



Regional differences in intelligence and economic activity: A brief note



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ABSTRACT

Because intelligence predicts economic success at the individual level, the present study explored at the aggregate level whether the average IQ of residents of the American states was associated with the positive economic performance of the states (the growth in the gross state product per capita) and with negative economic behavior (foreclosure rates and credit card debt). States whose residents had higher estimated intelligence, based on standardized tests given to students in the states, had better economic performance, with higher per capita income, stronger growth in gross state product per capita, lower unemployment rates, lower foreclosure rates during the recent economic crisis, and lower credit card debt. The implication of these results is that improving intellectual functioning might improve state (and national) economic performance.

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1. Introduction

High credit card debt and foreclosures were the unfortunate collateral damages of the most recent financial crisis. At the beginning of this crisis, for example, foreclosure filings in the United States rose 75% from 2006 to 2007, climbing by 97% in December alone from the previous December (Fulmer, 2011). The mortgage crisis continued with a sharp jump in foreclosures in the first three quarters of 2008 when roughly 1.7 million foreclosures occurred, representing an increase of 65% from the 1.1 million in the same period in 2007 (Mayer, Pence, & Sherlund, 2009).

The rate of foreclosures in 2007 of households in the United States was 1.03% which means that roughly 2 million households were affected. Every state was afflicted by this, but to differing extents, ranging from 3.4% in Nevada to 0.01% in South Dakota (Fulmer, 2011), a striking difference of a factor of 34 across geographical regions. This variation in foreclosure rates by state reflects many variables, including bank lending practices, the availability of subprime loans, encouragement of home ownership, the loosening of bank credit, the removal of down payments, and the securitization and selling of bundled subprime loans as larger financial instruments (Morgenson & Rosner, 2011). But as one additional part of this sequence, there is also the problem of the choices that individuals make when agreeing to highly risky loans that they might not be able to repay, thereby losing their houses. This suggests the possibility of economic irrationality by a subset of the people obtaining mortgages.

This nationwide phenomenon of the inability of some individuals to manage their debts can be interpreted in terms of the notion of “systemic irrationality” coined by Yang and Lester (2008). Systemic irrationality arises from the existence of segments of the population who are less able to make rational economic decisions. In contrast to the rational paradigm upheld by mainstream economics which assumes that all people make rational economic choices, Yang and Lester (2008) proposed that the heterogeneous composition of a society does not guarantee that everyone can make rational choices. Yang and Lester presented evidence that those who are below the age of 18 and above the age of 65, those who are psychiatrically disturbed, those who are taking medications for psychiatric and medical disorders, those with low intelligence test scores and those from the lower social classes may all habitually make irrational economic choices, often with a higher tolerance for risk.¹ There were, of course, “systemic” banking problems, such as subprime mortgages strongly encouraged by the banks due to political pressure pushing expansion of home ownership, especially to people who were traditionally extremely risky prospects and would never qualify for mortgages, and then bundled into “credit default swap instruments” by very creative financial people, encouraged by regulators, then securitized and integrated into the international financial system (Morgenson & Rosner, 2011). Thus, a balanced view of the financial crisis must take into account the role of bankers, credit card companies and mortgage lenders as well as the decisions made by individuals.

Adding credit card debt to the picture reinforces the extent of systemic irrationality in financial management by some individuals

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¹ Of course, people are not fixed in these statuses, and their social class and psychiatric status (and, obviously, their age!) change over their lifetime (Sowell, 2009).

because their decision-making about credit card use seems to be characterized by irrationality in many cases (see Lester, 2011). Because the credit card debt burden and the rate of foreclosures vary by state, the psychological factors (including intelligence) that likely have a role in the decision-making process (aside from household income) may be related to the variation in the extent of credit card debt and foreclosure rates by state. Yang and Lester (2014, in press) found that the personality traits of the residents of the states were associated with both state foreclosure rates and the credit card debt for the residents of the states. In particular, states whose residents had higher levels of the personality trait of openness (having wide interests, imaginative and insightful) had higher credit card debt per resident and higher foreclosure rates (with Pearson correlations of .47 and .54, respectively), but those states also had a stronger overall economic performance. Openness in the residents of the states appears to have some beneficial impact and some detrimental impact.

Economic growth has long been a central focus of economists. Economic growth is determined by a number of factors, including the strength and stability of demand, the rate of technical progress, the level and growth of capital stock, international diffusion mechanisms, and structural changes in employment (Lynn, 1991). However, these economic factors are not sufficient in themselves to explain economic growth, and the psychological and sociological attributes of the population may play a role in explaining economic growth. Dennison (1967) argued that education, which can be considered to be an investment in human capital, was an important factor. Others argued for the relevance of people's motivation. Among this latter group, Weber (1929) stressed the role of the Protestant work ethic, an outcome of Protestant beliefs, whereas Schumpeter (1934) focused on the role of individual entrepreneurs. McClelland (1976) suggested that the achievement motivation of people in a nation had a large impact on economic growth, and he devised training programs to increase the achievement motivation of people in under-developed nations, especially in those who were potential entrepreneurs. In his research, McClelland found that the level of achievement motivation in children's textbooks in a sample of nations were positively associated with the economic growth of those nations.

At the individual level of analysis, Damian et al. (2015) found that personality traits and intelligence scores in adolescence were associated with higher incomes eleven years later. In their study, the Pearson correlation between intelligence and later income for a sample of 81,000 adolescents was 0.18. At the aggregate level of analysis, an association between the personality traits of the residents of nations and national economic indicators has also been reported. For example, Lynn (1991) asked colleagues to give a psychological inventory to equal numbers of male and female college and university students in 41 countries in 1986–1989 to measure their work ethic, achievement motivation, need for mastery, competitiveness, achievement versus conformity, money beliefs, attitude toward saving, and occupational preferences. Lynn found that the scores on these scales were strongly related to economic growth for the period 1970–1985, while Lynn and Vanhanen (2002) reported that estimates of the average IQ of residents of nations were associated with the gross domestic product per capita, a result replicated by Hunt and Wittmann (2008). Similar results have been reported for ecological studies of regions within a nation. McDaniel (2006) estimated average state IQ scores based on standardized tests administered by the National Assessment of Education Progress to public school children, and found that estimates of the IQ of the members of each state were weakly but significantly associated with one economic indicator, the gross state product per capita (Pearson $r = .28$). Pesta et al. (2010) found that estimates of the IQ of the residents of the states were positively associated (Pearson $r = 0.57$) with an index of income (based on income per capita, disposable income per capita, percent of families in poverty and percent of individuals in poverty) and, in addition, indices of the health of the residents of each state and their overall global well-being. Kanazawa (2006) found

that his estimates of state IQs were moderately associated with gross state product per capita (Pearson $r = 0.32$).

The present study explored whether the average intelligence of the residents of the American states is associated with the economic performance of the states and the economic activity of the residents of the states. It was predicted that states whose residents had higher average estimated IQs would have residents with less average credit card debt and a lower foreclosure rate during the economic crisis of 2006–2009 as well as a higher gross state product per capita (GSP/capita) and a larger increase in GSP/capita over time

2. Method

The state populations for 2000 were obtained from the Statistical Abstract (SA) of the United States 2007 (Table 17); unemployment rates for 2000 were obtained from the SA 2001 (Table 572); the gross state product (GSP) for 2000 from the SA 2007 (Table 652); the GSP per capita for 2000 from the Bureau of Economic Analysis (www.bea.gov); and the change in GSP per capita from 1999 to 2003 from www.ssti.org/Digest/Tables/041,805.t.htm. Quarterly estimates of credit card debt for 2000 were obtained from Transunion. The four quarterly scores were averaged for the present data analysis. Credit card debt data was available per customer and per card holder. All of these data are for the year 2000.

The economic crisis occurred in 2006–2009, and so foreclosure rates are for 2007. Foreclosure rates for 2007 (expressed as a percentage of households) were obtained from realestate.msn.com/article.aspx?cp-documentid=13107814. Therefore, this analysis compares with estimates of estimates of state IQs in 2000 with foreclosure rates seven years later.

Data on the average IQ of the residents of each state were obtained from McDaniel (2006) who estimated this from the National Assessment of Education Progress standardized tests for reading and mathematics administered to samples of 4th and 8th grade public school children in all states. Scores were averaged across the two grades, across reading and mathematics scores, for the period 1990–2005.

The study first used the 48 contiguous continental states because behaviors such as interstate migration (to find employment) and working in one state while living in another are more feasible in the contiguous states. In addition, data from Alaska and Hawaii are occasionally outliers. The analyses were then repeated using all 50 states. The data set is shown in Table 1.

3. Results

The means and standard deviations for the variables are shown in Table 2. The economic variables were associated with one another, and so their clustering was examined using a factor analysis (a principal components analysis and a varimax rotation with Kaiser normalization). Two orthogonal (independent) factors were extracted with eigenvalues greater than one, accounting for 66.8% of the variance. The first factor (see Table 3) had high (>0.50) loadings on gross state product per capita, per capita income and credit card debt (positively) and the unemployment rate negatively. The second factor had high loadings for the gross state product, the percentage change in the gross state product per capita, the foreclosure rate and the credit card debt per card holder.

Looking at the simple Pearson correlation (see Table 3), the measure of the estimated intelligence of the residents of each state was positively associated with per capita income ($r = 0.42$, two-tailed $p = .003$), the percentage change in the gross state product per capita ($r = 0.44$, $p = .002$), the unemployment rate ($r = -0.62$, $p < .001$), foreclosure rates ($r = -0.29$, $p = .049$) and credit card per card holder ($r = -0.29$, $p = .049$). The state measure of IQ was significantly associated with both factor scores ($r = 0.38$ and -0.62 , $p < .008$).

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