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Evaluating Starting a Business Indicators Innovation in the World

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Abstract:

Since 2003, the World Bank has produced an annual report ranking economies based on ease of doing business score. However, little is known whether the improvements made by evaluated economies on starting business indicators are statistically significant as claimed by the World Bank. This study aims to evaluate the extent to which starting business indicators were improved in 145 economies evaluated. Indicators assessed are score-starting a business (SBS), starting a business - procedures -men (SBPM), Starting a business –time-men (SBTM), Starting a Business - Cost - Men (SBCM), starting a business - procedures - women (SBPW), starting a business - Time – Women (SBTW), Starting a Business - Cost - Women (SBCW), and Starting a Business - Paid-in Minimum capital (SBPMC). This study used secondary quantitative data retrieved from the database of the World Bank for the 2004 and 2020 periods. The sample size was made by 145 economies. Wilcoxon-sign-rank-test-paired-sample was computed using the R programming environment. The results of the Wilcoxon-sign-rank-test-

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paired-sample indicated that the mean differences are statistically different from zero for all indicators except evaluated. This means economies evaluated improved those indicators for 2020 compared to 2004. The study's findings provide clear insight to policymakers regarding innovations made on the efforts of ease of doing business improvement. Better use of the findings of this study would lead to reducing corruption and increasing formal business, increasing the number of newly registered businesses, generating an increase in business opportunities of starting a new business, and increasing the productivity of companies. This study evaluated whether business regulatory implemented regarding starting a business was statically significant. Future research should be conducted to test empirically the significance of implemented procedures related to other indicators evaluated in doing business reports. This research is novel by testing empirically innovations made in 145 world economies on starting business requirements.
Keywords: Starting Business, Business Procedures, Business Cost.
JEL Codes: M48.

1. Introduction

Since 2003, the World Bank (W.B.) produces an annual report evaluating the extent to which economies are improving their business environment. During the evaluation process, the W.B. takes into account several indicators which are supposed to have a direct effect on ease of doing business. The first production of this report was inspired by the work by Djankov, La Porta, Lopez-De-Silanes, and Shleifer (2002). These authors investigated data related to the number of procedures, official time, and official costs that a start-up must bear before it can operate legally. They concluded that official costs of entry were extremely high in most countries. Moreover, countries with heavier regulation of entry had higher corruption and larger unofficial economies, nonetheless not better quality of public or private goods. Countries with more democratic and limited governments had lighter regulations of entry.

Many studies were conducted to evaluate the impact of regulation on the business environment. For instance, Canare (2018) indicated that starting business component had a positive effect on business creation in 120 countries examined. Davari and Farokhmanesh (2017) concluded that legislation had a positive encouragement on the opportunity to startup. Farokhmanesh (2017) established that legislation had a positive encouragement effect on the opportunity to startup. Chambers and Munemo (2019) established a negative correlation between procedures and new business creation. They indicated that when the number of steps required to

create a new business increased by unit, entrepreneurial activity decreased between three and seven per cent. The W.B. (2020) indicated that improvement in firm entry regulation was correlated with higher productivity. Olagunju and Ikeolumba (2019) concluded that even though the policy had recorded some little degree of success, the business climate in Nigeria was still far from friendly due to some implementation inconsistencies that had beclouded the policy objectives.

Even though regulations have an impact on the business environment, to the best of the author's knowledge, no study has been conducted evaluating to what extent starting business components have been improved in the world from 2004 to 2020. The W.B. claims that starting a business has improved, but there is no/little empirical evidence to support this statement. The W.B. only reports changes made by countries regarding ten indicators evaluated in doing business reports. However, little is known whether those changes are statistically significant. As indicated by the W.B. (2020) the 10 economies that advanced the most made efforts in the areas of starting a business, dealing with construction permits, and trading across borders. Furthermore, significant innovations have been made since 2003/04 as indicated by the W.B. 178 economies have executed 722 reforms related to the starting a business indicator set, either reducing or eliminating barriers to entry. In all, 106 economies removed or reduced minimum capital requirements; about 80 introduced or improved one-stop shops, and more than 160 simplified preregistration and registration formalities.

This study is organized into four sections. Section one presents the introduction. Section two present presents the literature review. Section three indicates the methods used in the study. Finally, section four shows the result and discussion.

2. Literature Review

2.1. Theoretical overview

Many theories have been developed to support ease of doing business. For instance, transaction cost theory (TCT) recommends that conducting transactions is a costly effort (e.g., discussing contracts, monitoring performance and solving disputes) and diverse modes of organizing businesses involve different costs (Rindfleisch,2019). Therefore, according to this theory, a comparative analysis of the relative business costs of these alternative modes tells how a particular transaction should be led. Based on this theory, a country with high transaction costs will not be able to attract investors. The TCT has been used in examining firms' limitations, vertical

integration choices, the rationale for leading an acquisition, the networks and other mixture governance forms (Martins, Serra, Leite, Ferreira, and Li, 2010). Another theory that needs to be mentioned is the internalisation theory. Internalisation theory examines how the corporation's owners, managers, or trusted establishments make decisions. The hypothesis presupposes that these decisions are rational. In this case, rationality means that the decision-maker can recognize a set of possibilities, has a goal by which these options can be ranked, and can identify and select the highest-ranked choice (Buckley and Casson, 2009). According to these authors, rational agents will internalise markets when the anticipated benefits surpass the estimated costs. In addition to the mentioned theory, an eclectic paradigm can be presented. In the eclectic paradigm, it is assumed that multinational corporations have competitive or ownership advantages vis-à-vis their major competitors, which they exploit in establishing production in sites that are attractive due to their location advantages. Competitive advantage can result from the ownership of particular unique intangible assets (e.g., firm-specific technology), and the second is due to the ownership of complementary assets (e.g., the ability to create new technologies, or the ability to coordinate cross-border activities effectively) (Cantwell & Narula, 2001). Based on this approach, countries must make their economies attractive for foreign investors. Another theory related to the decision of firm competitive advantage is resources-based views theory (RBV). The RBV emphasises internal resources (e.g., knowledge, physical assets, human capital, and other tangible and intangible factors owned or controlled) and capabilities to detect the determinants of a firm's competitive advantage and performance (Juan, Raquel, and Pedro, 2019). These authors indicated that RBV advises that inter-organizational interactions can allow small and medium-sized enterprises to gain access and availability to tangible and intangible resources that fortify their current resource base, which will affect performance. The public choice theory clarifies how all decisions made by policymakers can serve their own interest, not for the mass. Holcombe (2018) indicated that this theory clarifies how some can use the system for their profit at the cost of others, but it does not classify who those some are. He added that the 99 per cent are rationally ignorant, that focused interests can use the political system for their benefit at the expenditure of the masses. Djankov, La Porta, Lopez-De-Silanes, and Shleifer (2002) indicated that the tollbooth theory explains that regulation is pursued interest of politicians and bureaucrats. These authors indicated that politicians use regulation both to generate rents and to extract them through campaign contributions, votes, and bribes. The main reason why many of these permits and regulations exist is perhaps to give administrators the power

to deny them and to gather bribes in return for providing the permits. The last theory is the theory of regulatory capture. This theory claims that regulations are routinely and predictably 'captured' and manipulated to work for the interests of those who are supposed to be subject to them, or the bureaucrats and legislators who write or control them (Etzioni,2009). Politicians acting in the way tollbooth and regulatory capture theories will destroy their economies. They may be characterized by the dark triad which is a psychological term explaining individual negative dispositions. As stated by Myung and Choi (2017) the dark triad is composed of Machiavellianism, which refers to a tendency to manipulate others to gain advantage, psychopathy, which refers to a general lack of empathy, and narcissism, which refers to excessive self-love.

The objectives of these theories are twofold. First, some of them provide support regarding the need for creating a friendly business environment (transaction cost theory). It was shown that investors are attracted by the economy with low transaction costs. Second, some theories explain the motivation of policymakers (the tollbooth theory, public choice theory, etc.). These theories argue that politicians use regulation for their interests, not for the mass.

Nevertheless, besides the theories that show the dark side of politicians' regulation, recent studies show a positive impact of regulation on the business environment. Among those studies, there is Canare (2018) indicated that starting business components had a positive effect on business creation in 120 countries examined. Additionally, Davari and Farokhmanesh (2017) revealed that legislation had a positive encouragement on the opportunity to startup. Farokhmanesh (2017) established that legislation had a positive encouragement effect on the opportunity to startup. Stel, Storey and Thurik (2007) found that the minimum capital requirement required to start a business and labour market regulations drop entrepreneurship rates across countries. Musara and Gwaindepi (2014) found that bureaucracy, corruption, policy credibility, policy compliances, and labour restrictions were the topmost factors within the business regulatory environment that distress the process of starting new businesses in South Africa. These researchers also found a positive and significant relationship between bureaucracy and corruption. The more stringent corporate laws could be a hindrance to any overseas investment. A company climate that is notably devoid of laws, on the other hand, may be less appealing to prospective investors and more vulnerable to malpractices. Mottaleb and Kalirajan (2010) more business-friendly environment attracts foreign direct investment.

2.2. Objective of the study

The main objective of this study is to assess if there are statistically significant improvements in starting a business indicator set since the publication of the W.B. report on ease of doing business. Specifically, this study examines improvements on the starting a business score, starting a business - procedures -men, starting a business –time-men, starting a business - cost - men, starting a business - procedures - women, starting a business - time - women, starting a business - cost - women, and starting a business - paid-in minimum capital.

This study contributes to the existing literature by testing empirically to what extent the world has innovated regarding starting business indicators. This study provides a clear indication of to what extent the world is improving in the business environment. The study supports the publications of the W.B.'s reports on ease of doing business which lack statistical tests confirming whether there are statistically significant innovations in ease of doing business.

2.3. Research Questions

The business environment is improved when starting a business score is increased. This indicator increases when starting a business score starting a business procedure, time, and costs are reduced. The main research question of this study is as follows:

What are the innovations made on starting a business indicator set? The sub-questions of this study are:

- What are the innovations made on starting a business score in the world economies?
- What are the innovations made on starting a business procedure for men in the world economies?
- What are the innovations made on starting a business time for men in the world economies?
- What the innovations made on starting a business cost for men in the world economies?
- What are the innovations made on starting a business procedure for women in the world economies?
- What are the innovations made on starting a business time for women in the world economies?
- What are the innovations on starting a business cost for women in the world economies?

   – What are the innovations made on starting a business in paid-in minimum capital in the world economies?

2.4. Research hypotheses

Prasad, Rao, and Rehani (2001) identified various meanings of the hypothesis. Accordingly, a hypothesis refers to a conjectural statement of the relation between two or more variables. It is a formal statement that indicates the expected relationship between an independent and dependent variable. It can be understood as a tentative explanation of the research problem, an expected outcome of the research, or an educated guess about the research outcome. These authors differentiated the hypothesis from the research question. A research question is essentially a hypothesis requested in the form of a question.

H$_0$: There are no statistically significant innovations in starting a business indicator set since the publication of the World Bank.

H$_1$: There are statistically significant innovations in starting a business indicator set since the publication of the World Bank.

3. Methods

3.1. Data collection/sample

To evaluate innovations made on starting a business requirement, data were collected on the World Bank website (https://www.doingbusiness.org/en/data). To select needed data, creating a customer dataset is used (https://www.doingbusiness.org/en/custom-query). This option allowed selecting indicators and customizing the year. Data for the year ended 2004 and 2020 were collected. The choice of these periods is based on data availability.

3.2. Measuring variables

Data collected are the measures of starting a business score. Starting a business score refers to the simple average of the scores for each of the component indicators: the procedures, time, and cost for an entrepreneur to start and legally work a business, as well as the paid-in minimum capital requirement. These components indicators are defined by the World Bank as follows:

- **Starting a Business - Procedures – Men:** is the number of procedures for men to record all the procedures required in practice for five male married entrepreneurs to start and operate a local limited liability company.
- **Starting a Business - Time - Men**: captures the median duration in days that business incorporation experts indicate is necessary for five male married entrepreneurs to complete all procedures required to start and operate a business with minimum follow-up and no extra payments. It is calculated in calendar days.
- **Starting a Business - Cost - Men**: refers to the total cost required for five male married entrepreneurs to complete the procedures to incorporate and operate a business. It is calculated as a percentage of income per capita.
- **Starting a Business - Procedures - Women** registers all the procedures required in practice for five female married entrepreneurs to start and operate a local limited liability company.
- **Starting a Business - Time - Women**: indicates the median days' duration that business incorporation experts indicate is necessary for five female married entrepreneurs to complete all procedures required to start and operate a business with minimum follow-up and no extra payments.
- **Starting a Business - Cost – Women**: is the total cost required for five female married entrepreneurs to complete the procedures to incorporate and operate a business. It is calculated as a percentage of income per capita.
- **Starting a Business - Paid-in Minimum capital**: is the amount that the entrepreneur needs to deposit in a bank or with a third party before registration or up to three months after incorporation. It is calculated as the percentage of income per capita.

The sample size of this research was calculated by using Yamane (1973) formula with a 95% confidence level.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{213}{1 + 213(0.05)^2} = 138.98$$

With n= sample size required, N = number of economies in the population, e = allowable error (%). 213 is the number of economies reported

in doing business. To increase data reliability, the sample size was increased to 145 economies.

3.3. Data analysis technique

To test whether there is a statistically significant difference in the analyzed indicated two types of techniques can be used: 1) paired sample t-test and Wilcoxon signed-rank test. Paired sample t-test is used when the differences for the matched pairs are normally distributed. While Wilcoxon-sign-rank-test-paired-sample is used when the differences for the matched pairs are not normally distributed. These tests aim to test the null hypothesis that the true mean difference is zero. If the true mean difference is zero that means no improvement was made from 2004 compared to 2020 on the indicator analyzed.

The Wilcoxon signed-rank test evaluates shifts in median values between two groups. This test makes no condition on data distribution and uses the sum of the signed-ranks as the test statistic W. The differences of paired of each indicator were performed using the following formula: Difference= Indicator 2020- Indicator 2004.

To test the difference of pairs' normality, the Shapiro Wilk test was used. Kolmogorov-Smirnov test, the Shapiro-Wilk test, and the Anderson-Darling test are among the most general methods used to test normality (Kwak& Park, 2019). The significance level considered was 5%. If the probability value (p-value) is less than .05, the null hypothesis of normality was rejected. The result of the Shapiro test Wilk showed that differences for the matched pairs were not normally distributed. Therefore, Wilcoxon-sign-rank-test-paired-sample was used instead of paired t-test.

To choose between paired sample t-test and paired samples Wilcoxon test, the distribution of the difference for each pair of the indicator was tested using the Shapiro Wilk test. Paired sample t-test which is a parametric test is used when the distribution of differences is approximately normal. When the distribution of differences is not normally distributed, the paired-samples Wilcoxon test is used. As indicated by Ghasemi and Zahediasl (2012) indicated that normality and other hypotheses should be taken seriously because it is difficult to draw accurate conclusions if they do not hold. Nevertheless, these authors added that the breach of the normality principle does not trigger major problems with large enough sample sizes (> 30 or 40); this means that we can use parametric procedures even though the data are not normally distributed. Kwak and Park (2019) indicated that when the number of samples is greater than 30, the sample mean distribution satisfies the normal distribution, according to the central limit theorem. R

programming environment was used to test the normality of pairs of differences. JASP was used to compute Wilcoxon signed-rank test and effect size.

4. Result and discussion

Before going ahead with the data analysis, descriptive statistics are presented. Tables 1 to Table 3 present central tendency (mean and median), which shows the tendency of the analyzed indicators. The same Tables also give the measure of dispersion which indicates how data deviate from the mean. The standard deviation is a kind of average of these deviations from the mean. It is the square root of the sum of squared deviations divided by the number of observations. Mishra et al. (2019) showed that skewness and kurtosis can be used to test normality. According to them, skewness assesses symmetry, or lack of symmetry of the normal distribution; while Kurtosis appraises the peakedness of a distribution. There is asymmetric distribution if the mean, median, and mode of a distribution coincide. The skewness for normally distributed data is near 0while kurtosis should be around 3. The minimum and the maximum values for each indicator are presented.

Table1. Descriptive statistics of SBS, SBPM, and SBTM

	SBS2020	SBS2004	SBPM2020	SBPM2004	SBTM2020	SBTM2004
Valid	145	145	145	145	145	145
Mean	84.256	60.494	6.552	10.317	20.541	52.686
Median	86.900	62.900	6.000	11.000	12.000	42.000
Standard deviation	11.869	20.857	3.002	3.429	28.299	40.356
Skewness	-1.974	-0.534	0.839	-0.013	4.425	1.972
Kurtosis	5.701	-0.381	1.733	-0.066	26.033	5.385
Minimum	25.000	11.600	1.000	2.000	0.500	3.000
Maximum	100.000	96.200	20.000	20.000	230.000	260.000

Source: Author's calculation using World Bank Indicator data

Table 2. Descriptive statistics of SBCM, SBPW, and SBTW

	SBCM2020	SBCM2004	SBPW2020	SBPW2004	SBTW2020	SBTW2004
Valid	145	145	145	145	145	145
Mean	19.971	101.431	6.648	10.414	20.638	52.783
Median	6.700	28.000	6.000	11.000	12.000	42.000
Standard deviation	36.157	223.862	3.015	3.511	28.309	40.376
Skewness	3.529	4.833	0.798	0.014	4.415	1.968
Kurtosis	13.558	26.522	1.575	-0.041	25.937	5.366
Minimum	0.000	0.000	1.000	2.000	0.500	3.000
Maximum	211.800	1540.200	20.000	20.000	230.000	260.000

Source: Author's calculation using World Bank Indicator data

Table 3. Descriptive statistics of SBCW and SBPMC

	SBCW2020	SBCW2004	SBPMC2020	SBPMC2004
Valid	145	145	145	145
Mean	19.974	101.432	5.560	192.916
Median	6.700	28.000	0.000	29.200
Standard deviation	36.157	223.863	18.864	526.991
Skewness	3.529	4.833	6.575	6.427
Kurtosis	13.557	26.522	53.375	53.820
Minimum	0.000	0.000	0.000	0.000
Maximum	211.800	1540.200	179.600	5109.400

Source: Author's calculation using World Bank Indicator data

Table 4 shows the results of the normality test. As indicated this test allows choosing between paired sample t-test (parametric) and Wilcoxon signed-rank test (nonparametric). As it can be seen, at a significant level of 5%, only SBPW is normally distributed. However, the p-value of 0.068 is not very far from the significance level. In other words, the differences of paired observations are not normally distributed. Therefore, to test the innovations made for each indicator under analysis, Wilcoxon signed-rank test can be applied.

Table 4. Test of Normality (Shapiro-Wilk)

			W	p
SBS2020	-	SBS2004	0.978	0.021
SBPM2020	-	SBPM2004	0.981	0.037
SBTM2020	-	SBTM2004	0.869	< .001
SBCM2020	-	SBCM2004	0.453	< .001
SBPW2020	-	SBPW2004	0.983	0.068
SBTW2020	-	SBTW2004	0.869	< .001
SBCW2020	-	SBCW2004	0.453	< .001
SBPMC2020	-	SBPMC2004	0.378	< .001

Source: Author's calculation using World Bank Indicator data

To assess if there is a statistically significant change in starting business components after the World Bank ease doing business publication a Wilcoxon Signed Rank Test was used. Table 5 presents the results of the Wilcoxon Signed Rank Test. It also presents the effect of the difference. The location parameter, the Hodges–Lehmann estimate, is the median difference between the two groups. The rank-biserial correlation (rB) can be considered as an effect size measuring how important a difference is and is interpreted the same as Pearson's r. As the effect size is greater than 0.7 for all indicators. It means that the effect size is large. In another word, the size of the difference between the 2004 and 2020 scores is large indicating significant innovations in reducing starting a business burden.

Table 5. Wilcoxon signed-rank test

Measure 1	Measure 2	W	df p	Hodges-Lehmann Estimate	Rank-Biserial Correlation
SBS2020	- SBS2004	10155.000	< .001	23.050	0.919
SBPM2020	- SBPM2004	655.000	< .001	-4.000	-0.859
SBTM2020	- SBTM2004	743.000	< .001	-28.500	-0.854
SBCM2020	- SBCM2004	1131.500	< .001	-33.050	-0.783
SBPW2020	- SBPW2004	659.000	< .001	-4.000	-0.854
SBTW2020	- SBTW2004	766.000	< .001	-28.000	-0.851
SBCW2020	- SBCW2004	1131.500	< .001	-33.050	-0.783
SBPMC2020	- SBPMC2004	89.500	< .001	-122.450	-0.965

Source: Author's calculation using World Bank Indicator data

To assess if there are statistically significant innovations in starting a business score (SBS), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 86.9, was statistically significantly higher than the median 2004, Mdn = 62.9, W = 10155, p<.001. The effect size is 0.919 is positive

and significant.

To assess if there are statistically significant innovations in the starting a business - procedures -men (SBPM), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 6, was statistically significantly less than the median 2004, Mdn = 11, W = 655, p<.001. The effect size is -0.859 is negative and significant.

To assess if there are statistically significant innovations in the Starting a business –time-men (SBTM), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 12, was statistically significantly less than the median 2004, Mdn = 42, W = 743, p<.001. The effect size is -0.854 is negative and significant.

To assess if there are statistically significant innovations in the Starting a Business - Cost - Men (SBCM), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 6.7, was statistically significantly less than the median 2004, Mdn = 28, W = 1131.5, p<.001. The effect size is -0.783 is negative and significant.

To assess if there are statistically significant innovations in the starting a business - procedures - women (SBPW), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 6, was statistically significantly less than the median 2004, Mdn = 11, W =659, p<.001. The effect size is -0.854 is negative and significant.

To assess if there are statistically significant innovations in starting a business - Time - Women (SBTW), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 12, was statistically significantly less than the median 2004, Mdn = 42, W = 766, p<.001. The effect size is -0.851is negative and significant.

To assess if there are statistically significant innovations in the Starting a Business - Cost - Women (SBCW), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 6.7, was statistically significantly less than the median 2004, Mdn = 28, W =1131.5, p<.001. The effect size is -0.783is negative and significant.

To assess if there are statistically significant innovations in the Starting a Business - Paid-in Minimum capital (SBPMC), a Wilcoxon Signed Rank Test indicated that the median for 2020, Mdn= 0.00, was statistically significantly less than the median 2004, Mdn = 29.2, W = 89.5, p<.001. The effect size is -0.965is negative and significant.

The results of this analysis indicated that countries made many innovations to improve their business environment. Starting a business indicator was improved in the world which is a good sign in doing business environment innovation. The results reveal that the procedures and time required for men to start a business have been reduced. It was found that the

cost for men to start a business was reduced. The results indicate that the time and cost to start a business for women have been reduced. Finally, it was found that the paid-in minimum capital has been reduced since 2004.

Improving the business environment would lead to positive economic spillovers. For instance, Canare (2018) indicated that starting business component had a positive effect on business creation in 120 countries examined. Davari and Farokhmanesh (2017) stated that legislation had a positive encouragement on the opportunity to startup.

Regarding minimum capital to start, Stel, Storey and Thurik (2007) found that the minimum capital requirement required to start a business and labour market regulations drop entrepreneurship rates across countries. Musara and Gwaindepi (2014) concluded that bureaucracy, corruption, policy credibility, policy compliances, and labour restrictions were the topmost factors within the business regulatory environment that distress the process of starting new businesses in South Africa. These researchers also found a positive and significant relationship between bureaucracy and corruption. The more stringent corporate laws could be a hindrance to any overseas investment. A company climate that is notably devoid of laws, on the other hand, may be less appealing to prospective investors and more vulnerable to malpractices. Mottaleb and Kalirajan (2010) more business-friendly environment attracts foreign direct investment.

5. Conclusion

This study contributes to evaluating the innovations made by economies to reduce starting business requirements. It demonstrates empirically the significance of the innovations made to support the ease of starting a business. The results of the Wilcoxon Signed Rank Test show that the starting a business score has been significantly increased. The component of this indicator such as starting a business - procedures -men, starting a business –time-men, starting a business - cost - men, starting a business - procedures - women, starting a business - time - women, starting a business - cost - women, and starting a business - paid-in minimum capital has been significantly decreased. The results allow us to reject the null hypothesis indicating that there are no statistically significant innovations in starting a business indicator set since the publication of the World Bank. Therefore, the alternative hypothesis was confirmed there are statistically significant innovations in starting a business indicator set since the publication of the World Bank in 145 economies examined. This study validates empirically the claims of the World Bank (2020) that most of the reforms addressed aspects of starting a business, dealing with construction permits, getting electricity,

and paying taxes. The study revealed that the effect size of changes was significant.

5.1. Theoretical implications

Since 2003, the World Bank evaluates economies based on ten areas supposed to have an impact on the business environment. Annually, a report of the regulatory reforms made by each economy is produced by the World Bank in doing business report, since that period. Nevertheless, no study has been conducted to investigate empirically to what extent the regulatory reforms were statistically significant. This study contributes to the existing literature by evaluating and demonstrating the extent and significance of the regulatory reforms carried out since 2004. In the light of transaction cost theory stating that conducting transactions is a costly effort (e.g., discussing contracts, monitoring performance, and solving disputes) and diverse modes of organizing businesses involve different costs (Rindfleisch,2019), economies have made effort to reduce starting a business cost.

5.2. practical implications

This study has practical implications regarding improving the business environment. Reducing starting a business cost can contribute to reducing corruption and increasing formal business. Djankov, La Porta, Lopez-De-Silanes, and Shleifer (2002) concluded that official costs of entry were extremely high in most countries. Moreover, countries with heavier regulation of entry had higher corruption and larger unofficial economies, nonetheless not better quality of public or private goods. The use of the result of this can contribute to the increase in the number of newly registered businesses. Opportunities of starting a new business are supposed to increase as hypothesized by Farokhmanesh (2017) who indicated that legislation had a positive encouragement effect on the opportunity to startup. Chambers and Munemo (2019) established a negative correlation between procedures and new business creation. They indicated that when the number of steps required to create a new business increased by unit, entrepreneurial activity decreased between three and seven per cent. The productivity of companies is predicted to increase. This idea is supported by the World Bank (2020) by indicating that improving firm entry regulation was correlated with higher productivity.

5.3. Limitation of the study

The World Bank indicated that more than 3,800 business regulatory reforms have been realized across the 190 economies measured by Doing Business since 2005. Additionally, most of the reforms addressed aspects of starting a business, dealing with construction permits, getting electricity and paying taxes. This study evaluated whether business regulatory implemented regarding starting a business was statically significant. Future research should be conducted to test empirically the significance of implemented procedures related to other indicators evaluated in doing business reports like dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

References

Buckley, P.J. & Casson, M.C. (2009). The internalisation theory of the multinational enterprise: a review of the progress of a research agenda after 30 years. *Journal of International Business Studies, 40*, 1563-1580. https://doi.org/10.1057/jibs.2009.49

Canare, T. (2018). The effect of ease of doing business on firm creation. *Annals of Economics and Finance 19*(2), 555-584. https://doi.org/10.1080/13571510110051504

Cantwell, J. & Narula, R. 2001.The eclectic paradigm in the global economy. *Int. J. of the Economics of Business, 8* (2).

Chambers, D. & Munemo, J. 2019.Regulations, institutional quality and entrepreneurship. *International Journal of Energy Economics and Policy 11*(2),133-140, https://doi.org/10.32479/ijeep.10584

Davari, D. & Farokhmanesh, J. 2017.Regulations, institutional quality and entrepreneurship. *Journal of Regulatory Economics, 55*(1).

Djankov, S., La Porta, R., Lopez-De-Silanes, F., & A. Shleifer. (2002). The regulation of entry. *The Quarterly Journal of Economics,117* (1), 1-37.https://doi.org/10.1162/003355302753399436

Etzioni, A. (2009). The capture theory of regulations-revisited. *Society*,*46*, 319-323. https://doi.org/10.1007/s12115-009-9228-3

Goss-Sampson, M.A (2018). Statistical analysis in JASP. A guide for students. https://static.jaspstats.org/Statistical%20Analysis%20in%20JASP%20%20A%20Students%20Guide%20v1.0.pdf

Holcombe, R.G. (2018). Checks and balances: enforcing constitutional constraints. *Economies, 6*(4), 57.https://doi.org/10.3390/economies6040057

Juan, M.R.J., Raquel, F.L., & Pedro, A.P. (2019). Resource-based view and SMEs performance exporting through foreign intermediaries: the mediating effect of management controls. *Sustainability, 11*(12), 3241.https://doi.org/10.3390/su11123241

Kwak, S.G. & S.H. Park. (2019). Normality test in clinical research. *Journal of Rheumatic Diseases, 26*(1), 5-11. https://doi.org/10.4078/jrd.2019.26.1.5

Martins, R. A., Serra, F.R., Leite, A.S., Ferreira, M.P., & Li, D. (2010). Transactions cost theory influence in strategy research: a review through a bibliometric study in leading journals. http://www.anpad.org.br/admin/pdf/eso82.pdf

Mishra, P. et al. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia, 22*(1), 67-72. https://doi.org/10.4103/aca.ACA_157_18

Mottaleb, K.A. & Kalirajan, K. (2010). Determinants of foreign direct investment in developing countries: a comparative analysis. *The Journal of Applied Economic Research 4* (4), 369–404. https://doi.org/10.1177/097380101000400401

Musara, M. & Gwaindepi, C. (2014). Factors within the business regulatory environment affecting entrepreneurial activity in South Africa. *Mediterranean Journal of Social Sciences, 5*(6), 109-116. https://doi.org/10.5901/mjss.2014.v5n6p109

Myung, K.Y. & Choi, Y.H. (2017). The influences of leaders' dark triad trait on their perception of CSR. *Asian Journal of Sustainability and Social Responsibility,2*, 7-21.https://doi.org/10.1186/s41180-017-0013-8

Olagunju, O.O. & J.O. Ikeolumba. (2019). The evaluation of the national policy on ease of doing business in Nigeria. *European Scientific Journal,15* (8), 203-212.https://doi.org/10.19044/esj.2019.v15n8p203

Prasad, S., Rao, A. & Rehani, E. (2001). Developing hypothesis and research questions. https://www.public.asu.edu/~kroel/www500/hypothesis.pdf

Rindfleisch, A. (2019). Transaction cost theory: past, present and future. *Academy of Marketing Science* Review.*10*(1-2), 85–97.https://doi.org/10.1007/s13162-019-00151-x

Stel, A.V., Storey, D.J. & Thurik, A.R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2),171-186 . https://doi.org/10.1007/s11187-006-9014-1

World Bank Group. (2020). Doing Business 2020. https://doi.org/10.1596/978-1-4648-1440-2