correlated with the level of inequality within a nation (i.e., .39 with the Gini Inequality Index (not reported)) but more strongly correlated with the amount of inequality between nations (i.e., -.81 with the Level of Workforce Modernisation and -.60 with GNP per capita). Moreover, if inequality between nations contributes to perceptions of economic distributive injustice, then such perceptions are likely accentuated by the structure of between-nation relationships in which less developed nations are often dependant on core nations (e.g., Wallerstein, 1981). An alternative explanation is that the perception of economic fairness is not formed from comparing one's objective material conditions to another's but from comparing one's conditions to an absolute standard. Individuals in nations with less modernisation and development may perceive more economic unfairness because they lack the ability to satisfy basic material needs and comforts (see Allen and Ng (1999) for a similar distinction regarding poverty).

Another intriguing finding worth elaborating is that external Locus of Control is strongly positively correlated with civil social capital (see Table 3). One explanation may be that when kinship and local ties are high, individual identity and authority are ceded to the group. For instance, the 1950s in the U.S. was characterised by high civil social capital (e.g., Putman, 2000) but some social critics argued that it was also a time of heightened conformity to group pressure (e.g., Larsen, 1974). What is interesting about this explanation is that it ties conformity and external Locus of Control to economic development, rather than to political or military events (i.e., the data for the present study was collected more than 50 years after the last world war).

Another explanation for why external Locus of Control is associated with greater civil social capital is that nations with high civil social capital have a slow pace of GNP per capita growth (see Appendix D) and slower economic growth is associated with external Locus of Control (see Table 3). Hence, individuals in these very slow growing economies may feel that the economy and environment in general are out of their personal control. Still, a third explanation comes from the inference that if external Locus of Control is associated with greater civil social capital and slower pace of economic development, then internal Locus of Control is linked to less civil social capital and faster pace of economic development. This trend is consistent with modernisation theorists who take a "cultural determinism" perspective (e.g., Weber, 1905; McClelland, 1961). For instance, Weber (1905) argued that the strong economic growth in Western nations was due to those nations' endorsement of the Protestant Work Ethic, which emphasises diligence, punctuality, deferment of gratification, and primacy of the work domain (Rose, 1985). Deferment of gratification is also a component of Belief in Just World, and Table 3 shows that Belief in Just World is associated with faster pace of economic growth as well.

Although thus far we have considered the level, pace and form of modernisation as independent and discrete, the table of indicator correlations suggest some indicators are dependent (see Appendix D). Besides the relationships between the indicators already mentioned, Pace of Workforce Modernisation was strongly positively correlated with GNP capita growth, suggesting that a shift in a nation's workforce from agriculture to industry and services is coupled with increasing economic output (a trend consonant with both Inglehart's (1977, 1997) and Bell's (1973) conceptualisations of modernisation). Moreover, Appendix D shows that nations with greater modernisation also have more human capital and slightly more government social capital. Greater human capital is associated with more government social capital. The two indicators that seem relatively independent are modernisation level and pace, which are weakly correlated. Thus, the differences in the eight nations' level, pace and form of modernisation seem to reduce to three non-

mutually exclusive patterns or configurations; 1) fast pace of modernisation, low human capital, and low government social capital, 2) greater level of modernisation, high human capital, low civil social capital, and high government social capital, and 3) lower level of modernisation, low human capital, high civil social capital, and low government social capital.

Singapore and Slovenia best typify the first configuration of nations with a fast pace of modernisation, low human capital, and low government social capital (based on the indicator scores in Appendix C). Future research may investigate how this pattern of national indicators arises, but one possibility is that, unlike other forms of capital that can be raised quickly (e.g., with foreign investment and the like), human and government social capital take time for a nation to acquire. The education level of the workforce, adult mortality rates, government democratisation, rule of law, and so on take decades to cultivate. As such, nations that seek to develop too rapidly run the risk of having insufficient human and government social capital, which may have secondary effects on citizens' beliefs about the economy and their role in it.

The second configuration of national indicators, for which New Zealand, Austria and France are typical, is greater level of modernisation, high human capital, low civil social capital, and high government social capital. As mentioned, we found that individuals in more developed nations have more favourable views about the economy (greater economic efficacy and satisfaction, and less perception of unfairness). Further, this pattern of positive economic beliefs is also associated with more human capital, less civil social capital, and more government social capital. The cluster analysis also showed that nations that have this pattern of positive views about the economy are in Socialist and Conservative Welfare States.

The third and final pattern of national indicators is the opposite of the second; lower level of modernisation, low human capital, high civil social capital, and low government social capital. Greece and Turkey are characteristic of this organization. The discriminant functions centroids in Figure 1 show that Greece and Turkey are in the opposite quadrant from the other nations, indicating that Greece and Turkey have the most pessimistic views of the economy. Perhaps it is unsurprising that individuals in nations with less developed economies, less educated and trained workforce, and less democratization, rule of law, and government assistance, would have negative views about the economy.

Besides the issues for further research already mentioned, future studies should redress some of the methodological limitations of the present study, including the small number of nations surveyed and an inadequate measure of civil social capital (i.e., no local membership component, and the trust component being proxied by crime rates). The former limitation is problematic not only because we cannot isolate the effects of level, pace and form of modernisation on economic beliefs, but also cannot separate the impact of modernisation on economic beliefs from the influence of traditional cultural values. The eight nations surveyed in the AEMVS are culturally diverse, representing most of the world's major cultural groups (i.e., historically Protestant/English Speaking, Catholic, Orthodox, Muslim, Asian / Buddhist, and Jewish) (e.g., Huntington, 1996). Although such diversity is beneficial in its representativeness, the drawback is that only one nation stands for each socio-historical group (with the exception of historically Catholic which is represented by three nations). Thus, it cannot be certain the extent to which the differences in the eight nations economic beliefs are due to their different levels, pace and form of modernisation or to their different cultural traditions. A larger sample would lessen the problem of covariation that is inherent in this or any other non-experimental design.

## REFERENCES

- Allen, M.W., & Ng, S.H. (1999). The Psychology of Poverty. In P.E. Earl and S. Kemp (Eds.) *The Elgar Companion to Consumer Research and Economic Psychology* (pp. 463-468). Cheltenham, UK: Elgar.
- Allen, M.W., & Ng, S.H. (2000). Self-interest, economic beliefs and political party preference in New Zealand. *Political Psychology*, 21(2), 323-346.
- Alves, W., & Rossi, P. (1978). Who should get what? Fairness, judgements of the distribution of earnings. *American Journal of Sociology*, 84, 541-563.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Barro, R.J. (1996). Democracy and Growth. *Journal of Economic Growth*, 1(1), pp1-27.
- Barro, R.J. (1997). *Determinants of economic growth: A cross-country empirical analysis*. London: MIT Press.
- Barro, R.J., & Sala-i-Martin, X. (1995) *Economic Growth*. New York: McGraw-Hill.
- Bastounis, M., Leiser, D., & Roland-Lévy, C. (in press). Psychosocial variables involved in the construction of lay thinking about the economy: Results of a cross-national survey. *Journal of Economic Psychology*.
- Bell, D. (1973). *The coming post industrial society*. New York: Basic Books.
- Benhabib, J., & Spiegel, M.M. (1994). The role of human capital in economic development: evidence from aggregate cross-country data. *Journal of Monetary Economics*, 34, 143-173.
- Bourdieu, P., & Wacquant, L. (1992). *An Invitation to Reflexive Sociology*. Chicago, IL: University of Chicago Press.
- Bowman, MJ (1966). The human investment revolution in economic thought. *Sociology of Education*, 39(2), 111-137.
- CIA World Fact Book (1999). Washington: CIA.
- Cohen, R.L. (1982). Perceiving justice: An attributional perspective. Pp. 119-160 in Ronald Cohen and Jerold Greenberg, eds., *Equity and Justice in Social Behavior*. New York: Academic Press.
- Coleman, J.S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120.
- Collier, P. (1998). *Social Capital and Poverty*. Washington, D.C.: World Bank.
- Dalbert, C., Montada, L., & Schmitt, M. (1987). Belief in a just world: Validation correlates of two scales. *Psychologische Beitrage*, 29(4), 596-615.
- Denison, E.F. 1967. *Why Growth Rates Differ: Post-War Experience in Nine Western Countries*. Washington, D.C.: Brookings Institution.
- Dorling Kindersley World Desk Reference (1999). London: Dorling Kindersley.
- Easterly, W., & Levine, R. (1997). Africa's Growth Tragedy: Policies and Ethnic Divisions. *Quarterly Journal of Economics*, 112(4), 1203-50.
- Eisenstadt, S. N. (1983). *Tradition, change, and modernity Malabar, Fla.*: Krieger.
- Esping-Anderson, G. (1990). *The Three Worlds of Welfare Capitalism*. New Jersey: Princeton University Press.
- Fedderke, J., & Klitgaard, R. (1998). Economic growth and social indicators: An exploratory analysis. *Economic Development & Cultural Change*, 46(3), 455-490.
- Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity*. London: Penguin.
- Furnham, A., Kirkcaldy, B., & Lynn, R. (1996). Attitudinal correlates of national wealth. *Personality and Individual Differences*, 21, 345-353.
- Gemmell, N. (1995). Externalities to higher education: a review of the new growth literature. London: National Committee of Inquiry into Higher Education.
- Gerschenkron, A. (1953). Social attitudes, entrepreneurship, and economic development. *Explorations in Entrepreneurial History*, 1st ser. 6 (1), pp. 1-19.

- Grier, K., & Tullock, G. (1989). An Empirical Analysis of Cross-National Economic Growth 1951-80. *Journal of Monetary Economics*, 24, 259-76.
- Grootaert, C. (1998). Social Capital: The missing link? Social Capital Initiative Project. World Bank.
- Helliwell, J.F. (1994). Empirical Linkages Between Democracy and Economic Growth. *British Journal of Political Science*, 24, 225-48.
- Heritage Index of Economic Freedom (1999). Heritage Foundation.
- Huntington, S.P. (1996). *The clash of civilisations and the remaking of world order*. New York: Simon and Schuster.
- Inglehart R. (1977). *The Silent Revolution: Changing Values and Political Styles*. Princeton, NJ: Princeton Univ. Press.
- Inglehart, R. (1997). *Modernization and post modernization: cultural, economic, and political change in 43 societies*. Lupton: Princeton University Press.
- Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review*, 65(1), 19-51.
- Kennedy BP, Kawachi, I, Prothrow-Stith D, Gupta V. (1998). Income inequality, social capital and firearm-related violent crime. *Social Science and Medicine*, 47, 7-17.
- Kerr, C. (1960). *Industrialism and Industrial Man: the problem of labour and management in economic growth*. Cambridge MA: Harvard University Press.
- Kim, J. (1999). *Essays on economics of education*. Unpublished PhD thesis. University of Rochester.
- Kirkcaldy, B.D., Furnham, A., & Martin, T. (1997). National differences in personality, socio-economic and work-related variables. *European Psychologist*, 3, 255-262.
- Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? *The Quarterly Journal of Economics*, Nov, 1251-1288.
- Knack, S., & Keefer. P. (1995). Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures. *Economics and Politics*, 7, 207-227.
- Knowles, S., & Owen, P.D. (1995). Health capital and cross-country variation in income per capita in the Mankiw-Romer-Weil mode. *Economic Letters*, 48, 99-106.
- Kormendi, R. C., & Meguire, P. (1985). Macroeconomic Determinants of Growth. *Journal of Monetary Economics*, 16, 141-63.
- Larsen, K.S. (1974). Conformity in the Asch experiment. *Journal of Social Psychology*, 94, 303-304.
- Leiser, D., & Briskman-Mazliach, R. (1996). *The Economic Model Questionnaire*. Beer Sheva: Ben-Gurion University.
- Marx, K. (1867). *Capital*, Vol. 1. Harmondsworth: Penguin.
- McClelland, D.C. (1961). *The Achieving society*. New York: Free Press.
- Mikula, G. (1980). On the role of justice in allocation decisions. In G. Mikula (Ed.), *Justice and social interaction*. New York: Springer-Verlag.
- Mushkin, S.J. (1962). Health as an investment. *Journal of Political Economy*, supplement: 2-3.
- Nehru, V., Swanson, E. & Dubey, A. (1995). A new database on human capital stock in developing and industrial countries. *Journal of Development Economics*, 46, 379-401.
- Ng, S.H. (1984) Social psychology and political economy. In H. Tajfel (Ed), *Social Dimension: European Contributions to Social Psychology (Vol. 2)*, pp. 624-645. Cambridge University Press & Maison des Sciences de L'Homme.
- North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.
- O'Brien, M.U., & Ingels, S.J. (1987). The economics values inventory. *Journal of Economic Education*, 18(1), 7-17.
- Olson, M. (1982). *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*, New Haven: Yale University Press.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. In E. L. Lesser (ed.) *Knowledge and social capital: Foundations and applications*. Boston, MASS.: Butterworth Heineman.

- Putnam, R. (1993). *The Prosperous Community – Social Capital and Public Life*. *The American Prospect*, Spring, 27-40.
- Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- Rodrik, D. (1998). *Where Did All The Growth Go? External shocks, Social conflict and Growth Collapses*. London: Centre for Economic Policy Research.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Romer, P. M. (1990). Human capital and growth: theory and evidence. *Carnegie-Rochester Conference Series on Public Policy*, 32, 251-286.
- Rose, D.R., & Todd, R.C. (1998). Incarceration, social capital, and crime: implications for social disorganization theory. *Criminology*, 36, 441-480.
- Rose, M. (1985). *Reworking the work ethic: Economic values and socio-cultural politics*. London: Schocken.
- Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcements, *Psychological Mono-graphs*, 80, Whole No. 609.
- Rubin, Z. & Peplau, L (1975). Who believes in a just world? *Journal of Social Issues*, 31(3), 65-89.
- Schabo Grabowski, L.J., Call, K.T., & Mortimer, J.T. (2001). Global and economic self-efficacy in the educational attainment process. *Social Psychology Quarterly*, 64 (2), 164-179.
- Schultz, T.W. (1962). Reflections on investment in man. *Journal of Political Economy*, suppl: 2-3.
- Smith, P., & Bond, M. (1998). *Social psychology across cultures*. London: Prentice Hall.
- Social Security Programs Throughout the World* (1999). Washington DC: Social Security Admin.
- Temple, J. (1999). A positive effect of human capital on growth. *Economics Letters*, 65(1), 131-134.
- Temple, J., & Johnson, P. (1998). Social Capability and Economic Growth. *Quarterly Journal of Economics*, 113(3), 965-90.
- Wallerstein, I. (1981). Structural transformations of the world-economy. pp. 233-261. Rubinson, R. (ed.) *Dynamics of world development*. Beverly Hills: Sage.
- Walmsley, R. (1999). *World prison population list*. Home Office Research, Development and Statistics Directorate. UK: Home Office.
- Weber, M. (1905). *The Protestant Ethic and the Spirit of Capitalism*. London: Allen and Unwin.
- Woolcock, M. (1998). Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework. *Theory and Society*, 27(2), 151-208.
- World Audit Democracy Rankings* (1999). Freedom House.
- World Bank Development Indicators* (1999). New York: World Bank.
- Yang, K.S. (1988). Will societal modernisation eventually eliminate cross-cultural psychological differences? In Bond (Ed), *The cross-cultural challenge to social psychology*, Newbury: Sage.
- Zinni, F.P. (1995). The sense of injustice: The effects of situation, beliefs, and identity. *Social Psychology Quarterly*, 76, 419-437.

#### AUTHORS' NOTES

We thank the following colleagues for their assistance with data collection: Erich Kirchler and Katja Meier (Austria), Marco Polić (Slovenia), Marina Bastounis and Maria Sakalaki (Greece), Ronit Briskman (Israel), Christine Roland-Levy (France), Jale Minibas (Turkey), and Ng Seok Hui (Singapore). We also thank Guje Sevón (Finland) for help and support at the early stages, Tarek El-Sehity (Austria) at later stages of data analysis, and Marina Bastounis for helpful comments on the manuscript. Correspondence should be addressed to Dr. Michael W. Allen, School of Marketing, Griffith University, Nathan, QLD 4111, Australia.

Table 1. Demographic characteristics of national samples.

	Austria	France	Greece	Israel	New Zealand	Singapore	Slovenia	Turkey	Totals
	(Catholic)	(Catholic)	(Orthodox)	(Jewish)	(Protestant)	(Asian /Buddhist)	(Catholic)	(Muslim)	
Professionals	75	32	38	57	89	26	42	36	395
Managers	75	54	10	71	74	16	67	28	395
Employees (State and Private)	150	65	48	73	98	62	55	41	592
Aged 19 to 34	81	41		90	51	40	15		318
Aged 35 to 49	157	77		75	83	37	92		521
Aged 50 and over	62	33		36	127	11	56		325
Male	178	89	77	141	151	62	123	65	886
Female	122	62	19	60	110	36	39	40	488
Totals	300	151	96	201	261	104	164	105	1382

*Notes:*

Figures represent counts.

Greece and Turkey did not survey participant age.

Table 2. Country differences in economic and related beliefs.

	Austria (Catholic)	France (Catholic)	Greece (Orthodox)	Israel (Jewish)	New Zealand (Protestant)	Singapore (Asian /Buddhist)	Slovenia (Catholic)	Turkey (Muslim)	Total	F	Eta2
Belief in Just World	18.29	16.75	17.98	21.00	19.71	21.57	20.71	18.46	19.32	13.6	.07
EVI Anti-business	1.47	1.40	1.60	1.47	1.37	1.44	1.30	1.44	1.43	15.8	.08
EVI Economic Efficacy	1.78	1.80	1.78	1.80	1.86	1.84	1.80	1.74	1.80	5.8	.03
EVI Anti-social Welfare	1.05	1.24	1.15	1.35	1.13	1.18	1.05	1.05	1.15	31.9	.14
EVI Anti-price Controls	1.78	1.69	1.22	1.55	1.85	1.52	1.77	1.35	1.66	63.6	.25
EVI Economic Unfairness	1.46	1.77	1.85	1.57	1.67	1.50	1.56	1.90	1.62	34.7	.15
EVI Economic Satisfaction	1.34	1.30	1.21	1.53	1.50	1.52	1.38	1.19	1.39	40.2	.17
Locus of Control (external)	10.95	10.69	11.77	8.68		7.04	10.73	9.44	10.04	22.3	.10

*Notes:*

New Zealand did not survey Locus of Control.

MANOVA compared the eight nations on Belief in Just World and EVI subscales, and a separate ANOVA examined Locus of Control.

All Fs are significant at  $p < .001$ .

Degrees of Freedom for MANOVA were 49,9506, and DFs for all univariate ANOVAs were 7,1358 (except Locus of Control which was 6,1109).

According to the Bonferroni tests, the difference between two means needed to be significant at  $p < .05$  is approximately .06 to .07 for the EVI subscales, 1.4 for Locus of Control, and 2.2 for Belief in Just World.

Table 3. Correlations of economic and related beliefs with national indicators.

	Level of Workforce Modernisation	Pace of Workforce Modernisation	GDP per capita	GNP Capita Growth (65-98)	Human Capital Index	Civil Social Capital Index	Government Social Capital Index
Belief in Just World	.36	.60*	.09	.57*	-.17	-.24	.03
Locus of Control (external)	-.15	-.90***	-.35	-.64**	.33	.80***	.25
EVI Anti-business	-.24	.16	.06	-.09	.09	.33	-.33
EVI Economic Self-Efficacy	.64**	-.03	.54*	.12	.59**	-.72**	.69**
EVI Anti-social Welfare	.40*	.02	.42*	-.04	.42*	-.23	.19
EVI Anti-price Controls	.59**	-.46*	.34	-.14	.46*	-.38	.80***
EVI Perception of Unfairness	-.81***	-.21	-.60**	-.49*	-.33	.16	-.42*
EVI Economic Satisfaction	.71**	.18	.52*	.28	.37	-.58**	.56*

Notes:

\* =  $p < .15$

\*\* =  $p < .05$

\*\*\* =  $p < .01$

N=8, one-tailed significance

Table 4. Discriminant analysis of national differences in economic and related beliefs. Also reported are correlations of discriminant functions with Locus of Control and national indicators.

	Function 1	Function 2
	Perception of Unfairness and Support Price Controls	Economic Satisfaction, Belief in Just World and Anti- Welfare
Eigenvalue	.44	.28
% of Variance	46	30
Canonical Correlation	.55	.47
Wilks' Lambda	.44	.63
Chi-square	1126.1 ****	634.6 ****
<u>Standardized Canonical Discriminant</u>		
<u>Function Coefficients</u>		
EVI Anti-business	.22	.19
EVI Anti-social Welfare	.31	.53
EVI Anti-price Controls	-.81	-.03
EVI Perception of Unfairness	.41	-.06
EVI Economic Satisfaction	-.04	.70
Belief in Just World	.11	.34
<u>Correlations with External Locus of Control</u> <u>(n=1104)</u>	.02	-.23 ****
<u>Correlations with National Indicators (n=8)</u>		
Level of Workforce Modernisation	-.60 **	.66 **
Pace of Workforce Modernisation	.32	.34
GDP per capita	-.33	.53 *
GNP Capita Growth (65-98)	-.03	.29
Human Capital Index	-.35	.37
Civil Social Capital Index	.31	-.46 *
Government Social Capital Index	-.69 **	.40 *

Notes:

\* =  $p < .15$

\*\* =  $p < .05$

\*\*\* =  $p < .01$

\*\*\*\* =  $p < .001$

39% of original grouped cases correctly classified.

Six of the seven beliefs achieved the minimum for entry (Stepwise).

Chi-square Degrees of Freedom for function #1 was 42, and function #2 was 30.

A second discriminant analysis that omitted New Zealand but included Locus of Control resulted in a similar solution.

Table 5. Cluster analysis of welfare program types. Only Number of welfare programs with government contribution and Number of equal-paying welfare program benefits were used in cluster analysis.

Cluster #	Subsequent Label	Country	Number of welfare programs with govt contribution	Number of universal welfare programs	Number of social insurance welfare programs	Govt Expenditure (% GDP)	Govt Health Spending (% GDP)
1	Conservative Welfare State	Austria	4.0	1.0	4.0	40.5	12.9
		France	4.0	1.5	3.5	46.6	21.7
		Israel	5.0	1.5	3.5	49.0	11.7
		Slovenia	5.0	.5	4.0		
		Total	4.4	1.1	3.8	44.4	15.2
2	Neo-liberal/ Minimalist	Greece	2.0	1.0	3.0	34.0	6.7
		Singapore	.0	.0	3.0	16.8	5.5
		Turkey	.0	.5	3.5	29.9	2.2
		Total	.5	.4	3.1	24.8	4.9
3	Socialist Welfare State	New Zealand	5.0	4.5	.5	47.6	15.2

*Notes:*

K-Means cluster analysis, solved for three groups.

Welfare program information obtained from Social Security Programs Throughout the World (1999).

Government expenditure and health spending gathered from World Bank Development Indicators (1999).

Table 6. Economic and related beliefs by welfare state regime.

	Conservative Welfare State	Neo-liberal/ Minimalist	Socialist Welfare State	Total	F	Eta2
Belief in Just World	19.16	19.39	19.71	19.32	.9	
EVI Anti-business	1.42	1.49	1.37	1.43	14.6	.02
EVI Economic Self-Efficacy	1.79	1.79	1.86	1.80	13.0	.02
EVI Anti-social Welfare	1.16	1.13	1.13	1.15	2.4	
EVI Anti-price Controls	1.70	1.37	1.85	1.66	158.9	.19
EVI Perception of Unfairness	1.56	1.75	1.67	1.62	32.5	.05
EVI Economic Satisfaction	1.39	1.31	1.50	1.39	35.5	.05
Locus of Control (external)	10.30	9.35		10.04	11.8	.02
Func1: Perception of Unfairness and Support Price Controls	-.17	.91	-.51	.00	143.0	.17
Func2: Economic Satisfaction, Belief in Just World and Anti-Welfare	.01	-.23	.23	.00	12.0	.02

*Notes:*

MANOVA compared the three regime types on Belief in Just World and EVI subscales, and separate ANOVAs examined Locus of Control, and the discriminant functions.

All Fs are significant at  $p < .001$  (except Belief in Just World and EVI Anti-social Welfare which were not significant).

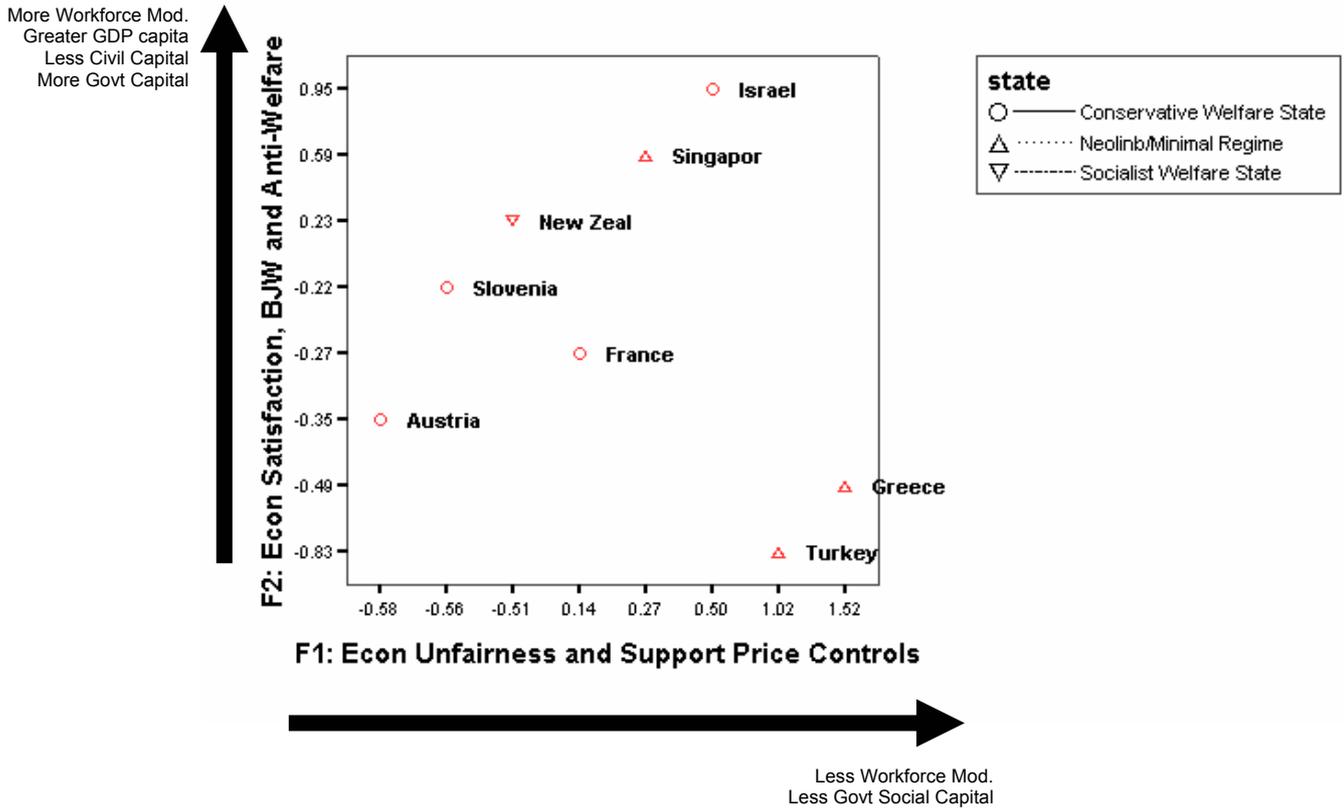
Degrees of Freedom for MANOVA were 14,2716, and DFs for all univariate ANOVAs were 2,1363 (except Locus of Control which was 1,1114).

According to the Bonferroni tests, the difference between two means needed to be significant at  $p < .05$  is approximately .06 to .07 for the EVI subscales, 1.4 for Locus of Control, 2.2 for Belief in Just World, and .10 for the discriminant functions.

The only Socialist Welfare State (New Zealand) did not survey Locus of Control.

FIGURE CAPTION

1. National centroids on discriminant functions of economic and related beliefs. Also reported is summary of correlations of discriminant functions with national indicators.



## Appendix A. Cronbach's Alphas by nation and all nations combined.

---

	Austria	France	Greece	Israel	New Zealand	Singapore	Slovenia	Turkey	All Total
Belief in Just World	.81	.77	.72	.81	.78	.73	.73	.80	.78
Locus of Control	.77	.64		.72		.75	.69	.55	.77
EVI Economic Unfairness	.77	.72	.74	.52	.85	.79	.88	.62	.79
EVI Economic Satisfaction	.56	.59	.44	.43	.77	.48	.63	.45	.64
EVI Economic Efficacy	.76	.54	.58	.75	.56	.62	.51	.55	.62
EVI Anti-price Controls	.54	.52	.68	.40	.55	.30	.36	.29	.54
EVI Anti-business	.54	.24	.46	.25	.53	.44	.27	.37	.43
EVI Anti-social Welfare	.58	.61	.47	.60	.55	.62	.52	.30	.62

---

*Notes:*

New Zealand did not survey Locus of Control.

Greece did not supply Locus of Control items for analysis (only final Locus of Control scores).

Appendix B. Factor structure of O'Brien and Ingels (1987) Economic Values Inventory.

Participants indicated their agreement with an item by selecting a lower number (1) and their disagreement by selecting a higher number (2). Hence, positive loading signs signify disagreement with an item, and negative signs designate agreement.

	1	2	3	4	5	6 Commu nalities
The unemployed should not blame themselves for their situations: it is the fault of the economic system.		.52				.35
One of the bad things about our economic system is that the person at the bottom gets less help and has less security than in some other systems.	-.23	.35		.38		.35
The average worker today is getting his or her fair share.	.71	-.30				.60
The average worker today is getting less than his or her fair share.	-.75	.22				.63
The country's wealth is far too unequally shared.		.61				.41
There are few real opportunities for the average person to start a business in [this country] today.		.52		.26		.36
The poor and the sick have a right to receive help from the government.					.76	.62
It is the responsibility of government to take care of people who cannot take care of themselves.					.82	.69
We need a way to make incomes more equal in this country.		.57				.40
Being in business means taking unfair advantage of others.		.22	.62			.46
The way our economic system is set up, nobody has a chance to get ahead.			.44	.28		.32
Businesses could provide more jobs, goods and services if they did not have to pay so much in taxes.					.49	.33
It is foolish to do more than you have to in a job.			.55			.34
A person who cannot find a job has only himself or herself to blame.	-.79					.65
Most companies give employees a fair share of what the company earns.	-.76					.61
Having the freedom to start my own business really means having the freedom to take advantage of others.			.66			.46
It is no use worrying about the economy; I cannot do anything about it anyway.	-.22	.51				.36
Companies should only be allowed to charge a government-controlled price for their products.			.23	.70		.57
Profit is a sign that someone is being taken advantage of.		.36	.45			.37
Advertising helps consumers to make informed choices.	-.20	-.38			.47	.47
Most people like their jobs.				-.23	.47	.29

Getting ahead is mostly a matter of luck.		.51					.31
The situation of the average person is getting worse, not better.	.56						.38
Taking care of the poor and the sick is the job of families and churches, not the job of the government.		.22		.36	-.42		.37
It is not the business of the government to control prices.			-.67				.48
Most businesses will not sell products they think are unsafe.			-.42	.38			.33
It should be the duty of government to ensure that everyone has a secure job and a decent standard of living.	.21		.40				.26
Government should listen more to what the business community has to say.				.68			.49
Eigenvalue	3.61	2.50	1.84	1.65	1.39	1.27	

---

*Notes:*

Items rated on a scale of 1=Agree to 2=Disagree.  
Principal component extraction and orthogonal rotation.

## Appendix C. National Indicators.

	Austria	France	Greece	Israel	New Zealand	Singapore	Slovenia	Turkey	Total
% Workforce in Agriculture	3.0	5.0	20.0	3.0	10.0	.0	5.0	46.0	9.0
% Workforce in Industry	29.0	26.0	21.0	28.0	25.0	28.0	35.0	21.0	27.2
% Workforce in Services	68.0	69.0	59.0	69.0	65.0	72.0	60.0	34.0	63.8
<b>Level of Workforce Modernisation</b>	94.0	90.0	60.0	94.0	80.0	100.0	90.0	9.0	82.1
Agri Value-added Growth (65-98)	1.8	1.7	1.3		3.5	-1.4	.2	1.5	1.6
Indus Value-added Growth (65-98)	2.2	.9	3.2		1.2	8.5	2.5	5.6	2.8
Serv Value-added Growth (65-98)	3.5	2.6	4.0		2.0	8.5	3.8	5.0	3.7
<b>Pace of Workforce Modernisation</b>	3.9	1.8	5.9		-3	18.4	6.1	9.1	4.9
<b>GDP CAPITA</b>	22700.0	22600.0	13400.0	18100.0	17000.0	26300.0	10300.0	6600.0	17873.7
<b>GNP Capita Growth (65-98)</b>	2.6	2.1	2.4	2.4	.7	6.4	4.1	2.1	2.6
Secondary Gross Enrolment Ratio	103.0	111.0	95.0	88.0	113.0	74.0	92.0	58.0	96.1
University Educated (%)	48.0	52.2	42.8	43.6	58.5	38.5	36.4	18.3	45.1
Male mortality rate	122.0	127.0	114.0	110.0	120.0	131.0	169.0	186.0	131.0
Female mortality rate	60.0	51.0	61.0	68.0	65.0	75.0	75.0	122.0	68.8
<b>Human Capital Index</b>	.4	.7	.2	.1	.8	-.6	-.8	-2.6	.0
Divorce Rate	38.0	43.0	13.0	24.0	42.0		19.0	6.0	30.3
Racial Homogeneity	83.0	90.0	98.0	82.0	82.0		88.0	70.0	84.2
Religious Homogeneity		88.0	98.0	82.0	24.0		94.0	99.0	72.9
Gini Inequality Index (more higher)	23.1	32.7	32.7	35.5	43.9	40.0	26.8	41.5	33.7
Theft Rate	2672.0	4017.0	791.0	2440.0	7515.0			191.0	3551.2
Homicide Rate	2.0	4.0	3.0	2.0	3.0		3.0	3.0	2.7
Incarceration Rate	85.0	95.0	55.0	110.0	125.0		30.0	80.0	88.6
<b>Civil Social Capital Index</b>	.4	-.3	.9	.2	-1.1	-.8	.8	.1	.0
Number of welfare programs with govt contribution	4.0	4.0	2.0	5.0	5.0	.0	5.0	.0	3.7
Number of equal-paying welfare program benefits	1.0	1.5	1.0	1.5	4.5	.0	.5	.5	1.6
Democratic Freedom (rank)	10.0	20.0	47.0	25.0	2.0	64.0	27.0	84.0	26.0
Economic Freedom (lower more)	2.1	2.5	2.8	2.8	1.7	1.5	3.0	2.8	2.3
<b>Government Social Capital Index</b>	.2	.0	-.8	.0	1.2	-.8	-.4	-1.6	.0

*Notes:*

Level of Workforce Modernisation is each nation's percentage of the workforce that is in industry and services minus the percentage of the workforce in agriculture.

Pace of Workforce Modernisation is each nation's value added growth from 1965-1998 in industry and services minus the value added growth in agriculture.

Human Capital Index is mean of z-scores for Secondary Gross Enrolment Ratio, University Educated, Male Mortality Rate, and Female Mortality Rate (mortality rates were negatively coded before calculating the index).

Civil Social Capital Index is mean of z-scores for Divorce Rate, Racial Homogeneity, Religious Homogeneity, Gini Inequality Index, Theft Rate, Homicide Rate, and Incarceration Rate (items indicating lower capital were negatively scored).

Government Social Capital Index is mean of z-scores for Number of welfare programs with govt contribution, Number of equal-paying welfare program benefits, Total Economic Freedom, and Total Democratic Freedom (items indicating lower capital were negatively scored).

Slovenia substituted 1990-1999 value-added indicators. Israel has no value-added growth statistics.

Racial and Religious Homogeneity are percentage of population in dominant group.

Sources of national indicators are the Dorling Kindersley World Desk Reference (1999), World Bank Development Indicators (1999), Singapore Department of Statistics, Walmsley (1999), Social Security Programs Throughout the World (1999), World Audit Democracy Rankings (1999), Heritage Index of Economic Freedom (1999), World Bank (1999), CIA World Fact book (1999), World Bank Development Indicators (1999), and Singapore Department of Statistics.

## Appendix D. Correlations among national indicators.

	Level of Workforce Modern- isation	Pace of Workforce Modern- isation	GDP per capita	GNP Capita Growth (65-98)	Human Capital Index	Civil Social Capital Index
Pace of Workforce Modernisation	-.02					
GDP per capita	.76**	.18				
GNP Capita Growth (65- 98)	.36	.88***	.35			
Human Capital Index	.72**	-.53*	.62*	-.26		
Civil Social Capital Index	-.20	-.10	-.50*	-.01	-.18	
Government Social Capital Index	.59*	-.67**	.40*	-.44*	.80***	-.42*

*Notes:*\* =  $p < .15$ \*\* =  $p < .05$ \*\*\* =  $p < .01$ 

N=8, one-tailed significance.