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## **World Governance Indicators and Corporate Borrowing Decisions in the G8 Countries**

### **Abstract**

This study examines the effect of world governance indicators on corporate borrowing decisions being measured as long-term debt ratio. This paper considers the non-financial firms listed in the stock exchanges of the G8 countries: Canada, France, Germany, Italy, Japan, Russia, United Kingdom and United States of America. The total number of firms included in the study for the G8 countries is 246 firms. The data are collected for the period 2018 – 2020. The results revealed that the long-term debt to total assets are positively associated with WGIs. Overall, the results revealed that there is a significant association between the WGIs and borrowing decisions in the G8 countries.

**KeyWords:** World Governance Indicators, G8 countries, Corporate Borrowing Decisions

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## مؤشرات الحوكمة العالمية وقرارات اقتراض الشركات في دول مجموعة الثمانية

### ملخص البحث

تبحث هذه الدراسة تأثير مؤشرات الحوكمة العالمية على قرارات اقتراض الشركات والتي يتم قياسها من خلال نسبة الديون طويلة الأجل. تتناول هذه الدراسة الشركات غير المالية المدرجة في بورصات دول مجموعة الثمانية: كندا، وفرنسا، وألمانيا، وإيطاليا، واليابان، وروسيا، والمملكة المتحدة، والولايات المتحدة الأمريكية. وكان العدد الإجمالي للشركات المشمولة في الدراسة لدول مجموعة الثمانية هو 246 شركة. وقد تم جمع البيانات عن الفترة 2018 - 2020. أظهرت النتائج أن الديون طويلة الأجل إلى إجمالي الأصول مرتبطة بشكل إيجابي مع مؤشرات الحوكمة العالمية (WGIS). بشكل عام، كشفت النتائج أن هناك ارتباطاً كبيراً بين مؤشرات الحوكمة العالمية (WGIS) وقرارات الاقتراض للشركات في دول مجموعة الثمانية.

**الكلمات المفتاحية:** مؤشرات الحوكمة العالمية، دول مجموعة الثمانية، قرارات اقتراض الشركات

## **1-Introduction**

The Worldwide Governance Indicators (WGI) measure how a country wields its authority through its traditions and institutions. This encompasses the way by which governments are chosen, monitored, and changed; the government's ability to devise and effectively implement sound policies; and the respect of individuals and the state for the institutions that regulate economic and social relations among them (World bank 2018). For large cross-country comparisons and for assessing broad changes over time, the six composite WGI indicators are a helpful tool. However, to formulate specific governance reforms in particular country circumstances, they are frequently a blunt tool that is ineffective. Such changes, as well as the assessment of their success, need to be guided by far more in-depth and country-specific diagnostic data that can determine the pertinent governance-related restrictions in a given country's conditions.

### **1-1Objectives**

This paper aims at fulfilling the objectives that follow.

- 1- Examine the effect of voice and accountability on corporate borrowing decision.
- 2- Examine the effect of political stability on corporate borrowing decision
- 3- Examine the effect of government effectiveness on corporate borrowing decision
- 4- Examine the effect of regulatory quality on corporate borrowing decision
- 5- Examine the effect of rule of law on corporate borrowing decision.
- 6- Examine the effect of corruption on corporate borrowing decision.

## **2- Literature Review**

According to Valentin, (2012), a corporation can be deemed to have global performance, if it can satisfactorily balance the needs and interests of all its constituents: Owners want to increase the value of the company's stock in order to maximize their wealth; despite the risks they face, the ability of the corporation to pay dividends in exchange for capital investment is what present and potential

shareholders regard as performance; Managers want to make profit since they are paid well accordingly; Employees desire a stable job and significant financial perks; The credit institutions evaluate an organization's performance based on its capacity to make timely loan repayments (solvency); similarly, the solvency and stability of the firm are what the commercial partners seek for in performance; the state is looking for a firm that can be productive, pay its taxes, and aid in the creation of new jobs.

The World Bank's Worldwide Governance Indicators database, according to Kaufmann et al., (2011), contains the most recent, time-varying indicators that assess country-level governance effectiveness. These indicators, which are gathered for over 200 countries and territories and updated annually to reflect current reforms, strengthen the validity of any study conclusions. Due to the fact that, in contrast to earlier studies, which used widely-known, outdated, and time-constant measures to quantify a particular institutional setting (e.g., La Porta et al., 1998; Djankov et al., 2007, 2008). Furthermore, according to Kaufmann et al., (2011), country governance is the process by which power is exercised on behalf of the populace in the governance of a country's social and economic resources for growth, as authorized by a collection of preexisting traditions, laws, and institutions. Six indicators are used to assess governance represented by the worldwide governance indicators (WGIs).

Seifert and Gonenc (2016) demonstrate how corporations use cash to make financing decisions, by exploring the influence of a country's overall governance on the cash-holding requirements of firms. Saona et al., (2020) examine the reasons why firms continue to pursue a debt-free approach. Their study shows that when country governance improves, firms are more likely to avoid debt in their capital structure. Çam and Özer, (2021) contend that companies operating in countries with better governance experience a fall in leverage while an increase in the maturity of their debt.

Long-term loans have been proven to be another factor of corporate financial performance that is influenced by the world governance indicators (WGIs). In a study of MENA countries, Awartani et al., (2016) revealed that higher-quality

institutions are associated with a greater reliance on long-term debt. As a result, MENA firms' increased use of long-term borrowing is associated to high rule of law, better regulatory quality, and government effectiveness. Contrarily, countries with weak rule of law make it easier for managers and firms for expropriation of investors. This is likely to increase the usage of short-term debt because it is more difficult for borrowers to expropriate creditors (Diamond, 1991, 2004, Rajan, 1992, and Awartani et al., 2016).

According to Awartani et al., (2016), the amount of long-term debt that companies may rely on decreases in direct proportion to the level of corruption in a country, widespread corruption may increase the cost of long-term loans by requiring companies to pay bankers and/or government officials in order to obtain risky loans. Another study conducted by Nifo et al., (2018) showed that an improvement in the institutions leads to a decrease in the number of firms that take loans, implying that institutional quality has a negative association with corporate debts.

## **2-1 Voice & Accountability and Borrowing Decisions**

"Voice and Accountability" can be identified as the first indicator of the government governance. According to the World Wide Governance Indicators, the voice and accountability pillar shows how much a country's citizens can influence who governs them, it embraces many elements such as human rights, media, transparency of the government policy making, election integrity, trust in Parliament, freedom of association, favoritism in decisions issued by government officials, political rights, reliability of state-owned firms' accounts (World Bank report, 2019).

It is commonly known that political unrest increases the cost of capital, which prompts companies to put off making investment decisions. For instance, Cao et al., (2013) found that firms intending to reduce leverage tend to be underleveraged for extended periods of time and postpone issuing loans. As Francis et al., (2014) research also demonstrates that when the political situation is unstable, more fees on private loan contracts are imposed. Another support for the previous findings from Khwaja and Mian, (2005) who considered a sample of Paki-

stani firms, their results showed that politically connected firms can easily raise fund through debt. Therefore, these firms have a greater risk of default. Faccio, (2006) deduced that firms with political connections have much more debt than its counterparts, this means a higher leverage, and it can be presumed that, there is a positive and significant association between being politically connected and total debt.

## **2-2 Political Stability and Absence of Violence and Borrowing Decisions**

"Political Stability and Absence of Violence" is the second indicator of government governance. The Cost of Terrorism, Security Risk Rating, and Government Stability are just a few of the many different elements that compose Worldwide Governance's "Political Stability and Absence of Violence/Terrorism" Pillar, which assesses perceptions of the likelihood of political instability and/or political violence, including terrorism (World Bank report, 2019).

Bechtel, (2009) proved that political risk does not only have a great effect on firms, but also the well-functioning economies. This is an essential result of low political risk. In addition, Demirbag et al., (2007) found that there is a relationship between political risk and firms' performance. The study deduced a positive relationship between, the political risk and the uncertainty about future cash flows and increased cost of debt (Kyaw et al., 2011). Given the higher cost of debts and expected cash flow, it will have a significant effect on the financial performance in terms of decreased profitability of companies (Meyer et al., 2009; Kesternich and Schnitzer, 2010).

## **2-3 Government Effectiveness and Borrowing Decisions**

The third indicator of government governance is "Government effectiveness". According to Worldwide Governance Indicators, "the government effectiveness" pillar includes perceptions of the quality level of public services, the quality of the civil service and the extent to which it is free from political influence, the quality of policy formulation and implementation, and the credibility of the government's adherence to such policies. It also has many different elements such as

infrastructure, quality primary education, and Satisfaction with education system (World Bank report, 2019).

## **2-4 Regulatory Quality and Borrowing Decisions**

The fourth indicator of government governance which is "Regulatory Quality". Worldwide Governance Indicators state that the regulatory quality pillar has captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development, There are many different elements by which a pillar can be measured such as Discriminatory taxes, Discriminatory tariffs, Extent and effect of taxation, bureaucratic inefficiency and Burden of Government regulations (World Bank report, 2019). Regulatory quality indicates the strength and solidity of the government bureaucracy to which firms are exposed in their business, for example, when dealing with government institutions to obtain permits or licenses to conduct a specific business (Norton, 1998). The regulatory quality also indicates the degree to which government laws, rules and regulations are implemented and the extent to which firms enforce and comply with these laws (Gnyawali and Fogel, 1994; Geiger and Hoffman, 1998; Fogel and Zapalska, 2001).

Kurawa and Saidu, (2018) also explained in the results of his study on services and consumer goods firms listed on the Nigeria Stock Exchange, that to improve the financial performance of firms, the services of tax experts must be used in order to participate in legal tax planning such as structuring intra-firm debts until the net tax payments are reduced, resulting in an increase net income after taxes, which leads to an increase in the financial performance of firms, this proves that improving tax performance or increasing regulatory quality positively affects the financial performance of firms. Graham, (2003) also indicated that corporate decisions are affected by taxes, as taxes represent a cost to the firm and thus affect its financial performance.

## **2- 5 Rule of Law and Borrowing Decisions**

The fifth indicator of government governance which is "Rule of Law". World Wide Governance Indicators state that the rule of law has captures perceptions of the extent to which agents have confidence in and abide by the rules of society,

and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (World Bank report, 2019). As mentioned previously that the rule of law is the place that has a good judicial system, Aidis, (2005), Chaudhry and Garner, (2007), Aidis et al., (2008) and Ahn and York, (2011) have demonstrated that a transparent and efficient judicial system promotes a good institutional environment conducive to the development of local business and contributes to innovation, in addition to helping in the development and growth of firms.

## **2-6 Control of Corruption and Borrowing Decisions**

The sixth and last indicator of government governance which is "Control of Corruption". Worldwide Governance Indicators state that the control of corruption has captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests (World Bank report, 2019). A lot of studies have indicated the extent of the impact of corruption on the performance of firms, especially the financial performance of firms, whether positively or negatively, but at first we have to refer to the definition of corruption from the viewpoint of researchers. It should be borne in mind that there is a small number of research conducted on the impact of corruption on corporate financial performance, although there is a large number of research and empirical studies on the impact of corruption on the growth and productivity of firms (Donadelli et al., 2014).

Therefore, some studies have shown that corruption in Russia increases transaction costs, and thus impedes business development, prevents the start-ups business and negatively affects the productivity of the firms thus also the financial performance and the competitiveness of firms in Russia (Aidis et al., 2008; Puffer et al., 2010; Ahlstrom and Bruton, 2010).

However, the some studies have examined how the corruption in the country affects the investment decisions in the firms and found the negative impact of corruption on the investment. Asiedu and Freeman, (2009) provide evidence that the impact of corruption on the growth of investment differs across coun-

tries and prove that the negative and significant effect of corruption on the investment growth in the firms is noticeable in transition countries that use both measures of corruption firm-level and country-level. But overall, all these studies proved that one of the obstacles that face the investment growth is the corruption.

As a result of the widespread corruption in Africa, Teal and McArthur, (2002) conducted a study of some firms in Africa and found that firms that pay bribe to corrupt government officials have a production of 20 percent less per worker. Another study in the African region by Faruq and Webb, (2013) and found that firms that engage in payments to corrupt public officials reduce their productivity, that is, corruption reduces corporate productivity. In addition, the findings of Smith, (2016) show that firms operating in more corrupt areas manage liquidity downward by hold less cash and depends on more debts, thus have greater leverage, than firms operating in areas with less corruption, due to limit expropriation by corrupt local officials.

An analytical study conducted on a large number of industrial firms in Turkey, as it is observed in the study that the growth of firms is positively affected by the level of corruption, profitability, and financial leverage, in particular, a significant positive relation between private firms' growth and the level of corruption (Ayaydin and Hayaloglu, 2014). Consequently, corruption leads to increased economic development, which is because those bureaucratic delays can be overcome by illegal practices and payments as "speed money", as accepting bribes by government employees stimulates them and increases their efficiency, due to the fact that corruption is the price that compels people pay it as a result of market failure.

### **3. Hypotheses Development, Data and Variables**

This paper examines the hypotheses that follow.

- A significant relationship exists between voice and accountability and corporate borrowing decision.
- A significant relationship exists between political stability and corporate borrowing decision

- A significant relationship exists between government effectiveness and corporate borrowing decision
- A significant relationship exists between regulatory quality and corporate borrowing decision.
- A significant relationship exists between rule of law and corporate borrowing decision.
- A significant relationship exists between corruption and corporate borrowing decision.

### **3-1 Data**

This data is for the non-financial firms listed in the major indices in the G8 countries. The G8 countries: Canada, France, Germany, Italy, Japan, Russia, United Kingdom and United States of America. The data includes a total of 246 non-financial listed firms from the G8 countries covering the years 2018 – 2020. The total number of observations equal 738. The institutional data related to WGIs are obtained at World Bank Government Governance Indicators (<http://info.worldbank.org/governance/wgi/>).

### **3- 2 Dependent Variable**

The dependent variable examined in this paper is long term debt ratio.

### **3-3 Independent Variables**

The independent variables include the institutional indicators (WGIs): Voice and accountability, Political Stability and no violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

### **3-4 Model Estimation**

Since the data are cross section-time series panel, the Hausman specification test (Hausman, 1978; Hausman and Taylor, 1981) is required to determine whether the fixed or random effects model should be used. The issue of linearity versus nonlinearity is addressed and examined as well. Regression Equation Specification Error Test, RESET (Ramsey, 1969; Thursby and Schmidt, 1977; Thursby, 1979; Sapra, 2005; Wooldridge, 2006) is employed to test the two hypotheses that follow. The null hypothesis refers to linearity and the alternative refers to

nonlinearity. The estimating equation of the random effect nonlinear model takes the form of Least Squares Dummy Variables (LSDV) that follows.

$$y_{tk} = \lambda_k + \sum_{i=1}^k \beta_{ik} X_{itk} + v_{tk}$$

Where  $t = 1, \dots, n$ ;  $k =$  number of firms in each group;  $y_{tk}$  = Long term debt to assets; ratio;  $X_{itk}$  = Six pillars of World Governance Indicators;  $v_{tk}$  = Random error.

### 3-5 Descriptive Statistics

In this section, descriptive statistics such as mean, standard deviation, minimum, and maximum are presented for all the variables.

**Table 1: Descriptive Statistics**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Long term debt to assets ratio	738	0.251	0.629	0.0391	2.928
Voice and Accountability	738	11.33	91.63	81.11	32.619
Political Stability No Violence	738	12.62	76.72	59.81	14.59
Government Effectiveness	738	34.71	88.71	76.29	18.21
Regulatory Quality	738	35.75	98.16	81.64	12.91
Rule of Law	738	45.55	91.93	83.81	19.18
Control of Corruption	738	15.62	93.21	87.34	21.61

### 3-6 Hausman Test

The test is run under the hypotheses that  $H_0$ : difference in coefficients not systematic;  $H_1$ : difference in coefficients is systematic

**Table 2: The Results for the Hausman test**

Chi <sup>2</sup> Stat. (Prob>Chi <sup>2</sup> )	26.92 (0.00)
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The results reported in table above show that the best model for fitting the data in the six models in both regions is fixed effect model as the p-value associated with the test is less than 5%.

### 3-7 Multicollinearity Test

**Table 3: The Results for the Multicollinearity Test**

Voice & Accountability	3.61
Political Stability no Violence	6.12
Government Effectiveness	4.52
Regulatory Quality	5.61
Rule of Law	3.63
Control of Corruption	4.93

### 3-8 Linearity versus Non-Linearity Test

Ramsey RESET test using powers of the fitted values of corporate financial indicators. The test is run under the hypotheses that Ho: model has no omitted variables; H1: model has omitted variables

**Table 4: The Results for the Linearity versus Non-Linearity Test**

F stat (Prob. F)	F(3, 739) = 1.92 (0.218)
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The above-mentioned results show that, at 95% confidence interval, the null hypothesis is not rejected which means that the linear model is appropriate.

### 3-9 Heteroskedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity is run under the hypotheses that Ho: The data has Constant variance; H1: The data has varying variance

**Table 5: The Results for the Heteroskedasticity test**

Chi <sup>2</sup> Stat. (Prob>Chi <sup>2</sup> )	chi2(1) = 3401.13 (0.0000)
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The above-mentioned results show that the null-hypothesis of the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity is rejected at confidence in-

terval 95%. This means that variances of residuals are not constant, which requires the use the robust estimation to estimate the parameters of the model.

## 4. Discussion

This section discusses and analyzes the association between long term debt ratio and world governance indicators.

### 4-1 The WGI Determinants of Corporate Leverage (Long Term Debt to Total Asset)

**Table 6: The WGI Determinants of Corporate Leverage (Long Term Debt to Total Assets)<sup>1</sup>**

Dependent Variable	(Long Term Debt to Total Assets)
Constant	-0.197 (0.0561)
Voice & Accountability	0.00431*** (0.000109)
Political Stability no Violence	0.0571*** (0.0725)
Government Effectiveness	0.0729*** (0.0831)
Regulatory Quality	0.0229*** (0.0891)
Rule of Law	0.0114*** (0.0884)
Control of Corruption	0.0372*** (0.0936)
Political Stability no Violence	0.0774*** (0.0885)
N	738
Adjusted R square ( $\bar{R}^2$ )	0.413
Root MSE	0.461

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1, Robust standard errors in parentheses

<sup>1</sup> The dependent variable is Corporate Leverage (Long Debt to Total Assets). The independent variables include the six pillars of WGI.

## **4-2 Voice and Accountability**

In table (6), after conducting the analysis, the results show that voice and accountability has a positive association with corporate long-term debt to total asset or leverage at a 99% confidence level. Based on the findings, the researcher argues that the positive relationship in the G8 countries refers to that firm efficiency may decrease as a result of the decrease in voice and accountability, through increase the political connections or spread of favoritism which leads to replacing professionals with friends in official positions, this may affect the ability of firms to obtain bank loans, thus inability to finance their projects. In other words, an increase in voice and accountability increases the corporate leverage, this result is in line with a study conducted by Awartani *et al.*, (2016) who found that higher-quality institutions lead to more dependence on long-term debt.

## **4-3 Political Stability, No Violence**

In table (6), the results show that there is a positive relationship between political stability and corporate long-term debt to total asset or leverage at a 99% confidence level. Based on the previous findings, the researcher argues that a decrease in political stability refers to an increase of political risk, which means an increase in the cost of debts, thus increase of uncertainty about future cash flows, therefore decrease in long term debts or leverage, this is in line with a study conducted by Kyaw *et al.*, (2011). Also, Gupta, (2011) supported the previous results, who found that increase political risk, such as terror attacks, decreases the leverage of firms using tourism firms in his study. Therefore, an increase in political stability decreases the cost of debts, and in turn, increases the corporate leverage.

## **4-4 Government Effectiveness**

In table (6), after conducting the analysis, the results show that the relationship between government effectiveness and corporate leverage is positive at 99% confidence level, the authors suggest that an increase in government effectiveness refers to an increase in its elements such as quality of bureaucracy and quality of infrastructure, etc., where an increase in the quality of bureaucracy indicating that ease of procedures in the countries, that can help managers and owners to get bank loans easily, so they can run the firms efficiently. Thus, an increase in the quality of bureaucracy exerts a positive influence on corporate long-term debt. In other words, an increase in government effectiveness leads to an increase in corporate leverage. This result is in line with a previous study conduct-

ed by Awartani *et al.*, (2016) who found that a greater use of long-term borrowing by firms is associated with better government effectiveness.

#### **4-5 Regulatory Quality**

In table (6), the results show that regulatory quality has a positive relationship with corporate leverage at a 99% confidence level. Based on these results, the researcher argues that a decrease in regulatory quality means an increase in pillar's elements such as the burden of government regulations, also increase in taxes imposed on the corporations. In several previous studies suggest that the government is one of the dominant institutions that affect firms, as the government's policies and regulations play a role and impact the corporations (Li *et al.*, 2016a). In other words, when the regulatory quality decrease means an increase in the burden of government regulations, therefore, the lower ability of the corporations to obtain additional funds through bearing debts and get bank loans, thus a decrease in corporate leverage, which means that an increase in regulatory quality increases the corporate Long-term debt and leverage. This result is in line with a previous study conducted by Awartani *et al.*, (2016) who found that better regulatory quality lead to more dependence on long-term debts by firms.

#### **4-6 Rule of Law**

In table (6), the results show that there is a positive relationship between rule of law and corporate Long term debt at 99% confidence level, based on these findings, the researcher suggests that a decrease in rule of law indicates an increase in criminal activities, therefore, increase in the cost of business to maintain security in the firms, which leads the corporations to back off from obtaining additional funds through getting bank loans, due to the fear of inability to repay the debts under conditions of increased crime and insecurity. In other words, a decrease in rule of law decreases the corporate Long-term debts and leverage, this result is in line with a previous study conducted by Awartani *et al.*, (2016) who found that high rule of law lead to more dependence on long-term debts by firms.

## 4-7 Control of Corruption

In table (6), the results show that control of corruption has a positive association with corporate Long-term debt at a 99% confidence level. The researcher argues that an increase in corruption indicates a lack of transparency in government laws, regulations, and procedures, along with weak judicial oversight, which means the spread of corrupt employees, as corrupt officials try to obtain more bribes from users of public service or will delaying any transactions for the firms. Therefore, the public resources provided by the government are distributed and allocated to those who give the highest bribes (Jain, 2001). Thus, the corruption will be an obstacle for the corporations to obtain additional funds through getting bank loans, this is in line with the study conducted by Van Vu *et al.*, (2018) who found that most types of corruption such as bribery negatively affect the corporate leverage, in addition, Awartani *et al.*, (2016) added that the more corruption in a country, the lower the firm long-term debts, this is probably to the widespread corruption may raise the cost of long-term loans by requiring firms to pay to government officials in order to get risky loans. In other words, an increase in control of corruption increases the corporate leverage.

## 5- Conclusion

The research provides several conclusions that may be drawn from the results. The analysis revealed that the state of institutions which are measured by the worldwide governance indicators (WGI) have an effect on borrowing decisions. The WGI has six dimensions of governance, which are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Borrowing decision is measured by corporate leverage.

Regarding the first indicator of the WGI which is the voice and accountability, the results showed that the voice and accountability has a significant influence long term debt ratio. That is, corporate leverage is positively influenced by voice and accountability in G8 countries. The table that follows summarizes the association between WGIs and long term debt ratio.

**Table 7: WGI and Borrowing decisions**

<b>Corporate Leverage (Long Term Debt to Total Asset)</b>	
Voice and Accountability	Positive
Political Stability, no Violence	Positive
government effectiveness	Positive
Regulatory quality	Positive
Rule of Law	Positive
Control of Corruption	Positive

The results proved that the higher political stability, the higher leverage of the firms in G8 countries. Also, the findings referred that the leverage of firms in G8 countries is positively affected by the government effectiveness. The results also showed that a positive effect from the regulatory quality on the leverage of firms in G8 countries. Regarding the rule of law, the results show that in G8 countries the higher the rule of law, the higher the corporate leverage. Regarding the sixth and last indicator of the world governance indicators, which is the control of corruption, the findings revealed that the control of corruption has a positive influence on the leverage of firms in G8 countries.

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