



Foreign Aid and Domestic Governance: Evidence for ASEAN Countries

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Abstract

The impact of ODA on domestic governance in recipient ASEAN countries is empirically tested on a panel data set over 1996-2015, using the Hausman-Taylor technique, which effectively deals with possible endogeneity issues. The data are from the World Bank Worldwide Governance Indicators, the World Bank's World Development Indicators and from the Organization of Economic Cooperation and Development (OECD) database. Some important diagnostic tests were carried out. The hypothesis that higher ODA levels are associated with better governance is confirmed. It is found that higher ODA levels are associated with improved corruption control and that a high level of democracy practices promotes the rule of law and better corruption control. FDI is crucial in the improvements of governance quality and countries with "British legal origin" maintain higher governance quality. Some implications for the improvements of domestic governance, particularly related to corruption control, for the ASEAN countries and other transitional and developing economies, are listed.

Keywords: Foreign Aid, Governance, ASEAN, FDI, Corruption Control

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การช่วยเหลือจากต่างประเทศและวิธีการปกครอง ภายในประเทศ : หลักฐานสำหรับกลุ่มประเทศอาเซียน

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บทคัดย่อ

ผลกระทบของความร่วมมือเพื่อการพัฒนาว่าด้วยวิธีการปกครองภายในประเทศ สำหรับกลุ่มประเทศอาเซียนนั้น ผ่านการทดสอบเชิงประจักษ์โดยใช้กลุ่มข้อมูลแบบพาแนล ในช่วงปี ค.ศ. 1996-2015 ด้วยวิธีของ ฮูสมาน-เทลเลอร์ ซึ่งเป็นเทคนิคที่มีประสิทธิภาพสำหรับปัญหาตัวแปรที่ใช้ในการอธิบายมีความสัมพันธ์กับค่าความคลาดเคลื่อน ทั้งนี้ข้อมูลดังกล่าวมาจากดัชนีวัดธรรมาภิบาลโลกและดัชนีวัดการพัฒนาโลกของธนาคารโลก ประกอบกับฐานข้อมูลขององค์การเพื่อความร่วมมือและการพัฒนาทางเศรษฐกิจ จากการทดสอบแบบวินิจฉัยที่สำคัญบางประการ มีการยอมรับสมมติฐานที่ว่าระดับความร่วมมือเพื่อการพัฒนาที่สูงกว่าสัมพันธ์กับธรรมาภิบาลที่ดีขึ้น อีกทั้งยังพบว่า ระดับความร่วมมือเพื่อพัฒนาที่สูงขึ้น สัมพันธ์กับการควบคุมการทุจริตที่ดีขึ้น และวิธีปฏิบัติตามระบอบประชาธิปไตยในระดับสูง ส่งเสริมต่อหลักนิติธรรมและการควบคุมการทุจริตที่ดีขึ้น นอกจากนี้ การลงทุนโดยตรงจากต่างประเทศมีความสำคัญต่อการพัฒนาคุณภาพวิธีการปกครอง โดยประเทศที่ใช้ “รูปแบบกฎหมายจากสหราชอาณาจักร” สามารถดำรงระดับคุณภาพวิธีการปกครองได้สูงกว่า ทั้งนี้มีนัยสำหรับการพัฒนาวิธีการปกครองภายในประเทศ โดยเฉพาะที่เกี่ยวกับการควบคุมการทุจริต สำหรับกลุ่มประเทศอาเซียน กลุ่มประเทศเศรษฐกิจเปลี่ยนผ่านและประเทศกำลังพัฒนา

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Introduction

Over decades, the effects of foreign aid, including its impact on the quality of governance in the recipient countries, have attracted considerable attention of academics, development policymakers, donors, and other stakeholders. Since its inception in the late 1940s (Bräutigam and Knack, 2004; Addison et al., 2017), foreign aid has been committed and disbursed to many developing and transitional countries, in order to assist them in their rehabilitation, reconstruction and development efforts. Many of these aid-receiving countries were, or continue to be, devastated by years of enduring civil wars, internal conflicts and political instability, plunging its people in extreme poverty and depriving them of their basic needs. Despite its main objective being to fight against poverty and to promote economic, social and human development, foreign aid has been criticized for being ineffective in promoting economic activities (Boone, 1996; Williamson, 2008), failing to improve the recipient countries' institutions and governance (Knack, 2001; Ear, 2007a; Asongu and Nwachukwu, 2016), and promoting opportunist behavior and rent-seeking activities (Svensson, 2000; Hodler, 2007).

However, a large body of empirical studies reports on the important role played by foreign aid in enhancing economic growth (Hansen and Tarp, 2001; Dalgaard and Hansen, 2001; Feeny, 2005; Brücker, 2013; Askarov and Doucouliagos, 2015; Arndt et al., 2015), reducing poverty (Alvi and Senbeta, 2012; Kaya et al., 2013; Ravallion, 2014), and improving institutions and governance (Okada and Samreth, 2012; Kersting and Kilby, 2014; Jones and Tarp, 2016). Clemens et al. (2012) and Askarov and Doucouliagos (2015) have investigated why different studies over the past decades on the effects of foreign aid draw different conclusions. They indicate that the previous studies on aid effectiveness suffered from measurement problems, as well as from methodological flaws. First, these studies focused primarily on the contemporaneous effects of aggregate aid. However, different aid-funded projects may exert different effects at different times. For instance, aid-for-trade may affect economic activity with a small time-lag, whereas humanitarian aid might well never affect economic growth (Clemens et al., 2012). Secondly, another problem relates to the heterogeneity of recipient countries in a sample, which might create unsurmountable difficulties in disentangling aid effects in the sample as a whole. Thirdly, the issue of endogeneity was not sufficiently addressed by the use of the conventional instrumental variable estimator, which uses external instruments that are often difficult

to find, resulting in questionable validity of the instruments and estimation results.

Taking these shortcomings of previous studies into account, we investigate in the present paper the impact of foreign aid on governance in the recipient countries of ASEAN (Association of Southeast Asian Nations). In this way, we contribute to the existing literature on the subject by focusing on eight developing ASEAN member states that have received foreign aid during the 1996-2015 period.¹

The ten ASEAN countries form a rather heterogeneous group economically, with Singapore and Brunei Darussalam having a per capita income in Purchasing Power Parity of more than USD 70,000 on the one hand, and Cambodia, Lao PDR and Myanmar with a per capita income of one-tenth of this level (Cuyvers, 2019: Table 1). The ASEAN countries have experienced high economic growth rates since the 1980s, an achievement that until 2008 was only briefly interrupted during the 1997-99 Asian financial crisis. Economic growth in the eight developing ASEAN countries has been largely export-led, as well as triggered by inward foreign direct investment. With the opening up of their economies, also important institutional changes took place. The developing ASEAN countries are, therefore, interesting to study whether the received aid and the internationalization of their economies has impacted governance.

In the present study the World Bank Worldwide Governance Indicators are used, the statistical series of which start in 1996. The period considered in our investigation starts therefore with the three years of the “Asian economic crisis” (1997-1999). It also contains the years 2008-2010 of worldwide recession. However, the ASEAN countries have experienced impressive economic growth during the 1996-2015 period and among the four poorest of these countries, two – Vietnam and Cambodia - were able to leave their least-developed country status behind.

In addition, rather than using the conventional instrumental variable estimator that requires external instruments which are in many cases difficult to find and reportedly suffer from questionable validity, we employ Hausman-Taylor estimator—the instrumental

¹ Singapore and Brunei are much more advanced ASEAN members that have not received foreign aid over the studied period. They have also enjoyed both much higher incomes and quality of governance as compared to the rest of this regional grouping. The eight ASEAN members include Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand, and Vietnam.

variable method that uses only internal information as instruments. We also test aid effects on governance by breaking down our data set by donor. This is largely motivated by the fact that aid from different donors may have different objectives and effects. For instance, some donors may provide aid to help promote economic activity directly in the recipient countries, while other donors may focus primarily on promoting institutions and governance, human rights, democracy and so on, through non-governmental organizations.

The remainder of this paper is organized as follows. Section two reviews of literature on the nexus between foreign aid and governance. Section three discusses the econometric specification and the data, followed by the estimation techniques in Section four. Section five presents and discusses the estimation results. Section six concludes.

Links between Aid and Governance

Many studies have shown that governance matters for the overall long-run economic performance (North, 1990; Gradstein, 2004; Minoiu and Reddy, 2010; Gani, 2011). Governance is broadly defined as the government's ability to make and enforce rules, and to deliver services, regardless of whether that government is democratic or not (Fukuyama, 2013). It is multi-faceted, encompassing all aspects of the exercise of authority through formal and informal institutions in the management of the resource endowment of a state (Garcia-Sanchez and Cuadrado-Ballesteros, 2013).

“Good governance” is required by international institutions as a condition for international assistance to developing countries (Hamilton, 1989, Amsden, 2007), but the concept of “good governance”, originally introduced by the World Bank (World Bank, 1992), is much debated and instead the adoption of the concept of “sound governance” has been advocated (Farazmand, 2004). On the other hand, aid not only affects foreign direct investment and international trade, as well as economic growth and development, but it also affects governance and institutions in the aid-receiving countries. It has been argued that globalization and privatization as a part of structural adjustment programs, has promoted corruption in less- as well as more-developed nations (Farazmand, 1999; Farazmand, 2001).

The effectiveness and impacts of foreign aid on the quality of governance, however, have been widely disputed among development economists, political

scientists, policymakers and practitioners, over the past decades. Foreign aid granted by the developed countries and, more recently, by an increasing number of developing countries as official development assistance (ODA) and other forms of assistance (charities, support by non-governmental organizations and civil society) to transitional and poor developing countries, is aimed at driving economic development and improve welfare of these recipient countries (Keeley, 2012).

Theoretically, aid is supplementary to tax revenues of governments in aid-receiving countries, thus lessening binding financial constraints (Busse and Gröning, 2009). This allows the recipient governments to focus their attention on improving governance, which includes rule of law, law enforcement, maintenance of social order and security, the fight against corruption, improvements of public service delivery, and so on. Some forms of aid, e.g., aid-for-trade, provide technical assistance to the recipients, thereby contributing more directly to the improvement of the quality of their institutions, governance and accountability.

Foreign aid can be used to improve governance in many ways (Degnbol–Martinussen, 2002; Bräutigam and Knack, 2004; Brazys, 2016). First, more aid to governments means more funds available for their development agendas for improving public services, enhancing effective policy formulation and its implementations, and establishing strong, effective institutions. Second, foreign aid can be utilized for enhancing state capacity through training and technical assistance to meet the development demands of the recipients. This could lead to the enhancement of the quality of public administration and the use of public resources, thus boosting the effectiveness of governance and institutions. Third, it can be used to strengthen procedures and institutions for state-society linkages, which includes support for judicial reforms and the rule of law, as well as the fight against corruption, that remains a serious hurdle to economic and social development in many developing countries. Fourth, some foreign aid is directly made to empower non-governmental organizations and civil society organizations with truly genuine development agendas in their missions, so that they can engage more productively with their host governments for the benefit of the general public.

The pessimist views on foreign aid, however, suggest that aid may result in the deterioration of governance quality in the receiving countries in several ways (Knack, 2001; Bräutigam and Knack, 2004; Askarov and Doucouliagos, 2015). First, aid-funded

projects siphon off talented employees of the public sector because their pays in the government jobs in the poor developing world are notoriously low and insufficient for a decent living standard. This encourages government employees to have multiple jobs, thus distracting their attention and reducing their commitment in their government workplace. Second, foreign aid may undermine institutions, encourage rent-seeking behavior, foment conflicts over the control of aid funds and/or aid-funded projects, and alleviate pressure to make necessary reforms of the existing inefficient political institutions and policies. Government employees' involvements in the projects funded by foreign aid leave them less time to devote to their work at their own workplace, which adversely affects the quality of governance. Third, aid dependence may create moral hazard by aid-receiving governments who believe that they may be bailed out by the donor community when facing fiscal constraints (Cuyvers and Soeng, 2018).

Addison et al. (2017) have taken stock of a large body of previous empirical work on the aid effects and its effectiveness since the establishment of foreign aid programs in the late 1940s. These empirical studies reported mixed results, especially those related to macroeconomic (aid-growth) effects of aid. Such inconclusive results might be due largely to different methodologies and data used (cross-sectional vs. panel data) as well as differing time horizons. However, findings of more recent studies seem to converge (Addison et al., 2017). In their in-depth review of the existing aid-growth literature, Arndt et al. (2015) take note of the positive role that aid has played in promoting economic growth for the aid recipients over the longer time horizons. In a similar vein, Addison et al. (2017) indicate that—based on a comprehensive review of the empirical studies on aid effects—the pessimist views that aid is ineffective and harmful receive much less empirical support in the existing literature.

It is rather surprising that work on the effects of foreign aid on governance is relatively scarce. Using data from 32 African countries over 1982-1997, Bräutigam and Knack (2004) found that aid deteriorated governance and that the negative relationship between high aid levels and the worsening governance is statistically significant and robust. Their findings also suggested that higher aid levels resulted in a lower tax share of GDP, which is confirmed by a number of studies (Crivelli and Gupta, 2017). Similarly, Busse and Gröning (2009) examined the aid-governance nexus based on a sample of 106 aid-receiving countries over the period 1984-2004, using the Generalized Method of

Moments (GMM) estimation strategy. Their estimation results suggested that aid negatively affected governance in these countries. Their findings are robust to different specifications.

However, a number of studies reported positive aid effects on governance. Jones and Tarp (2016) found that foreign aid exerted a positive net effect on political institutions and that the positive effect was largely generated by the conditionality that aid was allocated for the enhancement of the quality of governance in the recipients. Their finding is in line with that of Kersting and Kilby (2014) who found evidence for the long-run aid effect on democracy, which confirmed the earlier results reported by Knack (2004). Kersting and Kilby also explored whether foreign aid was channeled through donors' leverage and conditionality, and provided evidence that aid has been operated in response to the recipient countries' commitments to undertaking a democratization process and democratic reforms. Yet another study was carried out by Dutta et al. (2013) who examined the nexus of aid and political institutions, and concluded that aid contributed to making already democratic countries more democratic. Their econometric results also suggest that aid can be used to strengthen democracy in countries where democracy is weakly practiced. Okada and Samreth (2012) investigated the effects of multilateral aid on corruption and showed that higher aid levels were correlated with lower corruption. However, no effects were found in the case of bilateral aid. A positive impact of aid on democracy was also reported by other scholars (Findel et al., 2007; Scott and Steele, 2011).

Several studies reported negative aid effects on governance and institutions. Using cross-sectional data from 80 recipient countries, Knack (2001) found that aid dependence hurts the quality of institutions and governance, which is proxied by rule of law, bureaucratic quality, and control of corruption in the government, over the studied period. Asongu and Nwachukwu (2016) investigated whether foreign aid has had any impact on governance in Africa. With the governance data from the World Bank's Worldwide Governance Indicators covering 52 African countries, they found that aid in the form of ODA undermined these countries' quality of governance, measured by indexes of government effectiveness, regulatory quality, control of corruption and rule of law. Other aspects of governance, such as voice and accountability, and political stability, do not seem to be negatively affected by aid.

Following Knack (2001), with different data sources and somewhat improved

estimation methods, Ear (2007a) tried to replicate Knack's results, using indexes of the World Bank's concept of governance, which is disaggregated into six dimensions, namely Control of Corruption, Government Effectiveness, Rule of Law, Regulatory Quality, Political Stability, and Voice and Accountability. Using data from more than 200 countries and territories over five years, Ear's estimation results suggest that only the rule of law is found to be negatively related to aid, but its statistical evidence is rather weak. The findings are not robust and largely sensitive to the model specification. Another paper by Ear (2007b) used Cambodia as a case study to look into the relationship between aid and governance. Based on a survey of just 43 respondents who, as indicated by Ear, were 'development experts' working for donor agencies, international NGOs, local NGOs, and the Royal Government of Cambodia, he concluded that aid did not have a positive impact on governance in Cambodia and may even have contributed to its further deterioration (Ear, 2007b). However, these results may suffer from methodological flaws, and the interpretations of the results, therefore, have to be made with great caution, due largely to the very small sample size of a survey of only 43 informants that, in any case, cannot represent the population of Cambodia.

Based on the brief review presented above, the hypothesis that will be tested in this paper is: governance is positively influenced by foreign aid.

Econometric Specification and Data

In light of the conceptual discussion and empirical literature presented above and following previous empirical work (Boone, 1996; La Porta, 1999; Knack, 2001; Al-Marhubi, 2004), our econometric specification to investigate the effects of foreign aid on the quality of governance in ASEAN member states is as follows:

$$\begin{aligned} Governance_{it} = & \beta_0 + \beta_1 Aid_{it} + \beta_2 Ln(GDPCCAP)_{it} + \beta_3 FDI_{it} \\ & + \beta_4 Openness_{it} + \beta_5 Democracy_{it} + \beta_6 BLO + \alpha_i + \varepsilon_{it}, \end{aligned} \quad (1)$$

where $i = 1, 2, 3, \dots, N$ and $t = 1, 2, 3, \dots, T$ (1996 to 2015, inclusive)

The subscripts i and t refer to each ASEAN member state and time, respectively. α_i stands for individual country-specific effects, accounting for the unobserved heterogeneity, and is a white noise error term. A variable in logarithm is denoted by Ln .

In equation (1), the quality of governance (*governance*) is modelled as influenced by foreign aid (*Aid*), per capita income (*GDPCAP*), trade openness (*Openness*), the quality of democracy in the aid-recipient countries (*Democracy*), and British legal system origin (*BLO*) which is a binary variable taking the value of 1 if the country's legal origin is British and 0 otherwise. It should be noted that the introduction of the *BLO* variable allows to test the “legal origins theory” (La Porta et al., 2008), but as the variable also reflects historical and institutional aspects of the countries, among others colonial (and post-colonial) history, also non-legal explanations can be involved.² However, the explanatory variables included in equation (1) need to be formally tested and the results are presented in Tables 2-6.

The econometric specification (1) is estimated by using a panel data set from ASEAN member countries over 1996-2015.³ Data for the dependent variable (*governance*) are from the World Bank's Worldwide Governance Indicators database online. The World Bank's worldwide governance indicators provide six dimensions of governance, covering more than 200 countries and territories since 1996. The six aspects of good governance include government effectiveness, regulatory quality, rule of law, and control of corruption, voice and accountability, and political stability and absence of violence.

The World Bank's Worldwide Governance Indicators (WGI) are based on the perceptions of governance from 31 different data sources provided by 25 different organizations. Although thus providing a synthesis of the views of a very large and diverse group of stakeholders, they have been criticized by some researchers, but have become among the most widely used indicators of governance by policymakers and academics (Kaufmann, Kraay and Mastruzzi, 2007: 1). The WGI are unique being the first indicators that allow at the same time international comparative research and time series analysis.

Following Dadasov (2016), the WGI data on political stability and absence of violence are excluded from our analysis since they capture political institutions and

² As Klerman et al. (2011) indicate the variable correlates almost perfectly with former colonial policies. In this paper, only two countries (Malaysia and Thailand) have “British legal origin”, one of which was not colonised.

³ Since Brunei Darussalam and Singapore were not aid recipient countries over the period under investigation, they, therefore, were excluded from the analysis.

the processes of government selecting and building only. The first four WGI indicators (government effectiveness, regulatory quality, rule of law, and control of corruption, voice and accountability) capture the institutions that govern the government's capacity to implement sound policies and interactions of socioeconomic agents. Kaufmann et al. (2010) define the remaining four governance indicators as follows: government effectiveness (GE), measuring the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies; regulatory quality (RQ), capturing perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development; rule of law (RL), capturing 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; and control of corruption (CC), measuring 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.

Explanatory variables data, such as GDP per capita measured in Purchasing Power Parity, foreign direct investment (FDI) as a percentage of GDP, and trade openness (Openness) as a percentage of GDP, are from the World Bank's World Development Indicators. Foreign aid is from the Organization of Economic Cooperation and Development (OECD) database, while the democracy index and the British legal origin (BLO) indicators are from the Center for Systematic Peace's Polity IV and La Porta et al. (1999), respectively. Details on variable descriptions and data sources are given in the Appendix.

Figure 1 depicts the stylized facts of the evolution of the four aspects of governance quality for the eight ASEAN member states in our sample over 1996-2015. Overall, the old ASEAN member states (Thailand, Malaysia, Indonesia, Philippines), on average, outperformed the new ones, namely CLMV (Cambodia, Lao PDR, Myanmar and Vietnam). Malaysia enjoyed the highest governance quality for the period under consideration (Panels A-D). Looking at the index for individual dimensions of governance, Malaysia performed better in terms of control of corruption, followed by Thailand. Its control-of-corruption scores were above the average on the -2.5 to 2.5 scale, despite

the fact that Malaysia’s control of corruption indexes worsened in 2015. CLMV experienced the lowest level of governance quality, with Myanmar being at the bottom and Vietnam at the top of the CLMV.

Malaysia also enjoyed the highest level of government effectiveness, followed again by Thailand, which implies that these two countries are in a better position in implementing policies more effectively. In contrast, Myanmar was by far the worst performer, being faced with the lowest quality of government effectiveness. Malaysia has also maintained its highest performance vis-a-vis the other members of the grouping. In contrast, Myanmar was invariably faced with the lowest regulatory quality and was the worst performer of the other governance dimensions, including the rule of law.

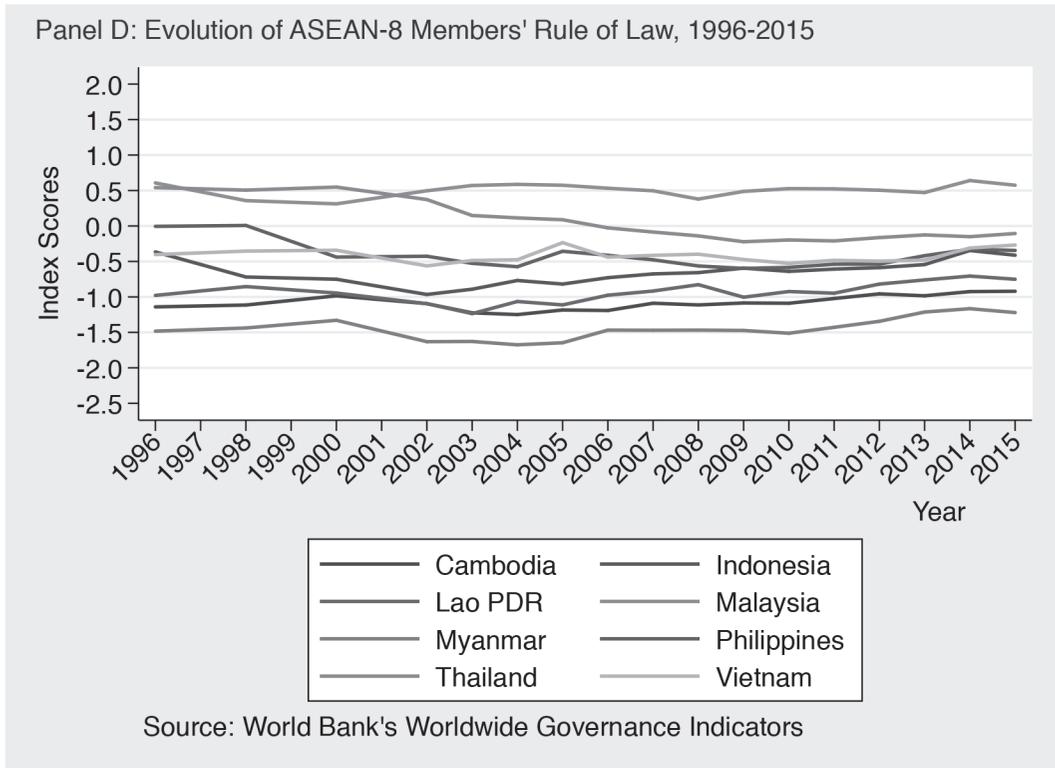
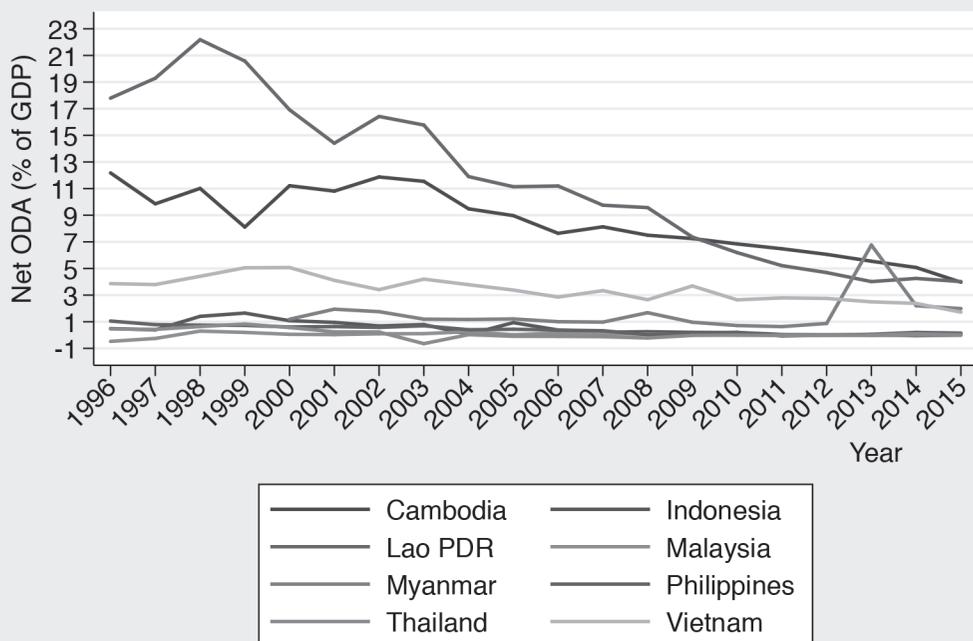


Figure 2 shows the trends of net official development assistance (ODA) as a percentage of GDP for the eight ASEAN member countries that are considered, between 1996 and 2015, inclusive. Lao PDR has been the most aid dependent economy, measured

by net ODA as a percentage of its GDP. Between 1997 and 2009, net ODA reached more than 20% of Lao PDR's GDP. However, its aid dependency has decreased over time from 1998 onwards. Cambodia is the second economy that has been dependent on foreign assistance for its economic development, having received more than 12% of GDP in 1996, but, as in the case of Lao PDR, the country's dependency on aid has declined over time. Some more advanced members of the regional bloc, namely Malaysia and Thailand, became net aid donors for some years under investigation, as is evidenced by the negative net ODA as a percentage of their respective GDP. Likewise, Indonesia was also a net ODA donor in 2014-15.

Figure 2: Trends of ASEAN-8 Members' Net ODA as % of GDP, 1996-2015



Source: World Bank's World Development Indicators

Estimation Strategy

Many previous studies investigating the links between foreign aid and the quality of governance or determinants of governance were using cross-sectional data, the dataset that contains information on the sample of individual countries taken at a given point in time only (La Porta et al., 1999; Knack, 2001; Al-Marhubi, 2004; Ear, 2007a; Seldadyo et al., 2010). However, it has been recently argued that the use of cross-sectional data analysis

leads to biased results due to unobserved individual country-specific heterogeneity that cannot be controlled for in the estimations of the cross-sectional data (McPherson and Trumbull, 2008; Rault et al., 2009; Goh et al., 2013).

Therefore, in the present paper we opt for a panel data set, i.e., data containing time series of a number of individual countries, in the estimations of econometric specification (1). Panel data have several advantages over the usual cross-sectional or time series data (Hsiao, 2003, 2005, 2007; Plasmans, 2006). Plasmans (2006) has shown that panel data are more efficient with respect to random sampling and ease of identification, present less multicollinearity and are better for aggregation as this may vary over time. Similarly, Hsiao (2005) has indicated that an important advantage of panel data is that it allows controlling for the effects of omitted variables and contains information on the inter-temporal dynamics. Moreover, the individuality of the entities allows the effects of missing or omitted variables to be controlled for.

Panel data sets allow using three estimation procedures: pooled OLS, fixed-effects (FE), or random-effects (RE) estimations. If the assumption holds that the unobservable individual country-specific effects are not very different, pooled OLS estimations are the most efficient and simplest method. The FE estimator takes into account the unobservable country heterogeneity, and is always less efficient than the RE estimator, but the latter may suffer from endogeneity bias (based on the Hausman test) so that the FE estimator is preferred in that case. However, the use of a fixed-effects model will drop the time-invariant variable, and will make FE estimations less preferred to the RE estimation alternative. Like the FE model, RE estimations take into consideration the unobservable heterogeneity effects, but incorporate these effects into the error terms, which are assumed uncorrelated with the explanatory variables.

To choose the most appropriate model for the panel data set from these three competing models, three statistical tests are available (Plasmans, 2006): the F-test, the Hausman specification test (Hausman, 1978), and the Lagrange multiplier test (LM test) (Breusch and Pagan, 1980). The F-test is used to carry out a test for the FE model against the pooled OLS. The null hypothesis of the F-test is that all individual effects are equal (pooled regression), or algebraically, $H_0: \alpha_1 = \alpha_2 = \alpha_3 = \dots = \alpha_N = \bar{\alpha}$, with the F-test statistic for the joint significance of the individual effects. The rejection of the null hypothesis will be in favor of the FE model.

The choice between pooled OLS and RE models is tested using the Breusch and Pagan (1980) LM test. If individual country-specific effects do not exist, the pooled OLS model is known to deliver the best linear unbiased estimators (BLUE), while RE estimators are not efficient. The opposite is true if individual country-specific effects do exist in the panel data set. The pooled OLS model assumes that the individual specific effects, α_i , are equal and different from zero, while the RE model assumes that they follow a random, independently and identically distributed stochastic process; that is, $\alpha_i \sim iid(0, \sigma_\alpha^2)$; u_{it} is assumed to be normally distributed with zero mean and constant variance, that is, $u_{it} \sim iid(0, \sigma^2)$. It has been shown by Breusch and Pagan (1980) that, under the null hypothesis $H_0, \sigma_\alpha^2 = 0$ against the alternative hypothesis $H_1, \sigma_\alpha^2 > 0$, the LM test statistic is asymptotically χ^2 distributed with one degree of freedom. A large value for the LM test statistic will reject the null hypothesis in favor of the RE model.

The Hausman test is for testing the appropriateness of the FE model against the RE model. The Hausman test statistic is computed as follows (Verbeek, 2004):

$$\psi_H = (\hat{\beta}_{FE} - \hat{\beta}_{RE})' [\hat{V}\{\hat{\beta}_{FE}\} - \hat{V}\{\hat{\beta}_{RE}\}]^{-1} (\hat{\beta}_{FE} - \hat{\beta}_{RE}) \quad (2)$$

where \hat{V}_s denote estimates of the true covariance matrices. Under the null hypothesis that the explanatory variables and α_i are uncorrelated, the Hausman test statistic ψ_H is asymptotically χ^2 distributed with K degrees of freedom, where K is the number of slope coefficients in the random effects model. A large value of ψ_H leads to the rejection of the null in favor of the fixed effects model.

The alternative approach to either FE or RE models is the Hausman-Taylor (H-T) method, which was proposed by Hausman and Taylor (1981). The H-T method combines the FE and RE estimation strategies and allows the estimations of both time-constant and time-varying explanatory variables that appear in our econometric specification. The H-T model takes the following form (McPherson and Trumbull, 2008):

$$y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \alpha_1 Z_{1i} + \alpha_2 Z_{2i} + u_i + \epsilon_{it}, \quad (3)$$

where ϵ_{it} is the white noise error term and is the country specific effect. Hausman and Taylor (1981) define four sets of variables: X_{it} are variables that are time-varying and are

uncorrelated with u_i ; Z_{1i} are variables that are time-constant and are uncorrelated with u_i ; X_{2it} are variables that are time-varying and are correlated with u_i ; and Z_{2i} are variables that are time-constant and are correlated with u_i . The presence of X_{2it} and Z_{2i} that are correlated with u_i is the root cause of biased results in the random-effects method.

Hausman and Taylor (1981) have proposed the estimation strategy that uses only the information already contained within the model to serve as instruments for X_{2it} and X_{2i} . As the H-T approach does not require the use of external instruments, the difficulties of finding the most suitable instruments can therefore be avoided (McPherson and Trumbull, 2008; Rault et al., 2009; Greene, 2012).⁴ The instruments can be constructed by taking deviations of the time-varying variables X_{1it} and X_{2it} from their group means. The transformation to deviations from the group means removes the part of disturbance that is correlated with X_{2it} , which is similar to the fixed-effects estimator (Greene, 2012). Since Z_{1i} variables are uncorrelated with the disturbances, they can also serve as instruments. Likewise, X_{1it} variables, by definition, are uncorrelated with disturbances, so their group means are also uncorrelated with the disturbances, and they can thus be used as instruments in the H-T estimator.

To summarize, the H-T method is an instrumental variable technique that uses only information already contained in our econometric specification. Therefore, the challenges of finding suitable instruments can be avoided (McPherson and Trumbull, 2008; Rault et al., 2009; Greene, 2012). The approach does not only address the endogeneity issue which can be also overcome by the fixed-effects estimator, but it also provides the estimates for important time-invariant variables that are automatically dropped by the fixed-effects model. Thanks to its potential usefulness (the appealing characteristics of fixed-effects and random-effects models combined), the H-T estimator was used in a number of previous studies (McPherson and Trumbull, 2008; Rault et al., 2009; de Jong and Bogmans, 2011; Goh et al., 2013).

⁴ Clemens et al. (2012) indicate that the diverse results reported by different studies on aid effects are largely due to the use of questionable, poor-quality external instrumental variables by the traditional instrumental variable approach.

Empirical Results

Table 1 presents descriptive statistics and multicollinearity checks for all included variables. The average scores for all governance variables over the period under investigation are well below the median score on the 0-10 scale. The VIF values for all explanatory variables are much lower than 5, indicating the absence of harmful multicollinearity among these explanatory variables. This suggests the stability of the estimates of these variables.

Table 1: Basic Statistics and VIF Values for Explanatory Variables

Variable Name	VIF	Mean	Minimum	Maximum
AidTotal	2.06	3.10	0	22.18
Ln(GDPCAP)	3.94	8.51	6.73	10.20
FDI	1.44	3.63	-2.76	10.31
Openness	1.99	99.87	0.17	220.41
Democracy	1.49	3.66	0	9
BLO	2.86	0.25	0	1
CC	–	3.67	1.60	6.11
GE	–	4.43	1.69	7.48
RL	–	3.93	1.65	6.28
RQ	–	4.13	0.31	6.67

Notes: *AidTotal* is total official development assistance as percentage of GNI; *LnGDPCAP* is log of GDP per capita; *FDI* is foreign direct investment, measured as % of GDP; *Openness* is trade openness; *Democracy* is democracy index; *BLO* is binary variable, representing British legal origin; *CC* is control of corruption; *GE* is government effectiveness; *RL* is rule of law; and *RQ* denotes regulatory quality.

To report the best possible results, we carried out the Hausman test in order to choose the most appropriate technique to estimate our econometric specification (1). Other diagnostic tests such as heteroskedasticity and autocorrelation were also carried out. The test results, which are reported along with the estimated coefficients, suggest that the fixed-effects estimation method is statistically suitable. Tests for heteroskedasticity show that the null hypothesis of homoskedasticity is strongly rejected at the 1% significance level, which implies that heteroskedasticity is present in our data set. Likewise,

the autocorrelation test statistics are also significant, indicating the presence of autocorrelation. Therefore, our econometric specification above is estimated with serial correlation and heteroskedasticity robust standard errors.

Table 2: Fixed-Effects Estimation Results for Total Aid

Variable	CC	GE	RL	RQ
Constant	2.580** (0.997)	2.148 (1.708)	3.686* (1.818)	2.510 (2.298)
AidTotal	0.072*** (0.017)	0.007 (0.018)	-0.008 (0.024)	0.005 (0.053)
Ln(GDPCAP)	0.012 (0.102)	0.224 (0.201)	-0.013 (0.202)	0.155 (0.221)
FDI	0.076** (0.024)	0.034 (0.022)	0.057** (0.019)	0.057** (0.021)
Openness	0.003 (0.003)	0.002 (0.002)	- (0.002)	0.001 (0.004)
Democracy	0.043*** (0.010)	0.013 (0.020)	0.049 (0.037)	-0.016 (0.037)
BLO	-	-	-	-
Overall R ²	0.024	0.716	0.167	0.145
No. of Obs.	134	134	134	134
Autocorrelation test	88.69***	17.72***	8.08**	14.19***
Heteroskedasticity test	247.50***	34.43***	86.94***	178.32***
Hausman test	N.M	509.09***	62.47***	N.M

Notes: 1. *Ln* denotes natural logarithm and N.M denotes 'not meaningful results'.

2. *AidTotal* is total foreign aid provided by all donors; *LnGDPCAP* is log of GDP per capita; *FDI* is foreign direct investment, measured as % of GDP; *Openness* is trade openness; *Democracy* is democracy index; and *BLO* is binary variable, representing British legal origin.

3. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.

4. Standard errors are serial correlation and heteroskedasticity robust standard errors in parentheses.

The fixed-effects results show that the variable of our interest, foreign aid, is positive and highly significant at the 1% level, for control-of-corruption, which suggests that aid does have a positive impact on the control of corruption in the countries under study. This finding provides evidence of statistical association between higher level of foreign aid and better control of corruption in the aid-receiving countries. Our result is in line with a number of previous empirical studies (Tavares, 2003; Okada and Samreth, 2012; Mohamed and Azman-Saini, 2015). However, aid appears not to be associated with the quality of other aspects of governance such as government effectiveness, rule of law and regulatory quality, as they lack statistical significance for these governance indicators.

The estimated coefficient on FDI has the positive sign and is significant at the 5% level. This provides evidence that higher level of FDI in the host countries leads to better quality of domestic governance in these countries. The finding suggests that foreign investors may require a particular level of quality of governance in a host country before they decide to invest in this country. In addition, they may push for improvements of governance quality in order to better secure investment permits and operations in the host economy. Similarly, democracy is also found to be related to the quality of governance, implying that countries that are more democratic enjoy better control of corruption. Other variables, such as per capita GDP and economic openness, are not significant at the conventional significance level, which indicates that these two variables do not seem to be relevant to governance quality.

The use of the fixed-effects approach drops an important time-constant variable, BLO (British legal system origin). To retain this variable and to address possible endogeneity issues, we report the estimates by the Hausman-Taylor method, the instrumental variable technique that removes the correlation between the composite error terms and the included variables. As discussed above, it uses only information (internal instruments) already contained in the econometric specification (1). Therefore, the challenges of finding suitable external instruments can be avoided. The Hausman-Taylor results are reported in Table 3, which are consistent with those reported in Table 2. The coefficient on aid retains its statistical significance at the 1% level for the case of control of corruption. Likewise, FDI also retains its significance for all four aspects of governance, confirming FDI plays an important role in promoting governance quality in the eight ASEAN host economies. The coefficient on democracy is positive and turns to be significant for both control of

corruption and rule of law, suggesting that countries that are more democratic achieve higher quality of control of corruption and rule of law. BLO is found to be highly significant for the four dimensions of governance, implying that countries with so-called British legal origin have better control of corruption, more government effectiveness, better quality of rule of law and higher quality of regulatory quality. Per capita income turns to be statistically significant at the 1% level (Table 3), which indicates that citizens of countries with high per capita income tend to demand that their governments be more effective.

Table 3: Hausman-Taylor Estimation Results for Total Aid

Variable	CC	GE	RL	RQ
Constant	1.933** (0.905)	1.494** (0.710)	2.994*** (0.779)	1.832* (1.007)
AidTotal	0.071*** (0.017)	0.006 (0.012)	-0.009 (0.014)	0.005 (0.017)
Ln(GDPCAP)	0.032 (0.104)	0.234*** (0.075)	0.002 (0.088)	0.167 (0.108)
FDI	0.072*** (0.018)	0.032** (0.013)	0.054*** (0.015)	0.054*** (0.018)
Openness	0.004** (0.002)	0.002 (0.001)	1×10^{-4} (0.001)	0.001 (0.002)
Democracy	0.050** (0.020)	0.017 (0.015)	0.054*** (0.017)	-0.012 (0.021)
BLO	1.713*** (0.578)	2.123*** (0.693)	2.056*** (0.548)	2.067** (0.941)
No. of Obs.	134	134	134	134

Notes: 1. *Ln* denotes natural logarithm.

2. *AidTotal* is total foreign aid provided by all donors; *LnGDPCAP* is log of GDP per capita; *FDI* is foreign direct investment, measured as % of GDP; *Openness* is trade openness; *Democracy* is democracy index; and *BLO* is binary variable, representing British legal origin.

3. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.

4. Standard errors are serial correlation and heteroskedasticity robust standard errors in parentheses.

To investigate whether the impact of foreign aid on governance depends on its sources, we broke down aid by aid from DAC countries, the EU, and multilateral institutions such as the World Bank. The results are reported in Tables 4-6. Foreign aid from the EU, DAC donors, and multilateral institutions are found to have improved the control of corruption in the recipient ASEAN countries. This finding seems to suggest that these institutions may require the aid-receiving countries to address their corruption issues as a condition for aid. As in the case of aggregate aid, FDI and BLO retain their statistical significance, confirming their effects on the four aspects of governance quality. Democracy is consistently found to have promoted the rule of law and better control of corruption, while economic openness has a reduction effect on corruption only. The coefficient on income per capita is significant for government effectiveness, indicating that countries with higher per capita income experience a higher level of government effectiveness.

Table 4: Hausman-Taylor Estimation Results for DAC Aid

Variable	CC	GE	RL	RQ
Constant	2.201** (0.882)	1.664** (0.692)	2.695*** (0.757)	1.560 (0.980)
AidDAC	0.109*** (0.026)	0.001 (0.019)	0.002 (0.022)	0.024 (0.027)
Ln(GDPCAP)	0.001 (0.101)	0.216*** (0.073)	0.033 (0.086)	0.194* (0.104)
FDI	0.076*** (0.018)	0.031** (0.013)	0.056*** (0.015)	0.057*** (0.019)
Openness	0.003* (0.002)	0.002 (0.001)	1.2×10^{-4} (0.001)	0.001 (0.002)
Democracy	0.050** (0.020)	0.017 (0.015)	0.054*** (0.017)	-0.012 (0.021)
BLO	1.775*** (0.590)	2.126*** (0.690)	2.053*** (0.551)	2.076** (0.946)
No. of Obs.	134	134	134	134

- Notes*
1. *Ln* denotes natural logarithm.
 2. *AidDAC* is total aid provided by all DAC countries; *LnGDPCAP* is log of GDP per capita; *FDI* is foreign direct investment, measured as % of GDP; *Openness* is trade openness; *Democracy* is democracy index; and *BLO* is binary variable, representing British legal origin.
 3. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.
 4. Standard errors are serial correlation and heteroskedasticity robust standard errors in parentheses.

Table 5: Hausman-Taylor Estimation Results for EU Aid

Variable	CC	GE	RL	RQ
Constant	2.852*** (0.915)	1.958*** (0.695)	3.239*** (0.758)	1.797* (0.988)
AidEU	0.171** (0.072)	-0.040 (0.050)	-0.075 (0.058)	0.025 (0.071)
Ln(GDPCAP)	-0.064 (0.106)	0.187** (0.073)	-0.022 (0.086)	0.170 (0.105)
FDI	0.065*** (0.019)	0.029** (0.013)	0.052*** (0.015)	0.054*** (0.018)
Openness	0.004** (0.002)	0.002 (0.001)	-2×10 ⁻⁵ (0.001)	0.002 (0.002)
Democracy	0.053** (0.021)	0.017 (0.015)	0.054*** (0.017)	-0.012 (0.021)
BLO	1.692*** (0.540)	2.134*** (0.686)	2.068*** (0.547)	2.063** (0.940)
No. of Obs.	134	134	134	134

- Notes:*
1. *Ln* denotes natural logarithm.
 2. *AidEU* is total aid provided by the EU; *LnGDPCAP* is log of GDP per capita; *FDI* is foreign direct investment, measured as % of GDP; *Openness* is trade openness; *Democracy* is democracy index; and *BLO* is binary variable, representing British legal origin.
 3. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.
 4. Standard errors are serial correlation and heteroskedasticity robust standard errors in parentheses.

Table 6: Hausman-Taylor Estimation Results for Multilateral Aid

Variable	CC	GE	RL	RQ
Constant	2.277*** (0.879)	1.354** (0.690)	3.335*** (0.749)	2.356** (0.978)
AidML	0.137*** (0.036)	0.026 (0.025)	-0.047 (0.030)	-0.030 (0.036)
Ln(GDPCAP)	0.001 (0.103)	0.249*** (0.073)	-0.034 (0.085)	0.113 (0.105)
FDI	0.063*** (0.018)	0.032** (0.013)	0.053*** (0.015)	0.052*** (0.018)
Openness	0.004** (0.002)	0.002 (0.001)	-3.5x10 ⁻⁵ (0.001)	0.001 (0.002)
Democracy	0.051** (0.020)	0.017 (0.015)	0.054*** (0.017)	-0.012 (0.021)
BLO	1.651*** (0.542)	2.110*** (0.691)	2.083*** (0.552)	2.087** (0.940)
No. of Obs.	134	134	134	134

Notes: 1. *Ln* denotes natural logarithm.

2. *AidML* represents total aid provided by multilateral agencies; *LnGDPCAP* is log of GDP per capita; *FDI* is foreign direct investment, measured as % of GDP; *Openness* is trade openness; *Democracy* is democracy index; and *BLO* is binary variable, representing British legal origin.

3. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.

4. Standard errors are serial correlation and heteroskedasticity robust standard errors in parentheses.

Concluding Remarks

In this paper, the impact of foreign aid on domestic governance was empirically tested, using a panel data set over 1996-2015 from the ASEAN member states that received aid during this period. We controlled for other factors, such as per capita income, trade openness, foreign direct investment, democracy and a “legal origin” indicator, which may influence domestic governance in these countries. To report the best possible results, we opted for the Hausman-Taylor technique, which effectively deals with possible endogeneity issues within our specification, and we carried out some important diagnostic tests.

The results show that higher levels of foreign aid are associated with improvement of corruption control in the ASEAN countries involved. GDP per capita is found to positively affect government effectiveness, while a high level of democracy practices promotes the rule of law and better control of corruption. Interestingly, there is strong evidence for the crucial role that FDI has played in the improvements of governance quality. FDI has a positive significant impact on all four dimensions of governance—control of corruption, government effectiveness, rule of law, and regulatory quality. Similarly, countries with “British legal origin”, on average, maintain higher governance quality. We also examined if governance is affected by aid sources, namely aid flows from the EU, OECD DAC donor countries, and multilateral institutions such as the World Bank. Our results are consistently similar to these with aggregated aid. With disaggregated aid, trade openness is, however, positively related to better control of corruption.

Our findings should offer some implications for the improvements of domestic governance for the studied ASEAN countries, as well as for other transitional and developing economies with a similar economic development. As aid is found to have a positive effect on the control of corruption, aid flows to countries with high corruption levels should help address corruption issues in these countries. This could take place through the positive effect of foreign aid on economic growth and development. A richer country is, on average, less corrupt than a poorer one. The interaction of institutions of the donor and the host country, with ODA projects subject to strict financial follow-up and results evaluation, is likely to be held responsible for some of the observed positive relationship between aid and control of corruption. Experience shows that the adoption of

clearer governmental procedures often follows from such interaction (at least during some time, since the control of corruption is not always maintained in the long run).

Second, FDI is a main determinant of governance. Thus, additional FDI flows can be used as an instrument to enhance governance quality in a host economy as it may put pressure on the host government to continually improve the business and institutional environment for attracting FDI-funded projects for its economic development. Foreign investors are increasingly looking at the institutional quality in the host country and are under pressure of worldwide public opinion to respect international practices and standards (see e.g., Soeng, Cuyvers & Sok, 2017, on FDI in Cambodia). Our observation that the institutional interaction with the host country improves corruption control practices evidently also applies here (Busse and Hefeker, 2007; Masron and Nor, 2013).

Third, since democracy is found to be a significant determinant of the rule of law and control of corruption, the promotion of democracy in recipient countries is an effective way of improving these two aspects of governance.

Finally, trade openness is yet another determinant of governance, as is evidenced in a growing literature on the interrelationship between domestic institutions and international trade (for a review of this literature we refer to Soeng and Cuyvers, 2018). In our present investigation, it was found that control of corruption in the developing ASEAN countries is positively affected by their trade openness. Therefore, accepting more imports from countries with high anti-corruption practices should help combat this issue for these countries through the importing countries' pressure on the exporting countries to streamline trade-related procedures, which tend to have a reduction effect on corruption. Strangely, trade openness showed no statistically significant impact on regulatory quality, rule of law or government effectiveness.

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APPENDIX A: Definitions of Variables and Data Sources

<i>Variable</i>	<i>Definitions</i>	<i>Sources</i>
AidTotal	Net aid received as percentage of GNI	World Bank's World Development Indicators
AidDAC	Net aid received from OECD DAC member countries, computed as percentage of GNI	OECD DAC, available at www.oecd.org
AidEU	Net aid received from the European Union, computed as percentage of GNI	OECD DAC, available at www.oecd.org
AidML	Net aid received from multilateral institutions, computed as percentage of GNI	OECD DAC, available at www.oecd.org
Ln (GDPCAP)	GDP per capita	World Bank's World Development Indicators
FDI	Foreign direct investment as percentage of GDP	World Bank's World Development Indicators
OPENNESS	Total trade as percentage of GDP	World Bank's World Development Indicators
Democracy	Democracy index, which ranges from 0 to 10	Center for Systematic Peace's Polity IV
BLO	Binary variable, representing British legal origin	La Porta et al. (1999)
Control of Corruption (CC)	Logarithm of regulatory quality index, which ranges from -2.5 to 2.5, with a score of 2.5 representing the strongest institutions. The index is rescaled to between 0 and 10.	World Bank's Worldwide Governance Indicators
Regulatory Quality (RQ)	Logarithm of regulatory quality index, which ranges from -2.5 to 2.5, with a score of 2.5 representing the strongest institutions. The index is rescaled to between 0 and 10.	World Bank's Worldwide Governance Indicators
Government Effectiveness (GE)	Logarithm of regulatory quality index, which ranges from -2.5 to 2.5, with a score of 2.5 representing the strongest institutions. The index is rescaled to between 0 and 10.	World Bank's Worldwide Governance Indicators.
Rule of Law (RL)	Logarithm of regulatory quality index, which ranges from -2.5 to 2.5, with a score of 2.5 representing the strongest institutions. The index is rescaled to between 0 and 10.	World Bank's Worldwide Governance Indicators