FDI Inflows Under Expropriation Risk: Can Pro-Business Policies Overcome Investor Aversion?

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Abstract

Risk of expropriation in developing countries is an impediment to attracting foreign direct investment (FDI). This risk is often closely tied to the institutional setup of governance in host countries. While reforming institutions to reduce the risk of asset requisition requires political consent and long-term effort, the acute need for investment in developing nations demands urgent solutions. Developing countries attempt to overcome the adverse effects of this risk by introducing pro-business policies such as domestic and capital control tax incentives. This paper examines the scope of such a policy mix to pull in FDI in this context. Using a continuous-time stochastic framework that accommodates multiple variables and their interconnections, it concludes that reducing the cost of doing business has only limited efficacy under restricted conditions. Institutional reform that inspires investor confidence thus cannot be avoided.

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1. Introduction

Foreign direct investment (FDI) has long been a major component of economic growth and development strategies around the world (De Mello Jr 1997). The relative stability associated with it compared to foreign portfolio investment, and the many positive spillovers such as the potential transfer of technology and management practices, makes it an attractive means of accessing capital. Since the end of the Cold War, countries have increasingly liberalised and actively promoted FDI and have simultaneously removed restrictions and implemented deregulation to create a more favourable environment for multinationals and other investors. But concern over the possibility of expropriation of investments and government instability often suppresses capital inflows (Eaton and Gersovitz 1984; Daude and Stein 2007; Ali *et al* 2010; Akhtaruzzaman *et al* 2017). Findings of the Multilateral Investment Guarantee Agency of the World Bank have repeatedly confirmed

that expropriation risk remains at or near the top of the list of investor apprehensions. This concern has grown acute in the face of recent global trends such as rising resource nationalism (Joffé *et al* 2009) and instances of indirect expropriation (Isakoff 2012).

While national governance structures have become more representative since the 1990s and have been correlated with lower risk of expropriation (Guriev *et al* 2011; Jensen *et al* 2012; Wilson and Wright 2017), the threat has continued to dog foreign investment, as evidenced by the marked increase in investors invoking arbitration to claim compensation for expropriated assets (Cox 2019). More generally, poor governance and weak institutions are linked with political risk (Busse and Hefeker 2007; Alfaro *et al* 2008) and political instability, with a negative impact on FDI inflows (Krifa-Schneider and Matei 2010; Shan *et al* 2018). Host-country institutions that support foreign investment via, for example, asset protection (Moon 2015), contract compliance and enforcement (Hebous *et al* 2020) and other pro-investment domestic structures, are hence desirable. However, institutional reform that improves governance and effectively changes investor perceptions is often a lengthy process (Andrews 2013). An alternative is to bring domestic laws into compliance with a country's international obligations but that too may not be accomplished swiftly. A prompt policy response is therefore needed in the interim.

Does a conventional policy mix that reduces the cost of doing business in the host country and ensures favourable treatment of capital inflows mitigate the negative effects of expropriation risk? Governments following the counsel of the Washington consensus frequently attempt to improve their investment environment by, among other strategies, pursuing domestic deregulation and reduction in red tape, improving contract enforceability, incentivising FDI via tax holidays, and enhancing the degree of openness to international capital flows by lowering capital control taxes and exchange rate distortions. Support for such reform is provided by several studies including Bénassy-Quéré *et al* (2007), Ahlquist and Prakash (2010), and Dellis *et al* (2022). On the other hand, Van Parys and James (2010) and Aprian and Irawan (2019) counter some of this conventional wisdom, while Wells (2001) contends that the efficacy of such policies depends significantly on an enabling institutional environment. This paper considers the potential and scope of using such policy tools as short-term alternatives and long-term complements to deeper institutional reform, to blunt the adverse impact of expropriation risk on investment inflows.

A clear-eyed assessment of how available policy options interact with changing risk perception is not only important for managing capital inflows, but is also relevant to the design of investment treaties (Aisbett *et al* 2010). Such treaties often clearly identify required and acceptable conduct including rules on liberalisation and property protection, as well as on taxation of inflows. National treatment provisions, which are a standard part of these treaties, require that domestic and foreign firms not receive discriminatory treatment. The sovereignty to regulate industries to achieve domestic policy targets could

affect the profitability of the multinational firm and in turn feed into its decision to invest or seek arbitration. Regulation could come in many guises. In addition to policies that influence the way in which business is done, it could include changes to the pricing of utilities, public health and environmental rules, and financial regulation. More broadly, the cost of doing business could also be influenced by subjecting foreign investment to strict screening mechanisms and performance requirements, and capital transfer restrictions.

Knowing how potent available policy alternatives are in addressing decreasing investment could help negotiators carve out sufficient policy space in their treaties to institute meaningful domestic regulation and robust management of investment inflows. That there might be at least limited substitutability between longer-term institutional reform and faster-acting pro-investment policies is suggested by, among others, Paul and Jadhav (2019) and Tag and Degirmen (2022). Given the limited capacity and power asymmetry of developing countries in negotiations, it is imperative to know on which aspects their scarce negotiating resources should be expended, particularly in light of recent moves toward more precise rules incorporated in investment treaties (Henckels 2016). Typical concerns over potential loss of control over host-country assets such as natural resources, and the content of incentive packages to woo foreign investors, can only be adequately allayed if countries are aware of the relative importance and effectiveness of relevant policies.

International investment agreements also serve the purpose of overcoming the 'obsolescing bargain' (Vernon 1971). Host countries have the incentive to revise the terms governing an investment once sunk costs have been incurred by the firm. This is because of a shift in bargaining power away from the investor and toward the government once the investment has been made. At that point, policy tools like regulation and taxation of inflows could be used in ways that are inimical to the firm. The analysis in this paper also sheds light on the latitude available to the host country in terms of deploying these policy tools to achieve national objectives. By assessing the impact on investment inflows of varying expropriation risk and the power of adjusting tax and regulatory policy to respond to the consequences, the present paper also contributes to our understanding of the extent to which this policy space is worth defending.

This paper proposes a continuous-time dynamic stochastic model with jumps to shed light on the issues discussed above. In doing so, it provides firm theoretical grounds to the numerous empirical studies that have investigated the role of the many variables thought to influence FDI inflows. It also fills a gap in the existing literature that has a dearth of analytical models in which empirical studies might be rooted. The seminal work of Thomas and Worrall (1994) examines the nature of investment contracts agreed upon between host governments and foreign investors in a discrete dynamic setting. It highlights the trade-off for the host country between short term gains from expropriation and possible returns in the long term associated with having a working relationship with the investor.

The continuous-time setting in the current paper overcomes the inability to deliver tractable solutions while, at the same time, acknowledging the trade-off between immediate and future income streams. It also considers the substitutability between tax and regulatory policy sovereignty on the one hand, and expropriation on the other. Aguiar and Amador (2011) also explore the aforementioned trade-off in a growth model and endogenously derives implications for capital income taxation. While the focus of the present study is not the direct impact on growth but rather foreign investment inflows, its results reiterate the conclusions of Aguiar and Amador (2011) by underscoring the crucial role of governance institutions in development.

An additional contribution of the paper is to treat expropriation as both an outright seizure that occurs at discrete times, as well as an ongoing distortionary policy affecting the profitability of investments. The approach is better able to manifest the varied risks associated with host actions stemming from uneven and asymmetric familiarity with FDI law and policy within the government (for example, across federal and subnational levels); uncertainty around policy continuity during government transitions; the inability to comply with difficult contracts entered into by governments with stunted negotiating capacity; and an overall malaise that compromises the strength of domestic institutions. The dual-modes approach to expropriation in the model is similar to Kesternich and Schnitzer (2010), which focuses on the effect on a multinational's choice of capital structure.

The current study further adds to the literature on political risk management in the context of international investing. Representative work includes Eaton and Gersovitz (1983) on the effects of reputation on FDI inflows, Janeba (2000) on investing in excess capacity to countervail such risk, and Konrad and Lommerud (2001) on local partnerships to protect against creeping expropriation. By proposing a setup that jointly treats explanatory variables like expropriation and political risk, taxation of capital inflows, regulatory distortions and bureaucratic delay, and corporate taxation, this paper contributes to a literature in which earlier studies have considered the role of political risk in isolation from that of the tax and regulatory policy regime. The study bucks convention by doing so in a continuous-time setting rather than in a static or discrete-time dynamic model. In doing so, this paper is able to highlight the relative effects of institutional vs policy variables on FDI inflows, as well as to bring interactive effects of these two categories of variables to the fore.

2. The Model

Consider a multinational firm maximising its expected profit from investing in a host country. It is an open economy. While this is not crucial to the results obtained in the model, it allows for a richer interpretation of some of the parameters below. A portion of the inflow, I, is taxed away and the remainder adds to the firm's existing capital stock, K, in the host country. Expected profit

depends on this capital stock and the unit cost, *c*, associated with making the investment. The maximisation problem is:

$$\max_I E\left[\int_0^\infty \left(-\frac{a}{2}K^2 + bK - cI\right) e^{-rt} dt\right], \tag{1}$$

subject to the dynamics

$$dK = -\rho K dt + \eta I dt - (I - K) dL. \tag{2}$$

The multinational is subject to domestic regulation which imposes itself as attrition in capital stock at the rate ρ. Domestic regulation here is a catchall for the set of policy and institutional variables that are likely to erode the multinational's capital stock in the host country. It includes domestic regulatory policy, but also corporate tax rates, contract enforcement, and exposure to bureaucratic delay and corruption. The taxation of investment inflows only lets through the proportion η. What proportion of inflows makes it through into the host market could certainly be a function of the rate of taxation of these inflows, but a broader interpretation permits the inclusion of other relevant variables such as exchange rate distortions.

The host government may also occasionally expropriate an amount of investment inflow in excess of the existing level of capital stock following a Poisson-distributed stochastic process. The stochastic term, *dL*, captures this random requisition by the government with an arrival rate μ. The Poisson process therefore contributes to the dynamics only when it jumps at random times. Other than expropriation, this stochastic process could also stand in for any event, such as political unrest or lawlessness, that causes a loss in capital. As usual, all of the rates, namely ρ, η, and μ are non-negative and less than one. We also impose the restriction $I \leq \frac{b}{a}$ to ensure a closed-form solution.

To solve the problem above, we write down the corresponding Hamilton-Jacobi-Bellman (HJB) equation as follows:

$$(r - \mu)V(K) = \max_I \left\{-\frac{a}{2}K^2 + bK - cI + (\eta I - \rho K)V'(K) - \mu V(I)\right\}. \tag{3}$$

Guessing a quadratic value function $V(I) = \varphi_2 I^2 + \varphi_1 I + \varphi_0$ and plugging it into (3) to solve gives:

$$0 = -c + 2\eta\varphi_2 K + (\eta + 1)\varphi_1 - 2\mu\varphi_2 I,$$

which yields the optimal *I*:

$$I^* = \frac{\eta}{\mu}K + \frac{\varphi_1}{2\mu\varphi_2}(\eta + 1) - \frac{c}{2\mu\varphi_2}. \tag{4}$$

To obtain expressions for the coefficients in the guessed value function, we plug (4) and the guessed function back into the HJB equation. This gives:

$$\varphi_1 = \frac{b - \frac{\eta}{\mu}c}{\left(r - \mu + \rho + \eta - \frac{\eta^2}{\mu}\right)}, \tag{5}$$

and $\varphi_2 = \frac{-\frac{a}{2}}{\left(r-\mu+\rho+\frac{\mu\rho-\eta^2}{\mu}\right)}$. (6)

Substituting (5) and (6) into (4) then yields:

$$I^* = \frac{\eta}{\mu}K - \frac{\left(r-\mu+\rho+\frac{\mu\rho-\eta^2}{\mu}\right)}{\mu a}\left[\frac{(\eta+1)\left(b-\frac{\eta}{\mu}c\right)}{r-\mu+\rho+\frac{\mu\eta-\eta^2}{\mu}} - c\right]. \quad (7)$$

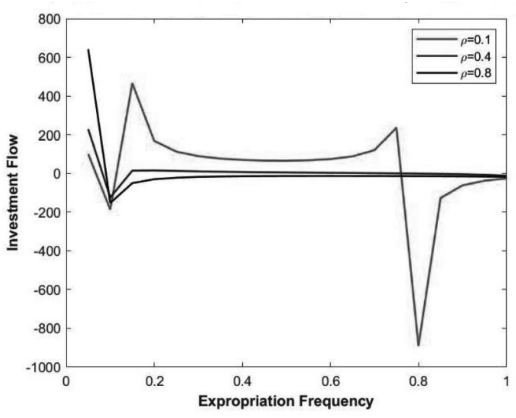
3. Main Results

The expression derived for I^* in (7) can be used to understand the way in which optimal investment inflow varies at any point in time. While we use simulations for a comprehensive analysis, it is instructive to begin by noting some obvious features. For example, note that optimal investment inflow is proportional to the level of existing capital stock, *K*. Since profit depends on *K*, the firm uses inflow of investment to ensure its profit-maximising level. This level evolves over time due to the erosion caused by domestic regulation. The efficacy of maintaining *K* at the optimal level is impacted by taxes on capital inflows and the frequency with which excess investment is expropriated. The variation over time in the level of capital stock then means that optimal investment inflow also varies over time. While this hints at a policy challenge of addressing the potential volatility of inflows, the presence of parameters denoting regulatory inefficiency, taxation of capital inflows, and frequency of expropriation also suggest policy avenues to tackle the issue.

Figures 1, 2, and 3 present results of simulations designed to investigate how investment inflow, I^*, varies with the frequency of expropriation. Each of the three figures shows lines corresponding to low (light grey line), moderate (dark grey line), and high (black line) regulatory intensity, ρ.

Figure 1 depicts the situation under a regime of high taxation of capital inflows (i.e., low η). While inflows converge to zero as the expropriation rate increases irrespective of the level of regulation, the initial increase in expropriation frequency causes inflows to rapidly collapse and to even turn into outflows. The reversal in direction is short-lived at moderate and high levels of regulation as cross-border movement of capital eventually simply dries up. The same is ultimately the case even when

Figure 1: Varying Regulatory Intensity, ρ, with High Tax on Inflows

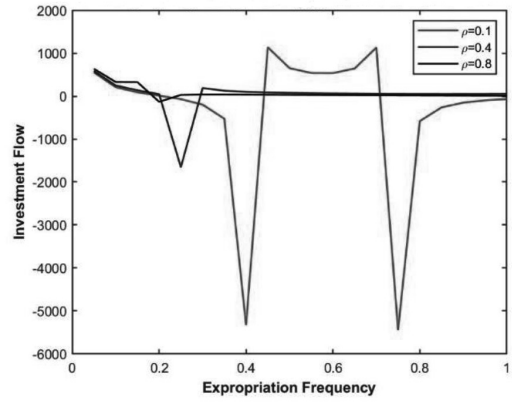


regulatory intensity is low, but there is more volatility in inflows as expropriation rates rise.

Following the early exodus of funds in response to mounting expropriation frequency, inflows bounce back to eventually settle near their initial levels and remain there for middling expropriation rates. A second more substantial outflow episode occurs at a relatively high expropriation frequency followed by a virtual cessation of investment inflows. These results imply that modest investment is likely in countries where the risk of expropriation is high even when capital inflows are taxed heavily, as long as a pro-business regulatory regime is maintained. But this compensating factor is only effective if regulatory policy aggressively creates a business-friendly environment. Inflows quickly dry up as expropriation rates rise when costly domestic regulation is in place.

Figure 2 illustrates a pattern that is, broadly speaking, similar to the one observed in Figure 1. It considers the situation where taxation of inflows is at moderate levels. Investment inflows again go down to zero as the rate of expropriation becomes oppressively high. As expropriation rates begin to increase, inflows quickly decline toward zero. Compared to the case of high taxation of investment in Figure 1, capital flows reverse direction more appreciably when inflows are taxed at moderate levels and when regulatory intensity is not overly harsh. With a highly pro-business regulatory regime, inflows recover to some degree even when the risk of expropriation is not insignificant, but never return to levels that would counterbalance the magnitude of the earlier outflows. In fact, a continual increase in expropriation frequency kicks off another sizable bout of outflows before investment converges back toward zero. Like the case with high taxation of capital inflows, aggressively pro-investment domestic regulation is still consistent with modest investment, even in the face of expropriation risk. But firms are more sensitive to deteriorating expropriation rates when taxation of capital flows is moderate, leading to more volatility in capital flows and a narrower range of expropriation risk in which even modest investment occurs.

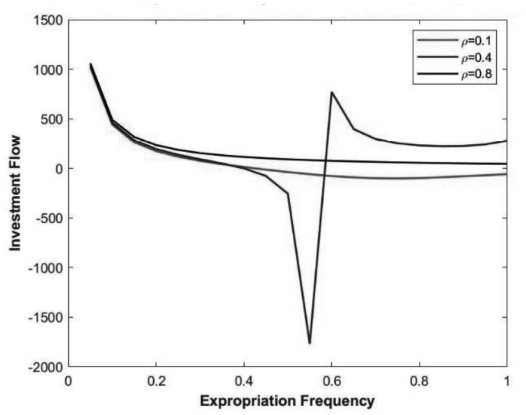
Figure 2: Varying Regulatory Intensity, ρ, with Moderate Tax on Inflows



Domestic regulatory policy appears to have some power to offset the adverse effects of expropriation risk on investment inflows when these inflows are taxed at moderate to high levels. But the rate of this taxation itself emerges as the most effective policy to counteract falling investment levels in the face of climbing

expropriation frequency, at least when regulatory intensity is modest. For aggressively business-friendly as well as for highly restrictive regulatory regimes, Figure 3 shows investment behaviour familiar from the previous two cases. Rising expropriation risk dries up foreign investment. But low taxation of capital inflows is most effective in reviving investment when combined with a rationalised regulatory policy. Prudent regulatory intensity and lightly-taxed capital inflows allow investment to recover to levels above zero even when expropriation risk is high, demonstrating the mitigating effects of a liberalised policy toward foreign investment.

Figure 3: Varying Regulatory Intensity, ρ, with Low Tax on Inflows



One of the policy tools that countries have at their disposal as an investment incentive is a tax holiday that may last for several years. Equation (7) calculates optimal inflows under this regime at a point in time by setting η = 1. Given the dependence of inflows on other parameters, the ultimate effect of a tax holiday is likely to vary across countries with institutional quality, a result that is consistent with empirical studies on this topic and that are discussed in detail in the next section. By keeping η = 1 for the duration of the tax holiday, the level of inflows can be derived at any point in time where the tax equals zero.

The preceding simulations all confirm the harmful effects of high expropriation rates on foreign investment inflows, while highlighting policies that could attenuate these effects. Removing institutional dysfunction that propels the frequency of expropriation upwards should be a top policy priority. But such restructuring is often a longer-term project. Foreign investment inflows, albeit at modest levels, could be maintained in the meantime by smartly designed regulatory policy in conjunction with a judicious use of tax rates on capital inflows. The results also suggest a more limited mitigating role for deregulation under a higher-tax policy toward investment inflows. In sum, modest foreign investment is consistent with high expropriation risk, without policies on domestic regulation and taxation of inflows necessarily being too accommodating of investor interests.

While optimal investment inflow in (7) depends on the unit cost of investment, *c*, it is not obvious that the relationship is always, as intuition would suggest, negative. The expression for I^* in (7) suggests that potentially negative impacts of rising investment costs on inflows are reversible if:

$$\mu - 2\rho + \frac{\eta^2}{\mu} < r, \text{ and } \mu - \rho - \eta\left(1 + \frac{1}{\mu}\right) < r. \quad (8)$$

Under the conditions in (8), conventional wisdom regarding the environment that leads to more foreign investment holds, even as the transaction or opportunity cost associated with making the investment increases. For instance, in general, reigning in the expropriation rate could counteract the negative impact of a rising unit cost of investment, especially when capital inflows are taxed heavily. With a high discount rate and increasing unit costs of investment, even frequent expropriation would have little effect on already anaemic capital inflows as firms not keen on investing would be further discouraged by the possibility of seizure of their assets. Climbing investment costs provide opportunity to pursue regulatory policies that keep market power in check because an aggressively pro-business stance to lower the cost of doing business appears ineffective at revitalising investment flows. Such rationalisation of regulation is particularly feasible when investor sentiment is generally unenthusiastic.

The conditions in (8) also underscore the relative effectiveness of the various policy instruments considered therein under different business conditions. When the business environment is generally characterised by burdensome regulation, high risk of expropriation, and gratuitous taxation of capital inflows, meeting the condition on the right in (8) satisfies both conditions in (8). Specifically, this occurs when $\rho - \eta\left(1 + \frac{1}{\mu} + \frac{\eta}{\mu}\right) > 0$. In this broadly unfavourable investment climate, while investor-friendly taxation of inflows could neutralise the negative effects of rising unit costs of investment, the aggressiveness required to make the policy favourable to the firm is greater if the risk of expropriation is excessive. This risk is usually higher in countries with predatory or dysfunctional institutions (Azzimonti 2018). Institutional reform combined with a more favourable tax policy towards inflows is then likely to bear the greatest fruit.

Both conditions in (8) are met if the condition on the left is satisfied when policies and institutions on the ground are, in general, lopsidedly favourable to business. Little regulatory control and taxation of inflows is consistent with $\rho - \eta\left(1 + \frac{1}{\mu} + \frac{\eta}{\mu}\right) < 0$. Rising investment costs therefore present an opportunity to the government to rationalise regulation and inflows taxation without the adverse effects on foreign investment normally associated with such steps. The preceding discussion of possible policy responses under a restrictive vs laissez-faire investment environment highlights the efficacy of a prudent policy mix that avoids becoming extreme on either side of the spectrum.

If, on the other hand, exactly one of the conditions in (8) is violated, even implementing this conventional wisdom might not be sufficient to neutralise the negative impact on inflows of rising unit costs of investment. In that sense, (8) imposes a boundary condition on the usual pro-investment measures and underlines the importance of reducing transaction costs of investment and

creating high-return opportunities for investors to attract foreign investment. Crucially, however, (8) shows that a firm more inclined to invest also provides wider regulatory space to the government, as higher investment inflows remain consistent with intensive regulation at a lower discount rate. In sum, a policy directly targeting the rising unit cost of investment is the most effective way of reversing its negative impact on inflows. Complementary policies like pro-investor taxation of capital inflows are effective but limited at mitigating the impact of increasing unit costs of investment.

4. Evidence from Empirical Studies

The World Bank's Multilateral Investment Guarantee Agency has repeatedly found that the risk of expropriation remains high on the list of concerns of foreign investors, even in the aftermath of the global financial crisis of 2008, and held top spot in the list of concerns in 2011. Confirming this perception is the work of Akhtaruzzaman *et al* (2017), which is an extensive study that estimates econometric models to explain the impact of macroeconomic and institutional variables on FDI. The study uses a panel of 83 developing countries over the period 1984–2015 and first concludes that expropriation risk unambiguously and overwhelmingly reduces FDI inflows and remains a significant concern for investors. While this is unsurprising, the paper also finds that the impact of expropriation risk on FDI inflows is much larger than that of other variables commonly considered in the empirical literature. Improvements in, for example, contract enforcement have little effect on FDI inflows in a high expropriation-risk context because, in the pithy words of the study, higher "returns *on* investment" matter less to investors if the "return *of* investment" is in question.

Highlighting the crucial role of political stability in attracting FDI is the study of Krifa-Schneider and Matei (2010). This looks at 33 developing and transition economies during the period 1996–2008 and finds that worsening political stability reduces FDI inflows via its negative influence on the overall business climate. Shan *et al* (2018) similarly find a negative impact of political instability on Chinese FDI into 22 African countries over 2008–2014, even when investment was in natural resource sectors.

The significance of asset protection is highlighted by Moon (2015) who argues that what matters to foreign investors are supportive institutional features of the host country, regardless of whether the regime is or is not democratic. Using data over 1970–2008 for 108 autocratic countries, Moon estimates an error-correction model to show that a one standard deviation improvement in the property rights index is associated with a 40 per cent increase in long-term FDI inflows. Empirical support also comes from the accounting literature, in which value relevance of foreign earnings of a multinational enterprise's subsidiary is important because it feeds into the value of the parent company. An MNE would therefore prefer countries with low expropriation risk as FDI targets.

Hebous *et al* (2020) develop a measure of risk to examine the effect on the choice of investment location. The measure is based on protections provided to

investors from arbitrary government interference, transparency in making laws pertinent to investors, and investor access to meaningful recourse mechanisms. They find that multinational corporations eschew entry and expansion into countries with higher risk and identify expropriation and breach of contract as the most likely factors to adversely affect investment. Hasan *et al* (2021) provides empirical evidence for the value relevance of foreign earnings of MNEs in countries where expropriation risk is low, with value relevance becoming even more significant in countries that also have more favourable regulatory or tax regimes. However, value relevance turns out not to be statistically different across countries with high risk of expropriation, regardless of the countries' tax haven status. The results above are consistent with our finding that pro-investor regulatory and business policies have limited effectiveness in neutralising the negative impacts on FDI of expropriation risk.

Aprian and Irawan (2019) study the impact on FDI inflows of tax incentives and find no statistically significant impact of tax holidays in nine ASEAN countries over 2006–2015. The study backs the conclusions of Van Parys and James (2010) based on data over the 1994–2006 period from 12 CFA Franc Zone countries. The latter study also finds a favourable link between increasing the number of legal guarantees for foreign investors—a negative correlate of expropriation risk—and investment inflows. Klemm and Van Parys (2012) find mixed evidence for the effectiveness of tax incentives. They consider 40 Latin American, Caribbean, and African countries over the period 1985–2004 and find that tax incentives are ineffective in boosting fixed capital formation everywhere. While lower corporate income taxes and longer tax holidays remain ineffective in attracting FDI in Africa, they show some promise in doing so in Latin America. An enlightening survey of older empirical research on the impact of tax incentives on FDI inflows appears in Wells (2001) and lends support to the view that the link between the two is weak unless buttressed by a favourable political and business environment engendered by strong institutions.

Our conclusion that there might be some substitutability between the level of investment protection and regulatory and tax policy is also supported by recent studies. Tag and Degirmen (2022), using a large dataset covering 19 years and 127 countries, find results that lend support to this view showing that, ultimately, the efficacy of property rights protection in attracting FDI exceeds that of institutions that promote trade freedoms and reduce regulations. This substitutability is also confirmed in the case of entry and exit regulations and stronger contract enforcement by Contractor *et al* (2020) using a comprehensive World Bank dataset with 189 countries. Trevino *et al* (2008) give further credence to this view in the case of institutional reform in Latin America over 1970 and 2000, along with Paul and Jadhav (2019), who do the same for 24 emerging market economies.

While the main contribution of this paper is the comprehensive theoretical framework for the many empirical studies in the literature, we nevertheless conduct a simple empirical exercise and present its results below to support

the insights gained from the model. Data on 24 countries in the Asia Pacific region, an area not exclusively covered by the studies discussed above, was obtained from the World Bank database spanning the period from 1996 to 2020, to investigate the relevance of political certainty and its interaction with pro-business tax incentives for FDI inflows. The variables included are 'FDI' which measures net inflows as a percent of GDP'; 'Political Certainty' as a proxy for expropriation risk and which is a measure of the strength of governance and ranges from a low of –2.5 to a high of +2.5 (lower numbers imply higher risk); 'Tax Incentive' which identifies the country as a tax haven or not; 'CPI' which is the annual consumer price index; and 'GDP Growth' which is the annual rate of growth of real GDP.

After checking the suitability of a random effects model via the Hausman test, we estimate two models. While FDI as a percentage of GDP is the dependent variable in both, independent variables in Model 1 only include a lagged measure of political certainty along with lagged GDP growth and CPI as controls. Model 2 then adds the interaction of the political certainty variable with tax-haven status of the country to the right-hand side. Table 1 below reports the estimation results.

Table 1: Random Effects Model Results

Variables	*Model 1*	*Model 2*
Political Certainty	1.3249*	0.2097
	(0.7359)	(0.7032)
(Political Certainty)*(Tax Incentive)		7.9054***
		(1.6246)
GDP Growth	0.0270	0.0432
	(0.0725)	(0.0721)
CPI	–0.0281***	–0.0232**
	(0.0093)	(0.0093)
Constant	7.6482***	6.2940***
	(1.4920)	(1.3214)
Observations	346	346

Standard errors in parentheses, *p-value < 0.10, **p-value < 0.05, ***p-value < 0.01.
Countries included are Australia, China, Fiji, Hong Kong, Indonesia, Japan, South Korea, Laos, Macao, Malaysia, Mongolia, Myanmar, New Zealand, Papua New Guinea, Philippines, Russia, Samoa, Singapore, Solomon Islands, Thailand, Timor-Leste, Tonga, Vanuatu, and Viet Nam.

These results are consistent with the conclusions of previous studies, such as those by Akhtaruzzaman *et al* (2017), and Hasan *et al* (2021), discussed earlier, in that they point towards a positive link between FDI inflows and political certainty when no interaction term is added to the right-hand side. Once

introduced, the interaction term between policy certainty and tax incentives positively and significantly impacts FDI inflows, supporting the theoretical prediction that lower levels of political certainty are detrimental to FDI inflows and reduce the effectiveness of pro-business policies, such as preferable tax treatment, to attract FDI.

5. Implications for Policy and Future Research

Theoretical and empirical analyses confirm the adverse effect of expropriation risk on FDI. In fact, Alfaro *et al* (2008) find that improvement in a country's institutional quality index is associated with a substantial increase in FDI per capita relative to the average nation. The obvious response to the problem is therefore to target and eliminate factors that engender the risk. Often, this requires a substantial overhaul of political incentives and a reconstitution of existing institutions. This is a daunting task that requires deliberate and dedicated effort over many years. Faster acting alternatives are therefore needed. Asiedu *et al* (2009) identify one such policy option in the form of foreign aid which could, at least in part, ameliorate the negative effects of expropriation risk on FDI.

Another set of policies that could be enlisted to accomplish this task consists of domestic deregulation and lower capital control taxes. This paper concludes that these policy alternatives have only limited efficacy in addressing such risk. The result is in line with empirical studies such as Trevino *et al* (2008), which shows that financial account liberalisation and tax reform are inferior indicators of FDI inflows compared to factors like political uncertainty, and Wagle (2011) which reaches a similar conclusion for statutory openness to FDI. Other recent studies that empirically underscore the importance of institutions include Sabir *et al* (2019) which concludes that factors such as control of corruption and political stability, and rule of law are positively linked with FDI inflows; and Emako e*t al* (2022), which similarly finds political stability to be a positive influence on FDI inflows, and interprets the results as a contributor to foreign-asset security.

A policymaker who wants to ensure consistent foreign investment inflows has two policy tools and the possibility of institutional reform at their disposal to achieve its goal in the preceding framework. Expropriation risk may be addressed by reconstituting institutions that are predisposed to seizing assets, or by entering into investment agreements with clauses on compensation schemes in the event of expropriation. While this risk is usually higher when political institutions are weak and opportunistic behaviour is rife, it could also be substantial under more authoritarian arrangements, even though autocracies tend to be associated with stability in other dimensions on which commercial activity depends. The preceding analysis underscores the importance of addressing this issue if foreign investment is to be attracted into the country and is consistent with the conclusions of earlier studies like Weingast (1993) and Shirley (2005).

This insight is not new and governments have regularly been counselled by multilateral institutions to take steps to introduce needed reform. Countries have struggled to bring about required change and, in the meantime, have suffered scarce investment inflows. Investment levels may be raised in the short term by using policy tools like the rate at which capital inflows are taxed, and the regulatory regime that governs domestic commercial activity. But this idea is limited in its scope because it neglects to observe that the effectiveness of these policy instruments is intertwined with the impact of expropriation risk on capital inflows. This entanglement brings into question the commonly presumed linear link between liberalised policy and investment levels. The analysis above shows that pro-investor policies towards regulation and the taxation of inflows are not always effective and identifies situations where the impact of these policies remains deficient.

In some instances, firms simultaneously consider investment in multiple projects, each with its own expected payoff, some of which are negative. While the overall expected payoff is positive, profitable projects becoming even slightly less so could tip aggregate expected payoffs into losses. Government policies considered in this paper could influence profits enough to make overall payoffs dip below zero and lead to the hold-up problem vis-à-vis a particular investment opportunity. Examining the case with several investment projects could help us more deeply appreciate the limits on the policy instruments that have usually been championed as means to attract foreign firms.

The model above focuses on the decision of the firm and takes policy parameters and investment environment as given, which allows for a richer dynamic stochastic framework where parameter values can be adjusted to gauge the impact on investment inflows. Thinking about the underlying factors that determine these policies could help relate these fundamentals to inflows. For example, the level at which capital inflows are taxed could be a function of the relative power of domestic interest groups. While local businesses that need to compete with the investing multinational would be weary of pro-investor inflow taxation (Grossman and Helpman 1996), downstream firms who stand to benefit from lower-priced readily available inputs would lend support to this policy. Even labour on balance could come out in support of the policy if there is a likelihood of positive job creation. Similarly, powerful environmental groups could sway the government toward stricter regulation with threatened businesses lobbying for a reversal. The relative significance of the various segments of society in how policies are ultimately constituted could be the key to understanding possible investment outcomes and to get a sense of the likelihood of requisite policy change.

While the present framework succeeds in explaining the firm's response to evolving regulatory and tax policies, and to expropriation risk as a reflection of domestic institutional dysfunction, considerations stemming from strategic interactions between the multinational and the host government are not

included in the analysis. For example, invoking arbitration could be an option available to the firm under an investment treaty if the government implements unexpected regulation or expropriation. What constitutes expropriation is wide-ranging, as violation of property rights may also be seen as an example of the kind of expropriation modelled here. As such, the results have policy implications for the reconstitution of a weak property rights regime through an overhaul of domestic laws and possibly through the enshrining of relevant protections in investment treaties.

Arbitration would affect the cost of weak institutional and policy regimes to the country, especially in view of the often limited legal and technical expertise host governments have to contend with, and would subsequently influence the actual policy put in place. The availability of such strategies to the firm could serve as an added restraint on government policy—manifesting itself, for example, as "regulatory chill"—and could allow for the possibility of higher investment. The predictions of our model should still be robust to the modifications discussed here because the present framework takes in the values of relevant policy parameters after these have been determined by any underlying process, whether strategic or otherwise.

Modelling strategic interaction would also allow for the possibility of the firm suitably sequencing its investments (Thomas and Worrall 1994) so as to manage its bargaining power, and to incorporate reputational effects suffered by the government resulting from expropriation. Finally, the endogeneity between investment and its effects on the ground in terms of upgrading laws and regulations, as well as on the reconstitution of domestic group alliances to lobby for particular policy outcomes, could also be more adequately captured by explicitly modelling strategic interdependence. Research on such underlying processes holds significant promise in terms of shedding light on aspects of decisions around foreign investment not highlighted in this paper.

6. Conclusion

Developing countries require access to resources and technology to put themselves on a sustainable growth trajectory. Higher labour productivity and living standards are closely tied to readily available capital and technology. Foreign direct investment is a highly effective channel through which these requirements may be fulfilled. But the risk of asset expropriation by host governments punctures the enthusiasm to invest of potential foreign investors. Long-term effort is often needed to reform domestic institutions to mitigate such misgivings and inspire confidence among investors. In the meantime, proactive policies are required to urgently attract FDI and instil dynamism in slow-growth economies. This paper has looked at the scope of regulatory policies such as those governing financial accounts, trade, taxes, and the cost of doing business, as possible means to alleviate the negative impact of expropriation risk. It finds that while choosing from a menu of investor-friendly regulatory policies could help bring FDI into countries where the likelihood of

asset seizures is high, its efficacy is curtailed by institutions that engender this risk of expropriation in the first place.

The paper developed a continuous-time dynamic analytical framework with jumps, to more effectively account for the long-term intertemporal impact of government policies as well as foreign investment decisions. These decisions interact with regulatory policies under a cloud of expropriation risk. The analysis has yielded conditions under which pro-investor policies have limited positive effects on FDI inflows. The results obtained underscore the importance of institutional reform that leads to a change in foreign investor perceptions about the safety of their assets. This could include a reform of the governance structure, regime type, judicial setup, and even the provisions in trade and investment treaties.

Given the long road to be travelled to accomplish such reform and the urgency with which developing countries need access to capital and technology, it is natural for policymakers to wonder about options available to attract FDI in the interim. The paper has identified the boundaries of the cramped policy space within which a mix of conventional pro-investor policies is likely to meet with some success, and has discussed recent cross-country empirical evidence over time that shores up the results of this study.

The modest effectiveness of such policies also has implications for the design of investment treaties, which are a fast-proliferating tool to pull FDI into countries. It points to the need for developing countries to ensure that investment treaty provisions grant them the right to a full-scale use of trade, tax, and regulatory policies to achieve domestic economic goals because liberalisation would be unlikely to substantially improve foreign investment flows in the presence of expropriation risk. The main take-away for policymakers is that it is imperative to work diligently on institutional reform that reduces the risk of expropriation if a country is to have a meaningful shot at competing to attract FDI in the global economy. While pro-investor policies could give meagre short-term respite from the adverse effects of domestic institutional risks on FDI inflows, there is no substitute for a comprehensive overhaul of the structures of governance if a country is ultimately to break free from the shackles of underdevelopment.

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Endnote

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