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Abstract

Does the intelligence quotient (IQ) in a nation regulate the ease of doing business in the society? Based on the normal distribution of IQ scores within a nation, the population was classified into three groups, specifically intellectual class, average ability, and non-intellectual class, which were represented by the 95th, 50th, and the 5th percentiles of IQ level respectively. Using a robust regression method with Huber's weight function, the impact of each IQ class on the ease of doing business (EDB) index was examined. The sub-indicators of the ten business regulatory environment across 71 countries were studied. In this study, the effect of IQ was controlled for the levels of economic freedom, GDP per capita, freedom of corruption, and tertiary education. Results revealed strong evidence that the IQ of the intellectual class had contributed most to the enhancement of the regulatory environment, which is supportive for entrepreneurship. This result was consistent with the term 'creative

minority' coined by the prominent historian Arnold Toynbee. It was concluded that the IQ of the people from the intellectual class is the most significant factor for creating a business regulatory environment that favours and eases the new and experienced entrepreneurs. This occurs through their competent and virtuous leadership that enhances the quality and efficiency of institutions across countries.

Keywords: doing business; entrepreneurship; intelligence; intellectual class; leadership; non-intellectual class; robust regression.

JEL Classification Codes: J24; L26; O11; Z13

1. Background of the Study

Societal progress is the doctrine that societies perform for their improvement in various fields such as social, political and economic structures. Such a societal progress has been said to be determined by a 'creative minority' of the population. This creative minority is the intellectual class who discovered the methods for solving problems in various sectors of the society. Their cultural practices and ideas were followed by the rest of the world through imitation or mimicking. The growth of civilizations arose as social challenges were conquered by these creative individuals, who resided as a small fraction from the upper class of the society (Toynbee 1987). Toynbee's concept of societal progress happens to be similar to the term 'creative evolution' proposed by Henri Bergson. According to Henri Bergson, social transformation was usually hailed from creative individuals inspired with *élan vital*, who brought novelty in thoughts, designs, philosophies, ethics and values. The novelty created permitted the civilization to revise its social practices by fine-tuning themselves to emulate the new code of belief. Contrarily, if such revisions did not happen to civilizations,

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the majority would have become stagnant and declined in the course of time (Hall 2014, p. 29). Toynbee and Bergson were similar in their lines of thought, where it is believed that the solutions and practices for encountering the societal challenges arose from the people of creative minority in the society. The majority then follows this creative minority in the process of civilization changes. If this process stopped functioning then the civilization might collapse. Prior to the breakdown of any civilization, what happened could be the creative minority ceased to be creative and hence, neglected to gain the admiration of the majority through the brilliance and virtuousness of their elucidations to the societal problems and challenges. This change in behaviour destroyed their political creativity, thereby deteriorating the minority and turned them into an arrogant 'dominant minority' who neglected to effectively tackle the societal challenges. Yet, they coerced the majority to give them respect and praise that they did not actually deserve, as they never contributed to the society with their change of behaviour.

The purpose of this paper is to examine the role that the creative minority plays on the ease of doing business at a global level. The proposition of this study is that intellectual class is an elite group of the society, and thus, people who belong to this class are more creative and influential to enhance the quality and efficiency of business-related institutions and entrepreneurs. The ease of doing business (EDB) index is intended to measure regulations that affect businesses directly. EDB is defined by the World Bank (2016a) as "a ranking of high ease of doing business which means that the regulatory environment is more conducive to the starting as well as operation of a local firm." A country's EDB ranking can be established by averaging the values of 10 sub-indices, as listed and defined in Table 1. In simple terms, it can be comprehended that if the regulations were onerous, it turned the entrepreneurs' energies away from developing their businesses. In contrast, a more simple, transparent and efficient regulation eased the entrepreneurs to innovate and expand their

businesses and firms. Transparent regulations and modest bureaucratic procedures lighten risks for both new and experienced entrepreneurs alike. Thus, reforms intended to instigate new business entry might also serve to facilitate the growth of existing businesses in the same field. These reforms allowed the entrepreneurs to save time and cost of regulatory compliance. Time and cost savings could be translated directly into higher profitability of private businesses and higher fiscal productivity of governments due to the savings made from bureaucratic procedures and policies (World Bank 2016a).

[Insert Table 1 here]

In the present study, the dominant characteristic of the creative minority is represented by intelligence quotient (IQ) or cognitive ability of the topmost 5% upbeat people in a country, which is based on the normal distribution of IQ scores described as a bell-shaped curve. Based on the scores of international scholastic assessment tests, Rindermann et al. (2009) calculated the IQ for the 95th, 50th and the 5th percentiles, which were termed as intellectual class, average ability and non-intellectual class respectively. Several studies in the psychological and sociological literature have employed Rindermann et al.'s (2009) IQ dataset in their studies of socioeconomic development (Jones and Potrafke, 2014; Coyle et al. 2016; Burhan et al., 2014a, 2014b; Rindermann and Thompson, 2011; Rindermann, 2012). The various studies confirmed that the IQ of the intellectual class was strongly associated with the national level of socioeconomic achievement which was measured by the national income, technological progress, institutional quality and even the reduction of crime rates in the area. These researchers advocated that the intellectual class consisted of the top leaders and aristocrats, who led the country towards socioeconomic changes along with the passage of time. Therefore, the IQ of the intellectual class has been more significant than the other classes in determining the socioeconomic development. This notion also aligns with several

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economic studies on productivity growth and cognitive skills. Economic studies determined that the countries with greater percentage of intellectually gifted students experienced a sophisticated economic growth rate over the previous five decades (Hanushek 2016; Hanushek, Woessmann 2008; Hanushek, Woessmann, 2012). Surprisingly, all these studies did not focus on the role of the non-intellectual class in economic development. Thus, the relative impact of the intellectual class, average ability group and non-intellectual class in the socioeconomic development has been unheeded in the economic works.

In addition to higher achievements of economic growth and technology, entrepreneurship has been an imperative source of societal progress for the reason that it boosts economic development especially by triggering agglomeration, innovation and technological development as well as increasing employment rates and welfare of the society (Acs, Audretsch 1988; Acs, Varga 2005; Baumol 2002; Schumpeter 1934; Wennekers, Thurik 1999). The positive relation between IQ and entrepreneurship has been proved statistically which confirms this theory that societal changes are mainly due to the intellectual class. Labastida Tovar et al. (2017) in a cross-country analysis of 64 countries established that innovation in science, technology, education and mathematics (STEM) fields is noteworthy. Individuals with high cognitive ability (IQ = 115 points) contributed more to *entrepreneurship abilities and economic wealth* by over a 53% when compared with the lower rank of individuals (IQ = 85 points) who contributed merely at 33%. Entrepreneurship abilities are found to be more important than innovation in STEM fields because these fields provide a missing link for economic growth by commercializing investments in knowledge and ideas that might otherwise have remained uncommercialized (Acs et al. 2009, p. 8). In another cross-national study of 60 countries, Hafer and Jones (2015) employed Lynn and Meisenberg's (2010) data on national average IQ and the study results found that nations with higher IQs had higher levels of entrepreneurial activity. The results were obtained by

controlling other important institutional and socioeconomic factors. This finding is consistent across two global measures of entrepreneurial activity, namely the Global Entrepreneurship and Development Index (GEDI) which was first developed by Acs and Szerb (2010), and the data on new firm entry that was obtained from the World Bank's Entrepreneurship Survey. The Global Entrepreneurship and development index stresses the fact that high IQ individuals are the most sought after in this world, and they have a choice to work towards the progress of their own country or their chosen immigrant nation. In a related study that employed Lynn and Vanhanen's (2002) data on national average IQ, Vinogradov and Kolvereid (2010) verified that home-country IQ was significantly positive in comparison with the self-employment rates among immigrants in Norway. Although the significance of IQ among immigrants decrease with the length of their residence in the immigrant nation, this evidence shows that level of IQ matters significantly for people to adapt quickly with the new business environment and the new culture before embarking on a new business venture or becoming self-employed.

The strong positive relationship between IQ and entrepreneurial activity obtained from these studies greatly support the empirical findings and the basic theory that IQ could potentially be related to a wide range of socioeconomic outcomes. People with high levels of IQ demonstrated better job performance and superior problem solving techniques as they were more efficient at learning from new knowledge and experiences. More importantly, they were also more effective at applying what they have learnt into novel situations in the work place when necessary (Byington, Felps 2010; Davies 1996; Gottfredson 1997; Schmidt, Hunter 2004). This knowledge and wise application of ideas usually rewarded them with higher earnings than those with lower level of IQ (Ceci, Williams 1997; Lynn, Vanhanen 2012; Nyborg, Jensen 2001; Zagorsky 2007; Zax, Rees 2002). The role of IQ in the work place was determined to be vital. Corbett (2007) and Shane and Venkataraman (2000)

proposed that the discovery of entrepreneurial opportunities required that individuals possess both prior knowledge and also cognitive abilities that allow them to value and further exploit that existing knowledge.[1] Furthermore, it can be recommended that high IQ people might probably be the more successful entrepreneurs because they are more efficient at calculating risk and making choices in their financial investment and economic activities (Burhan et al. 2015a; Dohmen et al. 2010; Fang et al. 2008; Grinblatt et al. 2015; Grinblatt et al. 2011, 2012). In addition to that, those with high IQs were more likely to work cooperatively in a team setting (Gill, Prowse 2016; Jones 2008; Robalino, Robson 2016). They were best at team environments because they had a longer time horizon, which means that high IQ individuals were more patient and had strong preference towards large and long-term gains, instead of small and short-term benefits (Borghans et al. 2008; Civai et al. 2016; Shamosh, Gray 2008). Therefore, it can be concluded that these positive characteristics are indispensable for any individual to become a successful entrepreneur. This is the precise reason why high IQ people are generally more successful than those with lower IQs especially in entrepreneurial activities.

The significant impact of IQ in raising the societal levels of economic performance and entrepreneurial activity has been evidenced in the literature. Nevertheless, the role of IQ in enhancing the business regulatory environment to ease the creation and development of new firms has not yet been explored. Most of the empirical findings in the literature demonstrated a negative association between regulatory restrictions and entrepreneurial activities. This meant that entrepreneurial activities flourished only when the regulatory restrictions were at the minimal. On the other hand, regulations that burdened the operation and creation of business negatively affected the self-employment rates, establishment of firms

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[1] Entrepreneurial opportunities are "situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their costs of production''(Casson 1982; Shane, Venkataraman 2000). They arise at the association of individual goals with economic and social settings recognized as favourable to generate a new product or service in a market.

and industries, opportunity driven entrepreneurship and the prevalence of strategic entrepreneurial entry at the country level (Giri, 2012; Ciccone, Papaioannuou 2007; Nofsinger, Reca 2014; Ho, Wong 2007; Levie, Autio 2011). The research approach in this paper differs from the previous IQ-entrepreneurship studies in two ways. Firstly, the impact of IQ as a precondition for entrepreneurship has been examined specifically with the Ease of Doing Business (EDB) index. Contrarily, the popular themes on these lines which are well researched is the impact of IQ on the outcomes or level of entrepreneurial activity. EDB index is considered as the dependent variable, this variable measures the conductivity of the regulatory environment to the beginning and the operation of a local business or firm. Secondly, this study employed three social classes of IQ, instead of only the national average IQ as employed by Hafer and Jones (2015) and Vinogradov and Kolvereid (2010). Particularly, the relative impact of IQs of the intellectual class, average ability group and non-intellectual class was scrutinized to provide an encouraging business regulatory environment for the entrepreneurs. This approach particularly allowed the emphasis on the role that creative minority played in helping the entrepreneurs.

2. Methods

This study examined the impact of social classes of IQ on the ease of doing business (EDB) index at a cross-country level. In order to measure the effects of different IQ levels, certain development indicators had to be selected. The country's growth or development is usually measured by indicators such as the measures of economic freedom, corruption, standard of living, and societal level of education. These indicators may have significant effects on the level of business regulatory environment. Many studies have suggested that the factors responsible for generating economic growth are also important to foster business and

entrepreneurial activity. For instance, Kreft and Sobel (2005) mentioned that economic freedom generated economic growth because the freedom promoted productive private-sector entrepreneurial activity. Hence, economic freedom is a positive determinant of the foreign direct investment inflows (Bengoa, Sanchez-Robles 2003). Contrarily, it is also more important than culture to determine the economic growth (Williamson, Mathers 2011). Measures of economic freedom have been employed as a proxy for the quality of the institution, and it has been found to be significant to increase entrepreneurship (Nyström, 2008). Furthermore, McMullen et al. (2008) have found that Gross Domestic Profit (GDP) per capita and the Heritage Foundation's measure of economic freedom were significantly associated with entrepreneurial activity at a cross-country level.

Apart from economic freedom, this study also considered to control the possible negative effects of corruption on the ease of doing business activities. While economic freedom enhances the entrepreneurial activities, corruption had a damaging effect on economic development because it binds resources in to non-productive investments (Graeff, Svendsen 2013). Corruption has indirectly reduced the level of economic development through a decreased investment in physical capital (Gyimah-Brempong 2002). It has been observed that countries with high level of corruption have a very weak enforcement of the rule of law, lower economic freedom and more intrusive business regulations (Nwabuzor 2005; Treisman 2007). All these go hand in hand and thereby, pull down the societal development of the country. Therefore, anti-corruption strategies often involve institutional reforms to deal with the problems stated above (Robinson 1998).

Moreover, this study also suggests controlling the effect of standard of living and societal level of education. It is understood that higher the living standard, measured by the level of GDP per capita, the more economically developed the country is in terms of business

environment and technological infrastructures. The societal level of education was determined by the percentage of the population who have completed tertiary education so that it indicates the fraction of professional employees working in governmental and private institutions. This percentage of the population is taken as tertiary education raises the number of professional workers as affirmed by the World Bank (2016c). Tertiary education also provides knowledge and advanced skills which are then transformed into goods and services, greater institutional capacity which gives rise to a more effective public sector, a stronger civil society, and a better investment climate. To investigate the impact of IQ on the ease of doing business (EDB) at a cross-country level, a linear macro-model was employed as follows:

$$EDB_i = \beta_0 + \beta_1 freedom_i + \beta_2 coruption_i + \beta_3 wealth_i + \beta_4 college_i + \beta_5 IQ_i + e_i$$

Where, *EDB* denotes the value of ease of doing business index for the country i. All the values measured were for the calendar year 2016. A higher ranking on the ease of doing business indicate that the business regulatory environment is more favourable for the opening and functioning of a local firm. *EDB* is the average value of ten sub-indicators, each of which has been defined in Table 1, and is incorporated individually into the model. The data of dependent variables were obtained from the World Bank (2016a). In the model, *freedom* denotes the index of economic freedom for country *i* and it was obtained from the Heritage Foundation (2016). Its values were averaged for the period 2013 – 2014 in order to measure the degree of economic freedom across countries. Likewise, *corruption* is corruption perception index obtained from Transparency International (2016) where the values were averaged for the same period as *freedom*. Further positive values of *corruption* indicate that countries had less pervasiveness of corruption. *Wealth* is the gross domestic product (GDP) per capita averaged for the same time period. The data for wealth was obtained from the

World Bank's World Development Indicators (World Bank 2016b). Furthermore, *college* is the percentage (%) of population (aged 25 and over) who have completed their tertiary education for the year 2010. The data was obtained from Barro and Lee's (2010) educational dataset. *IQ* is the national average intelligence for the 95th, 50th and the 5th percentiles of ability at a normal distribution, namely IQ95th, IQ50th and IQ5th percentiles, respectively. The data were obtained from Rindermann et al. (2009). Tables A1 and A2 of Appendix-A show the list of countries ranked by selected variables. Data in this study were analysed using EViews 8, where the model was estimated by robust regression (Huber 1973) that gives less weight to high-leverage observations. This method was employed so that the regression estimates will not be biased by extremely large or small observational values. Robust regression applied 'ROBUSTREG' command using the M-estimation technique and the Huber-weight option.

3. Findings

Table 2 shows the correlation matrix for all the variables. The correlations were found to be the highest for the three measures of IQ, namely IQ95th, IQ50th and IQ5th percentiles, with $r = 0.92 - 0.98$. In order to avoid the instance of multicollinearity, these three measures were entered separately for the regression procedure. Results revealed that all the IQ measures were having a significant correlation with most of the dependent variables, precisely, *EDB*, *start*, *register*, *credit*, *investors*, *taxes*, *trading*, *contracts*, and *insolvency*. On the other hand, the IQ measures were non-significant correlated with *permit* and *electricity* at a level of 5%. Moreover, there was high correlation ($r = 0.78$) between *corruption* and *freedom*, showing that countries with high level of economic freedom are also highly free of corruption. Moreover, it was confirmed that including these two variables simultaneously in

the same regression caused both the variables to become non-significant on the dependent variables, without affecting the significance level of the IQ variables. The variance inflation factor (VIF) of *corruption* and *freedom* was calculated at 2.54, indicating potential or minor multicollinearity problem. In order to avoid this multicollinearity problem, they were included separately in the regression as they were merely control variables.

[Insert Table 2 here]

Table 3 shows the summary of robust regression analysis for the ease of doing business index, *EDB*. It was determined that all the IQ variables were significant at $p < 0.01$ level across Models 3–8. Inserting IQ as an independent variable raised the adjusted R^2s from 0.53 – 0.59 in the basic models (Models 1 and 2) to 0.76 – 0.99 in Models 3–8. In these models, the co-efficient of IQ95[th] percentile was the largest among the IQ variables, followed by IQ50[th] and then the IQ5[th] and in that order. Furthermore, *freedom* and *corruption* were significant at $p < 0.01$ level, while both *wealth* and *college* were non-significant at $p < 0.10$ level on *EDB* while controlling the other factors.

[Insert Table 3 here]

Tables 4–13 present the result of regression analysis for the ten sub-indicators of *EDB*. Across these tables, it was proved that IQ measures were significant on *start* (Table 4), *electricity* (Table 6), *register* (Table 7), *credit* (Table 8), *investors* (Table 9), *trading* (Table 11), *contracts* (Table 12), and *insolvency* (Table 13). On the other hand, while *freedom*, *corruption* and *wealth* were significant on *permit* (Table 5) and *taxes* (Table 10), it was seen that all the measures of IQ were non-significant at 10% level on the two dependent variables. Except for the IQ-*electricity* relationship (Table 6), across Tables 4–13, it was found that

whenever IQs were significant on the dependent variables, IQ95[th] had the largest effect, followed by IQ50[th] and IQ5[th], respectively.

[Insert Table 4 here]

[Insert Table 5 here]

[Insert Table 6 here]

[Insert Table 7 here]

[Insert Table 8 here]

[Insert Table 9 here]

[Insert Table 10 here]

[Insert Table 11 here]

[Insert Table 12 here]

[Insert Table 13 here]

Whenever the other control variables were significant, *freedom* and *corruption* were consistently positively correlated with the dependent variables. In particular, *freedom* had significant effect on *start*, *permit*, *credit*, *investors*, *taxes* and *trading* when IQ was a controlled measure. On the other hand, *corruption* was positively significant on *start*, *permit*, *trading* and *insolvency* alone. These evidences show that economic freedom and the freedom of corruption are indispensable for setting up an excellent business environment across geographic borders. Furthermore, when IQ was a controlled measure, it was found that *wealth* was positively significant on *permit*, *taxes*, *trading* and *insolvency*. This shows that a

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higher level of national income enhances some elements of regulatory environment for EDB. Finally, with the inclusion of IQ in the regression, *college* had significant effect only on one variable, *start*. Thus, it can be concluded that tertiary education is not more important than IQ in boosting the ease of doing business, at least at the cross-country level.

4. Discussion

This study aimed to examine the impact of intellectual class, average ability and non-intellectual classes on the ease of doing business at a cross-country level. Overall, the results of robust regression analysis suggested that IQ had the maximum significant effects as compared to the other four control variables. This was established by statistical methods that an independent variable had significant effect on the dependent variables. Irrespective of the classes of IQ, it was seen that IQ had significant effect on nine out of eleven dependent variables. *Freedom* and *corruption* had significant effects on seven and four dependent variables respectively. The two variables *wealth* and *college* were rarely significant to influence the business regulatory environment at a cross-country level. The findings revealed that a better quality of institution can be achieved through much higher economic freedom as well as corruption-free environment. These factors will enhance the ease of doing business at a cross-country level. Furthermore, the GDP per capita and the tertiary education level did not facilitate the business regulatory environment to become more conducive for initializing and operating a business.

Throughout this study, the average adjusted-R^2 values for *EDB* regression models with IQ was calculated as 0.77, which is much higher than that of its ten sub-indicators.[2] This evidence demonstrates that a combination of the ten sub-indices was significant to represent the ease of doing business index, *EDB*. The most important finding in this study is that, whenever IQ was significant in the model, the *β*-coefficients of IQ95[th] were always larger than that of IQ50[th] or IQ5[th] percentiles and in that order.[3] In particular, the average effect of IQ95[th] percentile ($\bar{\beta}_{IQ95th} = \frac{.551+.571}{2} = .561$) on *EDB* was 36.5% larger than that of the IQ5[th] percentile ($\bar{\beta}_{IQ5th} = \frac{.404+.418}{2} = .411$).[4] Furthermore, there were three out of ten *EDB* sub-indices that had differences in *β*-coefficients between IQ95[th] and IQ5[th] percentiles that were larger than that of *EDB*. Specifically, *investor*, *credit*, and *start* had their *β*-coefficients larger for IQ95[th] percentile than the IQ5[th] percentile, which were identified as 124.1%, 95.4% and 55.6%, respectively. Furthermore, in a descending order, it was found that *contracts* (35.3%), *insolvency* (28.9%), *trading* (24.8%) also had their *β*-coefficients greater for the IQ95[th] percentile than the IQ5[th] percentile. This was in spite of the fact that the percentages were slightly smaller than that of *EDB*. Yet, the differential effects of IQ95[th] percentile and IQ5[th] percentile for *register* and *electricity* were very small at 7.0% and 3.5% respectively, where the average effects were marginally larger for IQ95[th] percentile.

This study is unique as it employed the ease of doing business as an indicator instead of the measures of entrepreneurial activity level used by previous researches in this field (i.e., the Global Entrepreneurship and Development Index (GEDI), new firm entry, and self-employment rates). This diverse approach has enabled the scrutiny on the components of entrepreneurial opportunity, which served as antecedents of the outcomes of entrepreneurial

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[2] We obtained the value was obtained by averaging the values of adjusted R^2 across Models 3–8 in the respective Tables 3–13.

[3] Except for the IQ-electricity relationship reported in Table 6.

[4] This value is obtained using the following formula: $\left(\frac{\bar{\beta}_{IQ95th} - \bar{\beta}_{IQ5th}}{\bar{\beta}_{IQ5th}}\right) * 100\%$.

activity in the long-term. In general, the positive impact of IQ on the ease of doing business was something that can be expected as a matter of fact. This was established by previous studies that national average IQ was positively associated with the various measures of socioeconomic development such as national income, economic growth, democracy, economic freedom, economic wealth, education attainment, globalization, and institutional quality at a cross-country level (Burhan et al. 2015b; Jones, Potrafke 2014; Jones, Schneider 2006, 2010; Labastida Tovar et al. 2017; Lynn, Vanhanen 2012; Ram 2007; Salahodjaev 2015; Weede, Kämpf 2000). Nevertheless, the IQ of the intellectual class has the largest effect on the ease of doing business indicator is something that was contemplated and proved in this study. This was due to the fact that people from this class represented just a small fraction of the population of a country, whereas that the majority comprised of the people from the average ability group.

The key findings of this study can be justified in terms of successful leadership exhibited by the intellectual class in a country. The IQ of the intellectual class is responsible for government and leadership competencies because political leaders and policymakers with high IQs are more capable of enhancing the quality of institutions, as well as tackling the challenges and barriers faced by their countries (Rindermann 2012; Rindermann, Thompson 2011; Rindermann et al. 2009, 2015). This can be evidenced from the United States, where it was seen that presidents with higher IQs exhibited a greater presidential leadership performance as rated by their citizens (Simonton 2006). Furthermore, the differences in IQ among children also have a strong association with their leadership effectiveness across occupations later on in their adulthood. In particular, cognitive abilities of the individuals represent their capacities for reasoning and abstract thinking, and thus, children with high IQs are relatively more capable in accumulating competencies and expertise to attain leadership positions at an early stage of their career and working lives (Daly et al. 2015). The positive

effect of IQ on transformational leadership is direct, as evidenced by Cavazotte et al. (2012), in which the IQ-effect was comparable to that of individuals' levels of conscientiousness and managerial experience. Emotional intelligence and other major personality traits, such as the extraversion, agreeableness, openness to experiences, and neuroticism on the transformational leadership were non-significant once the effect of IQ was controlled for. Together with our findings, these supportive evidences allow us to conclude that transformative leaders with high levels of IQ and virtuousness are capable of raising morale and formulating new inspiring visions in their followers, leading the people towards greater achievements (Toynbee 1987; Hall 2014).

The connection between intellectual class and elitism are crystal clear. An evidence of this can be seen from the fact that around 40% of Americas' elite who joined the World Economic Forum (WEF) in Davos were originated from the uppermost 1% of the people with high cognitive abilities and they were those who attended the most elite colleges and universities (Wai, 2013; Wai and Rindermann, 2015). Among all WEF attendees, the average IQ of the CEOs was higher than the judges and the members of the United States House of Representatives, but still lower compared to the other occupations in the farthest right tail of the IQ normal distribution, such as academics, world's most powerful men and women, government policy makers, billionaires, journalists, senators and other business elites. Another evidence is that the Fortune 500 CEOs with higher IQs generated more profits from their companies than their counterparts with lower IQs. In the context of our study, the intellectual class comprised of the most powerful leaders in business and policymaking, where their intellectual giftedness was substantial to the quality and efficiency of the institution in a country. Individuals with high IQ are cognitively more competent in formulating better policies on the business regulatory environment, thereby enabling the creation and development of business across the industries. Working with these intellectuals

is also perceived to be easier, economically sound and more transparent to entrepreneurs and investors. In harmony with the term 'creative minority' coined by Toynbee (1987), it can be concluded that the ease of doing business in a nation is highly dependent on the virtuousness of the intellectual class only if they are willing to use their talents and creativities for providing solutions to the entrepreneurs. Otherwise, these intellectuals and their intellect are merely unproductive and they become the 'dominant minorities' who destroy their own political creativity by abandoning the welfare of the other classes of the society.

This paper also evidenced that tertiary education had merely a marginally positive effect on the ease of doing business index. This finding is consistent with Hanushek (2016) who demonstrated a non-significant effect of tertiary education on economic growth at a cross-country level. Therefore, although the tertiary education delivered in colleges and universities might increase the number of professional employees working for a country (World Bank 2016c), it does not guarantee that the graduates have outstanding cognitive skills due to their education. On the other hand, the significant impact of the intellectual giftedness on the ease of the doing business suggests that the education curriculum need to be reformed especially in developing countries. This reformation must be in an effort to enrich the students with high-order thinking skills that is essential for successful leadership in the future. Enriching the students and youth with high cognitive skills and virtuousness is anticipated to produce more creative and strategic thinkers, and effective problem-solvers who guarantee transformational leadership for the betterment of the nation. Furthermore, bringing together those with high IQs can be very significant for creating an environment of high openness to innovation and creativity within a country. Specifically, agglomeration or high concentration of talented people in a region would attract other high human capital individuals to collectively generate more innovative, creative, and technological-based industries (Florida 2002). These high IQ people could possible create hubs which are the

heart of successful entrepreneurship and the basis of national competitiveness. Hence, in order to meet this purpose, it is fundamental that the governments monitor the career trajectories of high IQ students and youths upon the completion of their tertiary education in colleges and universities. Based on this study, this monitoring ensures that their talents and creativities will be beneficial to the national economy in the long-run. The group of think tanks drawn from this intellectually gifted young population would facilitate the continuous enhancement in the quality and efficiency of institutions, which stimulates more business and entrepreneurial activities within and across countries.

[Insert Table A1 of Appendix A here]

[Insert Table A2 of Appendix A here]

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Table 1

Definitions of ease of doing business, *EDB* sub-indicators.

Indicator	Definition
Starting a business, *start*	The paid-in minimum capital requirement, number of procedures, time and cost for a small- to medium-sized limited liability company to start up and formally operate.
Dealing with construction permits, *permit*	The procedures, time and cost to build a warehouse—including obtaining necessary licenses and permits, submitting all required notifications, requesting and receiving all necessary inspections and obtaining utility connections. This includes the building quality control index, evaluating the quality of building regulations, the strength of quality control and safety mechanisms, liability and insurance regimes, and professional certification requirements.
Getting electricity, *electricity*	The procedures, time and cost required for a business to obtain a permanent electricity connection for a newly constructed warehouse. In addition to assessing efficiency of connection process, new indicators were added to measure reliability of power supply and transparency of tariffs and the price of electricity.
Registering property, *register*	The steps, time and cost involved in registering property, assuming a standardized case of an entrepreneur who wants to purchase land and a building that is already registered and free of title dispute. This includes an index of the quality of the land administration system in each economy, which has four dimensions: reliability of infrastructure, transparency of information, geographic coverage and land dispute resolution.
Getting credit, *credit*	The strength of credit reporting systems and the effectiveness of collateral and bankruptcy laws in facilitating lending.
Protecting minority investors, *investors*	The strength of minority shareholder protections against misuse of corporate assets by directors for their personal gain as well as shareholder rights, governance safeguards and corporate transparency requirements that reduce the risk of abuse.
Paying taxes, *taxes*	The taxes and mandatory contributions that a medium-size company must pay or withhold in a given year, as well as measures the administrative burden in paying taxes.
Trading across borders, *trading*	The time and cost associated with the logistical process of exporting and importing goods. This includes the time and cost (excluding tariffs) associated with three sets of procedures—documentary compliance, border compliance and domestic transport—within the overall process of exporting or importing a shipment of goods.
Enforcing contracts, *contracts*	The time and cost for resolving a commercial dispute through a local first-instance court. In addition, this year it introduces a new measure, the quality of judicial processes index, evaluating whether each economy has adopted a series of good practices that promote quality and efficiency in the commercial court system.
Resolving insolvency, *insolvency*	Weaknesses in existing insolvency law and the main procedural and administrative bottlenecks in the insolvency process.

Note: Reproduced from the World Bank (2016a).

Table 2

Correlation matrix for all variables (*N*=70).

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	IQ95th	-																
2	IQ50th	.972***	-															
3	IQ5th	.922***	.983***	-														
4	education	.485***	.486***	.454***	-													
5	wealth	.589***	.584***	.559***	.388***	-												
6	corruption	.543***	.536***	.508***	.399***	.725***	-											
7	freedom	.442***	.431***	.408***	.306**	.596	.779***	-										
8	EDB	.673***	.648***	.623***	.412***	.639***	.755***	.770***	-									
9	start	.638***	.610***	.573***	.361**	.373**	.406***	.398***	.650***	-								
10	permit	.221	.206	.212	.259*	.470***	.518***	.588***	.694***	.312**	-							
11	electricity	.208	.203	.196	.018	.409***	.477***	.392***	.464***	.004	.434***	-						
12	register	.273*	.284*	.308**	.095	.249	.268*	.354**	.519***	.268*	.387***	.169	-					
13	credit	.436***	.392***	.333**	.309**	.102	.206	.405***	.534***	.460***	.118	-.159	.278*	-				
14	investors	.478***	.440***	.388***	.140	.337**	.334**	.429***	.606***	.452***	.230	.209	.131	.431***	-			
15	taxes	.307**	.275*	.270*	.251*	.559***	.511***	.574***	.673***	.473***	.658***	.281*	.511***	.160	.309**	-		
16	trading	.351**	.350**	.346**	.310**	.471***	.621***	.569***	.657***	.355**	.523***	.429***	.061	.206	.337**	.279*	-	
17	contracts	.585***	.592***	.594***	.315**	.360**	.536***	.410***	.645***	.487***	.300*	.142	.345**	.319**	.289*	.396**	.251*	-
18	insolvency	.683***	.672***	.647***	.426***	.587***	.678***	.571***	.733***	.443***	.330**	.309**	.123	.384***	.484***	.224	.542***	.505***

Note: *** *p*<.001, ** *p*<.01, and * *p*<.05.

Table 3

Summary of robust regression analysis where ease of doing business, *EDB* acts as dependent variable.

Dependent variable: Ease of doing business, *EDB*								
	1	2	3	4	5	6	7	8
freedom	.388***		.376***	.377***	.373***			
	(.099)		(.074)	(.073)	(.072)			
corruption		.189***				.194***	.189***	.187***
		(.065)				(.044)	(.047)	(.049)
wealth	6.92***	4.89*	.446	.600	1.04	-.901	-.893	-.587
	(2.07)	(2.80)	(1.72)	(1.68)	(1.66)	(2.01)	(2.16)	(2.20)
college	.224*	.191	-.009	.013	.046	-.090	-.053	-.015
	(.117)	(.127)	(.093)	(.091)	(.090)	(.091)	(.098)	(.099)
IQ95th			.551***			.571***		
			(.073)			(.073)		
IQ50th				.460***			.479***	
				(.061)			(.067)	
IQ5th					.404***			.418***
					(.052)			(.059)
N	71	70	71	71	71	70	70	70
Adj. R^2	.586	.528	.789	.775	.774	.782	.758	.758

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 4

Summary of regression analysis where starting a business, *start* acts as dependent variable.

Dependent variable: Starting a business, *start*								
	1	2	3	4	5	6	7	8
freedom	.180		.134*	.152*	.164*			
	(.113)		(.078)	(.088)	(.092)			
corruption		.107				.083*	.091*	.098*
		(.067)				(.048)	(.053)	(.056)
wealth	.688	-1.33	-3.77**	-3.64*	-3.10	-4.89**	-4.80**	-4.45*
	(2.37)	(2.88)	(1.81)	(2.04)	(2.11)	(2.17)	(2.38)	(2.54)
college	.380***	.357***	.190*	.173	.209*	.187*	.165	.199*
	(.134)	(.130)	(.098)	(.110)	(.114)	(.098)	(.108)	(.114)
IQ95[th]			.519***			.489***		
			(.077)			(.079)		
IQ50[th]				.426***			.398***	
				(.426)			(.074)	
IQ5[th]					.337***			.311***
					(.067)			(.068)
N	71	70	71	71	71	70	70	70
Adj. R^2	.242	.229	.556	.516	.453	.519	.469	.411

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 5

Summary of regression analysis where dealing with construction permits, *permit* acts as dependent variable.

Dependent variable: Dealing with construction permits, *permit*								
	1	2	3	4	5	6	7	8
freedom	.465***		.461***	.457***	.463***			
	(.135)		(.136)	(.138)	(.138)			
corruption		.169*				.170*	.170*	.170*
		(.090)				(.088)	(.088)	(.090)
wealth	3.54	4.24	4.60	4.49	3.73	4.81	4.78	4.34*
	(2.82)	(3.87)	(3.14)	(3.19)	(3.16)	(3.97)	(3.97)	(4.04)
college	.111	.102	.151	.140	.115	.125	.123	.106
	(.160)	(.175)	(.170)	(.172)	(.171)	(.179)	(.180	(.181)
IQ95th			-.086			-.059		
			(.134)			(.145)		
IQ50th				-.061			-.048	
				(.115)			(.123)	
IQ5th					-.012			-.009
					(.100)			(.109)
N	71	70	71	71	71	70	70	70
Adj. R^2	.350	.262	.337	.339	.340	.252	.252	.251

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 6

Summary of regression analysis where getting electricity, *electricity* acts as dependent variable.

Dependent variable: Getting electricity, *electricity*								
	1	2	3	4	5	6	7	8
freedom	.133 (.181)		.141 (.180)	.145 (.185)	.149 (.191)			
corruption		.151 (.111)				.156 (.121)	.156 (.119)	.149 (.123)
wealth	14.7*** (3.80)	11.3** (4.78)	9.62** (4.16)	9.01** (4.28)	8.76* (4.39)	5.58 (5.46)	4.33 (5.39)	5.32 (5.53)
college	-.138 (.215)	-.164 (.216)	-.238 (.225)	-.260 (.231)	-.240 (.237)	-.267 (.247)	-.281 (.244)	-.267 (.249)
IQ95th			.378** (.178)			.453** (.200)		
IQ50th				.384** (.154)			.491*** (.167)	
IQ5th					.378*** (.139)			.425*** (.149)
N	71	70	71	71	71	70	70	70
Adj. R^2	.339	.348	.344	.363	.368	.378	.395	.399

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 7

Summary of regression analysis where registering property, *register* acts as dependent variable.

Dependent variable: Registering property, *register*

	1	2	3	4	5	6	7	8
freedom	.263		.252	.261	.268			
	(.187)		(.187)	(.187)	(.189)			
corruption		.130				.102	.108	.111
		(.109)				(.115)	(.119)	(.117)
wealth	9.35**	7.83*	4.53	4.20	3.59	4.59	3.80	3.22
	(3.91)	(4.69)	(4.33)	(4.34)	(4.34)	(5.20)	(5.40)	(5.27)
college	.030	-.002	-.171	-.190	-.206	-.160	-.184	-.203
	(.221)	(.213)	(.234)	(.235)	(.234)	(.235)	(.244)	(.237)
IQ95th			.439**			.385**		
			(.185)			(.190)		
IQ50th				.399**			.368**	
				(.156)			(.167)	
IQ5th					.400***			.370**
					(.137)			(.142)
N	71	70	71	71	71	70	70	70
Adj. R^2	.249	.237	.289	.313	.330	.260	.271	.295

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 8

Summary of regression analysis where getting credit, *credit* acts as dependent variable.

Dependent variable: Getting credit, *credit*								
	1	2	3	4	5	6	7	8
freedom	.967***		.849***	.887***	.906***			
	(.260)		(.240)	(.241)	(.242)			
corruption		.201				.194	.193	.190
		(.169)				(.151)	(.161)	(.161)
wealth	-15.0***	-9.86	-20.3***	-20.0***	-19.4***	-15.9**	-15.2**	-14.0*
	(5.44)	(7.28)	(5.55)	(5.60)	(5.54)	(6.82)	(7.34)	(7.31)
college	.727**	.695**	.389	.409	.490	.292	.344	.451
	(.308)	(.330)	(.300)	(.303)	(.299)	(.308)	(.332)	(.329)
IQ95th			.772***			.787***		
			(.237)			(.249)		
IQ50th				.576***			.555**	
				(.202)			(.227)	
IQ5th					.411**			.387*
					(.175)			(.197)
N	71	70	71	71	71	70	70	70
Adj. R^2	.252	.067	.350	.312	.296	.191	.141	.106

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 9

Summary of regression analysis where protecting minority investors, *investors* acts as dependent variable.

Dependent variable: Protecting minority investors, *investors*								
	1	2	3	4	5	6	7	8
freedom	.398**		.355**	.372**	.377**			
	(.176)		(.161)	(.165)	(.174)			
corruption		.051				.059	.056	.051
		(.117)				(.106)	(.110)	(.117)
wealth	4.70	6.64	-.985	-.225	.885	1.34	2.32	3.87
	(3.68)	(5.03)	(3.72)	(3.83)	(3.99)	(4.78)	(4.98)	(5.29)
college	-.016	.029	-.255	-.210	-.145	-.243	-.174	-.095
	(.208)	(.228)	(.202)	(.207)	(.216)	(.216)	(.225)	(.238)
IQ95th			.580***			.583***		
			(.159)			(.174)		
IQ50th				.409***			.400**	
				(.138)			(.154)	
IQ5th					.277**			.242*
					(.126)			(.142)
N	71	70	71	71	71	70	70	70
Adj. R^2	.216	.114	.334	.297	.244	.263	.207	.156

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 10

Summary of regression analysis where paying taxes, *taxes* acts as dependent variable.

Dependent variable: Paying taxes, *taxes*								
	1	2	3	4	5	6	7	8
freedom	.460**		.475***	.473**	.468**			
	(.174)		(.178)	(.179)	(.177)			
corruption		.099				.107	.110	.104
		(.113)				(.111)	(.112)	(.114)
wealth	9.17**	12.3**	10.5**	11.0**	10.4**	13.1**	13.6***	13.3**
	(3.65)	(4.84)	(4.12)	(4.16)	(4.05)	(5.04)	(5.08)	(5.14)
college	-.072	-.092	-.017	-.001	-.031	-.051	-.039	-.059
	(.207)	(.219)	(.223)	(.225)	(.219)	(.228)	(.229)	(.231)
IQ95th			-.145			-.109		
			(.176)			(.184)		
IQ50th				-.155			-.141	
				(.150)			(.157)	
IQ5th					-.092			-.085
					(.128)			(.138)
N	71	70	71	71	71	70	70	70
Adj. R^2	.361	.306	.351	.355	.350	.294	.305	.299

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 11

Summary of regression analysis where trading across borders, *trading* acts as dependent variable.

Dependent variable: Trading across borders, *trading*								
	1	2	3	4	5	6	7	8
freedom	.719**		.531*	.530**	.520**			
	(.337)		(.267)	(.236)	(.238)			
corruption		.476**				.318**	.282*	.278*
		(.190)				(.158)	(.153)	(.149)
wealth	4.97	-3.28	-7.92	-8.42	-7.39	-11.5	-12.0*	-10.2
	(7.06)	(8.18)	(6.18)	(5.47)	(5.46)	(7.14)	(6.93)	(6.70)
college	.445	.329	-.102	-.146	-.073	-.164	-.184	-.117
	(.400)	(.370)	(.334)	(.296)	(.295)	(.323)	(.313)	(.301)
IQ95th			1.35***			1.32***		
			(.264)			(.261)		
IQ50th				1.21***			1.22***	
				(.197)			(.215)	
IQ5th					1.07***			1.07***
					(.173)			(.180)
N	71	70	71	71	71	70	70	70
Adj. R^2	.204	.189	.447	.479	.485	.413	.468	.477

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 12

Summary of regression analysis where enforcing contracts, *contracts* acts as dependent variable.

Dependent variable: Enforcing contracts, *contracts*								
	1	2	3	4	5	6	7	8
freedom	.062 (.170)		-.007 (.147)	.009 (.151)	.012 (.152)			
corruption		.081 (.104)				.018 (.093)	.032 (.093)	.040** (.095)
wealth	9.48*** (3.56)	7.31 (4.47)	3.86 (3.40)	3.63 (3.50)	3.93 (3.49)	3.21 (4.21)	2.73 (4.22)	2.83 (4.30)
college	.072 (.202)	.042 (.203)	-.193 (.184)	-.189 (.190)	-.146 (.188)	-.195 (.190)	-.193 (.191)	-.154 (.193)
IQ95th			.599*** (.145)			.596*** (.154)		
IQ50th				.508*** (.126)			.510*** (.131)	
IQ5th					.444*** (.110)			.439*** (.115)
N	71	70	71	71	71	70	70	70
Adj. R^2	.198	.189	.366	.365	.364	.341	.341	.343

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Table 13

Summary of regression analysis where resolving insolvency, *insolvency* acts as dependent variable.

Dependent variable: Resolving insolvency, *insolvency*

	1	2	3	4	5	6	7	8
freedom	.355		.351	.345	.340			
	(.235)		(.231)	(.221)	(.217)			
corruption		.290*				.309**	.299**	.284**
		(.156)				(.129)	(.123)	(.123)
wealth	20.8***	14.7**	9.94*	9.67*	10.6**	4.06	3.77	5.05
	(4.91)	(6.73)	(5.35)	(5.12)	(4.97)	(5.85)	(5.60)	(5.55)
college	.425	.403	.258	.301	.355	.215	.261	.346
	(.278)	(.305)	(.290)	(.277)	(.268)	(.264)	(.253)	(.249)
IQ95th			.798***			.870***		
			(.229)			(.214)		
IQ50th				.707***			.784***	
				(.184)			(.173)	
IQ5th					.606***			.688***
					(.157)			(.149)
N	71	70	71	71	71	70	70	70
Adj. R^2	.527	.522	.572	.595	.608	.622	.639	.672

Note: *** $p<.01$, ** $p<.05$, and * $p<.10$. Regression coefficients are unstandardized betas. Robust regression analysis uses ROBUSTREG procedure with Huber weight option that gives less weight to high-leverage observations. Standard errors are in parentheses.

Appendix A: Table A1

List of countries ranked by IQ95th (*N*=71).

Country	IQ95th	IQ50th	IQ5th	*EDB*
Singapore	127.22	104.56	78.86	88.27
South Korea	125.25	106.37	86.11	83.4
Japan	124.3	104.55	82.85	74.8
Kazakhstan	122.11	101.93	79.52	64.59
Australia	121.94	101.12	79.06	80.66
United Kingdom	121.92	100	76.14	80.96
Hong Kong	121.54	103.66	83.32	84.97
Finland	120.92	102.91	84.96	80.83
Estonia	120.75	102.26	84.4	78.84
Canada	120.32	101.75	79.59	79.09
United States	120.3	98.41	74.9	81.98
Switzerland	120.07	99.83	77.25	77.78
Sweden	119.98	100.14	79.21	80.6
Czech Republic	119.96	99.96	78.92	70.95
Netherlands	119.96	101.89	82.74	75.01
Ireland	119.95	99.92	78.55	80.07
Hungary	119.77	99.37	78.07	68.79
Germany	119.72	99.08	75.71	79.73
Austria	119.34	99.65	78.16	77.42
Slovenia	118.27	98.57	78.13	69.87
Denmark	118.17	98.46	76.86	84.2
Russia	118.09	97.27	75.66	66.66
Poland	117.89	96.95	74.99	73.56
Slovakia	117.83	97.59	75.61	71.83
France	117.77	98.17	77.01	73.88
Israel	117.52	92.57	64.65	71.25
Italy	117.45	96.57	74.09	68.48
Bulgaria	117.22	93.46	67.92	71.8
Latvia	116.96	97.47	77.07	76.73
Belgium	116.53	99.13	75.02	71.11
Lithuania	116.41	96.96	76.7	76.31
Iceland	116	96.45	75.34	80.27
Malaysia	115.92	95.54	74.74	78.83
Norway	115.83	95.8	73.73	82.4
Greece	115.46	94.37	71.45	66.7
Spain	115.19	95.65	75.36	73.17
Croatia	115.06	95.96	77.23	66.53
United Arab Emirates	115.05	91.91	67.76	76.81
Ukraine	113.33	92.99	70.91	61.52
Moldova	112.71	92.29	70.06	66.6
Cyprus	112.63	91.59	68.65	66.55
Uruguay	112.19	87.99	61.08	63.89
Portugal	112.14	92.12	70.89	76.03
Serbia/Yugoslavia	111.03	90.2	67.81	62.57
Romania	110.77	89	65.77	70.22

	IQ95th	IQ50th	IQ5th	EDB
Turkey	110.17	87.06	65.69	68.66
Trinidad & Tobago	110.05	84.55	57.61	64.24
Thailand	109.99	90.11	71.12	75.27
Egypt	107.28	81.14	53.73	59.54
Chile	105.97	83.62	60.95	71.24
Bahrain	105.8	84.24	61.99	69
Argentina	105.79	81.5	54.72	57.48
Mexico	105.47	85.37	64.97	71.53
Brazil	104.65	81.59	58.43	58.01
Iran	104.46	82.83	60.64	56.51
Albania	103.56	81.1	55.84	66.06
Colombia	101.38	80.61	58.15	72.29
Philippines	101.02	73.55	46.61	62.08
Indonesia	100.93	81.75	62	59.15
Tunisia	100.63	80.81	60.33	67.35
South Africa	100.06	63.26	35.69	71.08
Algeria	97.94	80.56	63.23	50.69
Kuwait	97.77	75.72	53.1	63.11
Peru	97	74.03	49.77	72.11
Qatar	96.2	72.11	49.37	69.96
El Salvador	96.19	77.53	59.36	59.93
Botswana	96.15	73.93	50.79	64.87
Saudi Arabia	95.4	74.4	53.11	69.99
Morocco	95.36	71.02	47.48	65.06
Belize	89.95	63.55	40.93	58.14
Ghana	89.38	61.25	32.86	65.24

Note: IQ95th, IQ50th, and IQ5th are respectively the 95th, 50th, and 5th percentiles of IQ level. The data were obtained from Rindermann et al. (2009). *EDB* is the ease of doing business index. The data were retrieved from the World Bank (2016a).

Appendix A: Table A2

List of countries with top- and bottom-10 rankings for selected variables (*N*=71).

Ease of doing business (*EDB*) index and its 10-business regulatory environment sub-indicators										
Ease of doing business, *EDB*	Starting a business, *start*	Dealing with construction permits, *construction*	Getting electricity, *electricity*	Registering property, *register*	Getting credit, *credit*	Protecting minority investors, *investors*	Paying taxes, *taxes*	Trading across borders, *trading*	Enforcing contracts, *contracts*	Resolving insolvency, *insolvency*
Singapore: 88.27	Canada: 98.82	H. Kong: 95.53	S. Korea: 99.83	UAE: 96.66	USA: 95	H. Kong: 80.83	UAE 99.44	Singapore: 96.47	Singapore: 89.54	Finland: 93.85
H. Kong: 84.97	Singapore: 96.48	Singapore: 92.84	Taiwan: 98.94	Norway: 94.12	Colombia: 95	Singapore: 80	Qatar: 99.44	H. Kong: 95.36	Iceland: 82.3	Japan: 93.74
Denmark : 84.2	Australia: 96.47	UAE: 91.22	Germany : 98.37	Denmark: 92.61	Australia : 90	UK: 78.33	S. Arabia: 99.23	S. Korea: 93.45	S. Korea: 81.71	Germany: 91.78
S. Korea: 83.4	H. Kong: 96.38	Denmark : 89.84	UAE: 97.44	Lithuania: 92.39	Romania: 85	Malaysia: 74.17	H. Kong 98.51	Sweden: 93.06	Austria: 81.55	USA: 90.12
Norway: 82.4	Portugal: 96.27	Thailand: 88.77	Switzerland: 96.71	Slovakia: 91.88	Canada: 85	Ireland: 73.33	Singapore: 97.19	Ireland: 93.01	H. Kong: 80.32	S. Korea: 90.06
USA: 81.98	Lithuania: 96.22	Bahrain: 88.48	Sweden: 94.92	Russia: 91.27	Mexico: 80	Canada: 72.5	Ireland: 95.07	Estonia: 92.76	Norway: 78.41	Canada: 89.17
UK: 80.96	Malaysia: 94.9	Germany: 87.42	Iceland: 93.81	Estonia: 90.88	Peru: 80	Albania: 72.5	Bahrain: 93.88	Denmark: 92.23	Belgium: 77.67	Norway: 85.62
Finland: 80.83	Belgium: 94.42	Taiwan: 86.2	Singapore: 92.45	Kazakhstan: 89.83	Singapore: 75	Colombia: 71.67	Canada: 93	UAE: 91.46	France: 77.67	Denmark: 84.59
Australia: 80.66	Taiwan: 94.39	S. Korea: 85.89	Thailand: 91.71	Switzerland: 88.71	Hungary: 75	Israel: 70.83	Kuwait: 92.48	France: 90.18	Australia: 77.06	Portugal: 84.19
Sweden: 80.6	Slovenia: 94.39	Lithuania : 85.27	H. Kong: 91.54	Bahrain: 88.65	UK: 75	Norway: 70	Denmark: 91.94	Malaysia: 89.94	Germany: 76.74	Belgium: 83.87
Philippines: 62.08	El Salvador: 79.87	El Salvador: 57.19	El Salvador: 60.56	Argentina : 60.63	Italy: 45	Hungary: 47.5	Uruguay: 62.32	Ghana: 67.1	Bahrain: 52.33	UAE: 43.51
Ukraine: 61.52	Bahrain: 76.92	Russia: 56.7	Algeria: 59.98	Belize: 60.61	Morocco: 40	Uruguay: 47.5	Italy: 62.13	Brazil: 66.11	Philippines: 52.02	Algeria: 42.74
El Salvador: 59.93	Algeria: 74.07	Albania: 56.5	Moldova: 59.72	France: 59.36	Bahrain: 40	Qatar: 45.83	Colombia: 59.71	Argentina: 65.11	Kuwait: 50.59	Turkey: 40
Egypt: 59.54	Argentina: 72.58	Uruguay: 55.69	Canada: 59.27	Israel: 57.12	Philippines: 40	Morocco: 45.83	Egypt: 58.84	Algeria: 64.21	Italy: 45.61	Morocco: 38.47
Indonesia : 59.15	Belize: 72.38	Iran: 49.72	Albania: 58.34	Brazil: 56.18	Tunisia: 35	Algeria: 45	Indonesia: 53.66	Iran: 56.81	Egypt: 44.02	Egypt: 36.17
Belize: 58.14	Botswana: 71.68	Brazil: 48.31	S. Africa: 55.74	Uruguay: 54.57	Slovenia: 35	Egypt: 44.17	El Salvador: 52.31	Moldova: 54.97	Greece: 43.6	Kuwait: 36.02
Brazil: 58.01	Kuwait: 71.3	Moldova: 48.11	Cyprus: 55.28	Algeria: 50.67	Kuwait: 35	Iran: 41.67	Serbia: 48.9	Ukraine: 53.96	Colombia: 37.66	Iran: 32.38
Argentina: 57.48	Indonesia: 68.84	Croatia: 44.97	Hungary: 55.1	T. Tobago: 50	Qatar: 30	Philippines: 41.67	Argentina: 44.99	Russia:: 53.58	Belize: 37.38	Ukraine: 31.17
Iran: 56.51	Philippines: 67.23	Argentina: 42.54	Romania: 46.03	Iran: 48.78	Belize: 20	El Salvador: 41.67	Algeria: 41.63	Botswana: 52.02	Indonesia: 37.28	Ghana: 22.45
Algeria: 50.69	Brazil: 63.37	Serbia: 29.14	Ukraine: 32.65	Belgium: 42.27	Algeria: 10	Belize: 35.83	Brazil: 41.31	Kazakhstan: 7.87	T. Tobago: 32.27	S. Arabia: 21.67

Note: Refer to Table 1 for definitions of each of the business regulatory environment sub-indicators. Source: World Bank (2016a).