Routledge
Taylor & Francis Group

Economic Research-Ekonomska Istraživanja

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rero20

The impact of the surplus value rate and rule of law on economic performance

Yosuke Tomita

To cite this article: Yosuke Tomita (2022) The impact of the surplus value rate and rule of law on economic performance, Economic Research-Ekonomska Istraživanja, 35:1, 4361-4378, DOI: 10.1080/1331677X.2021.2013274

To link to this article: https://doi.org/10.1080/1331677X.2021.2013274

ECONOMIC RESEARCH-EKONOMSKA ISTRAŽIVANJA
2022, VOL. 35, NO. 1, 4361–4378
https://doi.org/10.1080/1331677X.2021.2013274

The impact of the surplus value rate and rule of law on economic performance

Yosuke Tomita

Faculty of Business Administration, Toyo Gakuen University, Tokyo, Japan

ABSTRACT

This study investigates the impact of four legal origins (i.e., English, French, German, and Scandinavian) of a sample of countries on the rate of surplus value and rule of law. It also examines how these factors affect the size of credit provided by banks and economic performance. We found that the rate of surplus value and rule of law affect both the size of bank credit and economic performance. Simultaneously, the rate of surplus value and the rule of law are correlated. Furthermore, the marginal effects of the rate of surplus value and the rule of law on economic performance differ by legal origin.

ARTICLE HISTORY
Received 5 March 2021
Accepted 27 November 2021

KEYWORDS
Legal origin; rule of law; rate of surplus value; bank credit; economic performance

JEL CLASSIFICATIONS
B52; G21; J50; K15; O16

1. Introduction

The discussion of 'varieties of capitalism' reached the mainstream of political economy in the 2000s. Research on the varieties of capitalism focuses on the roles of companies, employers, and financial markets in classifying the state of capitalism in each country. Similar to Albert (1993) and Hall and Soskice (2001), and using the 'régulation approach', Amable (2003) and Boyer (2015) focus on the institutions of each country and the institutional complementarity and path dependency that occur between those institutions. They find that different capitalisms coexist depending on the institutional interrelationships in each country.

According to Acemoglu and Robinson (2012), economic institutions determine whether a country will prosper, though politics and political institutions still determine the types of economic institutions a country has. The rule of law created by economic institutions via property rights creates economic incentives. Hence, the argument is that institutional deprivation leads to stagnation and poverty because economic growth is linked to economic and political institutions. Marxian economics also offers an institutional analysis of exploitation. However, the factors that lead to the diversity of capitalism in each country's institutions have not been analysed thus far from the Marxian economics perspective.

CONTACT Yosuke Tomita yosuke.tomita@tyg.jp
Research Map: https://researchmap.jp/y_tomita

Our analysis is based on the régulation approach, emphasising institutional complementarity, wage-labour relations, and financial markets. It focuses on economic institutions and institutional deprivation, highlighted in Acemoglu and Robinson (2012). From an empirical perspective, we use the rate of surplus value and the rule of law variables to identify their relevance to economic performance. In this process, we also consider the origins of the four types of law.

The rate of surplus value is a concept discussed in Marxian economics, defined as the value of surplus labour divided by the value of socially necessary labour.[1] The surplus labour is the value that workers produce through their labour minus the value of their socially necessary labour, the latter of which is the labour necessary for the worker to earn a living. Therefore, the rate of surplus value is also known as the exploitation rate.[2]

According to Silkenat et al. (2014), the rule of law is rooted in the concept of removing the arbitrary will of the person in authority as much as possible. This is justified by the ethical principles of normative individualism.[3] In other words, the concept is that even the king cannot transcend the law and is equal under the law.

In this study, we assume that the rate of surplus value and the strength of the rule of law depends on the origins of the legal traditions of each country. La Porta et al. (1998, 2000, 2002) propose four main legal origins: English, French, German, and Scandinavian.[4] Additionally, institutions within a country can differ widely depending on the type of legal origin (La Porta et al., 1998, 2000, 2002). These studies suggest that the legal origins of each country influence institutions related to investor and creditor protection, and these institutional differences influence the subsequent development of financial markets and ownership structures.

We consider that legal origins affect the rate of surplus value through the laws and endogenous institutions of labour, simultaneously affecting the intensity of the rule of law. Using a sample of 82 countries from 2004 to 2017 with data available, we test the hypothesis that legal origins affect the rate of surplus value and the intensity of the rule of law. Additionally, we test whether the rate of surplus value and the intensity of the rule of law influence economic performance.

First, we test the relevance of the rate of surplus value or rule of law to legal origins in a regression model with a dummy variable. Subsequently, we estimate how the rate of surplus value and the rule of law affect the size of credit provided by banks. We believe that the former can affect the size of credit provided by banks through corporate retained earnings and financing, and the latter can affect the size of credit provided by banks through the strength of property rights and jurisdiction affecting the financial system.

Second, we assess the relationship between economic performance and the rate of surplus value and between economic performance and the rule of law. We then use the dummy variable of legal origins and the rate of surplus value or legal origins and the rule of law as interaction terms. Regression analysis using the interaction term allows us to identify which legal origin leads to a high rate of surplus value and the strength of the rule of law, as well as the effect of high value and strength on GDP per capita.

2. Analytical framework

This section describes the framework of this study presented in Figure 1. La Porta et al. (1998, 2000, 2002) and La Porta et al. (2008, 2013) show that the differences in legal origins generate further differences with respect to property rights, judicial systems, financial market institutions, commercial law and labour law.

Figure 1[a] shows that legal origins affect the rate of surplus value. The concept of the rate of surplus value is grounded in the labour value theory of Marxian economics.[5] We classify capital into two categories: invariant capital (e.g., equipment) and variable capital, which represents workers—the idea being that variable capital is the source of new value. We assume that a potential factor reducing the rate of surplus value is the environment surrounding workers. For instance, a system of worker protection and higher bargaining power over capitalists would reduce the rate of surplus value. Naturally, labour market conditions such as unemployment would also affect the rate of surplus value. From another perspective, we also believe that differences in industry structures affect the rate of surplus value as industries differ in terms of their labour intensiveness. If legal origins affect the system of worker protection and the bargaining power of workers over capitalists, then it is quite possible that differences in legal origins also affect the rate of surplus value.

Figure 1[b] shows that legal origins affect the rule of law. According to Zweigert and Kötz (1998), the difference between whether the national courts relies upon laws following a common law or civil law principle depends on the legal origin. The rule of law is a fundamental principle of Anglo-American law in a common law-based country, where the concept of 'law' implies an autonomous and spontaneous norm. In a civil law country, it is called the 'legal state' (*Rechtsstaat*). During the great class conflict in Germany in the 1800s, the adoption of Roman law (*Pandekten* jurisprudence) aimed to implement the rule of the state by law and in accordance with the law. In France, the Napoleonic Code, enacted in the early 1800s, was the original source of the later French Civil Code.

According to Silkenat et al. (2014), the rule of law and legal state have similarities and differences. These concepts share a common function in that they eliminate the

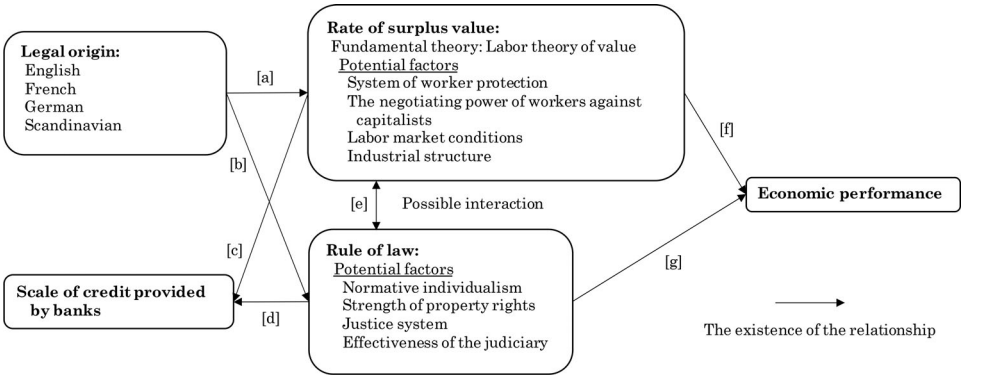

Figure 1. Conceptual framework. Note: The scale of credit provided by banks is relevant to economic performance, but this is beyond the scope of this study and are thus excluded. Arrows indicate the destination of the influence. Source: Prepared by the author.

dominance of arbitrary state power and binding authority via law. The rule of law formally restrains state power through autonomous and spontaneous norms. Conversely, the legal state implements a substantive rule of law that establishes objective laws and regulations, guarantees various behavioural activities, mitigates class conflict, and guarantees rights and freedoms. However, in the legal state, the state follows its own laws as enacted, and therefore, unfavourable laws can also become laws.

The rule of law index published by the Worldwide Governance Indicators reflects the degree of authorities' compliance with social norms. In particular, it quantifies the quality of contract enforcement, property rights, police and courts and appropriate responses to crime and violence. It considers the substance of the legal environment of the rule of law and the legal state.

Figure 1[c] shows that the rate of surplus value affects the scale of credit provided by banks. A high surplus value rate simply indicates that the capitalist's share is high. In Marxian economics, 'capitalist' refers to a class of people, but now business corporations serve this role. The remaining revenue after deducting the investment amount and expenses is the profit, which the company distributes to shareholders as dividends and retains the remainder. According to the pecking order hypothesis, if firms have more retained earnings when they invest, they are more likely to prioritise the use of retained earnings over bank loans.[6] Thus, the rate of surplus value may affect the size of credit provided by banks.

Figure 1[d] shows that the rule of law affects the scale of credit provided by banks. The rule of law affects property rights, creditor protection, and the justice system through the ethical principle of normative individualism. According to the World Bank (2017), the rule of law is a necessary element for achieving stability and equitable development. That is, if the rule of law is strong, then trust in ownership, creditor protection, and a well-structured judicial system may facilitate the supply of funds from banks. Thus, the influence of the rule of law is far reaching. Hence, as in Figure 1[e], the rule of law may have an indirect effect on the rate of surplus value through a system of worker protection.[7]

Figure 1[f] shows that the rate of surplus value affects economic performance. At the rate of surplus value, work that exceeds the socially necessary level is surplus labour. Focusing on value creation for society in general, socially necessary labour indicates an equivalent exchange of labour value and wages. Therefore, socially necessary labour alone does not create additional value for companies, considering the net investment in companies. That is, under the labour value theory, surplus labour enhances economic performance via new corporate investment.[8]

Figure 1[g] shows the relationship between the rule of law and economic performance. According to Silkenat et al. (2014), the rule of law is the strongest currently than it has ever been and this is the key to sustainable political and economic development in society. Although the rule of law personifies an abstract concept of normative individualism, it is an important concept linked to human rights, democracy building, constitutionalism and good governance. The World Bank (2017) shows that the rule of law is positively associated with GDP per capita and the relationship is robust, though the mechanisms of the positive association were not stated. However,

if well-structured rule of law is related to a well-structured property rights and justice system, well-structured financial market institutions and labour laws, as Silkenat et al. (2014) suggest, then we consider that the strength of the rule of law can achieve high economic performance through institutional coordination.

3. Data and models

3.1. Data

In this section, we explain the data and models used in this study. Table 1 lists the sample countries and their legal origins. We used the legal origins classification in La Porta et al. (2008). Table 2 summarises the definitions of the variables and data sources. We use the ILO's Sustainable Development Goals indicators (2020), International Monetary Fund's World Economic Outlook Database (2020), World Bank's World Development Indicators (2020b), and Worldwide Governance Indicators (2020a). We refer to the Organisation for Economic Co-operation and Development (OECD) website (2020) to check whether the country was an OECD member. In addition, we use annual data from 2004 to 2017. If data for a year were unavailable and the previous year's data existed, then we used the data for the previous period used for only one period. If data for the previous year were unavailable, then we used the data for one year later. If both the data from the previous and subsequent years were unavailable, then we regarded the present year's data as missing.

The variable *Surplus* is the rate of surplus value, calculated by subtracting labour costs from GDP and dividing the result by labour costs.[9] Varley (1938), Amsden (1981), Cuneo (1984), and Lynch et al. (1994) define the rate of surplus value as a monetary measurement as follows. They calculate the value added in manufacturing minus the worker's wages and divide that value by the worker's wages. We base the rate of surplus value on the monetary measurement method in these studies. In addition, we do not use the added value of manufacturing, but GDP, which is a simple method for estimating all industries.

The *Rule of law* variable is an indicator of the rule of law, with values ranging from −2.5 to 2.5. A higher value indicates a higher intensity of the rule of law. We use the natural logarithm of GDP per capita, denoted *GDP/Capita*, to measure a

Table 1. Target countries and legal origins.

English legal origin	Australia, Bahrain, Bangladesh, Botswana, Canada, Cyprus, Ghana, Hong Kong, India, Ireland, Israel, Jamaica, Kenya, Malaysia, Namibia, New Zealand, Nigeria, Pakistan, Saudi Arabia, Singapore, South Africa, Sri Lanka, Thailand, Trinidad and Tobago, United Arab Emirates, United States, United Kingdom, Zambia
French legal origin	Argentina, Belgium, Brazil, Chile, Colombia, Cote d'Ivoire, Ecuador, Egypt, France, Greece, Indonesia, Italy, Jordan, Kazakhstan, Kuwait, Lebanon, Lithuania, Luxembourg, Mauritius, Mexico, Morocco, Netherlands, Oman, Panama, Peru, Philippines, Portugal, Qatar, Romania, Russia, Spain, Tunisia, Turkey, Ukraine, Vietnam
German legal origin	Austria, Bulgaria, China, Croatia, Czech Republic, Estonia, Germany, Hungary, Japan, Korea, Latvia, Poland, Slovak Republic, Slovenia, Switzerland
Scandinavian legal origin	Denmark, Finland, Norway, Sweden

Note: There are 82 target countries; the data cover 2004 to 2017. Source: The classification of legal origins is based on La Porta et al. (2008).

Table 2. Definitions of variables.

Variable	Definition	Source
Surplus	Rate of surplus value. Surplus = (GDP − Labour cost)/labour cost (%)	GDP: World Bank, World Development Indicators Labour cost: International Labour Organization (ILO), Sustainable Development Goals (SDG) indicators
Rule of law	Indicator of the rule of law. Values range from −2.5 to 2.5, with higher values when the rule of law is more prevalent in society	Worldwide Governance Indicators (WGI)
GDP/Capita	Ln (GDP per capita (PPP) adjusted) (USD)	World Bank, World Development Indicators
English	English legal origin (Dummy variable) 1 if legal origin = English, otherwise 0	La Porta et al. (2008)
French	French legal origin (Dummy variable) 1 if legal origin = French, otherwise 0	La Porta et al. (2008)
German	German legal origin (Dummy variable) 1 if legal origin = German, otherwise 0	La Porta et al. (2008)
Scandinavian	Scandinavian legal origin (Dummy variable) 1 if legal origin = Scandinavian, otherwise 0	La Porta et al. (2008)
OECD	OECD members countries (Dummy variable) 1 if legal origin = OECD member, otherwise 0	OECD website
Bank	Bank = ln (Private credit by deposit money banks/GDP)	World Bank, World Development Indicators
Unemployment	Unemployment rate (%)	World Bank, World Development Indicators
Growth	Annual growth rate of GDP (%)	IMF, World Economic Outlook Database, April 2020
Industry	Added value of manufacturing (including mining, construction, electricity, water, and gas) / GDP (%)	World Bank, World Development Indicators

Note: There are 82 target countries; the data cover 2004 to 2017. Missing values are supplemented with the data from the previous year. However, if the data for the previous year were unavailable, then the data for the subsequent one year later are used. If there are no data for either the previous or subsequent year, it is considered a missing value. Source: Prepared by the author.

country's economic performance. GDP per capita is valued in US dollars and adjusted for purchasing power parity. Legal origins has four dummy variables: *English*, *French*, *German*, and *Scandinavian*. For example, if the dummy variable is *English*, then countries with English legal origins have a value of 1, and the remaining countries have a value of 0. *OECD* is a dummy variable set to 1 if the target country is a member of the OECD. *Bank* is a variable that indicates the scale of credit provided by banks. This variable uses the natural logarithm of the amount of credit provided by banks divided by GDP. *Unemployment* is the unemployment rate, *Growth* is the annual growth rate of GDP, and *Industry* refers to the added value of manufacturing divided by GDP. The manufacturing sector includes mining, construction, power, water and gas.

Table 3 presents the descriptive statistics for each variable. Table 4 reports the results of the unit root tests for the dependent and main variables. We performed two types of tests on the panel data; the results confirm that these variables are stationarity.

Figure 2 shows the relationship between *GDP/Capita* and *Surplus* and between *GDP/Capita* and *Rule of law*. In *GDP/Capita*, while the English and French legal

Table 3. Descriptive statistics.

Variable	Mean	Median	S.D.	Min	Max	95 CI	Obs.
Surplus	116.030	96.850	68.471	41.243	571.141	3.965	1148
Rule of law	0.489	0.429	0.922	−1.480	2.100	0.053	1148
GDP/Capita	9.864	10.034	0.912	7.390	11.861	0.053	1148
English	0.341	0.000	0.474	0.000	1.000	0.027	1148
French	0.427	0.000	0.495	0.000	1.000	0.029	1148
German	0.183	0.000	0.387	0.000	1.000	0.022	1148
Scandinavian	0.049	0.000	0.216	0.000	1.000	0.012	1148
OECD	0.439	0.000	0.496	0.000	1.000	0.029	1148
Bank	4.053	4.141	0.712	−1.681	5.542	0.042	1128
Unemployment	7.374	6.211	4.890	0.140	29.576	0.283	1148
Growth	3.600	3.512	3.796	−15.100	26.170	0.220	1148
Industry	28.800	26.796	10.829	6.717	74.812	0.630	1136

Note: S.D. indicates standard deviation. 95 CI; 95% confidence interval. Obs. is the number of observations. These data are unbalanced panel data, including missing values. Source: Compiled by the author.

Table 4. Unit root tests of the main variables.

Variable	Levin, Lin & Chu test	ADF-Fisher test
Surplus	−5.212***	213.380***
Rule of law	−3.699***	213.036***
GDP/Capita	−9.268***	202.171**
Bank	−11.209***	270.516***

Note. *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively. The values are test statistics. The maximum lag is an automatic selection based on the SIC between 0 and 2. The estimation includes a constant term. Source: Calculated by the author.

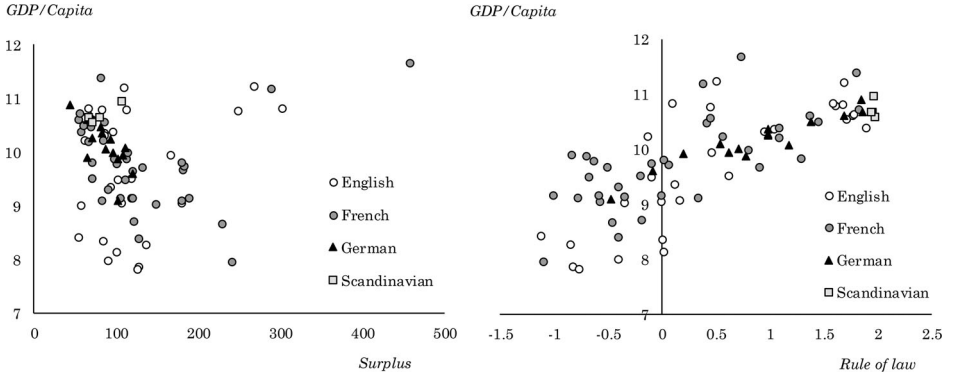

Figure 2. Relationship between GDP/Capita and rate of surplus value and between GDP/Capita and rule of law. Note: GDP/Capita is the natural logarithm. For the classification of legal origins, refer to La Porta et al. (2008). The figure uses the arithmetic mean from 2004 to 2017 for each country. The number of observations was 82. Source: Compiled by the author.

origins are widely distributed, German legal origins tend to have an upper value. Furthermore, the rule of law is close to the highest level in countries with a Scandinavian legal origin.[10]

3.2. Models

In this section, we first build a model to investigate whether the difference in legal origins leads to differences in the rate of surplus value. Simultaneously, we estimate

the relationship between the amount of credit provided by banks and the rate of surplus value. The estimated regression models are

$$Surplus_{it} = \alpha_0 + \alpha_1 Legal\ origins_i + \alpha_2 Bank_{it} + \alpha_3 Control\ variables\ 1_{it} + \varepsilon_{it} \quad (1)$$

In Eq. (1), *Surplus* refers to the rate of surplus value, and legal origin removes only the base category legal origin and adds a dummy variable for the other legal origins. *Bank* refers to the credit scale provided by banks.[11] We use *GDP/Capita*, *Unemployment*, *Growth*, and *Industry* as *Control variable* 1.[12] We also incorporate *Year* as a year dummy, where i is the country, t is the period, and ε is the error term.

Second, we build a model to investigate whether differences in legal origins affect the strength of the rule of law. Simultaneously, we estimate the relevance of the rule of law to the scale of credit provided by banks. The estimated regression models are

$$Rule\ of\ Law_{it} = \beta_0 + \beta_1 Legal\ origins_i + \beta_2 Bank_{it} + \beta_3 Control\ variables\ 2_{it} + e_{it} \quad (2)$$

Here, *Rule of law* is an indicator of the rule of law, and *Legal origins* are dummy variables that indicate legal origins. *Bank* is the size of credit provided by banks, as in Eq. (1). *Control variable* 2 uses *GDP/Capita* and *Growth* and adds *Year*, a year dummy.[13] In this equation, i is the country, t is the period, and e is the error term. In Eqs. (1) and (2), the legal origins are dummy variables that do not change during the target period. We cannot estimate the legal origins in a fixed-effects model that completely removes the effect of time-invariant covariates. Hence, we use a pooled regression or random-effects model to estimate the models, including legal origins. In addition, the Breusch-Pagan test determines whether the model is a pooled regression model or a random-effects model. To remove endogeneity between *Surplus* and *Rule of Law*, we also estimate the model using the generalised method of moments (GMM) approach.

Finally, we investigate the impact of the rate of surplus value and the rule of law on economic performance. We analyse in detail the economic performance of countries according to their legal origin and that have high surplus value rates or high rule-of-law intensity. We conduct the analysis using the interaction term of legal origin and the rate of surplus value or the interaction term of legal origin and the variable indicating the rule of law. The estimated regression model is

$$\begin{aligned} GDP/Capita_{it} = {} & \gamma_0 + \gamma_1 Surplus_{it} + \gamma_2 Surplus_{it} \times Legal\ origins_i + \gamma_3 Rule\ of\ Law_{it} \\ & + \gamma_4 Rule\ of\ Law_{it} \times Legal\ origins_i + \gamma_5 Legal\ origins_i \\ & + \gamma_6 Control\ variables\ 3_{it} + u_{it} \end{aligned} \quad (3)$$

In Eq. (3), *GDP/Capita* is the natural logarithm of GDP per capita, representing economic performance. *Surplus* is the rate of surplus value, *Legal origins* is a dummy variable indicating legal origins, and *Surplus* × *Legal origins* is the interaction term of the rate of surplus value and legal origins. *Rule of law* indicates the intensity of the rule of law, and the *Rule of law* × *Legal origins* is the interaction term between the

rule of law and legal origins. As control variables, we add *OECD*, *Unemployment*, *Growth*, and *Year*.[14] Here, *i* is the country, *t* is the period and *e* is the error term. As this model also includes the legal origins dummy, we estimate it using a pooled regression model or random-effects model based on the outcome of the Breusch-Pagan test.

The coefficients estimated in Eq. (3) can indicate the marginal effects for each legal origin. Comparing these marginal effects enables us to measure the effect of the rate of surplus value and the rule of law on the economic performance of countries with each type of legal origin. The results are discussed in detail in the next section.

4. Estimation results and discussion

Table 5 presents the results of the estimation of Eq. (1). In the model using the English legal origin as the base category for the dummy variables, although the coefficient for French is not significant in both the random-effects and GMM models, the coefficients for German and Scandinavian are negative and significant. The

Table 5. Estimation results (Eq. (1)).

	Surplus						
	Random-effects			*GMM*			*Fixed-effects*
English		−10.270	37.255***		−5.770	26.516***	
		(−0.855)	(2.443)		(−1.529)	(7.007)	
French	10.270		47.525***	5.770		32.287***	
	(0.855)		(3.233)	(1.529)		(9.296)	
German	−37.255***	−47.525***		−26.516***	−32.287***		
	(−2.443)	(−3.233)		(−7.007)	(−9.296)		
Scandinavian	−45.468*	−55.737**	−8.212	−17.542***	−23.312***	8.975***	
	(−1.774)	(−2.203)	(−0.307)	(−4.792)	(−6.955)	(3.118)	
Bank	−6.487***	−6.487***	−6.487***	4.426	4.426	4.426	−5.872***
	(−3.459)	(−3.459)	(−3.459)	(1.369)	(1.369)	(1.369)	(−3.075)
GDP/Capita	22.253***	22.253***	22.253***	4.722***	4.722***	4.722***	35.971***
	(5.754)	(5.754)	(5.754)	(11.657)	(11.657)	(11.657)	(7.359)
Unemployment	1.188***	1.188***	1.188***	−0.006	−0.006	−0.006	1.511***
	(5.127)	(5.127)	(5.127)	(−0.022)	(−0.022)	(−0.022)	(6.296)
Growth	1.059***	1.059***	1.059***	1.351*	1.351*	1.351*	1.061***
	(6.049)	(6.049)	(6.049)	(1.841)	(1.841)	(1.841)	(6.038)
Industry	1.821***	1.821***	1.821***	−7.545***	−7.545***	−7.545***	1.411***
	(10.221)	(10.221)	(10.221)	(−2.679)	(−2.679)	(−2.679)	(7.249)
Constant	−138.835***	−128.565***	−176.090***	42.985	48.756*	16.469	–
	(−3.605)	(−3.343)	(−4.287)	(1.501)	(1.689)	(0.555)	–
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.227	0.227	0.227	0.353	0.353	0.353	0.950
LM	454.322***	454.322***	454.322***	–	–	–	–
Breusch-Pagan	25.898***	25.898***	25.898***	–	–	–	–
Overidentifying	–	–	–	1.674	1.674	1.674	–
restrictions	–	–	–	[0.196]	[0.196]	[0.196]	–
F	–	–	–	–	–	–	165.340***
Log likelihood	–	–	–	–	–	–	−4477.570
Hausman	–	–	–	–	–	–	57.609***
Obs.	1116	1116	1116	1116	1116	1116	1116

Note: *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively. The values in parentheses are t-values. The estimation results were obtained using a random-effects model. *Year* represents a year dummy and is marked Yes if it is included in the model, and Obs. denotes the number of observations. GMM represents generalised method of moments. The instrumental variables include a constant term, the legal origins excluding the base category, *Rule of Law*, *Growth*, *GDP/Capita*, *Unemployment*, *Bank*, *OECD*, and *Year* dummy. Source: Calculated by the author.

coefficients for *German* and *Scandinavian* are negative and significant in both models with French legal origin as the base category. The *Scandinavian* coefficient is not significant in the random-effects model with German legal origin as the base category. However, in the GMM, the coefficient for *Scandinavian* is positive and significant. In any case, the rate of surplus value is higher in English and French legal origins, while German and Scandinavian legal origins tend to have lower rates of surplus value. Moreover, in the random-effects model, the coefficient for the relationship between *Surplus* and *Bank* is negative at the 1% level. However, the coefficient of *Bank* is not significant in the GMM. In contrast, after removing the variables of the legal origin and estimating with a fixed-effects model, the coefficient of *Bank* is negative and significant.

Table 6 presents the estimated results of Eq. (2) with the Rule of law as the dependent variable. In the model with English legal origin as the base category, the coefficient of *French* is negative and significant at the 1% level. In the same model, the coefficient for *German* is not significant, but in the GMM model, the coefficient for *German* is significant. The coefficient for *Scandinavian* is positive and significant at the 1% level. In the model with French legal origin as the base category, the coefficient for *German* is positive and significant at the 1% level. Similarly, the coefficient for *Scandinavian* is positive and significant at the 1% level. In the model with German legal origin as the base category, the *Scandinavian* coefficient is positive and significant at the 1% level. The overidentifying restrictions test rejects the model

Table 6. Estimation results (Eq. (2)).

	Rule of Law					
	Random-effects			*GMM*		
English		0.356***	−0.216		0.385***	−0.099***
		(3.002)	(−1.440)		(11.280)	(−2.346)
French	−0.356***		−0.572***	−0.385***		−0.484***
	(−3.002)		(−3.951)	(−11.280)		(−11.437)
German	0.216	0.572***		0.099***	0.484***	
	(1.440)	(3.951)		(2.346)	(11.437)	
Scandinavian	1.039***	1.395***	0.822***	0.516***	0.902***	0.418***
	(4.120)	(5.606)	(3.116)	(13.272)	(21.612)	(11.164)
Bank	0.084***	0.084***	0.084***	0.459***	0.459***	0.459***
	(5.301)	(5.301)	(5.301)	(9.939)	(9.939)	(9.939)
GDP/Capita	0.360***	0.360***	0.360***	0.513***	0.513***	0.513***
	(12.185)	(12.185)	(12.185)	(19.526)	(19.526)	(19.526)
Growth	−0.001	−0.001	−0.001	−0.023***	−0.023***	−0.023***
	(−0.813)	(−0.813)	(−0.813)	(−4.372)	(−4.372)	(−4.372)
Constant	−3.391***	−3.747***	−3.174***	−6.311***	−6.697***	−6.213***
	(−10.872)	(−12.054)	(−9.471)	(−35.570)	(−38.058)	(−33.100)
Year	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.637	0.637	0.637	0.724	0.724	0.724
LM	840.786***	840.786***	840.786***	–	–	–
Breusch-Pagan	66.480***	66.480***	66.480***	–	–	–
Overidentifying	–	–	–	278.914	278.914	278.914
restrictions	–	–	–	[0.000]	[0.000]	[0.000]
Obs.	1128	1128	1128	1128	1128	1128

Note: *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively. The values in parentheses are t-values. The estimation results were obtained using a random-effects model. *Year* represents a year dummy and is marked Yes if it is included in the model, and Obs. denotes the number of observations. GMM represents generalised method of moments. The instrumental variables include a constant term, the legal origins excluding the base category, *Rule of Law*, *Growth*, *GDP/Capita*, *Unemployment*, *Bank*, *OECD*, and *Year* dummy. Source: Calculated by the author.

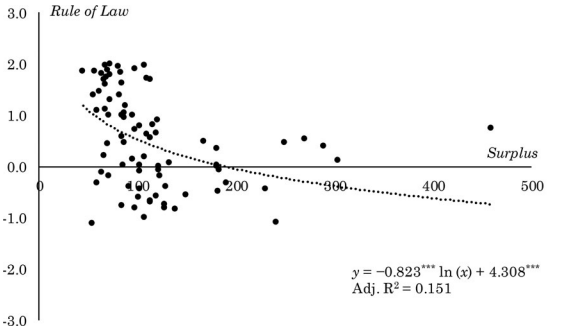

Figure 3. Relationship between rule of law and rate of surplus value. Note: The rate of surplus value is the natural logarithm. The estimation uses the least squares method, and the figure uses the arithmetic mean from 2004 to 2017 for each country. The number of observations was 82. Source: Compiled by the author.

estimated by the GMM and the reliability of the model is weak. However, we find no results contradicting those of the random-effects model. That is, the intensity of the rule of law is the strongest in countries with a Scandinavian legal origin, followed by those with German and English legal origins. Countries with a French legal origin tends to exhibit a weak rule of law. Moreover, the coefficient for the association between the *Rule of law* and *Bank* is positive at the 1% level.

The estimation results in Tables 5 and 6 also demonstrate a specific association between the rate of surplus value and the rule of law. This is because the rate of surplus value is higher, while the intensity of the rule of law is lower for English and French legal origins. Therefore, we created a scatter plot in Figure 3 with the *Rule of law* as the vertical axis and *Surplus* as the horizontal axis. In the scatterplot, when *Surplus* is the natural logarithm of the horizontal axis, we observe a decreasing function. Hence, the strength of the rule of law could reduce the increase in the rate of surplus value. The normative individualism notion of the rule of law may restrain corporate 'exploitation'. Countries with French and English legal origins include many former colonies. Therefore, the state of corporate 'exploitation' from the past may have continued to the present due to path dependency.

The size of the credit provided by banks may be positively related to both the rate of surplus value and the strength of the rule of law. In countries with a high rate of surplus value, firms may have more retained earnings and may decline funding from banks, as such funds have a higher cost of capital than retained earnings. Meanwhile, countries with a stronger rule of law may have creditor protection via property rights, and the size of credit provided by banks may be larger. In addition, the low rate of surplus value in countries with the rule of law in place indirectly implies that firms may depend on banks rather than retained earnings for funding.

Table 7 presents the estimated results of Eq. (3). The Breusch-Pagan test favoured a random-effects model. Considering that we aim to estimate the marginal effects of the interaction term, we put the coefficients of the intersection term into perspective. The coefficient for *Surplus* × *French* was not significant in the model with English legal origin as the base category. In the same model, the coefficient for *Surplus* × *German* was negative and significant at the 1% level, but the coefficient for

Table 7. Estimation results (Eq. (3)).

		GDP/Capita	
Surplus	0.003***	0.002***	−0.002***
	(9.445)	(8.227)	(−2.832)
Surplus		0.001	0.005***
× *English*		(1.508)	(5.639)
Surplus	−0.001		0.004***
× *French*	(−1.508)		(5.058)
Surplus	−0.005***	−0.004***	
× *German*	(−5.639)	(−5.058)	
Surplus	0.001	0.002	0.006***
× *Scandinavian*	(0.784)	(1.080)	(3.191)
Rule of law	0.162***	0.211***	0.164***
	(3.612)	(6.776)	(2.521)
Rule of law		−0.048	−0.002
× *English*		(−0.901)	(−0.024)
Rule of law	0.048		0.046
× *French*	(0.901)		(0.652)
Rule of law	0.002	−0.046	
× *German*	(0.024)	(−0.652)	
Rule of law	−0.472**	−0.521**	−0.474**
× *Scandinavian*	(−1.988)	(−2.200)	(−1.955)
English		−0.053	−0.449**
		(−0.399)	(−2.249)
French	0.053		−0.396**
	(0.399)		(−2.110)
German	0.449**	0.396**	
	(2.249)	(2.110)	
Scandinavian	1.079**	1.026*	0.630
	(1.905)	(1.827)	(1.098)
OECD	0.790***	0.790***	0.790***
	(6.326)	(6.326)	(6.326)
Unemployment	−0.014***	−0.014***	−0.014***
	(−8.897)	(−8.897)	(−8.897)
Growth	0.004***	0.004***	0.004***
	(3.664)	(3.664)	(3.664)
Constant	9.434***	9.487***	9.883***
	(91.198)	(95.132)	(53.203)
Year	Yes	Yes	Yes
Adj. R^2	0.485	0.485	0.485
LM	828.888***	828.888***	828.888***
Breusch-Pagan	132.061***	132.061***	132.061***
Obs.	1148	1148	1148

Note: *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively. The values in parentheses are t-values. The estimation results were obtained using a random-effects model. *Year* represents a year dummy and is marked Yes if it is included in the model, and Obs. denotes the number of observations. Source: Calculated by the author.

Surplus × *Scandinavian* was not significant. The coefficient for *Rule of law* × *French* was not significant, that for the *Rule of law* × *German* was not significant, and that for *Rule of law* × *Scandinavian* was negative and significant at the 5% level.

Next, we discuss the French legal origin as the base category. The coefficient for *Surplus* × *German* was negative and significant at the 1% level, whereas that for *Surplus* × *Scandinavian* was not significant. Although the coefficient for *Rule of law* × *German* was not significant, the coefficient for *Rule of law* × *Scandinavian* was negative and significant at the 5% level.

Finally, we discuss the model with German legal origin as the base category. The coefficient for *Surplus* × *Scandinavian* was positive and significant at the 1% level, for *Rule of law* × *Scandinavian* was negative and significant at the 5% level, and those for *Surplus* and *Rule of law* in Table 7 were positive and significant at the 1% level for all models.

Table 8. Marginal effects of the interaction term on *GDP/Capita* (*Surplus*).

	GDP/Capita		
Interaction term with *Surplus*	Marginal effect		Legal Origins
English vs. French	0.003	0.002	n.s.
English vs. German	0.003	−0.002	*English*
English vs. Scandinavian	0.003	0.004	n.s.
French vs. German	0.002	−0.002	*French*
French vs. Scandinavian	0.002	0.004	n.s.
German vs. Scandinavian	−0.002	0.004	*Scandinavian*

Note: The table shows the marginal effects of the interaction term between the rate of surplus value and legal origin, with the dependent variable *GDP/Capita*. The column 'Legal Origins' indicates which legal origin has a greater marginal effect. The name of the legal origin is listed if both the interaction term and the base category are significant at the 5% level. n.s. indicates not significant. Source: Calculated by the author.

Table 9. Marginal effects of the interaction term on *GDP/Capita* (*Rule of law*).

	GDP/Capita		
Interaction term with *Rule of law*	Marginal effect		Legal Origins
English vs. French	0.162	0.211	n.s.
English vs. German	0.162	0.164	n.s.
English vs. Scandinavian	0.162	−0.310	*English*
French vs. German	0.211	0.164	n.s.
French vs. Scandinavian	0.211	−0.310	*French*
German vs. Scandinavian	0.164	−0.310	*German*

Note: The table shows the marginal effects of the interaction term between the rule of law and legal origin, with the dependent variable *GDP/Capita*. The column 'Legal Origins' indicates which legal origin has a greater marginal effect. The name of the legal origin is listed if both the interaction term and the base category are significant at the 5% level. n.s. indicates not significant. Source: Calculated by the author.

Table 8 shows the marginal effects of the interaction term (the interaction term between the rate of surplus value and legal origins) that affect the dependent variable, *GDP/Capita*. The marginal effect of the rate of surplus value on *GDP/Capita* was negative and low for countries of German legal origin. Thus, an increase in the rate of surplus value has a negative effect on economic performance in countries that adopted German legal origin.

Similarly, Table 9 shows the marginal effects of the interaction term (the interaction term between the rule of law and legal origins) that affect the dependent variable *GDP/Capita*. The marginal effect is positive in legal origins other than the Scandinavian legal origin. The rule of law has a positive effect on economic performance in countries with English, French, and German legal origins.

In Table 10, we split the sample by legal origin to check for robustness and we use a GMM model that excludes the interaction term from Eq. (3) and that removes the simultaneous determinacy of *Surplus* and *Rule of Law* and the endogeneity of the variables. The estimation by GMM was almost rejected in the overidentification restrictions test, so the model has low reliability. However, these results are consistent with the results in Table 7. That is, in countries with German legal origins, the coefficient for *Surplus* was negative and significant at the 1% level. Meanwhile, in countries with Scandinavian legal origins, the coefficient for *Rule of law* was not significant.

These models suggest that the marginal effects of the rate of surplus value and the rule of law on economic performance depend on the legal origins. In other words, policies that raise the rate of surplus value in countries with German legal origins can

Table 10. GMM Model with the sample separated by legal origin.

	GDP/Capita			
	English	*French*	*German*	*Scandinavian*
Panel: A				
Surplus	0.093***	0.014***	−0.016***	0.005***
	(2.945)	(4.023)	(−15.566)	(7.657)
OECD	5.145***	1.447***	0.596***	–
	(3.725)	(8.672)	(9.187)	–
Unemployment	0.185***	0.002	−0.002	−0.045***
	(2.672)	(0.134)	(−0.301)	(−10.344)
Growth	−0.278***	−0.119***	0.002	0.006*
	(−2.364)	(−3.682)	(0.201)	(1.741)
Constant	−2.013	7.863***	11.281***	10.797***
	(−0.492)	(14.144)	(129.706)	(148.736)
Year	Yes	Yes	Yes	Yes
Adj. R^2	0.156	0.124	0.754	0.963
Overidentifying	0.122	48.841	13.8104	8.820
restrictions	[0.727]	[0.000]	[0.000]	[0.003]
Obs.	383	485	204	56
Panel: B				
Rule of law	1.234***	0.586***	0.685***	3.138
	(20.885)	(8.871)	(17.199)	(0.944)
OECD	−0.704***	0.261***	−0.113**	–
	(−6.977)	(3.211)	(−2.025)	–
Unemployment	−0.026***	−0.033***	−0.001	−0.080***
	(−6.729)	(−5.791)	(−0.181)	(−9.136)
Growth	−0.047***	−0.006	−0.007	0.032
	(−3.110)	(−0.462)	(−1.027)	(1.095)
Constant	9.725***	10.028***	9.920***	5.197
	(79.373)	(87.790)	(153.427)	(0.789)
Year	Yes	Yes	Yes	Yes
Adj. R^2	0.678	0.521	0.879	0.349
Overidentifying	32.399	10.909	6.123	3.733
restrictions	[0.000]	[0.001]	[0.013]	[0.053]
Obs.	383	485	204	56

Note: *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively. The values in parentheses are t-values. The estimation results were obtained using a GMM model. *Year* represents a year dummy and is marked Yes if it is included in the model. Obs. denotes the number of observations. The GMM includes a constant term, *Surplus*, *Bank*, *Growth*, *Unemployment*, *Bank*, *OECD*, and *Year* dummy as instrumental variables. All the countries classified as having a Scandinavian legal origin are OECD countries; therefore, we removed the OECD variable from the model. Source: Calculated by the author.

reduce economic performance. In contrast as Figure 2 illustrates, the rule of law in countries with Scandinavian legal origins is high. An increase in the rate of surplus value is associated with an increase in economic performance. Indeed, the more the value of the workers' output exceeds the value of their labour, the higher the workers' economic performance will be. However, the marginal effects of each legal origin are different, and the German legal origin has a negative impact.

5. Conclusions and implications

This study investigates how the rate of surplus value and the rule of law relate to economic performance, based on a régulation approach that emphasises institutional complementarity, wage-labour relations, and financial markets. In addition, we study the tendency for each of the four legal origin using dummy variables. We found that

the rate of surplus value is high for French and English legal origins and relatively low for German and Scandinavian legal origins.

The strength of the rule of law is the highest under Scandinavian legal origins, followed by German and English legal origins. However, the strength of the rule of law is the lowest under French legal origins.

Legal origins influence both the rate of surplus value and the rule of law. Hence, we see a negative relationship between the rate of surplus value and the rule of law. That is, the strength of the rule of law shows the potential to reduce the increase in the rate of surplus value. The normative individualist notion of the rule of law may restrain corporate 'exploitation'. In addition, the set of countries with French and English legal origins that showed a high rate of surplus value include many former colonies. The current situation of 'exploitation' of variable capital by corporates from the past may continue into the present via path dependency. As Acemoglu and Robinson (2012) demonstrate, the rule of law, which limits the tyranny of politicians, weakens the tendency towards institutional deprivation.

Subsequently, we analysed the relationship between the rate of surplus value and the size of credit provided by banks. The former is smaller in countries with a high rate of surplus value. This phenomenon can be explained by the fact that, in countries with a high rate of surplus value, there is a larger share of added value within firms that have more retained earnings. According to the pecking order hypothesis, firms direct funds with a small capital cost for investment. In other words, countries with a high rate of surplus value have more retained earnings and are likely to invest their earnings. Consequently, firms are less likely to receive funding from banks.

Simultaneously, the size of credit provided by banks is larger in countries with a higher rule of law. We believe that the reason for this positive relevance is that the concept of the rule of law is linked to the judicial system, property rights, the institution of creditor protection, and the system of access to information, to facilitate the supply of funds to banks. In summary, the size of credit provided by banks may depend on the individual financial institution.

We investigated how the rate of surplus value and the rule of law affect economic performance, as measured by GDP per capita. In this case, we considered the impact of legal origins in each country. The model estimates for economic performance were higher in countries with German legal origins with a lower rate of surplus value. In countries that do not have German legal origins, an increase in the rate of surplus value is associated with an increase in economic performance.

The rule of law is associated with higher economic performance in countries besides those with Scandinavian legal origins, where the rule of law has always been strong. In short, the marginal effects of the rate of surplus value and the rule of law on economic performance depend on legal origins. Therefore, while the legal origin and its institutional complementarity with the rule of law are essential, the question of subsequent capital investment and profit-sharing of the firms' larger share of surplus value will be an important focus of future debate.

The implications of this study are as follows. As each country's situation differs according to its legal origins, policies should consider and apply the legal origins and

legal environment, as well as endogenous institutions in each country. That is, blindly applying best practices from other countries to one's own country may create not only institutional discrepancies and reduce economic performance but also discrepancies in the environment surrounding workers.

This study has several limitations. For instance, it is unclear which legal doctrine at each legal origin affects the rate of surplus value and the rule of law. That is, due to the absence of a detailed theoretical model, we were able to conduct an empirical analysis within only a larger macroscopic framework. Therefore, future research must establish a detailed theoretical model.

Notes

1. According to Chavance (2007), the school of régulation retains the tradition of Marxian economics in its emphasis on commodity producers' market relations and the relationship between capital and labour. However, the régulation approach is very different from Marxian economics; it rejects the tendential decline of profit and does not regard the institutional stages of continuous capital accumulation as inevitable. The régulation approach emphasises institutional 'coordination' (institutional complementarity) and the wage-labour relationship. On the other hand, mainstream economics essentially emphasises both labour and capital investment in the production relationship. Therefore, it is not easy to analyse the distributional relationship between firms and workers purely in terms of the labour share or profit rate. To analyse the wage-labour relationship in this study, we use the rate of surplus value, which represents the percentage of workers and the share of companies. We believe that this fusion of the various schools of thought will offer new perspectives in this area of study.
2. The exploitation rate here simply indicates the ratio of the share between the employer and the employee. It does not include negative implications.
3. The rule of law prioritises a system of precedent where the courts produce precedents from unwritten rules and customs, whereas the legal state (Rechtsstaat) prioritises congressional statutes. However, Silkenat et al. (2014) discuss the intrinsic link between the rule of law and the legal state to the protection of human dignity and democracy.
4. English legal origins are classified as common law, while French, German and Scandinavian legal origins are classified as civil law (continental law). The French legal origin, based on civil law, originates from the Napoleonic Code, whereas the German legal origin has its roots in Roman law. Although the Scandinavian legal origin is generally described as Scandinavian civil law, its form does not belong to either the Anglo-American or continental legal tradition. While based on civil law, it also lacks a case law system. Zweigert and Kötz (1998) recognise the uniqueness of the Scandinavian legal origin.
5. David Ricardo provided the origin of the theory of labour. Additionally, Acemoglu and Robinson (2012) stated that the institutional structure of political deprivation and exploitation influences economic institutions. Therefore, we can also consider the rate of surplus value as a surrogate variable for depriving institutions.
6. Myers and Majluf (1984) proposed the pecking order hypothesis based on the empirical observation that firms finance using the source with the lowest cost of capital. Firms first use retained earnings, which have low transaction costs, and then finance the shortfall by debt such as bank loans and then by issuing bonds, which have higher capital costs. The last method is to issue shares, which has the highest issuance costs.
7. In this regard, it is not clear whether endogenous institutions, as expressed in the rate of surplus value, affect the legal environment or whether the legal environment, based on the rule of law, affects the rate of surplus value.

8. However, although we do not address it here, we feel that the issue of distribution in the value of surplus labour is a concern because a high rate of surplus value implies a high rate of exploitation on the part of firms in the modern era.
9. The original definition of the rate of surplus value is the value obtained by dividing surplus labour by socially necessary labour. However, the unit of socially necessary labour is time, and, therefore, it is unobservable. Although 'value' and 'price' have different definitions, we use observable labour costs as a surrogate for socially necessary labour. Thus, we define this surrogate variable for the rate of surplus value, measured in terms of price rather than value, as a monetary measure.
10. The regression analysis estimated in the following model controls for the differences in income levels and different stages of economic growth in each country.
11. If the ratio of surplus value is high, the capitalist's share will be higher. If that money goes to the firm's retained earnings, the firm's demand for financing will be less. Thus, the rate of surplus value and the scale of credit provided by banks may be negatively related.
12. As explained in Section 2, we add to the regression model to control for factors that are thought to affect the labour market. The variable of economic performance, *GDP/Capita,* and the variable of unemployment rate, *Unemployment,* are considered to directly affect the labour environment. Further, the variable of economic growth rate, *Growth*, which indicates the stage of development of the economy and the variable of *Industry,* which indicates the industrial structure, are economic factors affecting the labour environment.
13. We include *GDP/Capita* and *Growth* in the regression model to remove other factors that affect the rule of law. High economic performance may lead to the development of normative individualism and high strength of the rule of law. Conversely, a well-formed rule of law may lead to high economic performance. In addition, the strength of the rule of law is likely to be higher at higher stages of economic development.
14. In Eqs. (1) and (2), we add *GDP/Capita* to the regression model as a control variable for economic performance to control for the characteristics of developed countries. However, as the dependent variable in Eq. (3) is *GDP/Capita*, we add the *OECD* dummy variable as a secondary control for the characteristics of developed countries.

Acknowledgments

I express my deepest gratitude to Professor Keiji Abe, Takasaki City University of Economics, for the comments provided at the conference of the Japan Financial Management Association. I thank the two anonymous reviewers for their useful comments. I would also like to thank Editage (www.editage.com) for English language editing. Special thanks to Makiko and Akari, my family, who supported me throughout.

Disclosure statement

There are no relevant financial or non-financial competing interests to declare.

ORCID

Yosuke Tomita http://orcid.org/0000-0002-0646-424X

Data availability

This study uses publicly available data from the OECD, ILO, World Bank, and IMF.

References

Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail: The origins of power, prosperity, and poverty*. Crown Publishing.

Albert, M. (1993). *Capitalism vs. capitalism: How America's obsession with individual achievement and short-term profit has led it to the brink of collapse*. Four Walls Eight Windows.

Amable, B. (2003). *The diversity of modern capitalism*. Oxford University Press.

Amsden, A. H. (1981). An international comparison of the rate of surplus value in manufacturing industry. *Cambridge Journal of Economics*, *5*(3), 229–249. https://doi.org/10.1093/oxfordjournals.cje.a035483

Boyer, R. (2015). *Économie politique des capitalisms: Théorie de la régulation des crises. [Political economy of capitalisms: Theory of regulation and crises]*. La Découverte.

Chavance, B. (2007). *L'économie institutionnelle. [Institutional Economics]*. La Découverte.

Cuneo, C. J. (1984). Reconfirming Karl Marx's rate of surplus value. *Canadian Review of Sociology/Revue Canadienne de Sociologie*, *21*(1), 98–104. https://doi.org/10.1111/j.1755-618X.1984.tb01286.x

Hall, P. A., & Soskice, D. (2001). *Varieties of capitalism: Institutional foundation of comparative advantage*. Oxford University Press.

International Labour Organization (ILO). (2020). Labour statistics for the sustainable development goals (SDGs). https://ilostat.ilo.org/topics/sdg/

International Monetary Fund (IMF). (2020, April). World economic outlook database. https://www.imf.org/en/Publications/WEO/weo-database/2020/April

La Porta, R. L., Lopez-de-Silanes, F., & Shleifer, A. (2008). The economic consequences of legal origins. *Journal of Economic Literature*, *46*(2), 285–332. https://doi.org/10.1257/jel.46.2.285

La Porta, R. L., Lopez-de-Silanes, F., & Shleifer, A. (2013). Law and finance after a decade of research. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), *Handbook of the economics of finance* (pp. 425–491). Elsevier.

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1998). Law and finance. *Journal of Political Economy*, *106*(6), 1113–1155. https://doi.org/10.1086/250042

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, *58*(1–2), 3–27. https://doi.org/10.1016/S0304-405X(00)00065-9

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor protection and corporate valuation. *The Journal of Finance*, *57*(3), 1147–1170. https://doi.org/10.1111/1540-6261.00457

Lynch, M. J., Groves, W. B., & Lizotte, A. (1994). The rate of surplus value and crime. A theoretical and empirical examination of Marxian economic theory and criminology. *Crime, Law and Social Change*, *21*(1), 15–48. https://doi.org/10.1007/BF01307806

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, *13*(2), 187–221. https://doi.org/10.1016/0304-405X(84)90023-0

OECD. (2020). Member countries. http://www.oecd.org/about/members-and-partners/

Silkenat, J. R., Hickey, J. E., & Barenboĭm, P. (Eds.). (2014). *The legal doctrines of the rule of law and the legal state (Rechtsstaat)* (Vol. 38, pp. 3–90). Springer.

Varley, D. (1938). On the computation of the rate of surplus value. *Science & Society*, *2*(3), 393–396.

World Bank. (2017). *World development report: Governance and law*. World Bank Group.

World Bank. (2020a). The Worldwide Governance Indicators (WGI) Project. http://info.worldbank.org/governance/wgi/

World Bank. (2020b). World Development Indicators. https://data.worldbank.org/indicator.

Zweigert, K., & Kötz, H. (1998). *An introduction to comparative law* (3rd ed.). Oxford University Press.