CONFIDENCE AS AN ECONOMIC INDICATOR: A CULTURAL-ECOLOGY PERSPECTIVE

LINJIE CHOU* (SCHOOL OF BUSINESS, UNIVERSITY OF ICELAND)

AND

SNJOLFUR OLAFSSON** (SCHOOL OF BUSINESS, UNIVERSITY OF ICELAND)

ABSTRACT:
In previous research endeavours on national economic development, almost no studies exist on how regional confidence can influence industrial and economic well-being. This paper provides a cultural-ecology parenthesis, which integrates climatic, geographic and genetic factors to spell out the forces of confidence on national economic well-being, which is reflected by the gross national income per capita. The correlation between the mean level of the Rosenberg self-esteem scale and the GNI per capita growth of 45 countries across the globe supports the hypothesis that the cultural-ecology perspective of confidence has a positive influence on overall economic development.

JEL CLASSIFICATION: I31, O12, P16, P44, P50, P51.

KEYWORDS: gross national income, confidence, cultural ecology, economic development, cross-cultural psychology.

* University of Iceland, Reykjavik, Iceland, lic1@hi.is
** Professor, University of Iceland, Reykjavik, Iceland, snjolfur@hi.is
INTRODUCTION

Among the economic competitiveness of a nation, cultural values are seen by some as being among the most decisive factors (Porter, 1990; Hofstede, 2001). Though the issue of culture is treated by Porter as a supplementary matter (O'Shaughnessy, 1996), he has explicitly argued the importance of a home base for sustaining and creating economic advantages (Porter, 1990). On the national economic level, cultural factors such as thrift and family values positively contribute to the gross domestic product (GDP) per capita growth across countries (Minkov and Blagoev, 2009). The gross national product (GNP) is also found to correlate negatively with emotional duration (Wallbott and Scherer, 1988), where low self-esteem contributes to delinquency (Baumeister et al., 2003). Confidence in this sense plays a rather motivating role in shaping a nation’s domestic and global policy sets, which can be utilized as factors for facilitating sustainable and long-term economic and industrial growth. Economic well-being in turn is also influenced by the confidence level of that country.

One way to measure economic and social well-being is to use some measures for examining economic wealth. Gross national income (GNI) per capita is defined as the sum of value added by all the residents of a nation, including: personal consumption expenditures, gross private investment, government consumption expenditures, net income from assets abroad and gross exports of goods and services. A country’s GNI per capita is a good indicator of its overall economic development (Bourguignon et al., 2004) and it is a trustworthy source for understanding the country’s economic strengths and needs, as well as the general living standard enjoyed by the average citizen.

It is widely recognized that confidence suffices as a cross-cultural implication (Diener and Diener, 1995; Hofstede and McCrae, 2004). Schmitt and Allik (2005) found that in cultures in which the value placed on men and women is more equal, people’s self-esteem tend to be higher. Even within a single country, various ethnic or cultural groups may exhibit considerable differences in the distributions of self-esteem scores. In one of their self-assessment studies, Heine and Lehman (1999) identified that larger actual-ideal discrepancies exist in the self-images of the Japanese than in those of North Americans. North Americans have on average more positive self-views than Japanese people do. In general, positive self-evaluation is more typical in Western societies and neutral or even negative self-evaluation is more common among Eastern cultures (Schmitt and Allik, 2005). Lundberg et al. (2000) also confirmed that cross-cultural differences in confidence exist through the observation of 551 students in 5 nations. In another piece of research, Oettingen (1995) compared pupils in both East and West Germany, and found that low efficacy beliefs undermining motivation generate negative effect and impaired cognitive functioning, which are more likely to occur among East German pupils due to cultural practices such as educational philosophy and ideologies. Rushton (1997) took a more provocative approach and argued that confidence levels may be implied according to racial and genetic orientations.

Nevertheless, few studies have been conducted regarding the ecological causes of confidence formation in different regions. A cultural-ecology perspective provides a
well-rooted foundation to explain psychological variations. Cultural ecology is the origin of particular cultural features and patterns that characterize different areas (Steward, 1972). Cultural ecology pays primary attention to those features that empirical analysis shows to be most closely involved in the utilization of the environment in culturally prescribed ways (Steward, 1972). With cultural-ecology lenses, the human–environment adaptation can be seen as the central force behind the making of cultural values. The ecological adaptations of geographic, climatic and resource elements (Baldacchino and Milne, 2000; Chou, 2009), even genetics (Vayda and Rappaport, 1968; Jarvik et al., 1973; Rushton, 1997; Rushton and Jensen, 2008), have been proven to influence psychological functions in various human behavioural discourses. However, the actual ecological linkage to the confidence formation has rarely been discussed by scholars.

In this paper, an effort is made to show the relationship between economic well-being and confidence in different parts of the world. The findings of such a study would be used as an application to help explain the competitive economic development of nations to answer the essential question of whether national confidence influences general economic well-being. We have thus proposed the following hypotheses.

H1. The self-esteem of the individuals of a nation is positively correlated with the GNI per capita.

H2. The self-esteem of the individuals of a nation is positively correlated with the growth rate of the GNI per capita, which in turn influences the economic well-being.

1. **CONFIDENCE FROM CULTURAL-ECOLOGY REASONING**

The recent advance in the studies of climate, geography and genetic evolution has provided us with rich information on how our human–environment adaptation works. A model with rules of correspondence between temperature and cultural competitiveness has been put forward by Van de Vliert et al. (2000). By compiling the native samples from 43 countries with background data on economic growth and the average daytime temperature of these counties’ capital cities, it is concluded that inhabitants of warmer countries are both more inwardly competitive and poorer (Van de Vliert et al., 2000). Countries with both colder winters and hotter summers (investigated from winter–summer deviations from 22 °C) have both higher suicide rates and lower happiness ratings (Van de Vliert, 2009). In another study, Van de Vliert et al. (2004) established a societal-level link between the atmospheric temperature and altruism, whereby colder-climate higher-income countries foster individualism, femininity and human rights, which are in turn associated with more altruism. Inhabitants of lower-income countries in more demanding climates experience more social discrimination and their personalities tend to be more selfish and distrustful toward others (Van de Vliert, 2009). The climatic–psychological connection is therefore very robust in the face of human–nature adaptation.

Geographically, the economic developments between locations reflect the immobile differences in these locations (Krugman, 1999); regions with large inequalities often exhibit a powerful tendency for populations to concentrate in a few densely
populated cities due to the limitation of coastlines that push up the cost of transportation, which is detrimental to external trade and businesses (Krugman, 1999). Therefore, these concentrations usually lead to domestic mass production, the broken linkage of land distributions and unequal shares of the wealth (Krugman, 1991). Even historically, the magnitude of geographic influence designated the rise and fall of nations. During 490–338 BC, the variation in the development goals of Athens and Sparta reflected their different geographic conditions (Bližkovský and Pöschl, 2009). Athens, due to its advantageous harbours facing the Attica Sea, was suitable for trade and the development of general wealth. Sparta, on the other hand, cut off from the rest of Greece by the two mountain ranges of Parnon and Taygete, was keen on survival and protection from invaders from other cities. Recently the call for the integration of immovable geographic constraints and psychological traits has been circulated among geographers and psychologists (Kitchin et al., 1997). Allik and McCrae (2004) found that personality traits such as extraversion are significantly \( r=0.59 \) influenced by the degree of latitude among 27,964 adult men and women across 5 continents. In another study, Pennebaker et al. (1996) found that a difference exists in north–south emotional expressiveness, and this difference extends to both within country and cross-country.

Biologically speaking, our genes may also have extended effects beyond the body in which they reside, biasing individuals toward the production of particular cultural systems (Rushton, 1997). The human–nature adaptation in many ways lies behind the observable events (Cavalli-Sforza and Feldman, 1981; Swidler, 1986), which occur on the genotype level (Durham, 1992). Genes are also part of the environment that culture evolves. Culture and genetics, in fact, interact and work together to effect adaptation in human populations, much as they do in populations of non-humans (Vayda and Rappaport, 1968). In the Minnesota Study of Twins Reared Apart, genetic factors accounted for more than 50% of the variance in issues like personal interests, well-being and emotionality (Krueger and Johnson, 2002). Even in occurrences of major life events such as divorce, there is a heritable component (Krueger and Johnson, 2002). In another study, Chiao and Blizinsky (2010) concluded that East Asian nations that have a higher frequency of S allele carriers of the 5-HTTLPR (a type of polymorphism that causes attentional bias to negative information and negative emotion) engage in narrow thinking and a cognitive focus that facilitates the maintenance of collectivistic cultural norms of social conformity. Furthermore, self-perceived abilities are also found to be substantially influenced by genetic factors with a heritability of 51% in a sample of 3,758 pairs of twins (Greven et al., 2009). The impact of genetics is so powerful that it makes cultural legacies matter long after its original purpose has been fulfilled. By the same token, the notion of genetic distance increases with geographic latitude, since the changing latitude means a changing climate and thus adaptation by natural selection to different climatic conditions (Stone at al., 2007). Thus, ethnic groups derived from similar geographic terrain and regional settings may tend to produce similar structures in value and socialization systems. In other words, certain geographic, genetic and climatic conditions foster the certain genetic adaptation patterns that influence psychological and cognitive functions.

To conclude the possible ecological effect on the overall confidence, we have produced figure 1 to illustrate the essential components. Genetic constraints,
geographic constraints and climatic constraints together act as a trinity moderator of the overall confidence. The very nature of genetic constraints is also a by-product of the evolvement of both geographic and climatic constraints. Our genes have adapted through various pre-historical diasporas and migrations in order to adjust to the different vegetation, climatic and environmental conditions. The consistency of genetic structure also makes a large proportion of confidence very stable. The maternally inherited mitochondrial DNA and paternally inherited Y-chromosome haplotype, for example, undergo little or no recombination, which means a large proportion of the DNA is resistant to change and passed down to descendants over many generations (Stone et al., 2007). We have therefore placed genetic constraints as the most important moderator of the overall human confidence. Research has shown that about 50% of the variance in human social behavior seems to be of genetic origin, with the remaining 50% being environmental (Rushton, 1997), which includes both the geographic and climatic constraints.

**FIGURE 1. ECOLOGY–CONFIDENCE MODEL**

Confidence, as a result of the psycho-ecology adaptation, may also appear to be a matter of heritable pre-designation (Roy et al., 1995; Neiss et al., 2002). The concept of emotional culture, which is argued to be a stable socialization practice and only changes when a culture is transformed over generations of people (De Rivera, 1992), theoretically supports the cultural–genetic foundation of confidence formation.

In cultures with low confidence, people joining together for common action occurs minimally. Men take whatever they can and seek to get their own way at the expense of others; the political regimes of low-confidence societies seek their own exclusive advantage at the expense of their citizens. Generally, personalities of this cluster are aggressive, tyrannous, vengeful and very insecure (Maslow and Honigmann, 1970). The consequences of low confidence even lead to the value display. People of low confidence have a stronger tendency to endorse statements
on the basis of their implicit social desirability rather than on their actual explicit content (Phillips and Clancy, 1972) or what Hofstede (2001) distinguished as desirable versus desired values. Due to the value importance of perceived superficiality and the promotion of visible ideals, industrial and economic policies in these low-confidence areas convey short-term cost advantages and instant political records but unconsciously undermine sustainable innovation and dynamism (Porter, 1990). The governmental investments in the areas of health care and primary education for the development of human capital also lag far behind the tangible industrial and infrastructure projects.

On the other hand, nations and regions with positive confidence can boost their overall social trust (Chou, 2009). Therefore, national competitiveness can be subtly observed through general human development and psychological and emotional well-being, in which true life satisfaction and quality of life can be sustained through the trusted private and public joint efforts and common actions among the population.

2. SELF-ESTEEM AND GNI PER CAPITA GROWTH

For this analysis, we have used a survey by Schmitt and Allik (2005) performed in 52 countries and measuring the self-esteem levels in these countries using Rosenberg’s self-esteem scale (RSES). The RSES contains 10 items that aim to access a person’s overall evaluation of their worthiness as a human being. Self-esteem contains self-confidence as a main component (Rosenberg et al., 1995), which provides a good reason for us to adopt Schmitt and Allik’s data set. The results of this survey have been compared with the results of the GNI per capita published by the World Bank in the World Development Index database.

Our objective is to assess whether the level of self-esteem in a nation has any influence on the growth magnitude of the GNI per capita of that nation. With this objective in mind we have built a data set of 45 countries (Schmitt and Allik’s study comprises 53 countries but only 45 of them are present in the WDI database). The report on self-esteem was published by Schmitt and Allik in 2005 and we have compared it with the GNI for the years 1990, 2000, 2005 and 2007.

The scores of the RSES vary from 25.5 for Japan to 33.59 for Serbia. A high score indicates that the people of a particular country have a good opinion of themselves. A score below 25 indicates the opposite. It is interesting to remark that no country performed under the 25-point mark. This indicates that people tend, across culture and geographies, to have quite a good self-image of themselves. The GNI ranged from 180 (Tanzania) to 32630 (Switzerland) in 1990, from 130 (Ethiopia) to 40270 in 2000 and from 220 to 60820 in 2007. The growth from 1990 to 2005 was in the range from -56% to 269% and the growth from 2000 to 2007 was in the range from -19% to 278%.

In order to test H1, we performed four regressions, one for each year, with the RSES as the independent variable and the GNI for that year as the dependent variable. The correlation between the RSES on one hand and the GNI for 1990, 2000, 2005 and 2007 was constantly positive, in all cases between 0.27 and 0.34.
The statistical test showed, though, that the correlation is not statistically significant (the p-value is approximately 0.3 in all cases).

In order to test H2 we used the GNI growth from 1990 to 2005 as dependent variable. These years were chosen in order to get a long period and many countries in the sample. We found, indeed, a significant correlation \((r = 0.41)\) between the growth from 1990 to 2005 and the RSES. A scatter diagram for this analysis and the regression equation is given in figure 2.

**FIGURE 2. GNI GROWTH FROM 1990 TO 2005 AS THE DEPENDENT VARIABLE (Y) AND THE RSES AS THE INDEPENDENT VARIABLE (X)**

In order to study the significant correlation further, we ran a regression model with the GNI growth from 1990 to 2005 as a dependent variable and the RSES as the explanatory (independent) variable. The result is that the RSES is a significant explanatory variable at the 99% confidence level \((P<0.01)\). Furthermore, the \(R^2\) is 0.17, which means that the RSES can explain 17% of the variability in GNI growth, as shown in figure 2. We also studied the data by conducting several regressions with two or more independent variables (both GNI and GNI growth) but those did not reveal any new insights.

One other possible empirical undertaking would be to see reserved causality between GNI and RSES. We do not believe, however, that such an effort would result in any meaningful theoretical inputs. This will potentially recall the attention to the classical debate between the culture-drives-economy and the economy-drives-culture camps. To sustain our position in the former appeal, it is partly an illusion to believe that economy can influentially drive the direction of culture; though economic development tends to push societies in a common direction, rather than converging, they seem move on parallel trajectories shaped by their cultural heritage (Inglehart and Baker, 2000). The changes and fluctuations in the economy do not always guarantee the shift in cultural value as a whole (DiMaggio, 1994; Minkov and Blagoev, 2009).
3. DISCUSSION

As stated earlier, this research aims to see the correlation between the confidence level of a nation and its growth of GNI per capita. We have treated the terminology of confidence interchangeably with the concept of self-esteem.

In our data the level of confidence shows a consistently positive correlation with the GNI per capita for four different years, but the correlation is not significant. Thus, the data are consistent with our hypothesis H1, although they do not provide strong support for it.

We performed a test of the correlation between the level of confidence (RSES) and the GNI growth from 1990 to 2005. The analysis showed significant correlation and thus provides strong support for hypothesis H2.

Through the proposed cultural-ecology lens, we can interpret that countries with relatively low self-esteem are more likely to experience low GNI per capita growth rates, and the income gap therefore is more likely to be larger than in countries with higher self-esteem, which leads to a higher GNI per capita growth. The personalities of these countries tend to be more competitive and thus the spirit of collaboration is minimal. Under the pressure of high-level competition and survivability, social and institutional trust is almost non-existent, which makes transaction costs and hidden business costs high. The overall economic behavioural policy is non-transparent. Public–private joint efforts are also scarce. On the governmental level, the economic and development policies are oriented towards the short term in order to maximize the political achievement records of the people or political party in power. On the opposite continuum, countries with a relatively high level of self-esteem may experience higher growth rates of GNI per capita. Social mobility, therefore, is assured through long-term democratic improvement and the incentives of the fair distribution of wealth.

To further illustrate H2, that the overall confidence level of a nation positively influences its economic well-being, it is crucial to understand the nature of economic well-being, which is determined by each individual’s ability to access the public goods, services and economic opportunities that are generated by a given society; it is a holistic phenomenon based on the extensiveness of economic development. The key stakeholder, therefore, is the average individual living in that given society. The quality of health care and education, the governmental economic initiatives on empowering human capital and the sustainability of development are among the most important considerations. The political regime of low-confidence societies seeks its own exclusive advantage at the expense of its citizens. The power and wealth are concentrated in the hands of few. Good public service is unlikely to exist and economic and environmental sustainability are merely propaganda under international pressure.

Confidence, as a combined factor of geographic, climatic, resource and even genetic interplay, is perhaps the best explanation for north–south economic
disparities and inter-country income inequalities. Therefore, the overall confidence level of a nation does positively influence its economic well-being.

CONCLUSION

In this article, we have constructed cultural-ecology reasoning (geographic, climatic, resource and genetic factors) for understanding the issue of confidence. Confidence or self-esteem is believed to be one of the decisive factors influencing GNI per capita growth. The GNI per capita reflects the general living standard and income distribution of a society. Countries with higher self-esteem seem to experience a higher growth rate of GNI per capita, while countries with low self-esteem levels seem to experience a lower growth rate of GNI per capita.

REFERENCES


APPENDIX

SELF-ESTEEM SCORES (RSES) AND GROWTH RATE OF GNI PER CAPITA FROM 1990 TO 2005

<table>
<thead>
<tr>
<th>Country or Area</th>
<th>RSES</th>
<th>GNI growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>31.24</td>
<td>48%</td>
</tr>
<tr>
<td>Australia</td>
<td>31.07</td>
<td>83%</td>
</tr>
<tr>
<td>Austria</td>
<td>31.78</td>
<td>96%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>27.8</td>
<td>76%</td>
</tr>
<tr>
<td>Belgium</td>
<td>29.66</td>
<td>103%</td>
</tr>
<tr>
<td>Bolivia</td>
<td>31.24</td>
<td>80%</td>
</tr>
<tr>
<td>Botswana</td>
<td>30.85</td>
<td>121%</td>
</tr>
<tr>
<td>Brazil</td>
<td>30.34</td>
<td>56%</td>
</tr>
<tr>
<td>Canada</td>
<td>30.22</td>
<td>74%</td>
</tr>
<tr>
<td>Chile</td>
<td>33.12</td>
<td>178%</td>
</tr>
<tr>
<td>Estonia</td>
<td>32.63</td>
<td>221%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>29.24</td>
<td>-33%</td>
</tr>
<tr>
<td>Finland</td>
<td>31.76</td>
<td>62%</td>
</tr>
<tr>
<td>France</td>
<td>29.86</td>
<td>83%</td>
</tr>
<tr>
<td>Germany</td>
<td>31.73</td>
<td>79%</td>
</tr>
<tr>
<td>Greece</td>
<td>31.29</td>
<td>167%</td>
</tr>
<tr>
<td>India</td>
<td>30.44</td>
<td>100%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>29.88</td>
<td>112%</td>
</tr>
<tr>
<td>Israel</td>
<td>33.03</td>
<td>95%</td>
</tr>
<tr>
<td>Italy</td>
<td>30.56</td>
<td>81%</td>
</tr>
<tr>
<td>Japan</td>
<td>25.5</td>
<td>54%</td>
</tr>
<tr>
<td>Latvia</td>
<td>29.88</td>
<td>159%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>29.83</td>
<td>130%</td>
</tr>
<tr>
<td>Malta</td>
<td>29.53</td>
<td>109%</td>
</tr>
<tr>
<td>Mexico</td>
<td>32.04</td>
<td>203%</td>
</tr>
<tr>
<td>Morocco</td>
<td>29.13</td>
<td>106%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>31.6</td>
<td>123%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>30.24</td>
<td>99%</td>
</tr>
<tr>
<td>Peru</td>
<td>33.01</td>
<td>269%</td>
</tr>
<tr>
<td>Philippines</td>
<td>29.98</td>
<td>83%</td>
</tr>
<tr>
<td>Portugal</td>
<td>31.3</td>
<td>170%</td>
</tr>
<tr>
<td>Romania</td>
<td>29.54</td>
<td>142%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>28.94</td>
<td>158%</td>
</tr>
<tr>
<td>Spain</td>
<td>31.52</td>
<td>127%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>29.16</td>
<td>75%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>29.52</td>
<td>94%</td>
</tr>
<tr>
<td>Turkey</td>
<td>32.14</td>
<td>200%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>30.55</td>
<td>148%</td>
</tr>
<tr>
<td>United States</td>
<td>32.21</td>
<td>97%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>30.77</td>
<td>-56%</td>
</tr>
</tbody>
</table>