

**International Institutions and Domestic Commitments in  
Non-Democratic Regimes**

by

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International Institutions and Domestic Commitments in Non-Democratic Regimes

Thesis directed by Dr. Moonhawk Kim

Conventional wisdom holds that countries ruled by non-democratic regimes are less likely to join international organizations. But scholars have been unable to explain why some of the non-democratic states are involved in international institutions more than others. This dissertation furthers a theoretical explanation for the variation in non-democratic regimes' international cooperation behavior and presents quantitative evidences that support it. I argue that non-democratic regimes will participate more in international cooperation when the domestic political economic structure allows the autocrat to use international institutions to secure their political tenure at home. The biggest threat to the political survival of autocrats stems from their inability to make credible commitments regarding domestic redistribution policy. International economic institutions that impose constraints on domestic policy behavior function as external commitment devices that render the autocrat more credible. The effectiveness of international institutions in strengthening domestic commitment credibility hinges on the level of international integration of the domestic economy and the capacity of tax institutions of the regime. Autocrats in countries featuring high integration levels and efficient tax-extracting institutions are more likely to resort to international institutions in remedying the commitment difficulty. This theory also explains why the least democratic regimes are actually more involved in international economic institutions than other non-democracies.

Using a dataset consisting of 153 countries from 1972 to 2005, I empirically test the hypotheses derived from the theoretical arguments. Results of the analysis suggest that political liberty and memberships in political economic IGOs tend to be negatively associated

with each other among non-democracies, controlling for a variety of political economic factors such as government consumption and natural resource rents. I use three different measurements of economic integration in the analysis, namely trade, direct investment, and factor income payment. While factor income payment is positively correlated with memberships in political economic IGOs, trade and direct investment are shown to have either negative or insignificant correlation with IGO memberships. The analysis also finds the extractive capacity, measured by the share of income taxation in total tax revenue, has significant conditioning effect on the correlation between political liberty and IGO memberships among non-democratic regimes. The negative correlation between political liberty and IGO memberships is of greater magnitude among non-democratic regimes with relatively high capacity in tax extraction.

## Dedication

*To my parents, Chen Qi and Chen Yajun.*

## Acknowledgements

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## **Chapter 1**

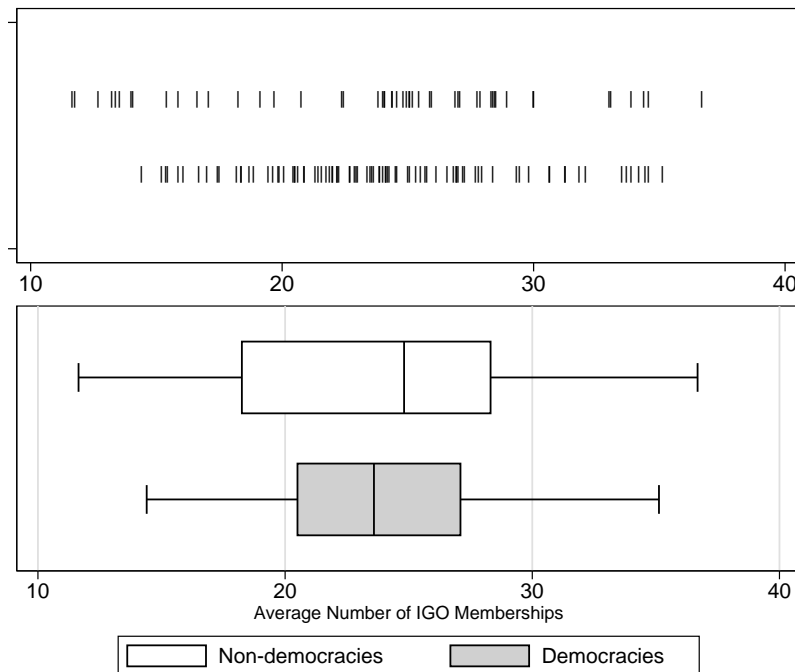
### **Introduction**

#### **1.1 The Puzzle**

Sub-national politics bears heavily on the behavior of sovereign states in international relations. In the past twenty years, international relations scholarship has seen a burgeoning field of literature integrating domestic politics into the study of international relations. In the field of international cooperation, the scholarly attention has been drawn to understand how different political structures under democratic and autocratic rules result in systematic differences in the behavior of the state in international cooperation. While Neo-Liberal Institutionalism emphasizes that the process and outcome of interstate cooperation reflect the compatibility of the incentives of states at the international level, scholars come to realize that such representation and interaction of state preferences rise endogenously from incentives and institutions existing at the domestic level. The structure of political economic institutions at the sub-national level thus underlies the varying patterns of state interests and behavior represented in interstate interactions.

Democracies and non-democracies are significantly different in the procedures of preference aggregation among relevant domestic actors, in the distribution of policy-making power, and in the way in which domestic institutions interact with political actors, all of which generates salient implications regarding the formation of the interests, preference, and behavior of the statehood in cooperative interactions at the international level. According

to the traditional Liberalist view of international relations, states with democratic institutions are friendlier than non-democratic regimes to international cooperation because liberal regimes have more to gain from cooperation both ideologically and materially. Neoliberalists extend the argument of democratic cooperation emphasizing the superiority of democratic to non-democratic institutions in making credible commitment in interstate interaction which renders cooperation more achievable. This line of studies also suggests that the dynamics of politics in democracies generates distinctive incentives for the political leader to cooperate internationally in fulfilling domestic political objectives.



The rug plot at the top illustrates the distributions of IGO memberships among democracies and non-democracies. The Box-Whisker plot at the bottom illustrates the range, median and center 50 percentile of the distributions based on the rug plot.

Figure 1.1: Cross-national Distributions of Memberships in Economic IGOs : 1990-2005

More follow-up studies on the relationship between regime type and cooperation, however, cast doubts on the claim that democracies are better suited for cooperation. Scholars

find theoretically and empirically that the evidence supporting the argument that democracies cooperate more is weak and ambiguous. Existing theoretical and empirical works shows the structure of domestic constraint under autocratic ruler can actually make interstate cooperation more easily to take place between autocracies. Having recognized the value of institutionalized interstate cooperation in strengthening commitment credibility under autocratic rule, leaders in non-democracies are more likely to involve in institutionalized cooperation such as International Money Fund programs and mandates than democracies. Existing scholarship has failed to produce consistent empirical findings and cannot provide a coherent theoretical account for the effect of political regime on international cooperative behavior. Such discrepancy in understanding results primarily from the absence of a specialized and coherent theory on non-democratic regime's cooperation behavior. Most studies on this topic to date adopt a problematic dichotomous view of the distinction between democracy and non-democracy. Most existing scholarship focuses overwhelmingly on the impact of democratic political dynamics on international outcomes, and non-democratic regime is treated perfunctorily in the analysis as the opposite. This approach neglects the fact that democracy and autocracy do not share common analytical spectrum in many aspects and cannot be generalized with a dichotomous categorization.

The lack of a firm theoretical ground for understanding the international cooperative behavior of non-democratic regimes has prevented the scholars from understanding some of the most salient phenomena in international cooperation. While non-democratic regimes are believed to be less participatory in institutionalized international cooperation, very few has notice that the level of involvement in international institutions is highly "volatile" among non-democracies. Some of the non-democratic regimes are highly active international institutions whereas some of their peers are among the least participatory in international cooperation. This observation is clearly seen in Figure 1.1 which presents a comparison of the distribution of IGO memberships among non-democracies with that of democracies using



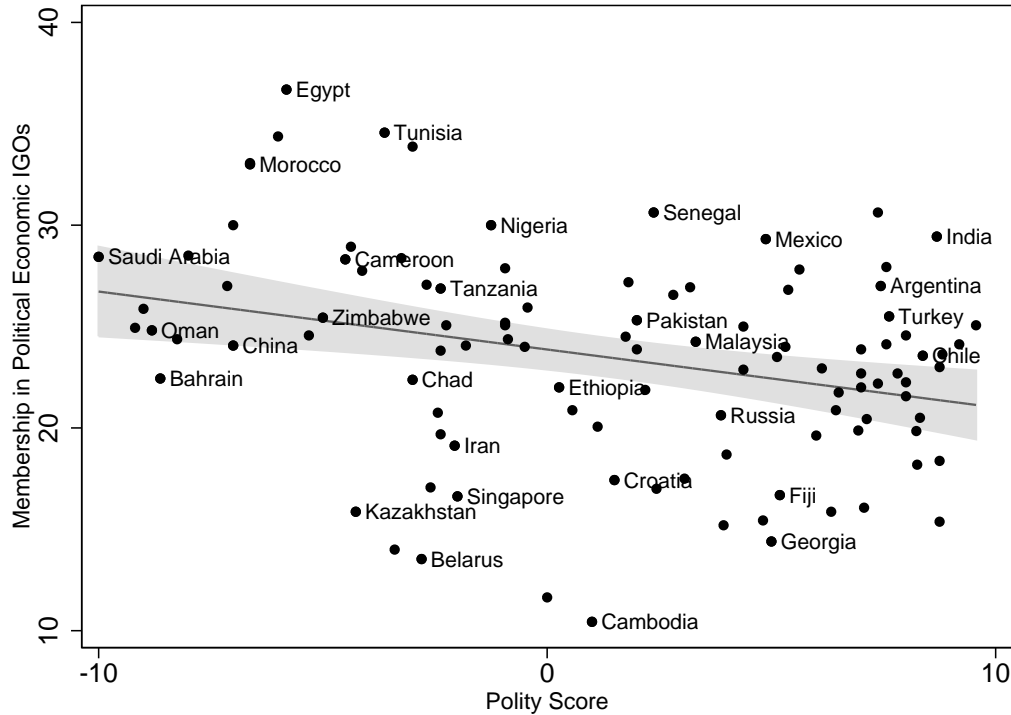


Figure 1.2: IGO Membership and Political Liberty: 1990-2005

cross-national data from 1990 to 2005. Both the rug plot and box-whisker plot in Figure 1.1 shows the cross-national distribution of IGO memberships among non-democracies is much more dispersed than that among their democratic counterparts. The greater variation among non-democracies in involvement in IGOs suggests the international cooperative behavior of non-democratic regimes merits more thorough examination.

Another compelling reason for understanding the behavior of non-democratic regimes in international cooperation rests in a puzzling association between political liberty and international involvement among non-democratic regimes. Contrary to the Liberalist view that democratization and international cooperation go hand-in-hand, empirical evidence shows the most illiberal regimes in the world have been highly active in international cooperation. Non-democratic regimes that have managed to survive waves of democratization in the sec-

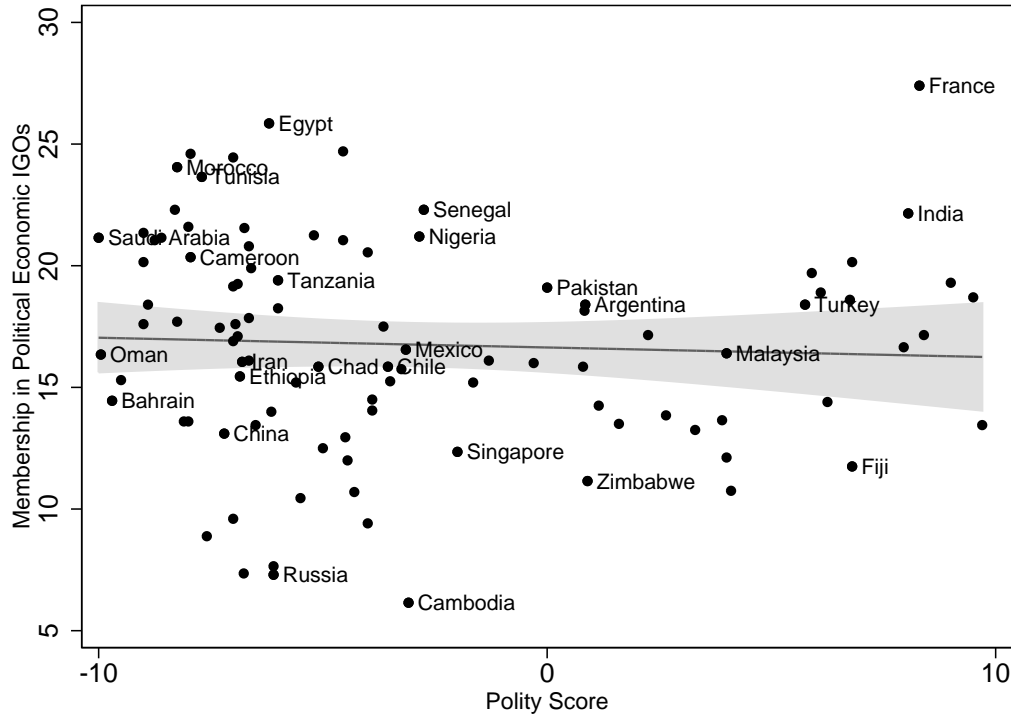


Figure 1.3: IGO Membership and Political Liberty: 1972-1991

ond half of the 20th century are observed to have higher levels of involvement in international institutions. As the pattern in Figure 1.2 suggests, in the first fifteen years after the end of Cold War, regimes with a polity score lower than 0 have more memberships in political economic Intergovernmental Organizations. The linear prediction line fitted based on the scatter plot has a significantly negative slope. This observation is in contradiction with the conventional thought that stubborn illiberal regimes must pursue an autistic strategy in order to preserve the domestic autocratic rule.

In particular, it is noticeable that illiberal regimes which have high levels of involvement in international institutions are less likely to experience political liberalization between 1972 and 2005. It is obvious from comparing Figure 1.3 with Figure 1.2 side-to-side that a significant portion of the illiberal regimes existing before the end of Cold War made their

way towards political liberty and democracy by 2005. But non-democratic regimes which are still surviving by 2005, as shown around the upper-left corner of Figure 1.2, have on average more memberships in political economic IGOs than those regimes experienced political liberalization between 1972 and 2005. With a lot of the existing studies proclaiming the mutual-reinforcing effect between involvement in international institutions and political liberalization, the present literature in international cooperation is unable to provide an account for why the surviving illiberal regimes are actually more cooperative internationally than those regimes underwent democratization.

Could international economic exchanges explain this odd observation? Following the standard Functionalist argument, could it be that those enduring illiberal regimes are on average more integrated to the world economy, which generates the need for more active participation in international institutions? If this conjecture is validated, economic interdependence, instead of political regime type, stands out as the fundamental explanation for the varying levels of involvement in international institutions. Collected evidences, however, suggest this conjecture is unlikely to be true. Figure 1.4 and Figure 1.5 plot the memberships in IGOs against common measurements of international economic interdependence, international trade and direct investment inflows. If economic interdependence is the lurking causal factor underpinning the negative association between political liberty and institutional involvement, a positive correlation between institutional involvement and economic interdependence and a negative correlation between political liberty and economic interdependence should be expected. The patterns in Figure 1.4 and Figure 1.5 obviously reject the first part of the spuriousness conjecture: neither international trade or direct investment is shown to be positively correlated with institutional involvement. Hence, it is unlikely that economic interdependence alone can account for the puzzle.

The observation that surviving illiberal regimes are more involved in international in-

Table 1.1: Countries with High Rule of Law Relative to Electoral Rights

	Rule of Law Index	Electoral Rights Index
Bahrain	0.83	0.00
Cameroon	0.50	0.00
China	0.83	0.00
Egypt	0.67	0.17
Iran	0.83	0.17
Kuwait	0.83	0.33
Malaysia	0.83	0.33
Morocco	1.00	0.33
Oman	0.83	0.17
Saudi Arabia	0.83	0.00
Singapore	1.00	0.33
Syria	0.83	0.00
Tanzania	0.83	0.33
Tunisia	0.83	0.17
United Arab Emirates	0.67	0.17

*Source:* Barro(2000), Wang(2011)

stitutions is also in interesting comparison with the performance of these regimes in domestic governance. Table 1.1 lists the countries with a high Rule of Law score but low Electoral Rights score in 1998. Noticeably, many of the illiberal regimes with high levels of involvement in international institutions as shown around the upper-left corner of Figure 1.2 made to this list of countries with the highest Rule of Law Index relative to Electoral Rights Index. It is probably not surprising to see these illiberal regimes being highly viable throughout the years given their effectiveness in upholding the rule of law despite low levels of political liberty. But why are these regimes also associated with high levels of involvement in international institutions? While one could easily speculate on an explanation of the relationship upon observing the pattern, there has been few study that pays attention to the fact that illiberal regimes that are more internationally involved are also highly successful in domestic governance with non-democratic rules. Give these interesting but puzzling patterns of empirical observation, there exists a compelling need for a rigorous and systematic examination of the relationship between domestic governance and international institutions.

Understanding the rationale of the involvement of illiberal regimes in international in-

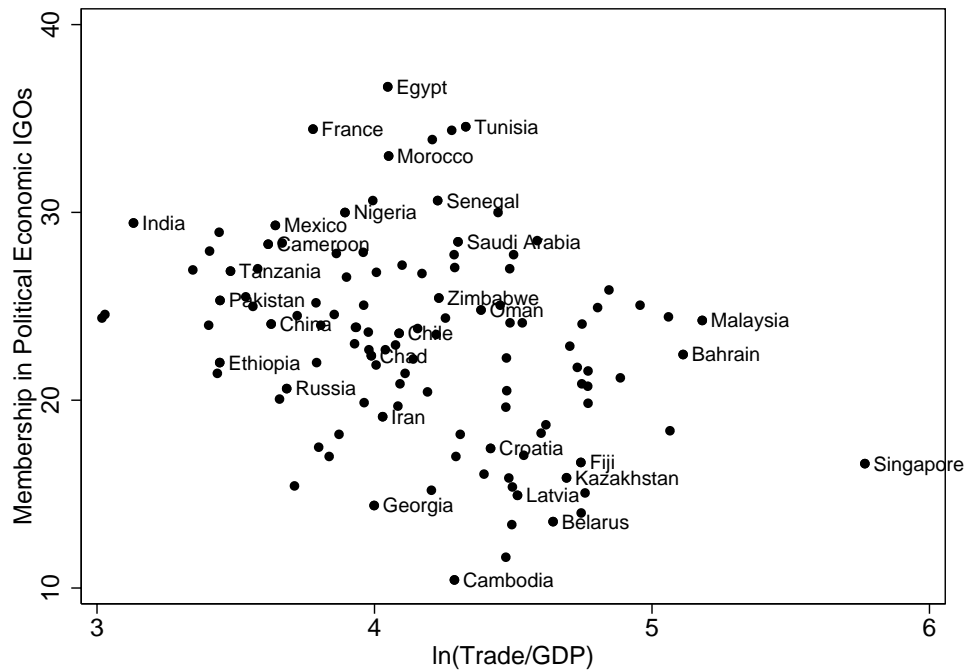


Figure 1.4: IGO Membership and International Trade: 1990-2005

stitutions is of great significance for a couple of other considerations. First, given the puzzling pattern of empirical observation, scholars should be prompted to rethink the relationship between global integration and domestic political development. Scholarships in international political economy and international institutions to date overwhelmingly embrace the idea that tighter political and economic linkages across sovereign states will decrease the viability of illiberal regimes under non-democratic rules. As a critical step in global integration, institutional involvement in intergovernmental organizations is considered a catalyst for the international harmonization and convergence of domestic policy and institutions. However, given the fact that the most stubborn illiberal regimes in the world are highly active and enthusiastic about participating in institutionalized interstate cooperation, scholars are left wondering if international institutions have the speculated effect of precipitating domestic political change. The presence of such an anomaly calls for a systematic re-examination of the dynamics of political development in the context of globalization. The need for a

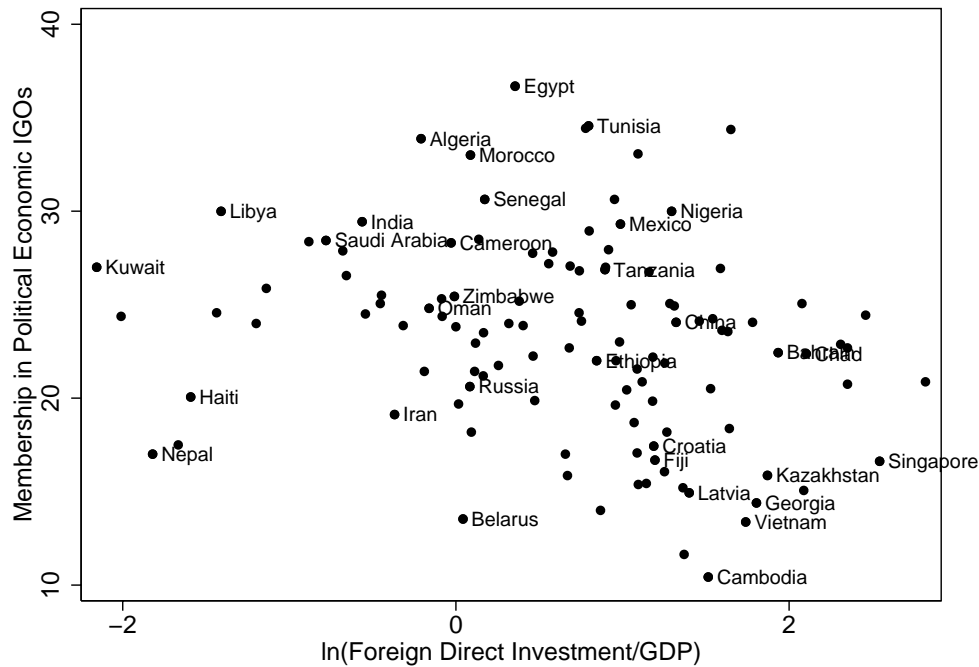


Figure 1.5: IGO Membership and Foreign Investment: 1990-2005

theory that addresses the domestic political consequence of institutional development at the international level becomes compelling as scholars realize the emergence of a new dimension of the significance of international institutions.

Second, the puzzle provides a compelling case for students of international cooperation to reconsider the significance of international institutions. Given the association between international institutional involvement and the path of domestic political development, it is worth speculating that international institutions have some distinctive domestic functionality. The debate between Neoliberal Institutionalism and Neo-realism regarding the effect of international institutions in promoting cooperation among nations had dominated the scholarship of international institutions. But very few has examined how institutions at the interstate level enters the sub-national political economy of sovereign states and may result in major difference in the domestic scenario. Such an idea merits contemplation given

the intensifying transnational economic and social linkages between sub-national actors and institutions. Institutional arrangements originally designed to facilitate cooperation among sovereign states are now gaining significance in coordinating actions among business and other non-state actors in a transnational context. To provide a convincing account for the puzzle, the relationship between international institutions and domestic political economy in non-democratic regimes must be systematically addressed.

## **1.2 Institutions and Commitment under Non-democratic Rule**

This research aims to develop a theory of the cooperative behavior of non-democratic regimes in the era of economic globalization which provides an explanation for the empirical puzzle presented above. While international institutions are originally devised to address issues in interstate interactions, it should be recognized that in order to understand the puzzling pattern of involvement of non-democracies in institutionalized cooperation, one ought to take a deeper look at the domestic political dynamics in non-democratic regimes and the impact of such dynamics on state behavior in interstate interactions. The call for more attention to the domestic politics under authoritarian rule is particularly relevant given that standard indicators of international economic activities of states alone are unlikely to provide an account for why illiberal regimes are more active in institutionalized cooperation. A relevant examination of the puzzle should start with a characterization of the distinctive domestic political dynamics under non-democratic rules and link the dynamics with the international dimension of the survival of these illiberal regimes.

As numerous studies in political economy have suggested, the political viability of a regime with closed and illiberal political rules hinges on the ability of the government to find a cure for the domestic commitment difficulty, which is the most common pathology of non-democratic systems. The syndrome of commitment difficulty under illiberal political rules most directly stems from the absence of the set of institutional constraints on

the leadership that exists in mature democratic regimes. From a political economic point of view, the distinction between “good” governments and “bad” governments is drawn from the institutional inducement of the compatibility of the incentive of the political authority in extracting revenues with the incentive of the domestic economic agents in undertaking productive economic activities. Institutions dominate the incentive of political agents in shaping the efficiency of the outcome. Given a constant incentive of revenue extraction, “bad” institutions lead to more conflicting patterns of incentive which incur sub-optimal political economic outcomes. “Good” institutions, on the other hand, result in greater compatibility of incentives and hence Pareto efficient social outcomes. In the context of non-democratic political system, the most prominent aspect of the “badness” of institutions that causes inefficient political economic outcomes is the absence of constraints on the autocrat and the ensuing low credibility of policy commitment. Such an observation is particularly relevant in the area of redistribution policy where domestic economic agents underinvest in production anticipating that the autocrat would seize most of the output. Although both the producer and the autocrat are worse off as a result, the absence of credible commitment apparatus makes it difficult to shift the outcome away from Pareto inefficiency.

The commitment problem in non-democratic regimes is of great political economic significance because the survival of the regime is ultimately decided by the economic outcomes. Regimes who managed to sustain the non-democratic rule have to find cures for the commitment difficulty. The central logic underlying the theory of this dissertation is that leaders in non-democratic regimes could alleviate domestic commitment difficulty with either domestic liberalization or involvement in international institutions. Moreover, domestic liberalization and international institutions are substitutes of each other depending on a number of political economic parameters. The substitution effect between domestic liberalization and international involvement explains the pattern of observation discussed at the beginning of the chapter. Not surprisingly, the credibility of commitment under non-



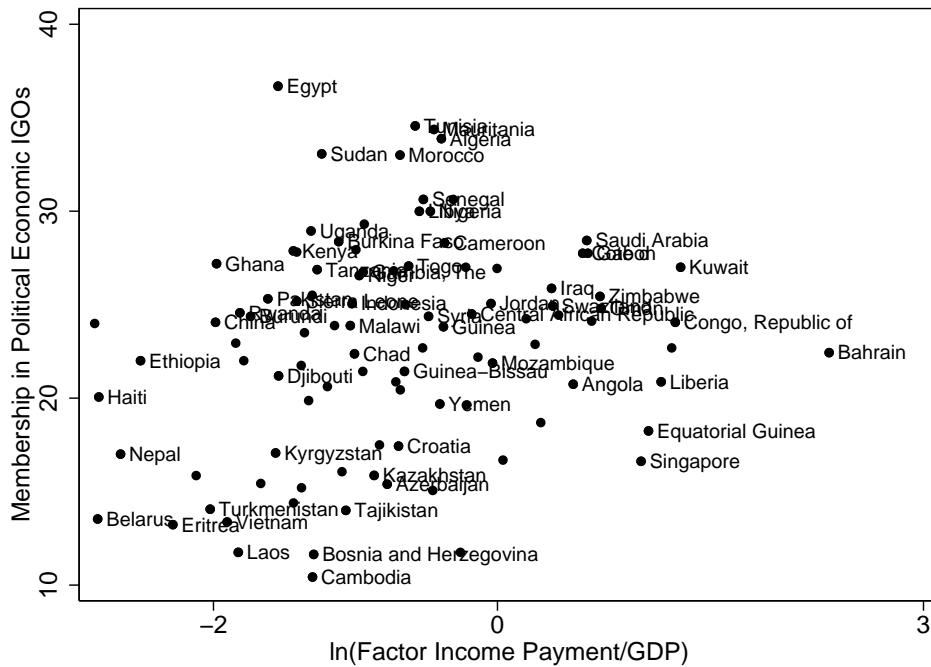


Figure 1.6: IGO Membership and Foreign Factor Income: 1990-2005

democratic rules can be restored by empowering the domestic victims of predatory policies. This is usually accomplished with partial political liberalization or institutionalization of autocratic political procedures. Anticipating punishment from these actors after empowerment, the autocrat could credibly refrain from making predatory policy. On the other hand, in the context of economic globalization, extension of the impact of domestic economic policy makes international level apparatus available for addressing domestic political economic issues. In the presence of intense global integration of production, international arrangements that were originally to protect the interests of international economic agents now becomes a weapon that domestic actors could resort to in guarding their interests against the predation from domestic political authority.

But what determines if one country will resort to domestic or international remedy for commitment difficulty? In the empirical observation, what is peculiar about those countries

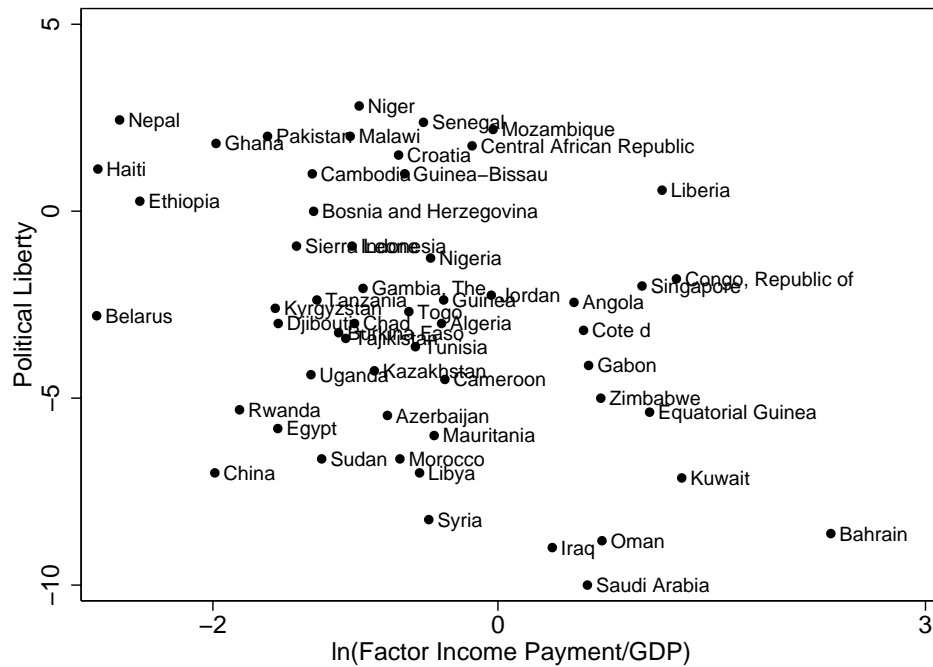


Figure 1.7: Political Liberty and Foreign Factor Income among Illiberal Regimes: 1990-2005

staying in the upper-left corner in Figure 1.3 and 1.2 comparing to those where domestic liberalization has been underway? The nuance in the argument is that international institutions could be as effective as domestic remedies in enhancing the credibility of commitment only given tight connections between the domestic real economy and global chain of production. The premise of the effect of international level institutions on protecting domestic interests hinges on the low inseparability of domestic and international economic interests. In order for arrangements at the international level to generate positive institutional externalities for the domestic governance, it must be the case that domestic policies are unable to discriminate domestic and international agents. Such a connection between domestic and international interests is most accurately captured by the flows of factor income across national borders. Payments of factor earning to foreign factors owners, which are recorded in the current account in the balance of payments, reflect the contribution that foreign economic agents made in the domestic productive activities. Factor income payment naturally characterizes to what

extent the domestic process of production is integrated into the global integration of value chain. International institutions will only have the desired effect of inducing responsible domestic governance in the presence of high levels of international integration of domestic economy. Non-democratic regimes that are highly involved in political economic IGOs are also associated with high levels of integration measured by the percentage of factor payment in GDP, which is shown in Figure 1.6 and 1.7.

Another factor entering the trade-off between the domestic and international remedies of commitment difficulty is the extractive capacity of non-democratic regime. Allowing the incentive of the political authority in revenue extraction to vary, different institutions for commitment credibility generate different implications. The first observation is that regimes that can extract tax revenue more effectively face more severe loss of efficiency from not being able to make credible commitments. As the extractive capacity of a regimes grows, the state will become more desperate in grabbing the output of private production, leading to greater distortion of the incentive of domestic economic agents. The leaders of regimes endowed with a set of highly efficient tax institutions thus have to take the political consequence of commitment problem more seriously. It prompts the leader to look for remedy either at the domestic level or at international level. As a result, the substitution effect between domestic liberalization and international involvement is expected to be much stronger given high levels of extractive capacity of the regime. Together, the integration level of domestic economy and extractive capacity provide an account for the negative association between political liberty and involvement in international institutions among surviving non-democratic regimes.

### **1.3 Organization of the Dissertation**

This dissertation combines game theoretical modeling with large- $n$  empirical methods in substantiating the rigorousness in the theoretical claims and identifying robust statistical evidences. In the next chapter I provide an overview in two relevant bodies of literature.

The first one concerns the linkage between domestic politics and international cooperation, while the second one focuses on the political economy of non-democratic regimes with particular emphasis on commitment problems. The key argument developed in this research synthesizes the insights from both fields, but it more importantly makes important extensions of the literature and bridges the two fields that had little contact with each other in the past.

In Chapter Three and Four, the theoretical argument is verbally elaborated and then formally represented with a political economic model of commitment developed from a simple investment-taxation game. In modeling the decisions of autocratic polities in joining international institutions, I particularly emphasize the strategic interactions between the political authority and domestic and international economic agents in the peculiar political context of autocracy. I incorporate the political incentives under the non-democratic rule into the economic model in characterizing the political salience of the efficiency in domestic economic governance. I simplify the analysis of international institutions in the model, assuming there exogenously exist a sufficient number of institutional arrangements at the international level that could lower the cost of exit option. The model provides logically support for the argument regarding the substitution effect between domestic liberalization and international involvement and derives specific mechanisms that can be directly tested in the empirical investigation.

Chapter Five presents supportive empirical evidences from a panel study of the relationship among memberships in intergovernmental organizations, international economic exposure, extractive capacity, and domestic political liberty. Memberships in IGOs are narrowed to a specific set of institutionalized organizations that address salient political economic issues among member states. Accurate and pertinent measurement of international integration and extractive capacity merits discussion and I justify the choice of data in great details when discussing the design of empirical research. Empirical evidences supporting the

theory are drawn from cross-national and panel data analysis. The cross-national analysis using country-average data between 1972 and 2005 provides a straightforward characterization of the long-term equilibrium relationship among the key variables whereas the panel data explores the dynamic elements in the relationship over time.

Chapter Six presents an additional check on the causal claim by examining the impact of abrupt political events on the probability of a country joining new intergovernmental organizations. In the research design of Chapter Six, abrupt political events includes coups d'état and other self-coup events which resulted in drastic and rapid deterioration of democratic institutions in the political system. Results of the analysis suggest that the occurrence of such events is consistently associated with greater probability of new IGO membership in the following year. This evidence adds to the validity of the theoretical argument developed in Chapter Three. Chapter Seven concludes the dissertation and discuss broader implications and extensions.

## **Chapter 2**

### **The Politics of Non-Democratic Regime and International Institutions: A Literature Review**

While there are abundant studies on the relationship between democratic countries and international cooperation, the studies of autocratic politics had very little contact with research in international cooperation in the past. The absence of a systematic theory on the international cooperative behavior of non-democratic regimes makes it compelling to bridge the existing studies of autocratic political economy with theories of domestic sources of international initiatives for cooperation. To understand why the surviving non-democratic regimes are more involved in institutionalized interstate cooperation, the theory developed in this dissertation draws insights from two bodies of research in international relations and comparative politics. The first studies the distinctive political economic mechanism under non-democratic rules. Scrutinizing the existing research on autocratic politics provides important clues for understanding the particular political economic incentives underlying the behavior of the state and non-state economic agents. Such incentives derived from the autocratic system could have significant impact on the interests and preferences of the state in interstate interactions, which is particular relevant in the present context of global economic integration. The second body of literature explores the relationship between domestic politics and interstate cooperation. In the field of international institutions, scholars have paid growing interests to understanding the domestic institutional sources of international cooperation. Existing research has highlighted the significance of interactions taking place

at the domestic level in shaping the process and turnout of international initiative for cooperation. While few of these studies focuses on non-democratic regimes, theories produced in the field nevertheless provide some general insights regarding the domestic significance of international institutions and cooperation, making it possible to embed a theory of autocratic cooperation in a useful existing framework. In this chapter I present a synthetic view of the literature in the two bodies of literature and discuss how an integration of the insights in the findings in field sheds new light on an important aspect of non-democratic regime's cooperation behavior.

## **2.1 The Political Economy of Non-Democratic Regime**

How do the domestic institutions under autocratic regime affect the salience of international institutions? Answering this question requires a retrospect of existing research of autocratic regimes, particular those contributing to a general understanding of the institutional dynamics and political consequences of the autocratic systems of politic economy. Granted that the autocratic rule can take a number of different forms such as personalist, military, or single-party regime, the key defining feature of non-democratic political system is still the skewed distribution of political power. The ruling elites constitute a very small portion of the total population but wield a disproportionate influence on important political economic issues. Most saliently, the elites in illiberal regimes face very few constraint on their the unilateral power in distributing and redistributing economic resources, leading to many socio-economic problems under non-democratic rules.

Existing political economic studies on autocracies highlighted the social inefficiency stemming from such skewed patterns of power distribution. Under autocratic rules, the weak institutional constraints on the power of the elites distort the incentives and interactions between the political authority and domestic economic agents, resulting in sub-optimal

economic outcomes. Sub-optimality in the autocratic system could derive from three sources, namely commitment difficulty, particularistic politics, and political monopoly. While all of the three problems stem from the asymmetric power distribution, each of them possessed a nuanced mechanism of political economy and generates distinctive implications for social efficiency which I elaborate as follows.

### **2.1.1 Political Transaction Cost and Commitment Difficulty**

First of all, the inability of the autocratic states to make credible domestic commitments to the domestic audience is the most salient source of political economic inefficiency under non-democratic rules.<sup>1</sup> In developing a “Political Coase Theorem”, Acemoglu generalized the political dynamics under democratic and non-democratic institutions and pointed to time-inconsistency problem as one of the origins of political inefficiency. In his conceptualization of a system of political economy, institutions become irrelevant as the political transaction cost approaches zero. But in scenarios where the political transaction cost is significant, problems of commitment difficulty and information asymmetry start to distort behavior and result in inefficient social outcomes. Such problems can be easily tackled in a democratic system where institutional constraints foster political accountability which ensures the credibility of commitments, preventing the societal interests from being encroached by the state. In Acemoglu’s conceptual framework, the only distinction between autocratic and democratic system is whether the incumbent ruler could be replaced by the citizens at a very low cost. The cost of replacing the incumbent thus symbolizes the institutionalized procedures with which the citizens can regulate the behavior of the political authority. In systems without institutional constraints on the leadership, the state would have a hard time convincing the domestic audience of the credibility of policy commitments. Similar arguments is also seen in Myerson, who looked at the commitment difficulty within the ruling

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<sup>1</sup> Acemoglu (2003), Myerson (2008)



elites that could lead to the collapse of the regime.<sup>2</sup> The solution prescribed by Myerson is still constitutional institutions that can tie the hands of the autocrat.

### 2.1.2 Particularistic Redistribution

The second source of inefficiency in non-democratic regimes is the particularistic propensity in the redistribution. This problem somewhat resembles the commitment difficulty in that both are resulted from the autocrat's predatory policy. Selectorate Theory developed by Bueno de Mesquita et al. most evidently elaborates the particularistic politics under non-democratic rules and its consequences.<sup>3</sup> It is shown in their works that the autocrat strategically provides more particularistic benefits to the small coalition than the general welfare to the public, which explains the high levels of taxation but low levels of public goods provision in non-democratic regimes. The efficiency implication of Selectorate Theory is clear that the production incentives of the society are suppressed, resulting in low levels of output and growth. But such inefficient outcomes are not the derivative of "political transaction cost", comparing to the overarching argument stemming from Political Coase Theorem. Instead, it is the direct result of the leader's strategic response to some particular institutional setting symbolized by winning coalition sizes. The particularistic strategy of the leader, but not commitment difficulty or informational deficiency in political interactions, lead to inefficient social outcomes. Theoretical studies that took a similar approach can be found in Acemoglu, Robinson and Verdier, and Lizzeri and Persico.<sup>4</sup>

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<sup>2</sup> Myerson (2008)

<sup>3</sup> Bueno de Mesquita, Smith, Siverson and Morrow (2005)

<sup>4</sup> Acemoglu (2006), Lizzeri and Persico (2004)

### 2.1.3 Dead Weight Loss from Political Monopoly

Finally, inefficiency under non-democratic rule can be the result of political monopoly. As McGuire and Olson, and Lake and Baum argued in their theoretical studies, the political market under the autocratic rule conceptually resembles the model of monopoly in microeconomics which results in dead weight welfare loss in political competitions.<sup>5</sup> The logic of such claims resides in the economic observation that non-competitive market is always less efficient in delivering the value of social goods than competitive market. The political market equilibrium under autocratic rules is always Pareto inefficient given the monopoly power of the political incumbent. The sub-optimal outcomes on the market could be remedied with lower barrier of entry into the political market found in democratic regimes.

While each of the three sources of inefficiency under non-democratic rules differs from each other analytically and generates distinctive insights, existing theories of commitment difficulty in autocratic regimes provide a more relevant theoretical framework for the sake of the inquiry in this dissertation. Such a point is reached based on the following considerations. The framework established in Political Coase Theorem constitutes a more general and parsimonious characterization of political economy that can accommodate the institutional dynamics under both liberal regimes and illiberal regimes. Particularly, Acemoglu's model allows for incorporation of the endogeneity of democratic institutions that is tractable and straightforward. The difference in political institutions is succinctly characterized by the cost of deposition as a simple parameter, which may also be a choice variable of the ruling elites. By contrast, Selectorate Theory and Political Monopoly model are built on a discrete distinction between democracies and non-democracies which is drawn artificially and hard to be modeled as something that rises endogenously within the theory. The ability of a theory to provide an endogenous characterization of the domestic political regime is highly desir-

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<sup>5</sup> Olson (1993), Lake and Baum (2001)

able in the context of this research given that changes in political liberty in non-democratic regimes over time stands at the center of the motivating empirical puzzle. Although recent development of Selectorate Theory incorporated the endogenous choice over the size of winning coalition as seen in Bueno de Mesquita and Smith,<sup>6</sup> the clarity and parsimony of the Political Coase Theorem still prevail. While the other two approaches definitely have their advantages in generalizing particular aspects of autocratic political economy, the main theoretical question and argument in this research is best analyzed in the framework of the Political Coase Theorem and commitment difficulty under non-democratic rules.

#### **2.1.4 Remedies to Inefficiency in Non-democratic Regime**

The central logic of the endogeneity of democratic institutions in the Political Coase Theorem framework resides in the trade-off that autocratic rulers face between political revenue earned in the current period and political stability in the future. Even though the ruling elites under non-democratic rules intrinsically care less about the socio-economic efficiency, the poor performance of the economy as a result of rampant predation by the state inevitably results in social unrest and disorder which potentially threatens the sustainability of the regime (Levi 1989, McGuire and Olson 1996).<sup>7</sup> In response to these negative political effects of inefficiency and sub-optimality, autocratic elites would seek remedies to deal with the unrest in defense of their established political interests. The first and probably most common remedy is to increase the level of repression to forcefully eliminate the threat to the autocratic rule. Conceptually, the repression is usually accomplished through further cutting the provision of public goods that are crucial in coordination among the domestic oppositions.<sup>8</sup> Such a remedy is usually very costly and may sometimes be counter-productive. The

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<sup>6</sup> Bueno de Mesquita and Smith (2009)

<sup>7</sup> Levi (1989), McGuire and Olson (1996)

<sup>8</sup> Wintrobe (1990), Bueno de Mesquita and Downs (2005), Bueno de Mesquita and Smith (2009), Smith (2008)

second remedy is to voluntarily induce domestic institutional change that correct the distortionary effect and restore efficiency. This happens when the ruling elites find it favorable to tie their own hands and win trust from the domestic audience.<sup>9</sup> Most frequently this institutional change involves shift of institutional power away from the elites and empowerment of the citizen within the domestic institutions. The most famous example is the voluntary empowerment of the British Parliament by the King to make commitment of repaying loans more credibly, as argued in North and Weingast (1989).<sup>10</sup>

There is one other potential remedy to the commitment difficulty under non-democratic rules that has not been noticed in existing literature on autocratic political economy—institutional constraint at the international level. As scholars of International Relationship have noticed, international institutions could constitute an alternative solution for domestic institutional inefficiency. One important research is Broz (2002) where it is pointed out that international instruments could be used as external remedies to weak domestic institutions in governing interstate economic relations.<sup>11</sup> Broz found that autocratic regimes are usually unable to make credible monetary commitments to foreign investors because of the absence of domestic veto players. As a remedy, these regimes are more likely to fix the exchange rate and peg the local currency, which make international commitment more credible. Since exchange rate regime is essentially institutional arrangements at the international level, the implication of Broz’s argument is that institutions at the international level could be used to complement deficient domestic institutions.

While it makes sense that international institutions could salvage international commitment credibility, Broz’s insight deserves intensive scrutiny in the domestic domain as well.

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<sup>9</sup> North and Weingast (1989), Greif, Milgrom and Weingast (1994), Conley and Temimi (2001), Lizzeri and Persico (2004), Gandhi (2008), Bueno de Mesquita and Smith (2009), Gehlbach and Keefer (2011)

<sup>10</sup> North and Weingast (1989)

<sup>11</sup> Broz (2002)

There is reason to believe international institutions could also be used to strengthen the credibility of domestic commitments. Comparing to domestic institutional reform that empowers the domestic opposition, international institutions only directly interact with the political elites. Through tying hands with international institutions, the elites could manage to retain the domestic discretionary power, even though such power is significantly constrained by external provisions. Most importantly, the strategic value of retaining domestic discretionary power is evident in that domestic elites can unilaterally set the agenda and intensity for international involvement, in order to make sure the reservation to use domestic discretionary power is secured. But what does the existing studies of international cooperation say about the possibility of using external institutions as cures for problems at home? Why would international institutions be able to tackle domestic difficulties? Before speculating further about the role of external institutions in domestic issues, I take a comprehensive overview of the literature on the relationship between domestic politics and international cooperation to identify support for the claim that external remedies for domestic commitment problems are available to the autocratic rulers.

## 2.2 Domestic Politics and International Cooperation

Understanding of non-democratic regime's cooperation behavior most directly relates to studies of the effect of domestic politics on international cooperation which attributes variance in degree and structure of state's involvement in international cooperation to domestic political institutions. Following the advice to "rationalize politics",<sup>12</sup> international relations scholars have paid close attention to the power of domestic political variables in providing account for regularity in nation state's international behavior. In the field of international cooperation, the academia has also seen a burgeoning group of research explaining state's international cooperation behavior with explanatory variables embedded in structures of domestic politics. In answering the same research question, the existing literature

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<sup>12</sup> Milner (1998)

on how domestic politics shapes international cooperation exhibits two distinct theoretical approaches. The most salient distinction between the two approaches lies in the assumption on the objective that states pursue in participating in international cooperation.

### 2.2.1 The “Internationalist” Approach

The first approach, which I label as Internationalist approach, directly derives from Neoliberal Institutionalism which adopts the view that states cooperate for international goals. Departing from the acknowledgement that structural anarchy features the state of world politics and results in inefficiency in interstate interaction, Neoliberal Institutionalism posits on the function of international institutions in fostering cooperation and enhancing efficiency.<sup>13</sup> Based on this well-known Neoliberal Institutionalist tenet, the Internationalist approach goes further to unpack the domestic structure of “the state” and emphasizes the impact of domestic political institutions on international endeavor in realizing efficiency in interstate interaction through correcting the distortionary effect of structural anarchy.

Research following the Neoliberal Institutionalist approach has identified key obstacles in international environment to welfare-enhancing interstate interaction and cooperation. Most importantly, the anarchic international environment results in and exacerbates information asymmetry and commitment difficulty among states, which distorts actor’s incentive leading to sub-optimality. International institutions, as Neoliberal Institutionalists argue, provide solutions to these problems. As unitary actors, states aiming to correct the inefficiency cooperate within the frameworks of international institutions which deliver information, entrust commitment, and solidify enforcement.<sup>14</sup> The Internationalist approach further extends the inquiry through bringing in the effect of the structures of domestic politics in shaping the structure and outcome of interstate interaction. Earliest examples of

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<sup>13</sup> Axelrod and Keohane (1985)

<sup>14</sup> Axelrod and Keohane (1985), Keohane (1984)

this approach are Schelling Conjecture <sup>15</sup> and two-level game <sup>16</sup>. In more recent research falling into the Internationalist category, the effect of domestic political factors on interstate cooperation is studied with several different focuses which are commitment, information, and distributional effect and structure of domestic constraint. Scholars are first interested in how the domestic political mechanics affect state's capability to make credible commitment internationally. Research with this particular focus finds that the political dynamic under certain domestic political structure, most saliently democratic regime, functions as an effective commitment device that induces cooperative equilibrium. <sup>17</sup> The second group of research focuses on the interaction of the informational feature of domestic politics with international cooperation. In particular, these studies explore how the domestic political system intertwines with information problem at both domestic and international level, shaping the domestic feasibility of international cooperation. <sup>18</sup> The third strand of research takes the distributional effect of cooperation and its interaction with the structure of domestic political constraint as major explanatory variable in explaining bargaining and enforcement in cooperation. <sup>19</sup> Through incorporating the features of domestic political institutions in constraint structuring and information transmission, the Internationalist approach makes significant contribution to our understanding of the domestic side possibility of achieving Pareto improving cooperation among states.

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<sup>15</sup> Schelling (1980), Milner (1997)

<sup>16</sup> Putnam (1988)

<sup>17</sup> Fearon (1994), Fearon (1997), Cowhey (1993), Gaubatz (1996), Leeds and Davis (1999), Martin (2000), Mansfield, Milner and Rosendorff (2000), Broz (2002)

<sup>18</sup> Downs, Rocke and Barsoom (1996), Milner (1997), Rosendorff and Milner (2001), Dai (2006)

<sup>19</sup> Milner and Rosendorff (1997), Bailey, Goldstein and Weingast (1997), Leeds and Davis (1999), Leeds (2000), McGillivray and Smith (2000), Mansfield, Milner and Pevehouse (2005), Mansfield, Milner and Pevehouse (2008), Leeds, Mattes and Vogel (2009), Garriga (2009)

### 2.2.2 The Domestic Objectives Approach

Besides fulfilling international objectives, international institutions, as the second approach to domestic politics and international cooperation claims, also perform domestic political functions. Indeed, international institutions not only restructure international level outcome of interstate interaction but also result in pure domestic political consequences through changing domestic institutional settings. Domestic actors can therefore utilize the international institutions to fulfill domestic objectives. In contrast with the Internationalist approach, the second approach bases the research on the claim that pure domestic objectives of domestic actors explain state's participation in institutionalized cooperation. Scholars in this approach base their research on the key understanding that for states participating in institutionalized cooperation, international institutions reshape the way that domestic institutions work, which redefine the distribution of institutional power among domestic actors. Existing studies have looked at the domestic political function of international institutions in a variety of aspects. Firstly, joining international institutions imposes supranational constraint on domestic political procedure, shifting institutional power distribution among political actors.<sup>20</sup> In such scenario, domestic disadvantaged actor resorts to international institutions as a way to gain institutional power in domestic politics. Secondly, signing and legalizing provisions of international institutions can also change the domestic informational environment and hence the distribution of bargaining power among social groups.<sup>21</sup> The domestic function of international cooperation more saliently concentrates in remedying the information asymmetry and commitment difficulty in domestic politics. While information and commitment issues distort domestic actors motivation leading to suboptimal outcome, international institutions and cooperation provides external solutions to these problem. Specifically, international institutions reduce domestic information asymmetry between government and voters in democracy, enabling the government to signal

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<sup>20</sup> Goldstein (1996)

<sup>21</sup> Goldstein and Martin (2000)



policy behavior and the voters to oversee government's action.<sup>22</sup> Moreover, states with weak domestic institutions compromising domestic commitment capability can also resort to international regime to strengthen credibility. In political or economic transitioning period, when the government lacks the capacity to render policy commitment credible to domestic audience, signing international treaties that tie the hands of government functions as an effective commitment regime.<sup>23</sup> Even in state with extreme instability and uncertainty, incumbent government could use international institutions to impose domestic constraint which incurs sunk cost on future government and shape the path of political change.<sup>24</sup> .

Both the internationalist approach and domestic imperative approach provide insightful account for relationship between international cooperation and domestic political structure. Yet the second approach to domestic politics and international cooperation is of particular value for the study of non-democratic state's involvement in international cooperation. There are several reasons underpinning this claim. First, in understanding the dynamics underlying autocratic regime's cooperation behavior, the domestic problems deriving from the features of autocratic institutions deserve particular scrutiny. As many studies in political economy have documented, comparing to well functioning democracies, domestic institutions in autocratic regime distort actors' incentive and behavior, incurring sub-optimality and inefficiency in economic and political arena. Secondly, the sub-optimality and inefficiency can potentially harm the political stability under autocratic rule which concerns the autocratic elites. That is where international institutions emerge as an instrument with many desirable features which can be utilized by the elites to remedy the domestic institutional inefficacy in defense of the stability of authoritarian rule. Finally, the formal domestic political constraints on incumbent government in autocratic regimes are less dense than in democracies, making

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<sup>22</sup> Mansfield, Milner and Rosendorff (2002), Milner (2006)

<sup>23</sup> Mansfield and Pevehouse (2006), Mansfield and Pevehouse (2008), Simmons and Danner (2010), Poast and Urpelainen (2013), Fang and Owen (2011)

<sup>24</sup> Moravcsik (2000)

it easier for the domestic government to bringing international institutions into domestic scenario for fulfillment of domestic political objectives.

### **2.2.3 Non-democratic Regime and International Institutions**

There has been very few research that focuses exclusive on the cooperative behavior of non-democratic regimes in multilateral institutions. Most of the existing knowledge on the topic is produced in studies that compare the cooperative behavior of democratic and non-democratic regimes in a reductionist manner. Three overarching findings were established in representative research. First, non-democracies are found to be less involved than democracies in institutionalized cooperation.<sup>25</sup> Second, democratization is found to have the effect of boosting the involvement in multilateral institutions.<sup>26</sup> Third, non-democracies are found to be more involved than democracies in some institutions of international economic or legal cooperation.<sup>27</sup>

These representative studies are significant in furthering the broad understanding of the relationship between regime types and international cooperation. They nevertheless fall short when it comes to explaining the differences among non-democratic regimes in their cooperative behavior. While some of these studies pointed out the distinctive features of autocratic politics and its impact on the incentive to participate in institutionalized cooperation, the variation in the level of involvement in international institutions among non-democratic regimes has not being identified and explained. Moreover, the broad theoretical approaches underlies most of these studies are not likely to accommodate the puzzling phenomenon that the most illiberal regimes participate more in multilateral institutions. In particular, studies contributing to the first and second finding adopt the theoretical frameworks that focuses on characterizing democratic politics and democratization, but not the unique struc-

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<sup>25</sup> Mansfield, Milner and Rosendorff (2002)

<sup>26</sup> Mansfield and Pevehouse (2006), Poast and Urpelainen (2013)

<sup>27</sup> Garriga (2009), Simmons and Danner (2010), Fang and Owen (2011)

ture of politics and institutions under non-democratic rules. While studies contributing to the third finding put more emphasis on autocratic institutions, the heterogeneity among non-democratic regimes was not incorporated into the theory-building and hence cannot directly provide an account for the variation in cooperative behavior.

To develop a theory capable of unpacking the puzzle, insights from two fields of research need be brought into the picture. The first fields of research studies the commitment credibility of autocratic regimes and the second examines international cooperation that fulfills domestic political objectives. Political economic literature on non-democratic regimes suggests that one of the central issues in autocratic politics is low domestic commitment capability due to the lack of accountability.<sup>28</sup> The ruling elites in autocratic regimes, entitled with unconstrained power, are prone to implement highly predatory redistribution policies that distort economic efficiency. Even though the rulers may well recognizes the predatory policy as pernicious, they themselves lack the capability to credibly commit to less predatory policies. Such a quagmire of sub-optimality spawns instability and hence constantly stand at the center of the political and economic agenda in regimes under non-democratic rules.<sup>29</sup>

Driven by the incentive to maximize fiscal revenue and political sustainability, autocratic rulers seek remedies that can help improve their capability in making credible domestic commitments and enhance the economic efficiency. One obvious possibility is that the ruler could induce domestic institutional changes that enhance the credibility of commitments though empowering the opposition that constrains the power of the elites. Such a solution to the commitment difficulty has been highlighted in the political development literature.<sup>30</sup>

A problem with the literature on the political economy of autocratic regimes is that the international aspect of the survival of autocratic regimes in the era of globalization has been

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<sup>28</sup> Acemoglu (2003), Acemoglu (2006), Gehlbach and Keefer (2011)

<sup>29</sup> Acemoglu (2003), Myerson (2008), Gehlbach and Keefer (2011)

<sup>30</sup> North and Weingast (1989), Acemoglu (2003), Myerson (2008)

largely neglected. The second field of research that studies the domestic political functions of international cooperation thus comes into the picture. Existing international cooperation literature suggests that state leaders oftentimes resort to external institutions for solutions when caught in domestic political dilemmas. In particular, certain types of international institutions have distinctive advantages in tackling domestic political problems caused by the information asymmetry and commitment difficulties. Particularly, autocratic regimes could potentially benefit from international institutions that impose constraints on the domestic authority are of particular value to governments having a hard time making credible domestic commitments. By tying hands of the participating states, institutionalized cooperation alters the incentive of the government and hence convinces the domestic actors of the interests and willingness of the government in fulfilling policy commitments.<sup>31</sup> In the presence of such institutional involvement, the government will take its promise and commitment more seriously, which consequently assures the private economic actors of the credibility of the regime.

One key question that has not been addressed in these existing works, as the puzzle presented earlier suggests, is given that domestic commitment difficulty is pervasive in illiberal regimes, and that a number inter-governmental organizations provide effective external remedies to this problem, why do non-democratic regimes still differ considerably from each other in their involvement in these institutions? In other words, the empirical observation suggests that not all non-democratic regimes plagued by low domestic credibility have resorted to the solution provided by external institutions, and it remains unclear why some regimes are more (or less) likely to use external institutional constraints to salvage the domestic credibility. The piece of research that I have in mind in this regard is Fang and Owen (2011) where the authors found that some particular type of international institutions, such as the International Monetary Fund, could enhance the credibility of policy commitments

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<sup>31</sup> Pevehouse (2003), Maggi and Rodriguez-Clare (2007), Simmons and Danner (2010), Fang and Owen (2011), Dreher and Voigt (2011), Poast and Urpelainen (2013)

made by non-democratic regimes, particularly in time of economic reforms. The overarching argument of their research is similar to this dissertation but their analysis is largely based on a comparison between democracies and non-democracies, but not among non-democratic regimes themselves. Relatedly, their theoretical argument based on the signaling function of institutions is of some problems which actually touch upon a potential account for the variation among non-democracies in participation in international institutions.<sup>32</sup> This dissertation seeks to provide a more coherent theoretical account for the variation among illiberal regimes in involvement in international institutions by highlighting the incentive-altering effect, rather than the incentive-revealing effect, of institutions.

Another piece of closely related research, namely Dreher and Voigt (2011), merits mentioning. Built on the logic of credibility through hand-tying with external institutions, the theory in Dreher and Voigt (2011) is largely in line with this dissertation. While Dreher and Voigt (2011) particularly paid attention to the quality of domestic institutions as the cause of commitment difficulty and how it interacts with the decision to join international organizations that requires delegations, the theory in this dissertation explores a different dimension of the source of the credibility dilemma, namely weak political accountability. In short, the distinction between these two sources of commitment difficulty draws the difference between *capability* and *willingness*. Although these two concepts may overlap with each other in practice, scholars have started to notice that the institutional capacity of a state does not always co-vary with political accountability, particularly among non-democratic regimes.<sup>33</sup>

The fact that some autocratic regimes performs surprisingly well in maintaining domestic ruler of law has inspired a growing interests in the field in studying the evolution of the rule of law and the protection of private property in regimes that are stubborn autocratic.<sup>34</sup> The

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<sup>32</sup> It is well-known that signaling is only meaningful in a context where the types of actors are unobservable. In short, the biggest problem in Fang and Owen (2011) is the theory is vague on the source of private information and it is unclear how participation in IMF programs separates governments of different types.

<sup>33</sup> Barro (2000), Brumberg (2002)

<sup>34</sup> Ginsburg and Moustafa (2008), Wang (2011)

theory and evidence in this dissertation complement that in Dreher and Voigt (2011) which are relevant in accounting for the puzzling empirical pattern identified in the introduction.

### **2.3 Intended Contribution**

This dissertation intends to make contribution to the existing literature in a few respects. First and most importantly, it develops a systematic theory connecting the domestic political dynamics in non-democratic regimes with the cooperative behavior at the international level. While there exists studies linking domestic institutions in democracies with involvement in international cooperation, few has examines the impact of the peculiar political incentive under autocratic rules on the behaviors of non-democratic regimes in institutionalized cooperation.

Secondly, this dissertation particular examines the impact of international institutions on the process and outcome of domestic governance in countries with illiberal political institutions. International institutions have been praised by the Neo-liberal Institutionalists for solving incentive and selection problems in the interactions between sovereign states. Recent development in the literature also pointed out the fact that international institutions are also capable of offering solutions to incentive and selection problems that exists at the sub-national level. This dissertation adds to this line of research by providing a much more solid theoretical treatment firmly embedded in the domestic political economic structure.

Thirdly, in highlighting the utility of international institutions in solving domestic problems, the theory developed in this dissertation emphasizes the possible substitution effect between international and domestic remedies. The claim that domestic actors resort to international solutions of incentive and selection problems is barely new. But few of the existing research noticed the equivalence of the domestic alternatives in addressing similar issues. While in many cases domestic actors behave in favor of the international remedies

in addressing the domestic problems, it should be acknowledged that the domestic solutions to the same issues very well exist and the international solutions may not always prevail. The theoretical framework in this dissertation explicitly incorporates the substitution effect between international and domestic remedies which contributes significantly to the understanding the of pattern of association between political regime type and international cooperation. In this sense, the dissertation points out the conditional nature of the international remedies to domestic inefficiencies which is very important in developing a more dynamic characterization of the domestic significance of international institutions.

## **Chapter 3**

### **International Institutions, Economic Integration, and Domestic Commitments in Illiberal Regimes**

This chapter presents a theoretical framework to demonstrate the suggested relationship between the involvement in international institutions the domestic credibility of non-democratic regimes. This theoretical framework consists of several interrelated parts which, when brought together, provide an account for the observed pattern of association between political liberty and IGO memberships among illiberal regimes. The first part focuses on the institutional source of the commitment difficulty in non-democratic regimes and how political liberalization constitutes an essential remedy to the problem. The second part considers the impact of international institutions on domestic policy credibility in the context of economic globalization. This part especially elaborates the mechanism through which the existing Inter-governmental Organizations (IGOs) originally devised to handle the relationship between governments and foreign economic agents contribute to more credible commitments that non-democratic regimes make to the domestic audiences. The key to the argument is the “spilling over” of the credibility of commitments made to foreign economic agents to the domestic commitments made at home, conditional on the significance of foreign factor input in the domestic economic production. I also highlight in this part the core features of the particular type of Inter-governmental Organizations that are important in precipitating the “spill-over” effect. The last part discusses the substitution effect between domestic liberalization and the involvement in international organizations in remedying the



domestic commitment difficulty in non-democratic regimes. In particular, this part incorporates the Data Generating Process (DGP) with the theoretical arguments developed earlier and shows why the negative relationship between political liberty and involvement in IGOs among non-democratic regimes should be expected.

This chapter generalizes the major insights from the set of formal models presented in the succeeding chapter and provides justifications and illustrations of the key assumptions underlying the formal characterization and analysis of the problem. One of such key assumptions in the formal model is on the incentive of the rulers in non-democratic regimes in maximizing the extraction of tax revenue from the economy. This assumption is fundamental in the formal characterization of the problem but it may not appear particularly relevant in reality given that autocrats may put more weight on political objectives than revenue extraction. Discussion of the theoretical framework in this chapter particularly highlights the political economic connotations of the revenue-maximizing assumption in the institutional context of non-democratic regimes and justifies the importance and relevance of such assumption in the theoretical framework. Another of these assumptions is the regarding the “spill-over” of the commitment credibility from the international level interactions to the domestic level interactions. In justifying this assumption which is key in the formal model, I elaborate the mechanism of the convergence of domestic and foreign economic policies precipitated by international economic integration that underlie the “spilling over” of the international credibility to the domestic scenario. In particular, the convergence of domestic and foreign economic policies induces weak separability of foreign and domestic economic interests, which is an essential component of the reasoning underpinning the “spill-over” argument. In this respect, this chapter is both a self-contained enterprise of theory development and a companion of the succeeding chapter in that it provides contexts and interpretations of the instrumental premises on which the formal models are built.

### 3.1 Commitment Difficulty under Non-democratic Institutions

Non-democratic regimes constantly suffer politically and economically from low credibility of policy commitments.<sup>1</sup> The fundamental source of low credibility in non-democratic regimes lies in the concentrated power of the ruling elites and the absence of political and legal institutions that effectively constrain the power of the government. Intending to maximize their share of the domestic economic output, rulers in these regimes are prone to implement highly predatory economic policies. While there exists a multiplicity of typologies of the regimes not considered fully democratic, the defining feature shared across illiberal regimes is the concentration of political power and weak institutional constraints on the executive. The concentration of political power could exist in both the vertical and horizontal dimension. Vertical power concentration is reflected most importantly by the lack of a set of open political processes that allows for regular alternation of executive power. This is primarily due to the absence of open and competitive elections of the executive body of the regime. On the other hand, horizontal power concentration is existent when the scope of political participation in policy making is extremely narrow, most ostensible in cases where a functioning and responsible and power-sharing legislature directly elected by the citizens based on universal suffrage does not exist.

The other common feature of non-democratic regimes is the lack of institutionalized political and legal constraints on the political authority. This is due to the absence of constraining legislature and independent judiciary in the political system. These two features of non-democratic regimes results in the emergence of a vested group of elites wielding unilateral and unchallenged political power in the political system for an extensive period of time. These two features constitutes the essential criterion in judging if a regime is democratic or not which is also the key of the conceptualization of non-democratic regimes

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<sup>1</sup> Acemoglu (2003), Acemoglu (2006)

in the theoretical framework developed in this chapter.

### **3.1.1 Credibility of Commitments, Institutions, and Political Economic Efficiency**

As a direct result of the power concentration and weak institutional constraints in non-democratic regimes, the ruling elites in these regimes are incapable of making credible policy commitments to the domestic audiences. This is because the institutions and the pattern of the distribution of political power under non-democratic rules deprive the domestic citizens' of their rights and capability in holding the ruler accountable for his behavior. It is well known that the ability of the government to make credible commitments regarding future economic policies is very important in ensuring the efficiency of macroeconomic policy in a dynamic characterization of the policy-reaction cycle.<sup>2</sup> But since the unilateral power wielded by the ruling elites assures that nobody is capable of challenging the incumbent, the domestic audiences would not believe anything promised by a government which is unconstrained and unaccountable. While such time-inconsistency in monetary policy is ubiquitous regardless of the types of political regimes, non-democratic regimes are way more likely to encounter difficulties in making credible policy commitments and experience the resulted political and economic hardships.<sup>3</sup>

The inefficiency resulted from the commitment difficulty in non-democratic regimes is most clearly seen in the making of tax policy, which I use as the central element in developing the rest of the theory. Commitment difficulty regarding tax or redistribution policy is particularly relevant for understanding the institutional inefficiency under non-democratic rules for the following reasons. The economic mechanism related with the making of tax policy represents a typical scenario where the most efficient outcome is more likely to be

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<sup>2</sup> Kydland and Prescott (1977), Persson and Tabellini (1994)

<sup>3</sup> Persson and Tabellini (2002), Broz (2002), Acemoglu (2003)

attained when credible commitment can be made. Borrowing the fundamental insight from the theory of optimal taxation, in order to achieve efficiency in tax collection, the incentive of the authority to maximize the tax revenue and the incentive of the producers to maximize their after-tax income need to be compatible. If the autocrat follows his natural predisposition and implements a high and predatory tax rate which hurts the producer's motivation in production, the overall output level would turn out low and neither would the producer nor the autocrat be better off. An equilibrium scenario where the optimum tax rate that maximizes the gain of both the autocrat and the producer is implemented can only be attained in the presence of effective "commitment institutions".<sup>4</sup> The most important function of such "commitment institutions" is enabling the policy-maker to commit in advance to policies that are sub-optimal in the instantaneous period. As discussed earlier, in the institutional context of non-democratic rules, the presence of such commitment institutions is very weak. Absent of political accountability, the autocrat is unable to convince the domestic producer that a policy optimal in the long-run but sub-optimal in the short-run will be implemented. This line of reasoning highlights the importance of institutions that constrain the behavior of the political incumbent and induce more efficient policies in a world with positive political transaction cost.<sup>5</sup> Autocratic rulers themselves are harmed by the inability in making credible commitment because it discourages investments from private actors and shrinks the total output as well as the tax revenue.

But do autocratic rulers really care about the fact that the lack of credible commitment shrinks the total revenue that could be extracted in the context of non-democratic regimes, particularly given that it is easy to name cases where political objectives of the autocrat overrides the economic incentives in generating the maximized fiscal revenue? Put differently, is it plausible to posit that rulers in autocratic regimes are concerned about the

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<sup>4</sup> Kydland and Prescott (1977), Levy and Spiller (1994), Acemoglu (2003)

<sup>5</sup> Spiller (1996), Acemoglu (2003), North, Wallis and Weingast (2009)

revenue loss due to the inefficiency incurred by commitment difficulties and will hence look for remedies that enable them to render commitments more credible and extract revenue more efficiently? My answer is yes. Tax revenue is more than what funds private consumption of the rulers and his cronies. The total taxes harvested from the economy is a general indication of the economic and fiscal resources under the control of the political incumbent which are important for fulfillment of salient political objectives under the illiberal political system. In maximizing the revenue to be extracted from the economy, autocratic rulers are deliberately pulling as much process of the resource allocation out of the market mechanism as possible. This involves not only high taxation and irregular predation of private property, but also other political measures installed to obstruct a free and spontaneous distribution of economic resources and profits. Maximizing the extracted revenue enables the state as the political authority to gain greater economic leverage which can be maneuvered to stabilize and consolidate the non-democratic rules.

To be more specific, there is at least three ways in which such economic leverage from maximized revenue extraction can be manipulated for the political advantage of the autocrat. First, a maximal control of the process of the distribution of economic output is critically important to induce political loyalty to the regime. Loyalty in illiberal regimes is most frequently generated by a regular distribution of economic perks and privileges.<sup>6</sup> The source of perks and privileges lies in the strong involvement of the state in the distribution and redistribution process of the economic production. Secondly, the maximized revenue extraction gives the autocrat greater leeway in making targeted transfers for the purpose of dividing and co-opting the potential oppositions.<sup>7</sup> Thirdly, the maximal control of the distributive process of economic revenue resembles the rationale of the so-called “limit access order” as elaborated by North, Wallis, and Weingast.<sup>8</sup> Elites in these “natural state” soci-

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<sup>6</sup> Wintrobe (1990)

<sup>7</sup> Bates(1981), Acemoglu, Verdier, and Robinson(2004)

<sup>8</sup> North, Wallis and Weingast (2009)

eties deliberately strip the distribution and redistribution process away from the economic mechanism and manipulate it politically to maintain the order under the rule of the elites.

The incentive of maximizing the revenue extraction intended to safeguard regime stability turns out to be counterproductive. In the absence of effective commitment devices, autocratic regimes often find themselves trapped in economic backwardness and political instability as the predatory tendency in taxation tends to disgruntle the people and cause violent oppositions.<sup>9</sup> Clearly the autocrat could improve upon this situation if he could tie his grabbing hands and make credible commitments regarding their willingness to refrain from predating on the economy. But he could not. The unconstrained power of the autocrat renders any commitment he made non-credible and the producers will always under-invest in the production to balance the loss incurred by the anticipated predatory taxation. The social sub-optimality under autocracy can thus be illustrated by an equilibrium scenario where the ruler always over-taxes the economy which induces insufficient under-investment by the producers.

### 3.1.2 Liberalization as a Remedy to Commitment Difficulty

Even though the rulers may well recognize the predatory policy as pernicious, they themselves lack the capability to credibly commit to less predatory policies. Such a quagmire of sub-optimality spawns instability and inevitably threatens the survival of the regime in the long run.<sup>10</sup> Having recognized this, autocratic rulers seek remedies that can help improve their capability in making credible domestic commitments. One obvious possibility is that the ruler could induce domestic political changes through empowering the opposition and constraining the power of the elites with formal institutions. The key to such a political

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<sup>9</sup> Wang(2012)

<sup>10</sup> Acemoglu (2003), Myerson (2008)

solution to commitment difficulty lies in allowing for punishment to be carried out by the domestic audiences if the autocrat deviates from the previously made promises.

Most obviously, political liberalization that involves institutionalization and empowering the domestic audiences creates more political constraints on the ruler which compel him to take the consequence of broken promise more seriously. In allowing for liberalization and institutionalization in the political system, the autocrat sacrifices discretionary political power for a higher credibility of commitment to economic policies that are optimal in the long-run in ensuring stable future flows of political revenue. The existing scholarship on political development indeed shows that the economic incentive to strengthen the credibility of commitments made by the state underlies the emergence of open and participatory political institutions. Most famously, North and Weingast show that when the Stuarts lost most of the Crown lands in England and needed to borrow more money from the wealth holders in the society to maintain the daily budget, the parliament was given more power to constrain the behavior of the King such that the commitment to repay the loans becomes of greater credibility.<sup>11</sup> Thus if a highly repressive autocratic regime somehow experiences a growing need for the regime to make credible commitments to its citizens, the ruler may have to establish institutions which enhance the capability of the citizens in sanctioning the state.

In a broader context, the domestic political solution to the commitment dilemma could involve any liberalization measure that has the effect of boosting the collective action capacity of the non-elites. The establishment and consolidation of pluralistic political institutions is only one of them. There are also other instruments which are non-institutional but nevertheless result in a growth of the organizational capacity of the domestic citizens. The key in boosting the collective action capacity lies in the provision of a particular type of public goods that reduces the transaction cost in collaboration and coordination. It is widely known

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<sup>11</sup> North and Weingast (1989)

that the state in illiberal regimes employs a variety of methods, such as spying, persecution, censorship and control of the press, to obstruct collective actions and prevent the formation of organized civil groups. Borrowing the terminology from North, Wallis, and Weingast, illiberal regimes similar to the “natural states” would mobilize all possible measures to raise the transaction cost and prevent the emergence of “organizational forms” outside of the state.<sup>12</sup> Contemporary authoritarian regimes intensively rely on suppressing the provision of “coordination goods” in restricting the capability of domestic citizens to organize and oppose the authority.<sup>13</sup> The strategy to raise the information cost of coordination is seen very clearly in the way that social communication flows are filtered and controlled by the censorship in some authoritarian regimes.<sup>14</sup> Policy changes in non-democratic regimes in any of the fields that enhance individual liberty and lower political repression will significantly raise the capability of the citizens to organize politically. An organized and well-coordinated public audience constitutes a potential sanctioning force that imposes credible restrictions on the ability of the political authority in manipulating economic policies to the advantage of himself. Therefore, even in the cases where no extensive institutional changes toward liberal democracy described by North and Weingast (1989) was undertaken, regimes that are wise enough to induce even limited liberalization or institutionalization could better tackle the adverse effect of commitment difficulty and endure longer than otherwise.<sup>15</sup>

### **3.2 Inter-governmental Organizations, Economic Integration, and Domestic Commitments**

The section considers the significance of international institutions mediating the relationship between foreign economic agents and the government in non-democratic regimes

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<sup>12</sup> North and Weingast (1989)

<sup>13</sup> Bueno de Mesquita and Downs (2005)

<sup>14</sup> King, Pan and Roberts (2013)

<sup>15</sup> Brownlee (2007), Gandhi (2008), Magaloni (2008), Gehlbach and Keefer (2011)



in remedying the domestic commitment difficulty. With the deepening of economic interdependence, the practice of domestic economic policy can easily generate salient implications for foreign economic agents contributing in domestic economic productions. Through the channels established by transnational economic interdependence, the impact of distributional domestic economic policies extends far beyond national borders, bearing significantly on the interests of international economic actors taking part in an internationally-integrated process of production. Foreign investors and other economic agents become important external stakeholders of responsible and efficient domestic economic governance.

In such a context, foreign economic agents possess a potential to play a politically significant role in shaping the domestic economic policy in regimes deriving a large portion of the fiscal revenue directly or indirectly from international economic interchanges. The core of the argument this section is laying out is that when the contribution made by the international economic agents constitutes a substantial portion of domestic economic output, credible threats from foreign agents to economically sanction the autocrat with the assistance from international institutions constitute an important force that induces more forward-looking economic policies.

A critical component of this argument is that foreign economic agents could be at a more advantageous position than their domestic counterparts in compelling the autocratic state to stick to non-predatory economic policies. The underlying logic hinges firstly on how significance the contributions made by foreign factors of production are to the generation of domestic fiscal revenue, and secondly on whether there exist **external** commitment devices that the autocratic could employ to protect the domestic presence of foreign economic interests. The presence of foreign production factors in the domestic production is important for two reasons. First, it magnifies the weight of foreign economic influence on the making of domestic economic policies. Regimes that heavily rely on the contribution from foreign

factor input for tax revenue are more likely to make policies favorable to foreign economic interests. Second, the more integrated the foreign economic contribution is in the domestic production, the more like that the external commitment devices generate the “spilling over” of the credibility to the domestic level governance. Indeed, the very logic underlying the “spill-over” phenomenon hinges on the weak policy separability of foreign economic interests from the domestic counterparts which is more likely when the presence of foreign contribution in the economy is substantial.

The simple presence of foreign economic interests is not enough to induce more forward-looking policy. To exert significant influence on the autocratic authority, foreign economic agents have to coordinate their actions and strategies in certain organizational structures. What is needed is the set of arrangements or “organizational forms” that enable the foreign agents to commit credibly to sanctions or countermeasures in the process of bargaining with the autocratic state. The existence of external “commitment devices” which take the form of international institutions, strengthens the organizational capability of foreign economic agents who are therefore better able to commit to sanctioning the autocratic state if the policy deviates from the optimum. Borrowing the insight from Greif and others, international economic actors in such a context resemble medieval merchants who faced the risk of expropriation by the administration of trading hubs.<sup>16</sup> Suffering from problems such as poor information sharing and pervasive free-riding, merchants on their own were usually unable to organize as victims of the opportunistic behavior. But the part of the problem that is different from that faced by domestic actors lies in the fact that international institutions governing international economic interchanges, which function in a similar manner to the medieval merchant guild, can help enhancing the collective action capability of transnational actors. Thus, the potential of international institutions in strengthening domestic commitment hinges on their capability in assisting these transnational economic actors to organize

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<sup>16</sup> Greif, Milgrom and Weingast (1994), Milgrom, North and Weingast (1990), Greif (2006)

and act collectively in holding the host government responsible. It has been suggested in the existing literature that institutional arrangements of cooperation reduces the transaction cost among private international economic actors when coordination and collective actions among them is needed in disincentivizing strategic behavior of the host government.<sup>17</sup>

The existing institutions in international economic governance significantly shape the organizational capacity of transnational economic actors through establishing regimes for information-sharing and contract enforcement. Multilateral information regimes disseminate information among international actors and enhances the efficiency of collaboration and coordination, making collective response to defection more readily achievable. The other important aspect of international institutions in economic governance that enhances the organizational capability of foreign actors is the centralized enforcement apparatus. Centralized enforcement apparatus is important because it internalizes the cost and benefit related with the enforcement of punishment and effectively tackles the obstacles to collective action. In comparison with domestic actors in autocracies, foreign economic actors are in a more advantageous situation in guaranteeing the self-enforceability of contracts assisted by international institutions establishing multilateral information regimes, commitment and coordination devices, and resource pooling mechanisms. In confrontation with the predatory ruler, foreign economic actors are better able to sanction the reneging ruler if the regime is formally acceded to international institutions than otherwise.

### 3.2.1 Globalization, Institutions, and Domestic Commitments

The economic globalization has expanded the menu of choices for regimes plagued by commitment difficulties. In remedying the domestic credibility, the involvement in international institutions and domestic liberalization are *substitutes*. Autocrat rulers could

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<sup>17</sup> Gould (2003) suggests the debt restructuring within the framework provided by IMF programs solves the dilemma of collective action among Private Financial Institutions (PFIs) when they are trying to coordinate and pressure for more stringent conditionalities on the debtor state.

also utilize the international institutional involvement as an alternative strategy to render domestic commitments more credible and yet at the same time keep the autocratic polity intact. The significance of international institutions in governing economic activities at the sub-national level looms large as cross-border investments and other transnational economic activities contribute unprecedentedly to world production in the past decades. Foreign owners of production factors have played important roles in national economies worldwide by providing capital, technology, and human skills extensively in local productions. As a result, economic policies traditionally considered domestic generates salient international implications. The significance of the interaction between foreign investors and domestic economic governance has been highlighted in the recent literature.<sup>18</sup> The progressive global integration of production results in the permeation of international rules and standards into the process of domestic governance, as it is becoming more difficult to set economic policies that only has domestic consequences. International institutions originally established to govern international activities now have an increasing impact on determining the ways in which foreign and domestic investors interact with the local economic authority at the sub-national level.

### **3.2.2 Foreign Investors and Domestic Governance**

The deepening global economic integration has reconstructed the vision of autocratic governments. With high levels of exposure to global integration, some autocratic regimes derive a large portion of their tax revenue directly or indirectly from the economic collaboration between domestic and foreign owners of production factors. Through the channels established by transnational economic interdependence, the impact of domestic economic policies extends far beyond the national borders, bearing significantly on the interests of foreign investors who cooperate with domestic producers in a globally-integrated process of

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<sup>18</sup> Wei (2000b), Aguiar and Amador (2011), Wang (2011)

production. One critical claim underlying this argument is that when making distributional and regulatory economic policies, the domestic authority is of limited capability in separating out the foreign economic interests. First, in a scenario when the foreign involvement in the domestic economic is substantial, even policies that are only targeting domestic economic entities could generate significant impact on the foreign economic interests as the process of production and profit generation is so closely integrated. Secondly, while there certainly exist conflicts between domestic and international economic interests, the measures and policies designed to bring in international sources of investment and input found common in the developing world are in fact benefiting the domestic business as well.<sup>19</sup> While it used to be a standard practice for the country-level authority to discriminate economic entities according to their national origins in making and applying economic and regulatory policies, such policy discrimination become costly and ineffective when the presence of foreign contribution in the economy is strong. These observations together corroborated the claim regarding the convergence of domestic and foreign oriented policies in the process of economic integration.

In such a context, a socially sub-optimal economic policy incurs loss not just on domestic producers but also on foreign actors earning incomes from investing in the local production.<sup>20</sup> Provided that governments generally benefit fiscally from the presence of inward foreign investment, foreign economic agents have gained a growing significance in shaping the pattern of domestic governance. When the contribution made by foreign factor owners constitutes a substantial portion of the domestic economic output from which the tax revenue is generated, credible threats from foreign owners of factors to punish the autocratic government for deviating from the social optimal policy constitutes an important force that induces more responsible economic governance. Supportive evidences come from recent research where it is found that the presence of foreign investment has significantly

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<sup>19</sup> Huang (2007), Wang (2011)

<sup>20</sup> Wei (2000a)

improved the legal institution, which is an important component of institutionally-induced credibility, in some authoritarian regimes. In particular, It is found that the reforms and measures originally intended to better the environment of foreign investment has improves the efficiency of the legal practice in China, benefiting all economic agents in the country.<sup>21</sup>

An ensuing key argument I am making here is that those regimes plagued by the low credibility is aware of the fact that even just being able to make credible commitments to foreign investors could provisionally generate positive externalities that contribute to greater domestic credibility of the regime. An indirect path of enhancing the credibility of the regime is to just find *the most efficient* ways in which credible commitments can be made in front of foreign investors. Involvements in international political economic institutions, as I argue, is the most efficient devices for making commitment to foreign economic agents.

### 3.2.3 International Institutions and Credible Commitments

As the extant literature suggests, institutionalized arrangements for economic cooperation among states are highly effective devices for making credible commitments to foreign economic agents. Domestic devices for such commitments are available but they are more costly and less effective due to the nature of transnational economic activities. Joining existing political economic IGOs enables the regimes to “free-ride” the existing institutional arrangements that precipitate the self-enforceability of commitments by enhancing the collective action capability of the foreign investors. Borrowing the insight from Greif, Milgrom and Weingast, transnational economic agents in the contemporary context resemble the medieval merchants who constantly face the risk of predation.<sup>22</sup> Suffering from problems such as poor information sharing and pervasive free-riding, merchants on their own were

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<sup>21</sup> Wang (2011)

<sup>22</sup> Greif, Milgrom and Weingast (1994)

usually unable to organize to protect their interests. Institutions that promote information transmission and precipitate selective incentives among merchants are critical in inducing effective collective responses when risks are present.

In particular, the existing institutions in international economic governance have significantly shaped the organizational capacity of transnational economic actors through establishing multilateral information regimes and enforcement apparatus. Multilateral information regimes disseminate information among international actors and enhances the efficiency of collaboration and coordination, making collective responses to defection more readily achievable.<sup>23</sup> In comparison with institutionally deprived domestic actors in an illiberal regime, foreign economic agents are better able to organize and act as international institutions provide multilateral information regimes, commitment and coordination devices, and resource pooling mechanisms.<sup>24</sup>

Admittedly, not all international organizations are equally effective in boosting the organizational capacity of transnational economic agents as proclaimed above. It is important to narrow the scope of the discussion to some specific categories of organizations which are most relevant firstly in assisting the foreign economic agents to organize, and secondly precipitating the “spilling over” of commitment credibility to the domestic scenario. Inter-governmental Organizations that are effective in enhancing the credibility of international commitments share some distinct characteristics such as high levels of institutionalization and focused functionality in governing international economic exchanges. Specifically, full memberships in organizations that satisfy the following criteria are particularly relevant in the theoretical context of this research.

- **Institutionalization.**

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<sup>23</sup> Maggi (1999)

<sup>24</sup> Abbott and Snidal (1998), Koremenos, Lipson and Snidal (2001), Poast and Urpelainen (2013)

This criterion requires an organizations to be operated with a highly institutionalized structure which internalizes the procedures for information collection and dissemination, mature framework for coordination and collaboration, and ideally institutionalized procedures of response to or punishment of defectors. The level of institutionalization indicates on the one hand to what extent the transaction cost has been reduced among the actors within the institution contemplating collective actions and on the other hand the tightness of the constraints imposed on its contracting members.

- **State Sponsorship.**

This criteria requires the agenda and activities under the organization to be sponsored by and operated based on representation of national governments. This is important in enhancing the collective action capacity of private business interests on the international stage as the involvement of the national level political authority is critical in reducing the cost of collective action among private economic agents.

- **Economic Functionality.**

This criteria requires an organizations to have an focused agenda that specialized in coordinating national policies and arrangements with regard to *transnational* economic collaborations and integration. Specific elements of the agenda includes fields such as trade and investment policy, the exchange rate arrangement, policies on capital mobility, and coordination of industrial or regulatory policy. The *transnational* economic agenda enables the projection of the impact of international policies and arrangements to the domestic economic practices. It is important to note that international export cartels and commodity organizations that only coordinate exports of natural resources and raw commodities are excluded.

- **Political Platform.**

Some organizations do not specialize in coordinating economic policies but have a



political agenda which also encompasses transnational economic issues and policies. The political platform in these organizations are very valuable as it enables the national governments to represent the private business interests in a “political” context where issue-linkages give the political actors more leeway pressing for domestic policy concessions. Military or defense organizations that only have “high politics” agenda should be excluded.

- **Membership Rules.**

In order for the regimes with weak political institutions to become full participants, organizations should not have excessive political prerequisites for obtaining membership. For example, the membership in a organization should not require *ex ante* a country to be a liberal democracy or fulfill specific targets in government accountability or efficiency.

These characteristics lay out the institutional foundation for the effectiveness of the IGO in assisting the transnational economic agents in overcoming the obstacles to collective action and ensuring the protection of their economic interests in the host country. Note the requirement that the institution has specific economic functionality is substitutable by the presence of political platform and vice versa. Among the five characteristics, state sponsorship is very well met virtually in any intergovernmental organization. But the rest four characteristics exclude some particular types of IGOs from being considered relevant as effective commitment device. The example IGOs that are demonstrative of the differences are shown in Figure 3.1. As for institutionalization requirement of the organizations, International Center for Settlement of Investment Dispute (ICSID) and Multilateral Investment Guarantee Agency (MIGA) provide an notable contrast. While both organizations were established to tackle the non-economic risks associated with international investment, ICSID incorporated a highly institutionalized procedure for investment dispute settlement and arbitration whereas MIGA does not provide any substantial framework for the political

resolution of investment dispute. Although MIGA fulfills the function of information collection and dissemination by publishing related research and report, the institutional structure within the organization that helps precipitate collective action and response among transnational economic agents in confrontation with the party causing damages and losses is still minimal.

Table 3.1: Characteristics of Intergovernmental Organizations

<i>Characteristics</i>	<b>Example IGOs</b>	<b>Contrast</b>
<b>Institutionalization</b>	<i>United Nations, International Center for Settlement of Investment Dispute</i>	<i>Group of 24, Multilateral Investment Guarantee Agency</i>
<b>Economic Functionality</b>	<i>GATT/WTO, International Monetary Fund, International Finance Corporation</i>	<i>OPEC, Intergovernmental Council of Copper Exporting Countries</i>
<b>Political Platform</b>	<i>African Union, Association of Southeast Asian Nations</i>	<i>NATO, Shanghai Cooperation Organization, Nuclear Supplier Group</i>
<b>Membership Rule</b>	<i>United Nations, International Bank for Reconstruction and Development</i>	<i>European Union, Organization of American States</i>

The other point that should also be noted lies in the differences between political organizations that incorporate economic agenda and those who do not. Regional organizations such as the African Union and the Association of Southeast Asian Nations (ASEAN) are essentially political organizations but they all at the same time pursuing important regional economic objectives such as integration and development in their own rights. Such institutions provide a political platform for fulfillment of *self-contained* economic goals, bringing about closer ties of collaboration between national governments and the private economic interests. Other organizations such as the North Atlantic Treaty Organization (NATO) and Shanghai Cooperation Organization are dominated by military and geo-political agendas. Even though economic matters are among the issues being discussed as in the case of Shanghai Cooperation Organization, they are ultimately subordinates of the “high politics” agenda

that the institutions is centered around. These organizations are therefore not regarded as relevant institutions that function as the political catalyst for coordination and collaboration among transnational economic agents.

The last point is about the membership rules of an intergovernmental organization. The bottom line is that obtaining and maintaining membership with an organization should not be conditioned on the domestic *political* situation. This guarantees that countries with any form of government, including those illiberal regimes, are able to participate in institutional activities and make use of the organizational framework to install external devices of commitment. The vast majority of the existing intergovernmental organizations indeed do not restrict membership to states with particular forms of government. A couple of exceptions remain which are the European Union and, less obviously, the Organization of American States. Thus, these organizations should not be expected to have the hypothesized effect on the commitment credibility of illiberal regimes.

These characteristics together precipitate the effect of Intergovernmental Organizations in enhancing the credibility of external commitment and induce the credibility to “spill over” to domestic economic governance. As discussed earlier, it is increasingly difficult to draw a clear-cut line between domestic and foreign economic policies as economic interdependence intensifies. Many policy commitments made within the institutional arrangements at the international level have salient domestic implications. Involvements in international economic institutions begetting delegation of power or imposition of formal constraints could directly contribute to the improvement of domestic economic institutions. As the most common form of institutionalized economic cooperation, international trade agreements are found to carry domestic commitment function and improve the efficiency of domestic institutions.<sup>25</sup>

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<sup>25</sup> Maggi and Rodriguez-Clare (2007), Tang and Wei (2009), Dreher and Voigt (2011), Khandelwal, Schott and Wei (2013)

Participations in institutions regulating and mediating international capital flows and direct investment also shape the capability of the state in making credible economic commitment at home.<sup>26</sup>

### **3.3 Accounting for the Variance in Involvement in International Institutions**

With the theoretical framework and arguments established in the preceding discussion regarding the linkages between external institutions and domestic commitment, I now elaborate the mechanism through which varying levels of involvement in institutions among non-democratic regimes are resulted. The following arguments are directly derived from the theory presented above and introduce two additional factors, economic exposure and extractive capacity, to unpack the puzzle.

#### **3.3.1 International Economic Exposure and the Effective Supply of Institutions as Commitment Devices**

Are international institutions always effective in enhancing the domestic credibility of illiberal regimes, as the preceding argument posits? Sure not. The effectiveness of external institutions as domestic commitment devices is shaped by the international economic exposure of the regime or, more specifically, the participation of foreign economic agents in the domestic production. High levels of integration of the foreign contributors of production factors in the domestic process of production is the key element that precipitates the *spillover* of institutionally induced credibility into domestic governance.

First, intense contributions made by foreign factors of production make it difficult for illiberal regimes to discriminate foreign interests from domestic interests in make economic policies. If it is costless for the regime to design and implement different policies with regard to the origin of economic agents, external institutions could only enhance the credibility of

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<sup>26</sup> Fang and Owen (2011), Dreher and Voigt (2011)

the regime in front of foreign economic agents. But with a growing level of integration, it requires more institutional capacities and cost to tailor and administer the policies targeting domestic and international agents respectively. And even if discriminatory policies as such can be put in place, the actual impact of the policies will extend far beyond the targeted audiences, making the purpose of discrimination futile. The *spillover* of institutionally-induced credibility is strongest when discriminatory policies is unlikely. Furthermore, when the domestic presence of foreign economic interests are better protected as a result of involvement in international institutions, the domestic business acquires the strategic incentive to form syndication with foreign factor contributors as an attempt to “free-ride” the better protection of property rights and business interests.<sup>27</sup> Interestingly, “free-riding” the protection is easier when the *ex-ante* presence of foreign ownership in the economy in general is substantial which heightens the political and business plausibility of a joint ownership structure. In such a scenario, it becomes increasingly difficult for the government to draw a clear-cut line between policies that target domestic business and policies targeting foreign investors.<sup>28</sup>

Such strategic responses from the domestic economic agents in structuring the ownership given that businesses with foreign background are better protected is a nice characterization at the micro-level of the mechanism of the credibility “spill-over” precipitated by international institutions.

Second, the contributions made by foreign factors of production is the key in ensuring the self-enforceability of commitments. With a high level of inward foreign exposure, the domestic economy is more “dependent” on foreign factor input, giving the foreign agents

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<sup>27</sup> Huang (2007) documented this phenomena with evidence from China. He found that the ownership structure of domestic enterprises are strategically structured to bring in the presence of foreign capital, which provides greater safety against predations.

<sup>28</sup> There are some recent cases of investment disputes demonstrating the blur line between policies with domestic and international target. In 2012, Churchill Mining sued the Indonesian Government over the termination of concession rights granted to a domestic mining company where Churchill Mining holds shares. In a similar case in the same year, Tullow Oil sued Uganda over the collection of value added tax worth 400 million US dollar on Tullow Oil’s purchase of assets in the country.

more leverage in shaping the economic policy of the regime. If the contribution from foreign factors in the domestic production is very limited, the effect of the *spillover* of institutionally induced credibility would be weak and may not have substantial impact on the domestic governance.

The foreign exposure of the domestic economy determines how effective external institutions would be in enhance the domestic credibility of the regime and shapes the *supply* of these institutions as effective devices for domestic commitments. Greater supplies of external commitment devices will result in increasing levels of involvement of illiberal regimes in international institutions. This argument thus derives the first theoretical claim formulated as follows.

**Claim 3.1.** *The involvement of non-democratic regimes in international institutions is positively correlated with inward international integration of the national economy.*

### 3.3.2 Political Liberty, Extractive Capacity and the Demand for Domestic Commitment Devices

The involvement in international institutions is also determined by the *demand* of the non-democratic regimes for devices of domestic commitment. The demand for commitment devices is determined by how severe the commitment difficulty is under the regime, which is affected by two factors, the domestic political liberty and the capacity of the regime in tax extraction.

As discussed earlier, the source of the commitment difficulty is the lack of political accountability. The accountability in non-democratic regimes is impaired firstly by the institutionalize concentration of power and secondly by political repression. The commitment problem is the most severe in illiberal regimes implementing highly repressive policies toward

the domestic audience. Also, the efficiency loss from commitment difficulty increases in the capacity of the regime in extracting tax revenues. The demand for devices for domestic commitments is thus greatest in these regimes who suffer the most efficiency loss from the lack of accountability and high extractive capacities.

Does this argument directly predict the variation in the involvement in international institutions? Not quite. More specific characterization of the data generating process is needed to bridge the gap between theoretical claims and empirical observations. As the theoretical argument posits, the involvement in international institutions and domestic political liberalization are *substitutes* in restoring the domestic credibility. As a result, there should exist a negative correlation between political liberty and international involvement among non-democratic regimes in the empirical pattern. This is because the regimes with the greatest need for commitment device have resorted either to international institutions or to domestic political liberalization for remedy, leading to the demise of the regimes who are highly repressive but have low involvement in international institutions and the proliferations of regimes who have limited involvement in international institutions but cede some political liberty to the domestic audience. Such a pattern of observation would be stronger in the presence of high extractive capacity of the regime because it aggrandizes the need for commitment devices and the magnitude of the negative association. Such an observation follows a combination of the theoretical arguments elaborated earlier and the data generating process.

More rigorously, the above claims can be derived formally from a simple Markov Chain that characterizes the data generating process. The dynamics in the Markov Chain combines the causal logic in the *theoretical* model with the stochastic process, where the feature of the *steady* state of the Markov Chain reflects the *observational* outcomes.

There are three states in the stochastic process, characterizing the features of indi-

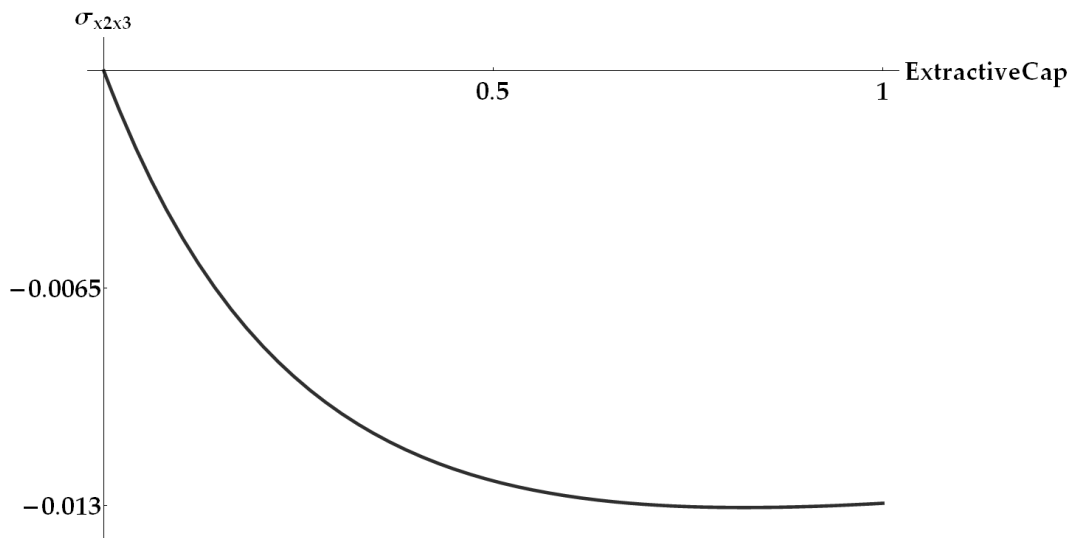


Figure 3.1:  $\sigma(x_2, x_3)$  in the steady state of Markov Process as Extractive Capacity varies.



vidual regimes with regard to the level of political liberty and involvement in international institutions. *State 1* is *low* political liberty and *low* involvement in international institutions; *State 2* is *low* political liberty but *high* involvement in international institutions; *State 3* is *high* political liberty and *low* involvement in international institutions. Transitioning from *State 1* to *State 2* suggests the regime has resorted to international institutions for remedies for commitment difficulty, while transitioning from *State 1* to *State 3* suggests the regime has resorted to domestic liberalization for remedy. The purpose is to show in the steady state of the stochastic process, international involvement (*State 2*) and domestic liberalization (*State 3*) are negatively associated and the association becomes stronger as the extractive capacity gets greater. Figure 5.1 plots the covariance between *State 2* and *State 3* against extractive capacity in the steady state and it is evident  $\sigma(x_2, x_3)$  remains negative in the range of extractive capacity and the absolute value of  $\sigma(x_2, x_3)$  increases as extractive capacity grows.<sup>29</sup> The other two claims are thus established.

**Claim 3.2.** *The level of involvement in international institutions is negatively correlated with political liberty among non-democratic regimes.*

**Claim 3.3.** *The negative correlation between the involvement in international institutions and political liberty is stronger among non-democratic regimes with high extractive capacity.*

### 3.4 Conclusion

Focusing on the interaction among international institutions, global economic integration, and the domestic commitment difficulty in illiberal regimes, this chapter develops a political economy theory that provides an account for the observed pattern of association between political liberty and international involvement among non-democratic regimes. Theoretically, the argument seeks to fill the gap in extant research in autocratic regimes' cooperation behavior by unpacking the domestic imperatives underlying autocratic regimes'

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<sup>29</sup> See Appendix for details.

involvement in international institutions and organizations. Understanding the mechanism of authoritarian states' involvement in international institutions is also important from the policy standpoint because such an understanding illustrates more dynamically how international institutions and cooperation structurally alter the mechanism of domestic political economy under the autocratic rule, shedding light on the importance of effective patterns of institutional design of international organizations and foreign policy making that could help improve the practice of domestic governance and precipitate political change in authoritarian regimes.

One of the most important implications of the theory developed here regards the effect of international institutions in alleviating domestic political economic sub-optimality. Following the early insights of Neo-liberal Institutionalism, IR scholars have produced theoretical and empirical studies that assess the role of international institutions in improving the efficiency in interstate interactions, primarily through precipitating enforcements, enhancing information, and facilitating communication and coordination. Taking one step forward, the theory developed in this article explores how the way that international institutions function at the interstate level interacts with domestic political economy and institutions. As has been demonstrated, the presence of international institutions as devices that make international collective actions and coordination more achievable looms large on the dynamics of political economy under the autocratic rule in the background of economic globalization. Through empowering transnational stake holders, international institutions enhance the self-enforceability of domestic political contract, and therefore correct the distortionary effect of skewed political power distribution and the inefficiency incurred.

In particularly, the theory developed here emphasizes the “incentive compatibility” of the intervention of external institutions in the practice of domestic governance. With extensive institutional frameworks and organizational capacities, international institutions that are originally design to facilitate inter-state interaction could have distinctive values in

resolving certain types of domestic institutional insufficiencies. When the external remedies based on the existing institutions constitute a less costly and more favorable solution to the domestic problems, the national level authority could well prefer to introduce international institutions for resolution of the issue. At the same time, it is important to notice from my theory that the effect of external institutions on domestic governance is critically channelled through the intensifying connections between domestic and international political economic activities established in the process of globalization. Transnational actors in political economic issues are the core agents precipitating the penetration of global institutions into the practice of governance at the sub-national level. This theory constitutes a distinctive development of Neo-liberal Institutionalism that explores the domestic efficiency-enhancing effect of international institutions as a form of positive externality of the international function of institutions.

## **Chapter 4**

### **A Model of Institutions and Commitments in Illiberal Regimes**

This chapter presents a formal model of the political dynamics of tax commitment in regimes with weak accountability mechanism. This model more explicitly exposes the core assumptions of the theory presented in the preceding chapter and formalizes the logic and arguments using fairly basic solution concepts in non-cooperative game theory such as Nash equilibrium and subgame perfection. In particular, this model features two important specifications of the strategic scenario underlying the mechanism of commitment in regimes with weak institutions. The first specification is that the ruler of the regime cannot discriminate domestic and foreign agents when setting the tax rate. The second is the one that characterizes international institutions primarily as the set of instruments that reduce the cost on the foreign investors in resorting to the outside option once the implemented tax rate deviates from the optimum. The model in general shows the external institutions that reduce the transaction cost among the foreign actors can have significant impact on the domestic policy outcome given the strong presence of the economic contribution by foreign factor owners.

#### **4.1 A Simple Model of Commitment Difficulty**

I start this chapter by presenting a simple model that characterizes the source and nature of the commitment difficulty in non-democratic regimes. Commitment difficulty of all kinds largely stems from the existence of time-inconsistent behavior and policies which are usually modeled in dynamic settings. Here I present a very simple baseline model of

commitment difficulty making use of very basic solution concepts such as Nash equilibrium and subgame perfection. Such a simple model is developed to keep the analysis as tractable as possible so that future extensions can be applied in a straightforward manner. This simple model captures the central mechanism of interactions between the state and economic actors in a specific political context and presents concise characterization of the sources of commitment difficulty. In later part of the chapter I release the assumptions of the simple model and explore the strategic choice of the actors in the respective political economy context.

There are two actors in this model – a producer ( $P$ ) and an autocratic ruler ( $A$ ). The producer is endowed with an unity of divisible resource and she can invest part or all of it into the production from which consumable good is produced. Let  $e \in [0, 1]$  denote the amount of the resource that is invested by the producer. The uninvested part of the resource cannot be consumed and has no direct value. The ruler does not own any resource and does not participate in the production process, but she has the unilateral power to tax the output of the production with a linear tax rate,  $\tau \in [0, 1]$ . Making investment and collecting taxes are costly for the producer and the ruler and the cost is marginally increasing in the amount of investment and the linear tax rate respectively. Let  $E$  and  $T$  denote the set of strategies of the producer and the ruler respectively.  $E \times T$  is the set of all possible combinations of strategy. The utility function of both the ruler and the producer are strictly concave. The utility function of the producer is given by the after-tax income:

$$Y(e) = (1 - \tau)e - \frac{1}{2}e^2.$$

Notice the production function is simply  $Q(e) = e$  with an unity output elasticity. The utility function of the ruler is formulated as

$$R(\tau) = \tau e - \frac{1}{2}\mu\tau^2,$$

where  $\mu \in \mathbb{R}^+$  denotes the marginal cost of taxation. The utility functions of the actors adopt these specific forms for illustration purposes but the major results of the model will hold with any concave functions that guarantees an unique interior solution to the respective maximization problem.

#### 4.1.1 The Case of Credible Commitment: Sequential Moves

This subsection characterizes the dynamics of the game where the ruler *can* make credible commitment on *any* tax rate between zero and one. To enable the ruler to convince the producer of the credibility of commitment at any  $\tau$  in  $[0, 1]$ , I let the game to proceed *sequentially* where the ruler leads the game by setting the tax rate  $\tau$ . The producer then observes the  $\tau$  set by the ruler and then decide how much investment is to be made. It is an one-shot game thus the ruler *must* implement the announce tax rate after the output is yielded. Thus, the ruler could make credible commitments on any tax rate and the producer is assured that the announced tax rate will be implemented. In this game with the ruler being the Stackelberg leader, the set of tax rates on which credible commitment can be made is simple the set of all real numbers falling between zero and one. This structure of the game is oftentimes referred to as the “commitment power” of the leader in Stackelberg game. In the political economic context of the model, such a game characterizes a scenario where it is impossible for the leader to renege on previously made commitments because of existing institutional constraints. Solving the game by backward induction, the unique subgame perfect equilibrium is  $\{e^D, \tau^D\}$  where

$$e^D = \frac{1 + \mu}{2 + \mu} \text{ and } \tau^D = \frac{1}{2 + \mu}$$

The logic of backward induction very well captures the credibility of policy induced by institutional constraints and its impact on the strategic incentive of the ruler in setting the optimal tax rate. Because the credibility of the commitment on any tax rate is guaranteed,

the producer invests  $e$  according to her best response function

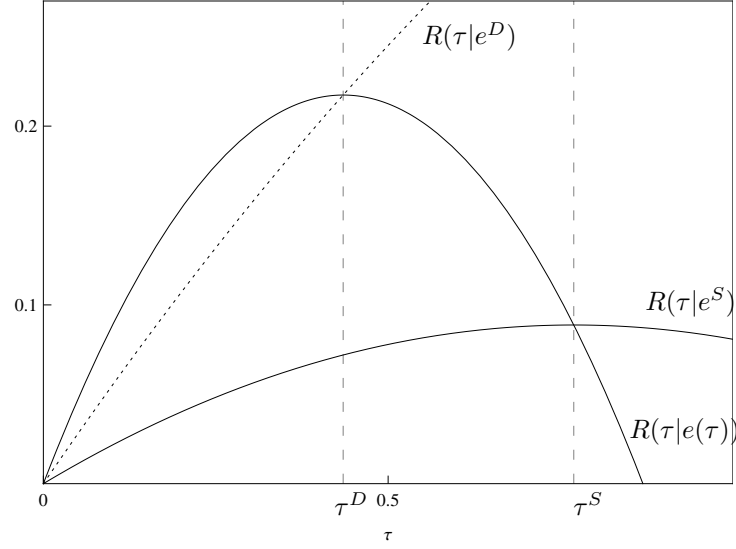
$$BR_P : e(\tau) = 1 - \tau$$

Thus, any  $\tau$  set by the ruler leads to a subgame in which the producer's decision is characterized by  $BR_P$ . By doing backward induction, the ruler plugs  $e(\tau)$  into  $R(\tau)$  and maximizes it with regard to  $\tau$ , from which  $\tau^D$  is obtained. The ruler picks the  $\tau$  that maximizes the revenue given the well-anticipated response from the producer. Because the ruler cannot renege on the tax rate after investment is made,  $\tau^D$  and  $e^D$  mutually reinforce each other as the equilibrium behavior. The outcome of the equilibrium  $\{e^D, \tau^D\}$  characterizes the most efficient strategy combination among all incentive compatible outcomes.

This subgame perfect equilibrium is, however, very sensitive to the sequential specification of the game. As I show in the next subsection, the ruler's strategy in the subgame perfect equilibrium is no longer the best response to  $e^D$  if the ruler can no longer be Stackelberg leader of the game.

#### 4.1.2 The Case of Limited Credibility: Simultaneous Moves

Rulers in illiberal regimes are less likely to be bound by formal institutional constraints on their behavior and policy than leaders in democratic regimes. Thus the central temporal setting of the Stackelberg game is barely applicable to regimes with weak democratic institutions and little checks and balance of power. Instead of constraining the ability of the ruler to renege on tax rate, the model in this section assumes the ruler and the producer moves simultaneously. Specifically, the producer is unable to observe the tax rate set by the ruler before investment decision is made. Specifying the game in such a manner captures the structure of commitment difficulty as follows. Since the producer cannot observe the tax rate set by the ruler, commitments on tax rate are mostly non-credible except for those that spontaneously emerge in the Nash equilibrium of the game with simultaneous moves. Nash



Parameter value:  $\mu = .5$ .

Figure 4.1: The Ruler's Revenue Function and Equilibrium Tax Rate

equilibrium of the game describes the steady state of the strategic interaction that emerges out of an institution-vacuum environment—the actors can alter their behavior and hence the outcome of the game whenever they feel like and none of them can lock-in to any outcome of the game as in the Stackelberg game.

Specifying the game in this way results in a shift of the equilibrium away from that of the Stackelberg game, essentially because the ruler now can no longer hold on to  $\tau^D$  if he can alter the tax rate even after the investment decision is made. The ruler is unable to make credible commitments on low tax rates because she will always attempt to grab more of the output once the investment is made. In other words, the optimal tax rate that maximizes  $R(\tau)$  given  $e = e^D$  is always higher than  $\tau^D$ . To see this, note the best response function of the ruler is

$$BR_A : \tau(e) = \frac{e}{\mu}$$



Plugging in  $e^D$ , the optimal tax rate is given by

$$\tau(e^D) = \frac{1 + \mu}{\mu} \cdot \frac{1}{2 + \mu},$$

which is strictly greater than  $\tau^D$ . Thus, it is impossible for the ruler to convince the producer that  $\tau^D$  will be implemented because the producer is intelligent and can foresee the ruler's incentive in deviating to higher tax rates.  $\tau^D$  is thus not in the set of tax rates on which commitment can be made. Anticipating the tax rate,  $\tau^D$ , to be non-credible, the producer will lower the investment to be made, which then again induces the ruler to adjust the tax rate downward. This game with simultaneous move is a simple reductionist characterization of the time-inconsistency problem. Analogous to the logic of repeated elimination of strictly dominated strategies, deviations away from  $\{e^D, \tau^D\}$  will eventually converge to a steady state which is the Nash equilibrium of the game with simultaneous moves,  $\{e^S, \tau^S\}$  where

$$e^S = \frac{\mu}{1 + \mu} \text{ and } \tau^S = \frac{1}{1 + \mu}$$

This equilibrium characterizes the steady state of the strategic interaction when both actors are allowed to alter their actions indefinitely until both of them are satisfied with the outcome. Comparing to the subgame perfect equilibrium which is induced by the institutional environment, this equilibrium is more of a *spontaneous* outcome that remains stable even the actors are given considerable freedom of moves in the game. Such a *spontaneous* equilibrium is, however, less efficient than the subgame perfect equilibrium. It is easy to see the equilibrium tax rate in the spontaneous equilibrium is always greater than that in the subgame perfect equilibrium, i.e.  $\tau^S > \tau^D$ . From the perspective of the level of total output, higher tax rate is always inefficient because it suppresses the investment by the producer, resulting in a lower total output. Figure 4.1 visually compares the ruler's revenue function in the spontaneous equilibrium and the subgame perfect equilibrium. Notably,  $\tau^D$  and  $\tau^S$  correspond to the maxima of the revenue functions,  $R(\tau|e^S)$  and  $R(\tau|e(\tau))$ , in each of the scenarios. The dashed curve in the figure,  $R(\tau|e^D)$ , represents the revenue function given

the producer invests  $e^D$  as in the subgame perfect equilibrium and it is obvious to see in the figure that the optimal  $\tau$  that corresponds to the maximum of  $R(\tau|e^D)$  is greater than  $\tau^D$ . Thus  $\tau^D$  cannot be sustained in the spontaneous equilibrium. If the ruler bothers to make any commitment on tax rate, only the commitment to  $\tau^D$  would be credible.

The efficiency implication of the model is salient. As Figure 4.1 shows, the spontaneous equilibrium results in lower revenue in the equilibrium for the ruler. The ruler could induce more investment with lower tax rate from which greater tax revenue can be extracted, i.e. and  $R(e^S, \tau^S) < R(e^D, \tau^D)$ . In fact, the payoffs for the ruler and the producer in the spontaneous equilibrium are both less than those in the subgame perfect equilibrium. Notice the best response for the producer is always  $e(\tau) = 1 - \tau$  regardless the sequence of play. Rewriting the after-tax income function of the producer with  $e = e(\tau)$ , it is obtained

$$Y(\tau) = \frac{1}{2}(1 - \tau)^2, \quad (4.1)$$

which is monotonically decreases in  $\tau$  in the interval  $[0, 1]$ . Thus it is easy to see

$$Y(e^S, \tau^S) < Y(e^D, \tau^D).$$

The spontaneous equilibrium is thus Pareto inefficient. In essence, the model implies that both the ruler and the producer could be better-off if the ruler can expand the range of  $\tau$  at which credible commitment can be made. This model of commitment is the central component of the political model I developed in the succeeding part of the chapter where the ruler in the simultaneous equilibrium attempt to remedy the inefficient outcome. Specifically, the possibility of improvement concentrates on the revenue function,  $R(\tau|e(\tau))$ , as plotted in Figure 4.1 because the function between  $\tau^D$ , and  $\tau^S$  represents the set of the outcomes that are *incentive compatible* Pareto improvements upon  $\{e^S, \tau^S\}$ . Incentive compatibility is attained when the outcome constitutes the stable combinations of strategies had the ruler have the ability to credibly commit to each of the tax rates lower than  $\tau^S$ . In the succeeding

sections, motivated by the incentive to remedy the inefficiency, the ruler attempt to make use of commitment devices to induce outcomes that improves upon the spontaneous equilibrium.

## 4.2 A Political Model of Economic Commitment

In this section I extend the commitment model to allow the ruler to modify domestic institutions as a way to expand the range of tax rates on which credible commitment can be made in the spontaneous equilibrium. In the spontaneous equilibrium in the model presented above, the producer has no other means of affecting the policy of the ruler except for reducing the amount of investment in the production. This is sort of true in illiberal regimes where the citizens are deprived of any political rights and underinvestment is one of the few economic weapon that they could wield against the ruler. To improve the economic performance and optimize tax extraction, the ruler needs to introduce some constraints that can push the ruler to refrain from deviating to higher tax rate once investment decision is made by the producer.

In the model presented in this section I depict a scenario where the ruler could politically empower the producer which help bind the ruler's hands and induce credible commitments at lower tax rates. The key logic in the political model of commitment is that the autocratic ruler could tie her hands by enabling the domestic producers, if they choose, to replace him with a successor at a cost, which disincentivizes the ruler from being overly predatory in taxation. Once the domestic producers decide to replace the incumbent ruler, I assume the successor that comes to power would have the capability of making credible commitment at any tax rate. That is, the game will allow the successor to be the Stackelberg leader if the incumbent ruler is ever deposed by the domestic producers.

### 4.2.1 Core Assumptions of the Model

#### 4.2.1.1 Actors and Strategies

The set of actors in this political model is  $\{A, P, S\}$  where  $A$  is the autocratic ruler,  $P = \times_{i \in n} P_i$  is the set of homogeneous domestic producers with the mass of one.  $S$  represents the potential successor if the incumbent ruler is removed by the domestic producers.

The ruler has two decisions to make. First, she sets a linear tax rate,  $\tau \in [0, 1]$ , as in previous models. Secondly, she can directly shape the cost of deposition,  $c$ . This can be easily done in illiberal regimes by changing the level of political repression. Here I assume the game start with a status quo value of  $c, c^0$  and the ruler may set a new  $c$  that is different from  $c^0$  if needed. Setting a new value of  $c$  is costly for the ruler and the cost is linear in the distance between the chosen level of  $c$  and the initiate state of the cost of deposition,  $c^0$ . As I show later, because the ruler's decision on  $c$  directly affects the optimal level of taxation, it is the core instrument for making credible commitments. The successor,  $S$ , who does not get to play in the game until the producers decides to depose the ruler, is identical to the ruler except for the fact that he could lead the game by setting the tax rate that is observable to the producers.

The same as in earlier models, the producers choose the amount of resource,  $e$ , to be invested. Moreover, the producers can now depose the ruler if they find the successor more favorable than the incumbent. The decision to depose the ruler or not is indicated by  $d \in \{0, 1\}$ .  $d = 1$  indicates the decision to depose the incumbent and  $d = 0$  indicates the decision to keep the incumbent in power.

#### 4.2.1.2 Sequence of Play

The model is specified as a static one-shot game which is intended to provide a reductionist characterization of the central mechanism of the political model of commitment. The sequence of play is formulated as follows:

- (1) The ruler moves first by setting the value of  $c$  which is immediately observable by the producer.
- (2) Simultaneously, the ruler set the tax rate  $\tau_A$  and the producer makes investment,  $e_A$ .  $\tau_A$  and  $e_A$  become common knowledge once the decisions are made.
- (3) Upon observing  $\tau_A$  and  $e_A$ , the producer chooses  $d = 0$  or  $d = 1$ :
  - if  $d = 0$ , the game ends and the ruler and producer receive their payoffs, which are  $R_A(e_A, \tau_A, c)$  and  $Y(e_A, \tau_A)$  respectively.
  - if  $d = 1$ , the game play enters the subgame  $\Gamma^{d=1}$ . The producer pays the cost,  $c$ , and the ruler is replaced by a successor and receives zero as her payoff. The successor then leads the subgame  $\Gamma^{d=1}$  by setting  $\tau_B$ , which is then observed by the producers before choosing  $e_B$ . The successor and the producers receives their payoffs, which are  $R_S(e_B, \tau_B)$  and  $Y(e_B, \tau_B) - c$ .

Specifically, the sequence of play is set in this order such that the producer is given the chance to depose the incumbent ruler after observing the tax rate and her investment. This characterizes the mechanism of the political device of commitment with which the realization of the ruler's revenue income hinges on the satisfaction of the the producer on the tax rate being set.

#### 4.2.1.3 Utility Functions and Payoffs

The payoffs of the actors are obtained from the utility functions specified as follows. The incumbent ruler's payoff at the end of the game is a combination of the revenue function

and the producer's decision to depose or not, which is given by

$$R_A(\tau, c) = (d - 1) \left[ \tau e - \frac{1}{2} \mu \tau^2 - \alpha |c^0 - c| \right] \quad (4.2)$$

The term  $\alpha |c^0 - c|$  on the RHS indicates the cost associated with changing the level of political repression.  $\alpha$  is the marginal cost of switching  $c$  away from the status quo. The incumbent will receive zero if the producer decides to replace her with the successor. If the producer ever deposes the incumbent, the successor's payoff is simply the revenue function:

$$R_S(e, \tau) = \tau e - \frac{1}{2} \mu \tau^2 \quad (4.3)$$

The producer's income function  $Y(\cdot)$  is given by:

$$Y(e, \tau) = (1 - \tau)e - \frac{1}{2} e^2 \quad (4.4)$$

At the end of the game, the producer receives  $(d - 1)Y(e_A, \tau_A) + d(Y(e_B, \tau_B))$  as her payoff.

#### 4.2.2 Analysis

The model can be solved with backward induction starting from the subgame  $\Gamma^{d=1}$ . Note the subgame is identical to the the equilibrium in the credible commitment model presented earlier. The equilibrium in  $\Gamma^{d=1}$  is  $\{e_B = e^D, \tau_B = \tau^D\}$

The producers will depose the ruler upon observing the tax rate set by the ruler,  $\tau_A$ , if

$$Y(\tau^D) - c \leq Y(\tau_B) \quad (4.5)$$

The ruler prefers to stay in power ( $R > 0$ ) with the maximized tax revenue so he will choose  $\tau$  such that  $Y(\tau_B) \geq Y(\tau^D) - c$  or

$$\tau \leq Y^{-1}[Y(\tau^D) - c] \equiv \hat{\tau}(c) \quad (4.6)$$

Since  $\tau_B = Y^{-1}(\cdot)$  monotonically decreases in  $Y$ ,  $\hat{\tau}(c)$  increases in  $c$ . Plugging in the best response of the producer, the tax revenue function for the ruler is

$$R(\tau) = \tau(1 - \tau) - \frac{1}{2} \mu \tau^2 \quad (4.7)$$

Letting  $\alpha|c^0 - c|$  denote the cost of liberalization which increases as the cost of deposition decrease, the ruler at the start of the game faces the following problem:

$$\max_c \{R(\hat{\tau}(c)) - \alpha|c^0 - c|\} \quad (4.8)$$

$c^0$  is the initial level of the cost of deposition. Because  $R(\tau)$  decreases in  $\tau$  and  $\hat{\tau}(c)$  increases in  $c$ ,  $R(\hat{\tau}(c))$  decreases in  $c$ . Thus  $c$  in equilibria should never be greater than  $c^0$  and  $|c^0 - c| = c^0 - c$ . Let  $R(\hat{\tau}(c)) - \alpha(c^0 - c) \equiv U^a(c, \alpha)$ , it is easy to notice

$$\frac{\partial^2 U^a(c, \alpha)}{\partial c \partial \alpha} = 1 > 0$$

$c^*(\alpha) \in \arg \max_c U^a(c, \alpha)$ . According to monotone comparative statics,  $c^*$  is increasing in  $\alpha$ . Intuitively, this results shows that politically conservative regimes tend to be more repressive even if such repressiveness lowers the political efficiency.

**Lemma 4.2.2.1.**  $c^*(\alpha, \mu) \in \arg \max_c U^a(c, \alpha)$  decreases in  $\mu$  and increases in  $\alpha$ .

Similarly, given

$$U^\alpha(c, \mu) = \hat{\tau}(c)[1 - \hat{\tau}(c)] - \frac{1}{2}\mu[\hat{\tau}(c)]^2 + \alpha c$$

and

$$\frac{\partial^2 U^\alpha(c, \mu)}{\partial c \partial \mu} = -\frac{\partial \hat{\tau}(c)}{\partial c} < 0,$$

$c^*$  decreases in  $\mu$ . This results shows that fiscally weak regimes tend to be less repressive followed by the observation that the marginal return in revenue extraction could not compensate the marginal cost of repression at high levels of repressiveness.

**Proposition 4.2.2.1.**  $\hat{\tau}(c)$  decreases in  $\mu$  and increases in  $\alpha$ .

Moreover, the tax revenue in equilibrium decreases in  $\mu$ , indicating states with strong extractive capacity could achieve higher revenue in equilibrium with higher levels of repression than regimes with weaker extractive capacity.

**Corollary 4.2.2.1.** *The overall efficiency in the political economic system increases in  $\mu$  and decreases in  $\alpha$ .*

### 4.3 A Model of Commitment with Foreign Input

I now extend the political model of commitment by considering the impact of foreign investors on the domestic commitment. All of the assumption of the earlier model is retained except for there are producers contributing in the production process who are not citizens of the regime. The foreign producers and the domestic producers are different in that the option to depose the ruler is not available to foreign producers. However, foreign producers have outside options once they find the tax rate set by the ruler unacceptable. Foreign producers may choose to withdraw their investment if they can obtain higher income elsewhere given the tax rate set the ruler. For now I assume the foreign producers are homogeneous with the mass of  $\gamma$  relative to the mass of domestic producers in the economy. Letting  $g$  denote the investment made by foreign producers in the economy, the after-tax income function of the foreign producers is the same as the domestic producers:

$$Y_g = (1 - \tau)g - \frac{1}{2}g^2$$

Given the presence of foreign producers in the economy, the ruler's revenue function becomes

$$R^\tau = \tau \frac{(e + \gamma g)}{1 + \gamma} - \frac{1}{2}\mu\tau^2,$$

which is different from the revenue function presented earlier in that there are domestic and international sources of investment. The weight of foreign producers in the economy relative to domestic producers is indicated by  $\gamma \in \mathbb{R}^+$ .

The timing of the game play is similar to the model of autarky except for that the foreign producers could choose to resort to the outside option once they observe the tax rate set by the ruler. If outside option is not revoked and the domestic producer deposes the ruler, the foreign producers follow the successor by investing after the new tax rate is set. The equilibrium of the subgame  $\Gamma^d$  when the incumbent is deposed is identical to that in



the autarkic model which is  $\{e^D, \tau^D\}$ .

#### 4.3.1 Pattern of the Interaction between the Foreign Producer and the Ruler

In this part I explore the way that foreign producers interact with the ruler and how such interaction affect the equilibrium tax rate. For this moment I assume the domestic producers are not given the chance to depose the ruler so the game ends after the foreign producers' decision to withdraw or not. The foreign producers may resort to the outside option after observing the tax rate set the ruler. If the outside option is revoked, the ruler only get the domestic portion of the total investment. Letting  $q \in \{0, 1\}$  denote the decision to withdraw investment, foreign producer has the following utility function when faced with the decision to resort the outside option or not.

$$Y_g = (q - 1) \left\{ (1 - \tau)g - \frac{1}{2}g^2 \right\} + q\hat{Y} \quad (4.9)$$

where  $\hat{Y}$  is the payoff from the outside option. Again the foreign producer decides on  $q$  after observing the tax rate set by the incumbent ruler. By backward induction, obviously,

$$q = \begin{cases} 0 & \text{if } (1 - \tau_A)g - \frac{1}{2}g^2 \geq \hat{Y} \\ 1 & \text{if } (1 - \tau_A)g - \frac{1}{2}g^2 < \hat{Y} \end{cases} \quad (4.10)$$

Let  $\tau^g = Y_g^{-1}(\hat{Y})$ . i.e.  $(1 - \tau^g)g - \frac{1}{2}g^2 = \hat{Y}$ .  $\tau^g$  thus provides the *maximum* tax rate at which foreign producers would not strictly prefer to resort to the outside option. The best response function of foreign producers is given by:

$$g = \begin{cases} 1 - \tau & \text{if } \tau \leq \tau^g \\ 0 & \text{if } \tau > \tau^g \end{cases} \quad (4.11)$$

Accordingly, the ruler's utility function is given by:

$$R^\tau = \begin{cases} \tau \frac{e + \gamma g}{1 + \gamma} - \frac{1}{2}\mu\tau^2 & \text{if } \tau \leq \tau^g \\ \tau \frac{e}{1 + \gamma} - \frac{1}{2}\mu\tau^2 & \text{if } \tau > \tau^g \end{cases} \quad (4.12)$$

If the domestic producer is not given the chance to depose the incumbent, the equilibrium when  $\tau \leq \tau^g$  is provided by  $\{e^S, \tau^S\}$  and the equilibrium when  $\tau > \tau^g$  given by:

$$\hat{\tau}^* = \frac{1}{1 + \mu(1 + \gamma)}; \quad (4.13)$$

$$\hat{e}^* = \frac{\mu(1 + \gamma)}{1 + \mu(1 + \gamma)} \quad (4.14)$$

The following assumption is introduced to bound the payoff from outside option to a meaningful range such as that the equilibrium results derived later are non-trivial.

**Assumption 4.3.1.1.** *The maximum tax rate begetting non-zero foreign investment give the outside option  $\hat{Y}$ ,  $\tau^g(\hat{Y})$ , is bounded between the equilibrium tax rate that is Parato optimal and the equilibrium tax rate with no credible commitment, i.e.  $\tau^g(\hat{Y}) \in (\tau^D, \tau^S)$ .*

Based on the assumption, several results are derived. First, the ruler always prefer to set the minimal tax rate at which the foreign producers do not strictly prefer the outside option. In other words, the ruler is always better off if the foreign producers do not resort to the outside option.

**Lemma 4.3.1.1.**  $\max\{R^\tau(\tau^*, e^*), R^\tau(\hat{\tau}^*, \hat{e}^*)\} \equiv R^\tau(\tau^*, e^*)$ . i.e. the ruler always obtains greater tax revenue when the foreign producers are present, or  $R^\tau(\tau^*, e^*) > R^\tau(\hat{\tau}^*, \hat{e}^*)$ .

**Proposition 4.3.1.1.** *In equilibrium, the ruler always sets  $\tau = \tau^g(\hat{Y})$ . The foreign producers set  $q = 0$  and all producers set  $e = 1 - \tau^g(\hat{Y})$ .*

Proposition 4.3.1.1 states that the ruler will always set the tax rate which makes the foreign producers indifferent between making investment and resorting to the outside option. Given this tax rate is lower than the tax rate given no outside option, the existence of foreign producers always improves the efficiency in the domestic political economic system by inducing a lower tax rate and higher level of investment in the equilibrium.

**Corollary 4.3.1.1.** *The social welfare in the political economic system improves as  $\hat{Y}$  grows, i.e. both  $R$  and  $Y$  in equilibrium increases in  $\hat{Y}$ .*

**Corollary 4.3.1.2.** *The social welfare in equilibrium associated with  $\hat{Y}$  decreases in  $\mu$ . The presence of foreign producers contributes to greater improvement of efficiency in cases of low cost of taxation and high extractive capacity.*

#### 4.3.2 Taxation under Deposition and Diversion of Foreign Investment

In the preceding section the domestic producers are deprived of the right to depose the incumbent and the only mechanism of inducing lower tax rate hinges on the outside option of the foreign producers. Now I allow the domestic producer to depose the ruler at a cost and the ruler can determine the cost,  $c$ , while the threat of diversion of foreign input is present. The cost of adjusting  $c$  is set to be associated with the initial states of the deposition cost,  $c^0$ , at the start of the game. For this moment, assume the foreign producers have no exit option or  $R(\tau) \equiv R^g(\tau)$ . The ruler faces the following problem with regards to  $\tau$  and  $c$ :

$$\arg \max_{c \in [0, c^0]} \{R(\tau) - \alpha|c - c^0|\}$$

For now I introduce the following assumption to narrow the range of the initial state of the  $c^0$  to illiberal regimes with high levels of repression. Recall that given certain  $\tau$ , there exists a corresponding minimum level of  $c$  such that the domestic producers are indifferent between depositing and not depositing the ruler. Define  $\hat{c} : T \rightarrow C$  to be the function which provides the minimum  $c$  that keeps the ruler in power. To limit the analysis to those regimes plagued by commitment difficulty, the initial state of  $c^0$  is assumed to be greater than or equal to the minimum  $c$  that politically sustains the sub-optimal tax rate  $\tau^S$  under no credible commitment.

**Assumption 4.3.2.1.**  $c^0 \geq \hat{c}(\tau^S)$ .

Allowing the foreign producers to withdraw investment, the ruler may be able to avoid paying the cost of liberalization while achieving more optimal taxation and investment. Lemma 4.3.1.1 suggests the presence of foreign input enables the ruler to credibly commit

to  $\tau^g(\hat{Y})$ . Given Proposition 4.3.1.1, the existence of foreign producers always improves efficiency upon the outcome under no credible commitment even with no adjustment of  $c$ . If the revenue under foreign input,  $R(\tau(\hat{Y}))$ , is greater than the maxima of the revenue with reduced  $c$ , the ruler could attain greater efficiency without liberalizing. Otherwise, the ruler will still liberalize such that greater revenue can be attained. The maxima of  $R(\tau, c)$  in equilibrium will be the greater among the two.

$$R^*(\tau, c) = \max\{R(\tau(\hat{Y})), R(\hat{\tau}(c^*)) - \alpha|c^0 - c^*|\}$$

Given that  $R(\tau(\hat{Y}))$  is continuous and increasing in  $\hat{Y}$ , there exists a value of  $\hat{Y}$  at which the ruler is indifferent between liberalizing to  $c^*$  or setting the maximum tax begetting foreign investment.

**Proposition 4.3.2.1.** *Given  $\mu \in M$ ,  $\alpha \in A$ , and  $c^0 \in C^0$ , corresponding to each element in  $M \times A \times C^0$ , there exists a  $y^D \in Y^D$  such that  $R(\tau(y^D)) = R(\hat{\tau}(c^*)) - \alpha|c^0 - c^*|$ .*

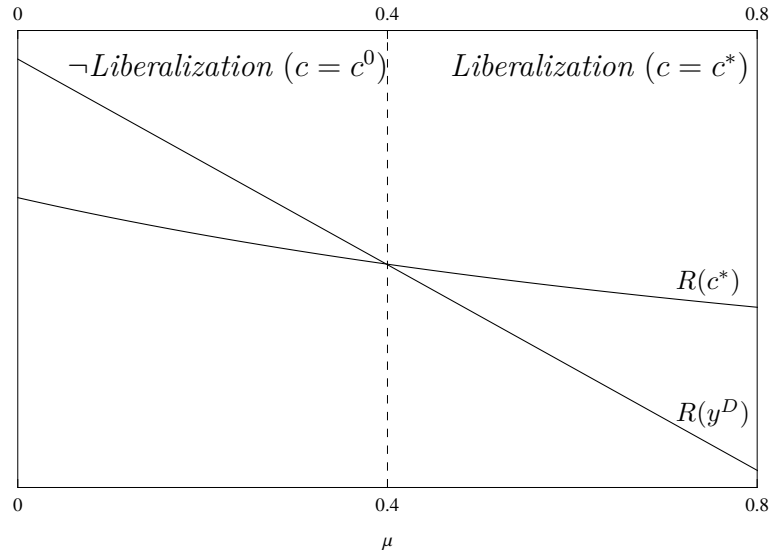
**Proposition 4.3.2.2.**  *$R(\tau(\hat{Y})) \geq R(\hat{\tau}(c^*)) - \alpha|c^0 - c^*|$  iff  $\hat{Y} \geq y^D$ .*

Thus the function  $f : M \times A \times C^0 \rightarrow Y^D$  provides the value of  $\hat{Y}$  at which the ruler is indifferent between liberalizing or not. The critical value of  $y^D$  is shaped by  $\mu$ .

**Corollary 4.3.2.1.**  *$y^D$  increases in  $\mu$ .*

**Corollary 4.3.2.2.**  *$\tau(y^D) \geq \hat{\tau}(c^*)$ .*

When the cost of taxation is low, the ruler is less likely to liberalize. Moreover, there exists a  $\mu^D$  such that the ruler would liberalize( $c = c^*$ ) iff  $\mu > \mu^D$ . This is shown in Figure 4.2. This simple model presents a logic in which foreign producers with bargaining leverages (indicated by favorability of outside options) could constitute effective commitment device that substitutes political liberalization. The substitution effect is particularly strong if the regime has greater extractive capacity. The rationale for this claim is as follows.

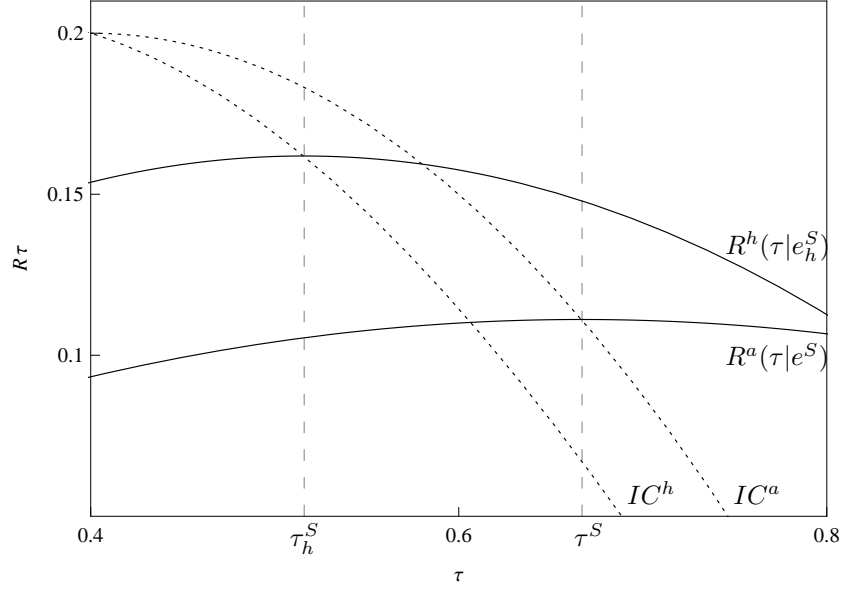


Parameter value:  $\alpha = .1; c^0 = .4; y^D = .3$ .

Figure 4.2: Cost of Taxation and Liberalization Payoff

As shown earlier, greater extractive capacity leads to greater distortion of efficiency, which asks for more radical liberalization to remedy. Contrary to the efficiency loss from liberalization, the presence of foreign input incurs no cost on the ruler's revenue. Thus at given levels of  $y^D$ , the credible commitment induced by foreign actors attains more efficiency gains than the commitment induced by domestic liberalization as the cost of taxation,  $\mu$ , decreases.

The model can be made more realistic by a couple of Extensions. First, the foreign producers may not be identical to each other and could differ from each other in some characteristics and the structure of such heterogeneity may affect the ruler's strategy. Secondly, resorting to outside options is so far assumed to be costless for foreign producers, which is barely true in reality. The cost associated with outside option may be modeled as endogenously derived by the outcome of interaction between the foreign producers and the autocratic state. The next section present a model that undertakes these two considerations.



Parameter value:  $\mu = .5; \gamma = .2; \lambda = 0$ . Incentive Compatibility (IC) curves are shown in dashed curves.

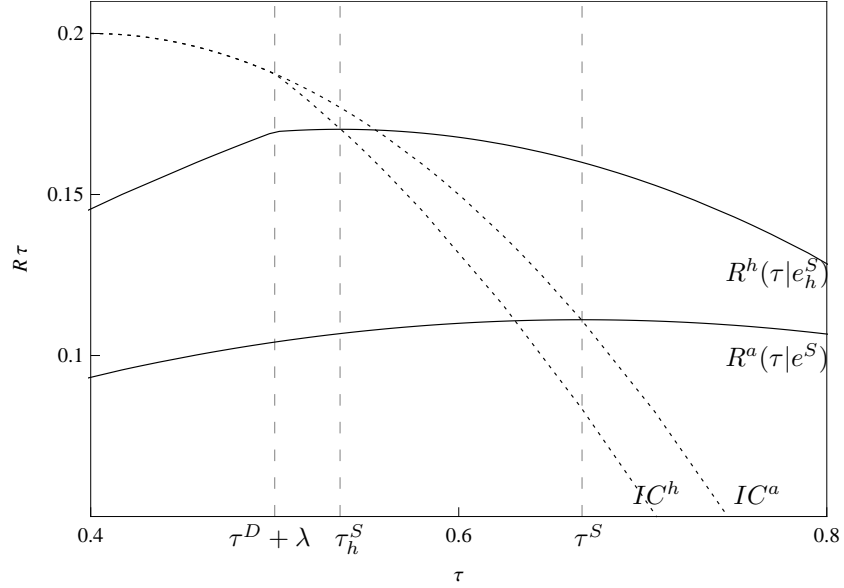
Figure 4.3: Equilibrium Tax Rate and Revenue: Costless Outside Options

### 4.3.3 Heterogeneous Producers and External Commitment Devices

Now I release the assumption that foreign producers are homogenous. Foreign producers now differ in their outside options  $\hat{Y}$  which are distributed between  $\underline{y}$  and  $\bar{y}$  with distribution function  $F_Y(\cdot)$ . Inheriting Assumption 4.3.1.1,  $\underline{y} = Y(\tau^S)$  and  $\bar{y} = Y(\tau^D)$ . Furthermore, I introduce the cost of diverting investment,  $\lambda \in \mathbb{R}^+$ , into the model. If producer,  $i$ , decides to divert investment to outside option, her payoff is now given by  $\hat{Y}_i - \lambda$ . Given certain tax rate set by the ruler,  $\tau$ , the proportion of the foreign investors who would not resort to the outside option is given by  $F_Y(Y(\tau) + \lambda)$ . Since the income function of foreign producers is identical to that of the domestic producers, as long as a foreign producer stays in the economy, she invests the same amount as all the domestic producers. Thus the effective investment made in the country given  $\tau$  is now weighted by:

$$\frac{1 + \gamma F_Y(Y(\tau) + \lambda)}{1 + \gamma}.$$

If the ruler can make credible commitment at any tax rate (i.e. the ruler is Stackelburg leader), the equilibrium is identical to that in the previous section regardless of the cost of outside option.



Parameter value:  $\mu = .5; \gamma = .2; \lambda = .1$ . Incentive Compatibility (IC) curves are shown in curves.

Figure 4.4: Equilibrium Tax Rate and Revenue: Costly Outside Options ( $\lambda = .1$ )

**Proposition 4.3.3.1.** *If the ruler can credibly commit to any tax rate, the unique equilibrium of the game with heterogenous foreign producers is  $\{\tau^D, e^D\}$ .*

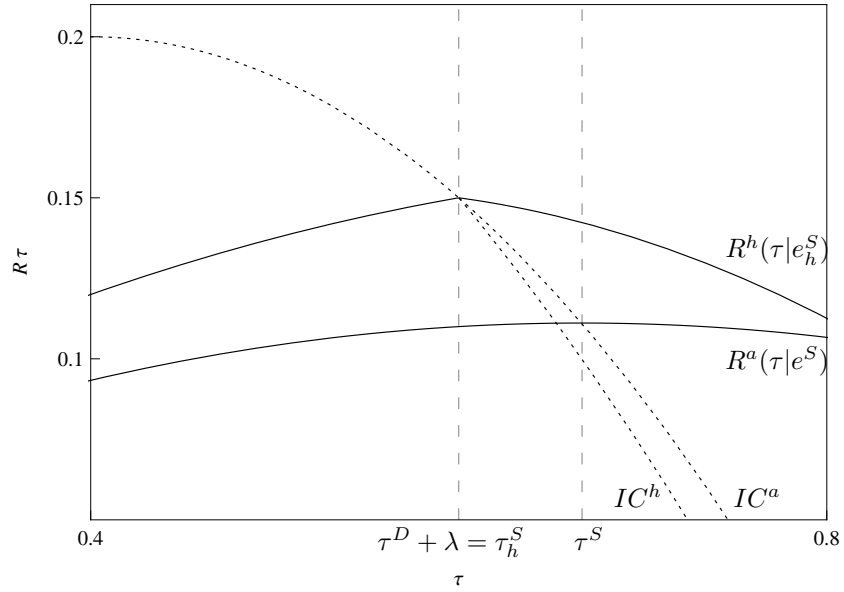
Define  $\hat{\tau}(\hat{Y}_i)$  to be the maximum tax rate to make producer  $i$  to stay, which is obtained through solving  $Y(\tau) = \hat{Y}_i - \lambda$  for  $\tau$ . To simplify the algebra, instead of making assumption on the function form of  $F_Y(\cdot)$ , I turn to assuming  $\hat{\tau}$  follows continuous uniform distribution, i.e.  $\hat{\tau} \sim \mathcal{U}[\tau^D - \lambda, \tau^S - \lambda]$  with distribution  $F_T(\cdot)$ . Thus I transform heterogeneity in outside option  $\hat{Y}$  into the heterogeneity in the maximum tax rate to keep foreign producers with

different  $\hat{Y}$ . This makes the analysis easier to work with and results in nelegible and trivial changes. The proportion of producers will not divert to outside option at  $\tau$  is given by  $1 - F_T(\tau) = \bar{F}_T(\tau)$  where

$$\bar{F}_T(\tau) = \begin{cases} 0 & \text{if } \tau \geq \tau^S + \lambda \\ \frac{\tau^S - \tau + \lambda}{\tau^S - \tau^D} & \text{if } \tau^D + \lambda < \tau < \tau^S + \lambda \\ 1 & \text{if } \tau \leq \tau^D + \lambda \end{cases} .$$

$\tau^S + \lambda$  and  $\tau^D + \lambda$  provides the cutpoints of the tax rates begetting full and null foreign investment respectively. The revenue function of the ruler can be rewritten as:

$$R(\tau) = \tau e \frac{1 + \gamma \bar{F}_T(\tau)}{1 + \gamma} - \frac{1}{2} \mu \tau^2 .$$



Parameter value:  $\mu = .5$ ;  $\gamma = .2$ ;  $\lambda = .2$ . Incentive Compatibility (IC) curves are shown in dashed curves.

Figure 4.5: Equilibrium Tax Rate and Revenue: Costly Outside Options ( $\lambda = .2$ )

The revenue function is now piecewise linear and continuous with regard to  $\tau$ . For now I focus on the cases where  $\lambda = 0$ . Scenarios in which resorting to outside option is costly, i.e



$\lambda > 0$  is discussed later. Given that the revenue function is furthermore affected by the  $\tau$  in  $\bar{F}_T(\tau)$ , the ruler gains stronger incentive to set a lower tax rate. This enables the ruler to credibly commit to a tax rate that is lower than  $\tau^S$ .

**Proposition 4.3.3.2.** *If the ruler cannot make credible commitment to tax rate, i.e. the ruler and the producers move simultaneously, the unique equilibrium of the game of heterogeneous foreign producers is identical to that in the game with homogeneous producers,  $\{\tau_h^S, e_h^S\}$ .*

**Corollary 4.3.3.1.** *Heterogeneous foreign producers results in lower tax rates and higher investments in equilibria under non-credible commitment, i.e.  $\tau_h^S < \tau^S$  and  $e_h^S > e^S$ .*

**Proposition 4.3.3.3.** *The presence of heterogeneous foreign producers in the economy results in Pareto Improvement upon the equilibrium under autarky, i.e.  $R_f(\tau_h^S) > R(\tau^S)$  and  $Y(e_h^S) > Y(e^S)$ .*

Figure 4.3 visualizes the difference between the equilibrium with heterogeneous foreign producers and that where foreign producer is absent. Notably, the tax rate that maximizes the revenue given the equilibrium investment crosses the Incentive Compatibility (IC) curves corresponding to whether heterogeneous foreign producers are present. As the Incentive Compatibility curve with heterogeneous producers ( $IC^h$ ) shows, the ruler suffers greater loss in tax revenue as more foreign producers resort to outside option at high tax rates. Although the revenue on the Incentive Compatibility curve shrinks in the presence of heterogeneous foreign producers, such salient efficiency implication nevertheless enables the ruler to credibly commit to lower tax rates which enhances the overall efficiency in the political economic system. In Figure 4.3, even though the foreign investment accounts for only 20% of the total input in the economy, its presence lowers the equilibrium tax rate by 30% and doubles the equilibrium output.

#### 4.3.3.1 Costly Outside Options and External Commitment Devices

If the cost of resorting to outside option becomes costly, i.e.  $\lambda > 0$ , the equilibrium tax rate would get higher. When the cost of outside option is high enough, the tax rate in equilibria in the presence of heterogeneous producers becomes identical to the equilibrium tax rate under autarky. Defining  $\tau_h^S(\bar{F}_T)$  to be the optimal tax rate given linear loss of foreign investment, I obtain the following lemma.

**Lemma 4.3.3.1.** *The ruler strictly prefer to begetting full foreign investment, iff the maximum tax rate begetting full foreign investment is greater than or equal to the optimal tax rate given linear loss of foreign investment, i.e.*

$$\arg \max_{\tau} R^a(\tau|e_h^S) = \begin{cases} \tau_h^S(\bar{F}_T) & \text{if } \tau^D + \lambda \leq \tau_h^S(\bar{F}_T) \\ \tau^D + \lambda & \text{if } \tau^D + \lambda > \tau_h^S(\bar{F}_T) \end{cases}$$

**Proposition 4.3.3.4.**  $\frac{\partial \tau_h^S}{\partial \lambda} > 0$  and there exists a  $\lambda = \hat{\lambda}$  such that  $\tau_h^S = \tau^S$ .

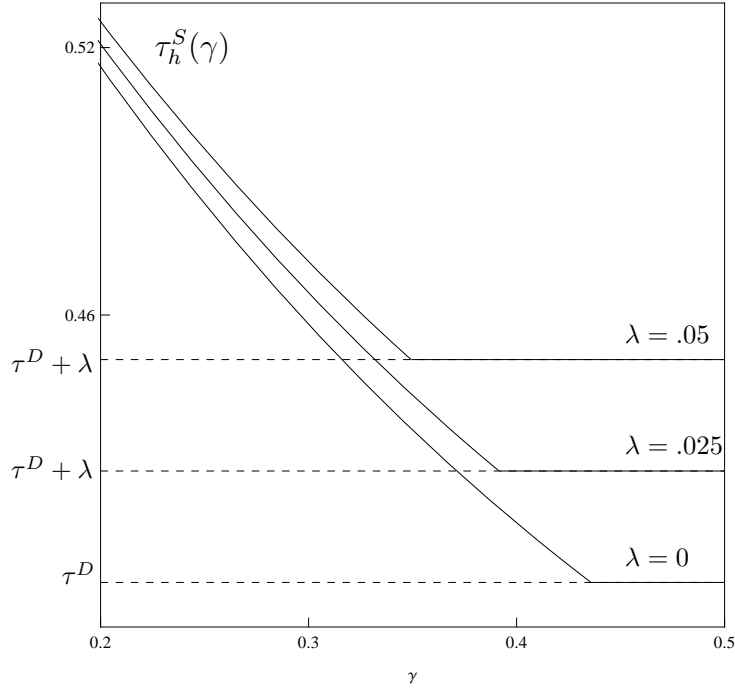
Figure 4.5 plots the revenue function and equilibrium tax rate when resorting to outside option is costly. Notably the equilibrium tax rate,  $\tau_h^S$ , is higher than that when outside option is costless as Figure 4.3 shown. Because the cost of outside option deters some of the foreign producers from exiting, the ruler could beget foreign investment in full at a higher tax rate, which compromises her ability to credibly commit to lower tax rate. As a result, the revenue in equilibrium with costly outside option is less than that with costless outside option. Note in Figure 4.5, the revenue function and the Incentive Compatibility curve given  $\lambda = 0.2$  are piecewise functions and setting any tax rate lower than  $\tau^D + \lambda$  could guarantee a full input from foreign producers whereas tax rates high than  $\tau^D + \lambda$  would incur linear loss of investment on the ruler's revenue function.

**Proposition 4.3.3.5.** *There exists a  $\gamma = \hat{\gamma}$  such that  $\frac{\partial \tau_h^S}{\partial \gamma} < 0$  if  $\gamma < \hat{\gamma}$ , and  $\frac{\partial \tau_h^S}{\partial \gamma} = 0$  and  $\tau_h^S = \tau^D + \lambda$  if  $\gamma \geq \hat{\gamma}$ .*

**Corollary 4.3.3.2.**

$$\frac{\partial \hat{\gamma}}{\partial \lambda} < 0 \text{ and } \frac{\partial^2 \tau_h^S}{\partial \gamma \partial \lambda} \leq 0.$$

Proposition 4.3.3.5 formalizes the impact of the weight of foreign investment in the economy on the equilibrium tax rate. Greater weights of foreign investment results in low equilibrium tax rates. Moreover, as Corollary 4.3.3.2 suggests, such an effect is most significant when the cost of outside option is low. The dynamics is visualized in Figure 4.6. Notably, it is seen in Figure 4.6 that  $\lambda$  results in greater differences in equilibrium tax rate when  $\gamma$  is sufficiently large. Thus, the efficiency implication of the cost of outside option is most salient when there is extensive involvement of foreign factors of production in the economy.

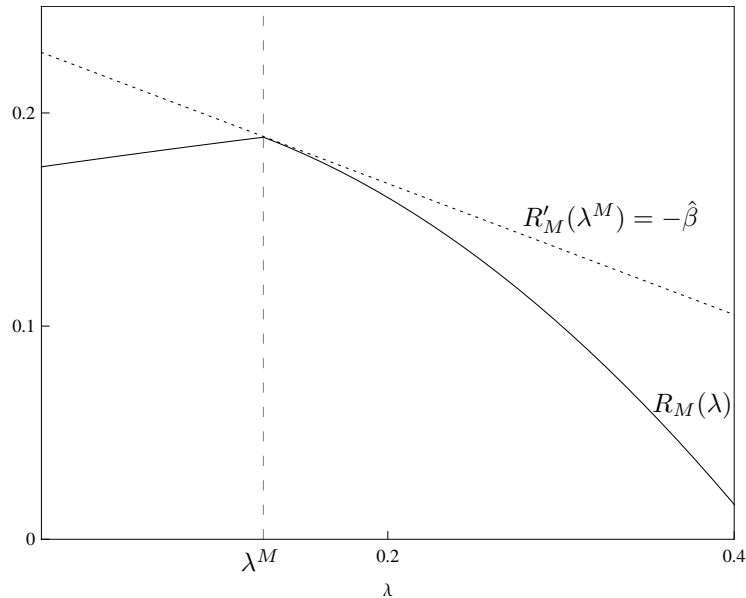


Parameter value:  $\mu = .5$ .

Figure 4.6: Equilibrium Tax Rate and Weight of Foreign Investment

### 4.3.3.2 Endogenous Cost of Outside Option

$\gamma$  was introduced into the model to capture the factors that shape the involvement of foreign producers in the domestic production *independent* of the mechanism formalized in the model.<sup>1</sup>



Parameter value:  $\mu = .4$ ,  $\gamma = .3$ .

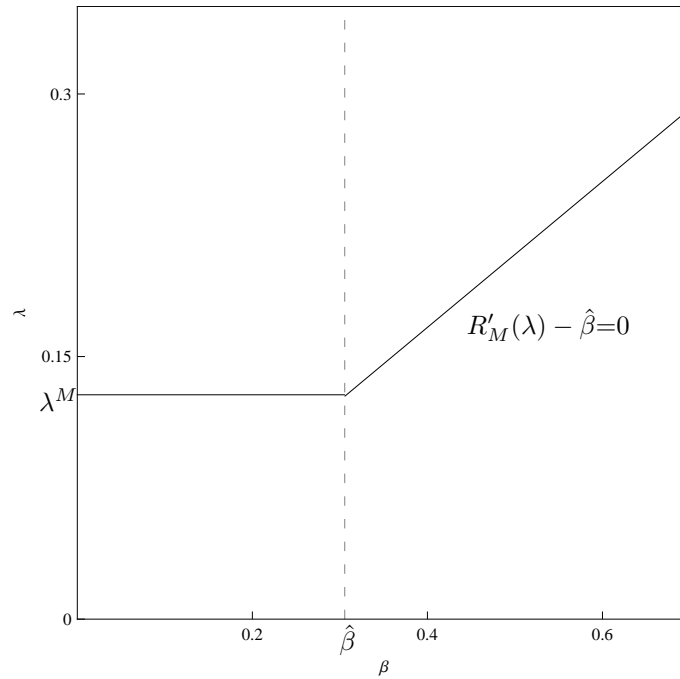
Figure 4.7: Maximum Revenue in Equilibrium and Cost of Outside Option

As I show in the following,  $\gamma$  gains significance in determining the equilibrium outcome as the cost of outside option is modeled as endogenous. Proposition 4.3.3.4 implies that both the ruler and producers would benefit from lower cost of resorting to outside options. Thus in the following analysis, I endogenize the cost of outside options to the revenue-maximizing incentive of the ruler. Assuming the ruler is now able to shape the cost of outside option at a linear cost, she would want to reduce the cost of outside option as much as possible until

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<sup>1</sup> These factors could be market size, factor endowment, resource abundance, colonial heritage or other economic, historical and geographical features of the country that affect the involvement of foreign actors in the economy.

the marginal cost starts to exceed the marginal gain. Here I claim the reduced cost of outside option can only be attained through external commitment devices, such as inter-state arrangement and institutions governing cross-national investment. When the ruler made international commitments that are formalized by international institutions, the cost of resorting to outside options will become lower for the foreign producer. The linear cost on the ruler associated with reducing the cost of outside option is analogous to the direct operational cost of bargaining and maintaining inter-governmental agreement or the undesirable side-effect of tying hands with external constraints imposed by international institutions. In this sense, small values of  $\lambda$  correspond to high levels of external constraints and greater values of  $\lambda$  correspond to low levels of external constraints.



Parameter value:  $\mu = .4$ ,  $\gamma = .3$ .

Figure 4.8: Equilibrium Cost of Outside Option and  $\beta$

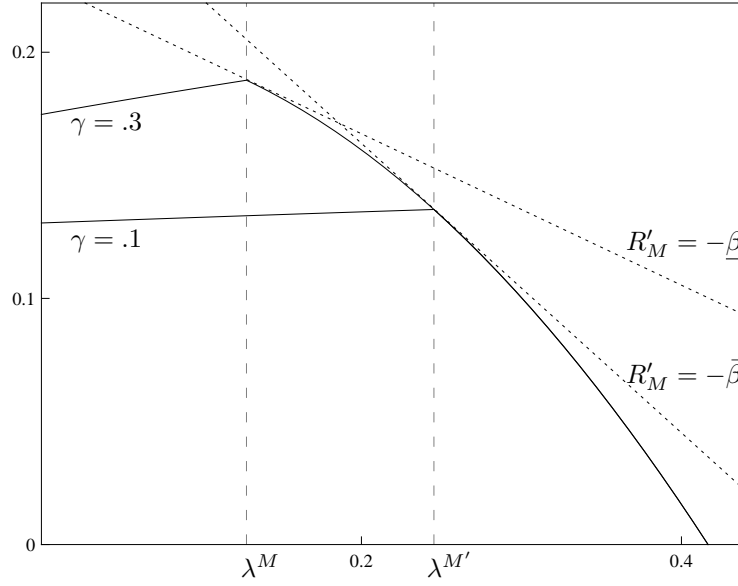
Endogenizing  $\lambda$  shows the impact of foreign involvement on the optimal level of con-

straints on the autocratic ruler. Since tying hands with constraints from international institutions is a gradual process, I assume the initial value of  $\lambda$  is sufficiently high such that none of the foreign producers are able to resort to the outside option. The cost of lowering  $\lambda$  is given by  $\kappa$ :

$$\kappa = \beta|\lambda^0 - \lambda|,$$

where  $\lambda^0$  corresponds to the initial state where no external constraint is imposed on the ruler. Assuming  $\lambda \in [0, \lambda^0]$ ,  $|\lambda^0 - \lambda| = \lambda^0 - \lambda$ . The cost is linear with regard to the distance between  $\lambda$  and the status quo.  $\beta$  captures the linear marginal cost of reducing  $\lambda$  by one unit. Larger  $\beta$  indicates greater linear cost and smaller  $\beta$  indicates smaller linear cost. Now the ruler is faced with the problem of find the  $\lambda$  such that the revenue is maximized. If  $\beta = 0$ , the utility function with regard to  $\lambda$  is plotted in Figure 4.7 which is concave and piecewise linear and continuous. The value of  $\lambda$  in equilibrium is determined by the equation  $R^{M'} = \kappa'$ . Given  $\kappa' = -\beta$ , the utility maximizing  $\lambda$ ,  $\lambda^M$  is provided by the tangent line in Figure 4.7. As  $\beta$  diminishes,  $\lambda^M$  decreases until  $\beta = \underline{\beta}$ , after which the maximizing  $\lambda^M$  remains constant, as seen in Figure 4.8.

An important result is that  $\lambda^M$  decreases in  $\gamma$ . This indicates regimes with larger weight of foreign investment in the economy is likely to make more external commitments than regimes with less weight of foreign investment. The finding is plotted in Figure 4.9. The revenue functions are identical until  $\lambda$  is greater than  $\lambda^{M'}$ , the optimal cost of outside option for the regime with relatively low foreign involvement in the economy. Because the equilibrium  $\lambda$  is determined by when the revenue function passes by the tangent line with respective  $\beta$ , the regime with lower foreign involvement in the economy ( $\gamma = .1$ ) could never set a equilibrium  $\lambda$  lower than  $\lambda^{M'}$ , whereas regimes with higher  $\beta$  will continue to get marginally compensated as  $\lambda$  goes below  $\lambda^{M'}$  at lower  $\beta \in [\underline{\beta}, \bar{\beta}]$ . Thus, if the marginal



Parameter value:  $\mu = .4$ .

Figure 4.9: Weight of Foreign Investment and Equilibrium Cost of Outside Option

cost of reducing  $\lambda$  is sufficiently low, regimes with more foreign involvement would sign on to more external commitments than regimes with low foreign contribution. On the other hand, if the marginal cost of reducing  $\lambda$  is sufficiently high, different foreign involvement would not result in differences in the level of external commitments made.

**Proposition 4.3.3.6.**  $\lambda^M$  decreases in  $\gamma$  if  $\beta < \bar{\beta}$ , i.e.

$$\frac{\partial \lambda^M}{\partial \gamma} \begin{cases} < 0 & \text{if } \beta < \bar{\beta} \\ = 0 & \text{if } \beta \geq \bar{\beta} \end{cases}$$

**Corollary 4.3.3.3.**  $\max\{R^M + \kappa\}$  increases in  $\gamma$  if  $\beta < \bar{\beta}$ , i.e.

$$\frac{\partial \max\{R^M + \kappa\}}{\partial \gamma} \begin{cases} > 0 & \text{if } \beta < \bar{\beta} \\ = 0 & \text{if } \beta \geq \bar{\beta} \end{cases}$$

But when will the margin cost of reducing  $\lambda$  be low enough to separate regimes with high  $\gamma$ s and low  $\gamma$ s? I argue the autocratic ruler can establish commitment devices at the domestic level to reduce  $\lambda$  but the most effective and economical ones exists at the international level. The ruler could possibly establish specialized institutions at home to credibly commit to foreign actors such as making specially tailored domestic arrangements that compensate the foreign actors in cases of violation of contracts, but these arrangements are likely to be inferior to alternatives existing at the international level. The nature of the vulnerability of foreign economic agents to domestic predation determines that the credibility of the regime is more likely to be restored by introducing constraints from outside of the political system. In particular, existing institutionalized arrangements at the intergovernmental level that governs transnational economic relations provides quick and effective solutions that make outside options less costly for foreign investors. Signing onto these international arrangements and becoming members of existing institutions incur low cost relative to the effect of strengthening commitments. In some sense, the existing institutions allow regimes with commitment difficulty to “free-ride” the institutional arrangements that have already been constructed and help strengthen the bargaining power of the foreign investors. By contrast, using domestic commitment devices for the purpose of assuring foreign actors are expensive as it may cause domestic backlashes and, more importantly, less likely to be effective given the nature of commitment difficulty under non-democratic rules. Thus, the cost-effective solutions to foreign commitment is readily available, make the difference between regimes with various levels of foreign involvement significant. Notably, the domestic alternative of reducing  $\lambda$  is conceptually different from political liberalization that empowers the domestic citizens in that it only targets the foreign actors who are aliens in the domestic political process.

A basic observation regarding the effect of extractive capacity is that regimes with higher extractive capacity set higher equilibrium tax rates *ceteris paribus*, because the additional taxation can be marginally compensated due to a lower marginal cost of taxation.



Thus, regimes with higher extractive capacity would prefer to set a relatively high cost of outside option to make the higher optimal tax rate achievable. Thus, extractive capacity is positively correlated with the optimal level of external commitment made by the ruler.

**Proposition 4.3.3.7.**  $\lambda^M$  decreases in  $\mu$ , i.e.

$$\frac{\partial \lambda^M}{\partial \mu} < 0.$$

The proposition implies regimes with high extractive capacity will be willing to make more external commitments than regimes with low extractive capacity. Moreover, the equilibrium tax revenue that the ruler seizes would be lower under the high extractive capacity. This finding suggests that external commitments is of significant strength in remedying inefficiency when the intrinsic obstacle to optimal behavior in the political economic system is greater. This characterizes the merit of external commitment devices for regimes plagued by high state capacities. While regimes with greater extractive capacity have more to gain from making credible commitments at lower tax rate, such an advantage in tax extraction nevertheless fuels the predatory tendency in taxation. The external commitment device that reduce transaction cost among international investors has distinctive advantage in remedying the dilemma primarily because it avoids the political cost associated with the extractive capacity of the regime which would be incurred by domestic liberalization. For regimes feature highly efficient institutions for rent extraction, joining external institutions that empower the international actors as contract enforcers is economically effective and political desirable than liberalize domestically.

When both diversion of foreign investment and domestic deposition is present, what is the ruler's strategy in maximizing the revenue extraction? Several findings are established based on the previous model. First, countries with more foreign output are more likely to resort to external commitment device in enhancing the credibility of commitment. Secondly,

countries with high extractive capacity is more likely to use external devices to strengthen domestic credibility in that external commitment device is not as effective as domestic liberalization in inducing lower equilibrium tax rates.

## Chapter 5

### Non-Democracies and International Institutions: An Panel Data Investigation

#### 5.1 Background and Hypotheses

The theory chapter developed a theoretical model of cooperation for non-democratic regimes where it is demonstrated that taking part in institutionalized cooperation alleviates the domestic commitment difficulty and helps the autocrat stay in power. In particular, rulers in non-democratic regimes with high level of international economic integration and high extractive capacity strategically seek accession into international economic institutions to alleviate domestic political predicament due to power concentration, when the domestic alternative to the solution of such a problem is too costly. In this paper I present a series of empirically analyses focusing on testing four of the key hypotheses the theory section derives.

- **H<sub>1.1</sub>. (Economic Integration and International Institutions)** Non-democratic regimes' *involvement in international institutions* is positively correlated with *international integration of the national economy*.
- **H<sub>1.2</sub>. (Economic Integration and Political Liberty)** Political liberty in non-democratic regimes is negatively correlated with international integration of the national economy.
- **H<sub>2</sub>. (International Institutions and Political Liberty)** *Involvements in international institutions* are negatively correlated with *political liberty* among non-

democratic regimes.

- **H<sub>3</sub>. (Conditioning Effect of Extractive Capacity)** The negative correlation between the *involvement in international institutions* and *political liberty* is stronger among autocratic regimes with relatively high *extractive capacity*.

I have shown in the theoretical model that international economic integration of autocratic economies contributes to high levels of involvement in international institutions because international economic institutions become more effective remedies for domestic commitment difficulty in the presence of active foreign economic contributor in the domestic economy. As a result of more involvements in international institutions, the level of political liberty under autocratic regimes would drop or stay low in that the autocrat no longer needs to liberalize politically to make domestic commitments more credible, leading to the prediction that political liberty and international institutional involvement would be negative correlated among non-democratic regimes.

While extractive capacity measures the efficiency of the tax collecting institutions of a regime, it more importantly reveals the propensity of the autocratic regime to be predatory and thus predicts how imperative it is for the autocrat to find solutions for commitment difficulty they face domestically. Non-democratic regimes with high extractive capacity are plagued by commitment difficulty to a greater extent because the fact that rulers of these regimes can extract tax in a cost-effective way makes it harder to convince the citizens of the intention of these regimes to abide by previously made commitments regarding taxation and redistribution. This line of reasoning implies that the correlation between political liberty and international institutional involvement would be stronger among regimes which have high capacity in tax extraction. In regimes with low extractive capacity, the distortionary effect of taxation is relatively small and the leader would not face situations as difficult as those found in regimes with high extractive capacities. Leaders in these regimes will thus

have weaker incentives to look for remedies, either domestic or international, for commitment difficulty, which consequently leads to weaker association between political liberty and involvement in international institutions. This logic is central to the data generating process underlying the last hypothesis which incorporates specific causal claims of the theoretical model into the observational expectations driving the empirical analysis, which will be elaborated further later in the section of model specification.

The rest of the paper is structural as follows. Operationalization and measurement of key variables such as institutional involvement, economic integration, and extractive capacity is discussed in Section 2. Methodology and results of econometric analysis of cross-national and panel dataset are presented in Section 3 following a discussion of the data generating process underlying the model specification. I conclude with some discussions of the identified results and two comments on the future extension of the research project.

## **5.2 Data and Measurement**

### **5.2.1 Measuring Institutional Involvement**

Following the logic of the theoretical model, international institutions could help autocrats make domestic commitments more credible by precipitating enforcement and facilitating cooperation among foreign economic actors. Since formal institutions consist of law and organizations, the number of international treaties and agreements that are currently in effect and the number of intergovernmental organizations that a regime is a formal member of indicate the participation level of the regime in institutionalized cooperation. International institutional involvement can be measured either by the number of memberships in relevant intergovernmental organizations a country has acquired or by the number of intergovernmental treaties and agreements a country has signed and ratified. In the analysis of this paper I use the number of memberships in relevant intergovernmental organizations

as the primary measure of institutional involvement because it more dynamically captures the institutional functions of international organizations that provide formal frameworks for coordination and collaboration as well as establishes procedures and instruments for enforcement. Also, the course of acquiring memberships in IGOs encompasses the process of international law-making in that virtually all intergovernmental organizations are founded by member states through drafting and signing intergovernmental treaties or other international legal documents.

However, not all intergovernmental organizations are equally relevant in testing my theoretical claims given the theory emphasizes two very specific aspects of the function of international institutions which are precipitating enforcement and facilitating cooperation among private actors. The first aspect requires the IGOs to incorporate an institutionalized structure such that enforcement functions can be carried out *only* over states who are formal members of the institution. Thus, only to those IGOs that make a country more vulnerable to external punishment after acquiring formal membership would my theoretical claims apply. The second aspect requires the IGOs to incorporate a set of rules and procedures that enable the member states to police and monitor the behavior of each other and prompt all members to hold on to a common ground if any member state fails to fulfill the obligations brought about by the membership in the organization. Since not all IGOs memberships comes with binding rules and obligations that member states have to abide by, only those IGOs with a charter or constitution requiring member states to make formal commitments regarding certain policy will be relevant for testing the theoretical predictions. Borrowing the phrase from Downs, Rocke and Barsoom,<sup>1</sup> the analysis in the part is particularly looking at a country's involvement in institutionalized cooperation that precipitates a great "depth of cooperation" where institutions intend to induce systematic shifts in the behavior of states.

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<sup>1</sup> Downs1996

To make sure the measurement of institutional involvement matches the conceptualization and operationalization discussed above, I use the IGO membership dataset from the Correlates of War Project <sup>2</sup> and code all the intergovernmental organizations with “political-economic” functionalities in the dataset with regards to whether or not they fulfill institutionalization criterion and require formal commitments regarding domestic or international economic policies. Comparing the coding with that created by Boehmer, Gartzke, and Nordstrom<sup>3</sup>, IGOs coded in my dataset as meeting the requirement of institutionalization and imposition of policy constraints roughly correspond to “Structured” and “Interventionist” categories in the classification of IGOs by Boehmer, Gartzke, and Nordstrom. Excluding intergovernmental organizations with military and defence purposes, all the “Structured” and “Interventionist” IGOs with general political and economic functionalities in the classification by Boehmer, Gartzke, and Nordstrom satisfy the institutionalization requirement and are coded as relevant. There are also a number of “Minimal” IGOs which also fulfill the requirement that the institutional structure facilitates coordination and collaboration among foreign economic actors and are thus included as relevant political economic IGOs in my coding. While these “Minimal” IGOs lack organizational capacities associated with bureaucratic, executive, and judicial organs that enable the organizations themselves to act in response to defecting member states, they nevertheless have the capability to monitor critical issue areas in domestic and international economic policy making and provide information mechanism and platform for coordination assisting relevant actors to cooperate and act collectively to exert pressures on administrations not abiding by their obligations.<sup>4</sup>

With this justification, about one fourth of the “Minimal” IGOs with political economic functionalities are coded as relevant and are thus included in the succeeding analysis. The rest three fourths of the “Minimal” IGOs are either organizations with non-political economic

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<sup>2</sup> Pevehouse, Nordstrom and Warnke (2004)

<sup>3</sup> Boehmer, Gartzke and Nordstrom (2004)

<sup>4</sup> Some examples of such “Minimal” IGOs are African Regional Industrial Property Organization (ARIPO), Andean Parliament and Common Market, the League of Arab States, and many others.

focus or international cartels coordinating resource or commodity exports. The issue coverage of the “Political Economy” IGOs in my coding corresponds to that of the “Political” and “General-Economic” categories in Poast and Urpelainen’s classification of the functionalities of intergovernmental organizations.<sup>5</sup> Organizations with social and technical functionalities are also excluded as irrelevant.

### **5.2.2 Measuring Economic Integration: Trade, Investment, and Factor Payment**

International integration of the domestic economy constitutes the key explanatory variable in understanding the variance among non-democratic regimes in their cooperative behavior. International economic integration is conceptualized in my theory as the process of incorporating foreign economic actors into the production process in the domestic “real economy”. In general, international integration incorporates the domestic economic activities into the global value chain whose operation requires factors of production, commodities and returns to factor input to frequently move across national borders. The level of international integration of the national economy a country can thus be evaluated by three indicators capturing each of the three aspects of cross-border integration: international trade, direct investment and cross-border flows of rents, income and profits. Data on the volume of international trade is easily accessible from a variety of sources and has been widely used in existing studies as a common measure of economic openness and exposure. In using trade to measure integration level, it is important to note that international trade usually reflects only the direct commodity exchange phase of the integration process. The caveat is that even in the absence of non-residents’ participation in the domestic “real economy”, trade among countries could still take place. In contrast, measures of direct investment, either by yearly inflow or formations of capital stock reflected in the Capital Account, capture the actual process of production integration across national borders that takes place at deeper

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<sup>5</sup> Poast and Urpelainen (2013)



level of integration which more accurately reflects the “depth” of participations of foreign economic actors in the domestic “real economy” in my theory.

However, what the direct investment measure might miss in characterizing the integration level is the concept of “returns to factor input” from foreign economic actors. Returns to foreign factor input includes income and profits paid to foreign individuals and institutions, which indicate the value of marginal product of foreign labor, capital, and technology input in the domestic economic production. The scale of foreign industrial assets, which is what direct investment captures, is not indicative of the productivity and profitability of the invested factors. The fact that the logic of my theory hinges critically on the incentive effect and efficiency implications of taxation on the “incomes generated by foreign factor input” *but not* on the factor input *per se* renders the inflow of directly investment or the stock of foreign industrial capital less accurate quantifications of the specific conceptualization of economic integration in my theory. Factor returns to foreign owners thus provide the measurement that best matches the conceptualization and dynamics of economic integration in my theory. Data on factor payment can be obtained from the *debit* entries of “Primary Income” account as one of the three main sub-accounts in the Current Account in the International Financial Statistics.<sup>6</sup> “Primary Income” account records the flows of compensations, dividends, interests, and rents between resident and non-residents institutional unit.

According to IMF’s *Balance of Payments and International Investment Position Manual (BPM6)*,<sup>7</sup> “Primary Income” records the return that accrues to institutional units for their contribution to the production process or for the provision of financial assets and renting natural resources to other institutional units. “Primary Income” includes income associated

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<sup>6</sup> International Monetary Fund (2012b). The other two sub-accounts are “Goods and Services” account and “Secondary Income” account. “Goods and Services” account records transactions resulted from tradings of goods and services while “Secondary Income Account” records international *transfer* of income as such remittances and contributions.

<sup>7</sup> International Monetary Fund (2013)

with the production process such as compensation of employees as well as income associated with the ownership of financial and other non-produced assets which includes property income such as rents, and investment income such as interests and other financial earnings. Since factor returns are always equated with marginal products of factor input, the debit entries in “Primary Income” account showing factor income paid to non-residents quantifies the contribution that foreign factor owners made to the domestic economic production.

The “Primary Income” account in the current account is also related to the link between “Gross Domestic Product” or GDP and “Gross National Income” or GNI. GDP is related with the economic process within the border a state from which income is generated with both domestic and foreign input whereas GNI is related with the process of distributing the income generated to the contributors of factors of production by their nationalities. In other words, while GDP is generated with labor, capital and technology input from domestic nationals as well non-residents, GNI is the income distributed to the nationals of a country, including those who receive income from inputting factors in the production outside the national borders. The income generated by factor input owned by foreign nationals in the domestic process of production, which gets distributed back to foreign factor owners, is reflected by the “Primary Income” account debit in the Current Account. This again shows the factor payment measurement gets exactly at the concept of foreign contributions and returns in domestic production process that is central to the broader argument regarding the effect of economic integration on the incentive to join intergovernmental organizations.

Another reason that “Primary Income” payment is a superior measure of economic integration to the alternatives is the stronger exogeneity of payment to foreign factor owners to economic policies other than income tax rates. One of the concerns in the analysis is that the measure of economic integration may be associated with unobserved policy factors that also shape the authority’s stance regarding international institutions. While international

trade and direct investment is significantly and instantaneously affected by the policies of the economic administration such as tariff rates and capital account regulations, flows of “Primary Income” payment to non-residents are less subject to policy barriers at the national borders. Granted that the integration process prior to generation of income and profits for foreign input is under the influence of general economic policy, it is nevertheless less likely that policies other than income tax rates will lead to significant changes in the payment to foreign factor owners in the short term.

### 5.2.3 Measuring Extractive Capacity

Finding a good measurement of the extractive capacity of a regime is challenging because it is hardly observable by looking at major fiscal statistics. While there are a number of measurements of state capacity available, very few of these measures specifically the ability and efficiency of the authority in revenue extraction as conceptualized in my theory. The capacity of a regime in revenue extraction is best characterized by the efficiency of the domestic tax institutions. There are several indicators that remotely get at the extractive capacity of a regime. One of such indicators is the “total tax revenue measured as percentage of GDP” which was first used in Arbetman-Rabinowitz and Kugler to measure the capability of the government to extract revenue from the society.<sup>8</sup> The portion of the domestic product that is seized by the government is indeed reflective of the capability of the authority in revenue extraction, but an obvious weakness of this measure is that it mixes up the “extractive capability” of the regime with the “predatory tax policy” of the political authority, which are two distinctive concepts in my theory. The first concern about using the total tax revenue as the measure of extractive capacity is that it is possible to see regimes with relatively weak extractive capability being highly predatory in taxation, using tax instruments such as border taxes that require little institutional and bureaucratic foundation. In such a case the total tax revenue poorly reflects the extractive capacity of the regime. Furthermore, the most

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<sup>8</sup> Arbetman-Rabinowitz and Kugler (1997)

salient implication of my theory is that regimes with high extractive capacity would better refrain from being overly predatory in taxation for their own sake. Thus with involvement in international institutions or domestic political liberalization, regimes with high extractive capacity should not be expected to be overly predatory in taxation.

It has been observed that authorities can generate revenues more easily with taxing primary products because it does not require much institutional structure of compliance. Based on this logic, another measure of extractive capacity that has appeared in existing civil war literature is the share of primary commodity and fuel exports in GDP, first used by Fearon to measure the bureaucratic quality and the need to generate direct taxation.<sup>9</sup>

Economies relying on resource exports are known to have weak institutions for economic governance because most of the revenue is generated from taxing exports of goods which does not require high capacity in tax institutions. States with high resource exports profile will thus be predicted to have weak extractive capacity. Such a measure overly relies on using resource exports to predict extractive capacity and overlooks other factors in shaping the formation of institutions for taxation. The ratio of primary commodity and fuel exports to GDP is probably useful in identifying only those cases where low extractive capacity is *caused* most saliently by the dependence on resource exports for revenue, but can hardly be justified as an efficient and robust measure of extractive capacity in a broader context.

Another existing measure of extractive capacity is “Relative Political Capacity” index as discussed in Arbetman-Rabinowitz and Kugler and Arbetman-Rabinowitz and Johnson.<sup>10</sup>

The “Relative Political Capacity” is simple the ratio of a state’s *actual* to *predicted* tax revenue. The *predicted* tax revenue is generated by OLS regression of the ratio of total tax revenue to GDP on a number of other economic indicators such as total GDP, total income

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<sup>9</sup> Fearon (2005)

<sup>10</sup> Arbetman-Rabinowitz and Kugler (1997), Arbetman-Rabinowitz and Johnson (2007)

from natural resource exports, and public expenditures. Income from resource exports is expected to be related with lower expected taxation because economies relying heavily on revenues from natural resource usually lack strong institutions for taxation. Public expenditures of a regime reflect the demand for tax revenue which will be positively associated with expected taxation. The inclusion of total GDP is meant to control for the scale effect where the expected ratio of tax to GDP decreases as the economy grows. A country is considered to have high extractive capacity if the “Relative Political Capacity” is greater than one because more tax revenue is extracted than what is predicted by the OLS estimation.

The logic underlying the described method used to derive “Relative Political Capacity” is straightforward but its application is problematic. The basic idea of such a method is that the total tax revenue as percentage of GDP can be predicted by the latent extractive capability along with observed factors such as total GDP, primary product exports, and public expenditures. Thus, with a OLS regression of the total tax revenue as percentage of GDP on the observed factors, the residuals of the regression would be closely associated with extractive capacity omitted from the regression. The execution of the method of measurement is subject to obvious methodological flaws. In order to generate valid predictions with OLS regression, it must be assumed that the included regressors are not correlated with the latent extractive capacity hidden in the errors. But factors such as primary product exports and public expenditures included in the regression are considered to be associated directly with the capacity of tax institutions, as discussed earlier in using resource export as a measure of extractive capacity. In the presence of such correlation, the *zero-conditional-mean of errors* condition of the unbiasedness and consistency of OLS questions the relevance of using the residuals as a measure of a concept who itself could well be correlated with the independent variables of the regression. Only when one can justify the observed factors such as resource exports have no effect in shaping the capability of the authority in extracting revenues could the residues of the OLS regression be considered a systematic capture of the latent extractive

capacity. The “Relative Political Capacity” is thus not a satisfying measurement of extractive capacity in any respect.

It is seen from the discussion above that many of the measures of extractive capacity commonly used in existing studies have very weak theoretical grounds and the quantifications themselves hardly capture the institutional efficiency in the tax institutions. One study that provides relatively stronger theoretical support for measurements of extractive capacity is Besley and Persson.<sup>11</sup> They developed a model of endogenous formation of legal and fiscal capacity of a state and test the implications with data. The legal capacity of a state determines how well private properties can be protected and private property protection is critical in that it shapes the incentive of economic actors in investment. The fiscal capacity decides if redistributions of income can be carried out in an efficient way after economic output is generated. Anticipating the impact of each of the two aspects of state capacity on the future flows of political revenue, the political authority decides the optimal allocation of investment in developing legal and fiscal capacity respectively.

The way in which fiscal capacity is incorporated into the mechanism of Besley and Persson’s model is consistent with the way that extractive capacity is conceptualized in my theory: higher fiscal capacity enables the authority to raise the *optimal tax rate*. Besley and Persson’s tested the model predictions with a cross-national dataset from 1975 to 2000. They use “one minus the share of revenue from trade taxes” from Baunsgaard and Keen<sup>12</sup> and “total income taxes as percentage of GDP” as the measurements of fiscal capacity, because countries with weak tax institutions tend to collect more taxes with border taxes such as tariffs but less with income taxes that requires extensive institutional and bureaucratic foundation. The fact that the results of the empirical analysis are consistent with the predictions

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<sup>11</sup> Besley and Persson (2009)

<sup>12</sup> Baunsgaard and Keen (2010)

of Besley and Persson's model lends support for using their measures of fiscal capacity in my analysis. In a recent research, Hanson and Sigman<sup>13</sup> took a similar approach to that of Besley and Persson in characterizing the extractive capacity and find in a factor analysis of different aspects of state capacity that the share of trade and income tax in total revenue strongly correlate with the extractive capacity factor. With the theoretical foundation provide in Besley and Persson, the share of income taxes in total tax revenue provides the best available measurement of extractive capacity. In the succeeding analysis I use the share of income taxes in the total tax revenue as the primary measure of the extractive capacity of a regime.

#### **5.2.4 Control Variables: Government Consumption, Natural Resource Rents, and Labor Productivity**

This paper is by no means a comprehensive empirical evaluation of all possible factors affecting non-democratic regimes' membership in IGOs. Besides the key concepts and variables underpinning my theoretical prediction, I include a number of control variables for theoretical considerations. These control variables are government consumption, natural resource rents, and labor productivity. Government consumption, measured by the central government budget as percentage of GDP, is indicative of the scale of government intervention in the market. Recall in my theory that the political authority is set to possess no factor of production and does not participate in the economic production. Under such a setting the autocrat in my model unilaterally makes policy regarding the *redistribution of income* but cannot decide the *distribution of factors of production*. But in reality it is fairly common to see the presence of political forces in the working of market mechanism where governments themselves are owners of factors of production and derive incomes from their factor input. Such an observation matters because the main predictions of my model are less likely to be identified in cases where massive government intervention is present than in cases the gov-

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<sup>13</sup> Hanson and Sigman (2013)

ernment only plays minimal role in the functioning of market. While the model presented in the theory section has not accommodated the varying levels of government intervention in the economy, including government consumption as a control variable could nevertheless bridge the gap between austere theoretical assumptions and reality.

Another important factor that has not yet been formally incorporated into the model is the rents from natural resources. As existing literature on “rentier state” shows, the natural resource sector, particularly fossil fuel and ore industry, operates structurally different from the industrial sectors in its major inputs structure and relationship with the government in the context of globalization.<sup>14</sup> Unlike productions in standard industrial sectors that require complex structures of factor input and management, resource sector follows an expansive pattern of production that requires minimal cooperation. It has been discussed earlier that resource dependent economies are usually weak in institutions for domestic economic governance. The incentive effect of taxation depicted in the theoretical model is not quite applicable to the resource sector because the market structure in resource sector is usually less competitive than other sectors: the market is often times dominated by a limited number of oligarchs closely associated with the government. Domestic actors in my theoretical model lack the capability to act collective in response to predatory taxation because of high cost of coordination, which is more likely to be true in sectors featuring intense competition and decentralized market structure. With a more centralized market structure, firms in resource sector are better at acting collectively in influencing government policies, which makes the predatory taxation less of a problem. Also, it cannot be ruled out that rents from natural resource are causally associated with low political liberty and high involvement in intergovernmental organizations even if resource-related international cartels are excluded. The income from natural resources needs to be included in the analysis to control for possible endogeneity in such a logic. Similarly, the labor productivity in a country determines to what

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<sup>14</sup> Ross (1999), Rudra and Jensen (2011)



extent the mechanism of my theory applies. In economies with relatively high labor productivity, the incentive effect of taxation becomes more salient because the performance of the economy will hinge more on the initiativeness of labor which thus renders predatory taxation more devastating. By contrast, countries with low labor productivity, predatory taxation would not be as devastating to the political economic interests of the government, resulting in weaker incentives to remedy the problem with domestic or international solutions.

### 5.3 Econometric Analysis

#### 5.3.1 Data Generating Process and Model Specification

The dataset used for the analysis consists of observations from 153 countries between 1972 and 2005. Although my theory specifically addresses the international cooperative behavior of non-democratic regimes, the dataset includes accessible observations from all countries regardless of their regime types. My model predictions explicitly posit a negative relationship between political liberty and membership in IGOs among non-democratic regimes, but remain agnostic with regard to the domestic imperatives that motivate leaders in democratic regimes to cooperation internationally. Analysis of a global dataset enables me to compare results from different samples and detect empirically if the model predictions apply equally well in different political contexts. I start the analysis with a basic specification with a simple linear model describing the relationship between key variables. The model is generally specified as follows.

$$\begin{aligned}
 IGO = & \alpha \cdot Polity + \beta \cdot Integration + \gamma \cdot ExtractiveCapacity + \\
 & \eta \cdot Polity \times ExtractiveCapacity + \mathbf{Z}' \cdot \zeta + \varepsilon
 \end{aligned}
 \tag{5.1}$$

*IGO* is the number of IGO memberships of a country at a particular time of observation. *Polity* is the “Polity2” score of a country from Polity IV dataset (Marshall and Gurr 2013). *Integration* is the level of economic integration measured by “Primary Income Payment”, “Direct Investment” inflows, and “International Trade”. *ExtractiveCapacity* is measured by

the share of income taxes in total taxes. The interaction term  $Polity \times ExtractiveCapacity$  captures the conditional nature of the negative association between  $Polity$  and  $IGO$  membership as predicted by the theoretical model.  $\mathbf{Z}$  is a vector of control variables consisting of government consumption, natural resource rents, labor productivity, size of economy, development level, and total number of IGOs in the system. Coefficients  $\alpha, \beta$ , and  $\eta$  are of primary interests of the study. Based on the model predictions, interpretations and expectations of the sign of these coefficients are summarized in Table 5.1. Descriptive statistics of the dataset and sources of the data can be found in the appendix.

Table 5.1: Expected Sign of Key Coefficients

Coefficient	Expected Sign	Interpretation
$\alpha + \eta \cdot ExtractiveCapacity$	–	<i>Polity</i> and <i>IGO</i> membership are <i>negative</i> associated at given levels of Extractive Capacity.
$\beta$	+	<i>Integration</i> and <i>IGO</i> membership are <i>positively</i> associated.
$\eta$	–	<i>Higher</i> Extractive Capacity magnifies the <i>negative</i> correlation between <i>Polity</i> and <i>IGO</i> membership.

It is important to note the model so far specified in equation 1 and the expectations of the sign of coefficients in Table 5.1 (the first and third expectations particularly) follow an *observational*, instead of an *causal*, mechanism. Interpretation of the specification and coefficients of the model is an observational transcription rather than an direct capture of the causal model depicted in the theory. Focusing only on the observational outcomes of the mechanism, the empirical methodology used in succeeding analysis does not explicitly capture the causal dynamics underlying the *data generating process*.<sup>15</sup> It is, however, possible to characterize the underlying process that generates the observational data with

<sup>15</sup> Methods such as structural estimation and simultaneous equations providing ways of explicitly modeling the strategic causal process in the data generating process are left for future analysis.

a simple probabilistic model connecting the causal predictions in the formal model with the observational expectations. The stochastic process that transcribes the propositions of the causal model into expectations of observed outcome can be expressed by a very simple Markov Chain exhibited below.

The application of stochastic process here aims to bridge the gap between theoretical *causal* models and empirical analysis of *observational* data. I first set up a Markov Chain whose transition reflects the causal logic in the theoretical model. Then the *steady* or *equilibrium* state of the Markov Chain can be solved for which should match the observational outcomes. There are three states in the stochastic process where observations are generated, characterizing the features of individual regimes with regard to the level of political liberty and involvement in international institutions. *State 1* is *low* political liberty and *low* involvement in international institutions; *State 2* is *low* political liberty but *high* involvement in international institutions; *State 3* is *high* political liberty and *low* involvement in international institutions. Transitioning from *State 1* to *State 2* suggests the regime has resorted to international institutions for remedies for commitment difficulty, while transitioning from *State 1* to *State 3* suggests the regime has resorted to domestic liberalization for remedy. Letting the transitioning distribution in the stochastic process follow the causal propositions established in the theoretical model, I will be able to identify the pattern of association between the likelihood of reaching and staying in *State 2* and the likelihood of reaching and staying in *State 3*. The *transition matrix* of the Markov Chain is defined as :

$$T = \begin{bmatrix} 1 - 2p & p & p \\ k_1 & 1 - k_1 & 0 \\ k_2 & 0 & 1 - k_2 \end{bmatrix}$$

$p$  is a random variable representing the probability of *State 1* transitioning to *State 2* indicating political liberalization *or* transitioning to *State 3* indicating more IGO membership at  $t + 1$ . The expectation of  $p$  is an increasing function of extractive capacity, a

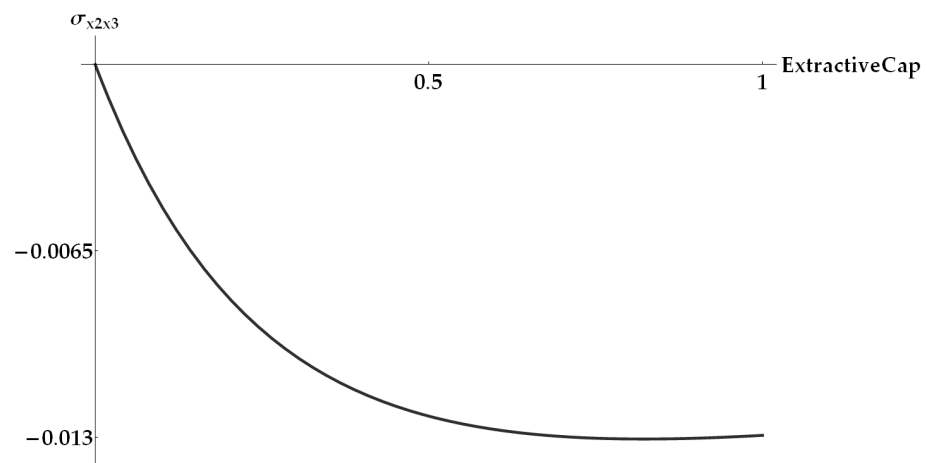


Figure 5.1:  $\sigma(x_2, x_3)$  in the steady state of Markov Process as Extractive Capacity varies.

result derived directly from proposition 3 in the theoretical model. Allowing the stochastic process to run over an infinite period of time would result in a steady state which is no longer changed when the transition matrix is applied. The steady state is characterized by vector  $X$ :

$$X = \begin{bmatrix} \frac{k_1 k_2}{p(k_1+k_2)+k_1 k_2} & \frac{p k_2}{p(k_1+k_2)+k_1 k_2} & \frac{p k_1}{p(k_1+k_2)+k_1 k_2} \end{bmatrix}$$

The second and third element of  $X$ ,  $x_2 = \frac{p k_2}{p(k_1+k_2)+k_1 k_2}$  and  $x_3 = \frac{p k_1}{p(k_1+k_2)+k_1 k_2}$  indicates the probability of *State 2* and *State 3* respectively as the distribution of three states converges to the steady state vector. Letting  $p$  follow the uniform distribution,  $U(e, 1 - e)$ , it is possible to calculate the covariance of random variables  $x_2$  and  $x_3$ ,  $\sigma(x_2, x_3)$ , which characterizes the pattern of association between  $x_2$  and  $x_3$ . Figure 5.1 plots  $\sigma(x_2, x_3)$  against extractive capacity in the steady state of the stochastic process and it is evident  $\sigma(x_2, x_3)$  remains negative in the range of extractive capacity and the absolute value of  $\sigma(x_2, x_3)$  increases as extractive capacity grows.<sup>16</sup> The fact that the probability of enhanced political liberty (*State 3*) and higher level of international involvement (*State 3*) negatively covary as the Markov process converges to the steady state suggests negative association between political liberty and international institutional involvement should be expected in the observational data. This method shows a simple way of connecting theoretical propositions of a strategic causal mechanism with observational outcomes with which standard empirical methodology can be applied without gaps in logic.

### 5.3.2 Cross-national Snapshots

Before delving into high level models of panel data, I present a series of cross-sectional models based on averaged data to illustrate the pattern of relationships in the dataset. Depending on the main dimension of variation in the dataset, cross-national models may provide a straightforward capture of the long-term equilibrium relationship between variables in the

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<sup>16</sup> Refer to Appendix A for details.

study. Taking advantage of the postestimation test done with the panel data models presented in later part of the chapter, it is suggested the total variation in the data is roughly equally shared within and between the units. Given the results of the cross-national models are generally consistent with those in the panel data models, the cross-national results can be properly used for illustrative purposes.

Table 5.2 presents regression results with the average number of IGO membership as the DV using sub-samples of democracies and non-democracies. The samples are also divided by the end of Cold War to examine the effect of the Cold War on the function of IGOs as credible commitment devices. It is well documented in the literature that geopolitical concerns considerably distorted the function and behavior of IGOs.<sup>17</sup> The effect of IGOs as effective hand-tying devices is thus expected to be weak during the Cold War. The results confirms the impact of Cold War on the commitment function of IGOs as the theory claim. First, “Polity Score” and membership in political economic IGOs are *significantly* and *negatively* correlated with each other *only* among non-democracies as the first regressions in panel A and B show. Consistent with my theoretical prediction, those countries falling into the category of “least democratic regime” of all are actually more involved in political economic IGOs than other non-democratic regimes with both sub-samples “1972-1991” and “1990-2005” of the dataset. In contrast, “Polity Score” does not show significant association with political economic IGO membership among democracies in regressions in panel A or B.

“Primary Income Payment” gains significance in three of the four regressions in Table 5.2 except for the regression with non-democratic samples between 1972 and 1991. With the sample from 1990 to 2005, “Primary Income Payment” is positively associated with political economic IGO membership among both democracies and non-democracies. “Primary Income Payment” is positively associated with political economic IGO membership among

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<sup>17</sup> Stone (2004); Vreeland (2003)

Table 5.2: Political Economic IGO Membership: Democratic Differences

	(A) 1972-1991		(B) 1990-2005	
	Non-Democracies	Democracies	Non-Democracies	Democracies
Polity Score	-.292** (.118)	.428 (.539)	<b>-.328*</b> <b>(.177)</b>	.444 (.524)
Primary Income Payment	-.139 (.458)	2.71** (1.17)	<b>2.83**</b> <b>(.828)</b>	2.09** (.57)
Direct Investment	-.211 (.186)	-1.4 (.737)	-.442** (.0759)	-.27 (.314)
International Trade	.032** (.014)	.006 (.044)	-.057** (.014)	-.0417* (.0214)
Income Taxation	7.55** (2.79)	7.56* (4.18)	7.75** (3.82)	.604 (4.08)
Polity Score×Income Taxation	-6.34* (3.93)	0.25 (0.38)	<b>-9.65**</b> <b>(4.46)</b>	0.53 (0.88)
Government Consumption	-.025 (.07)	-.142 (.138)	-.09 (.0903)	-.158 (.106)
Oil Revenue	-.767 (.367)	-.889 (.76)	-.275 (.328)	.109 (.104)
GDP(log)	.712 (.508)	.691 (.637)	.327 (.541)	.841* (.443)
GDP per capita(log)	-.258 (.713)	-1.01 (1.17)	-.141 (.806)	-.336 (1.16)
Constant	16.3 (4.75)	7.5 (10.2)	24.5 (5.45)	11.5 (7.37)
<i>Adj.R<sup>2</sup></i>	.18	.606	.238	.491
<i>N</i>	86	34	71	66
<i>F</i> -stat	2.9	6.63	7.82	7.98

non-democracies only between 1990 and 2005. Such a finding tends to confirm the prediction that countries experiencing high amount of income payment on current account are also more involved in international institutions and such prediction even applies to countries ruled by democratic regime. However, the other two measures of economic integration do not show the same pattern of correlation with IGO membership. “Direct Investment” is not a significant predictor of political economic IGO membership within either democracies or non-democracies between 1972 and 1991. Among the samples of non-democracies between 1990 and 2005, “Direct Investment” is actually negatively and significantly associated with political economic IGO membership. “International Trade” is not a significant predictor of IGO membership among democracies either between 1972 and 1991 or between 1990 and 2005. “International Trade” is a predictor of IGO membership among non-democracies but the sign of the coefficient switches from positive between 1972 and 1991 to negative between 1990 and 2005.

Thirdly, the interaction term “Polity Score $\times$ Income Taxation” is negatively associated with political economic IGO membership only among non-democracies in sub-samples “1972-1991” and “1990-2005”, which indicates the negative correlation between “Polity” and “Membership in Political Economic IGOs” will be greater in countries with relatively high extractive capacity. The coefficient of “Income Taxation” and its interaction term does not gain significance in regressions using samples of democracies either between 1972 and 1991 or between 1990 and 2005. Under a democratic regime, the presence of established well-functioning democratic political institutions regulating the behavior of the political authority in taxation could counteract the undesirable effect of growths in the extractive capacity of the state. The conflict between the predatory tendency in taxation stemming from growing extractive capacity and the political economic need to stay on the optimal taxation can be properly accommodated by democratic institutions without generating the need for the regime to reach out for external solutions. By contrast, domestic institutions under the auto-



cratic rule is unable to contain the predatory tendency derived from high extractive capacity and such a problem would have to be solved through either democratization or external institutional involvement. And given the samples of non-democracies are predicted by the theory to be those regimes choose to resort to international institutions, negative coefficient of the interaction term “Polity Score $\times$ Income Taxation” should well be expected.

The patterns of interactions among key variables can also be visually identified in Figure 5.2 through 5.5 where plots of the fitted values of locally weighted regression using samples of non-democracies from 1990 to 2005 are presented. I divide the non-democratic regimes into two groups, namely “Least Democratic” and “Less Democratic”. “Least Democratic” consists of non-democratic regimes with a polity score lower than the median of all non-democratic regimes and “Less Democratic” consists of non-democratic regimes with a polity score higher than or equal to the median.

In Figure 5.2, it is easy to see the positive association between “Political Economic IGO Membership” and “Primary Income Payment” is way stronger among countries falling into the “Least Democratic” category, indicating the effect of “Primary Income Payment” on “Political Economic IGO Membership” increases as a regime becomes even less democratic. In Figure 5.3, the fitted values of “Political Economic IGO Membership” is plotted against “Extractive Capacity”. The shape of the regression line shows that “Least Democratic” regimes are associated with more memberships in political economic IGOs than the “Less Democratic” regimes. In Figure 5.4, the fitted value of “Political Economic IGO Membership” is plotted against “Polity Score” with the samples divided into “High Extractive Capacity” and “Low Extractive Capacity” by the median of “Extractive Capacity” of all non-democratic regimes. The negative association between “Political Economic IGO Membership” and “Polity Score” is very strong among regimes in “High Extractive Capacity” category but less so among regimes with “Low Extractive Capacity”. Finally, Figure 5.5 sug-

gests negative association between “Primary Income Payment” and political economic IGO membership among regimes with high extractive capacity and positive association among regimes with low extractive capacity.

### 5.3.3 Panel Data Regressions

The panel dataset consists of observations on 153 countries between 1972 and 1990 is first analyzed with the following generalized Autoregressive Distributed-Lag (ADL) model specification:

$$\begin{aligned}
 IGO_{it} = & \sum_{n=1}^{l_1} (\rho_n L^n IGO_{it}) + \sum_{n=0}^{k_1} (\alpha_n L^n Polity_{it}) + \sum_{n=0}^{k_2} (\beta_n L^n Integration_{it}) \\
 & + \sum_{n=0}^{k_3} (\gamma_n L^n ExtractiveCapacity_{it}) + \sum_{n=0}^{k_3} (\eta_n L^n Polity \times ExtractiveCapacity_{it}) \\
 & + \mathbf{Z}'_{it} \cdot \boldsymbol{\zeta} + \boldsymbol{\varepsilon}_{it}
 \end{aligned} \tag{5.2}$$

where  $L$  is the lag operator and

$$\sum_{n=0}^{k_1} (\alpha_n L^n Polity_{it}) = \alpha_0 Polity_{it} + \alpha_1 Polity_{i,t-1} + \cdots + \alpha_{k_1} Polity_{i,t-k_1}.$$

$\boldsymbol{\varepsilon}_{it}$  in Equation 2 is the composite error term and  $\boldsymbol{\varepsilon}_{it} = u_i + \mathbf{e}_{it}$ , where  $u_i$  is country-specific effect and  $e_{it}$  is the idiosyncratic error.  $IGO_{it}$  is the number of IGO memberships that state  $i$  has at year  $t$ .  $\mathbf{Z}_{it}$  is the vector of control variables consists of government consumption, natural resource rents, labor productivity, size of economy, development level, and the total number of IGOs in the system. Incorporating such a lag structure into the model specification is relevant because the process of joining or quitting IGOs is usually arduous and most of the explanatory variables are unlikely to have instantaneous impact on the number of IGO membership a country has, leading to autocorrelated errors in regressions. It is also substantively interesting to examine the time structure of the causal mechanism. There are, however, methodological problems related with using the ADL model with the panel dataset such as the correlation between the lagged dependent variable and the structure of the composite error term for which I apply a number of different methods in remedying potential

defects.

Autoregressive Distributed-Lag specification is widely used but it is important to justify the model specification substantively before applying the appropriate methodology of analysis. ADL models can be derived from at least three substantive sources of model with distinctive time structures and assumptions. The first source is a transformation of finite *Distributed-Lag Model*. In such a model, coefficients of independent variables decay geometrically over a finite length of time. Applying Koyck transformation to the model results in an ADL model with a MA(1) error term. The second source is a transformation of a *Partial Adjustment Model* with a equilibrium function determined by variables spanning multiple periods. The third source is a transformation of a standard *Error Correction Model*. Although these different sources do not result in different model specifications, distinguishing these three sources of ADL specification is substantively important as it provides a guidance for applying the appropriate method. The first source of ADL with Koyck transformation brings a MA(1) error process which correlate with the lagged dependent variable by definition, resulting in violation of the *zero-conditional mean of errors* assumption. In such scenario, standard OLS method is no longer appropriate and the application of GMM estimator is in order. The second and third sources of ADL specification, by contrast, consistently result in an **i.i.d.** error term and OLS method can be properly applied.

Since the theoretical predictions to be tested here are built on a static theory, I remains agnostic with regards to which time structure of the three sources of ADL specifications the causal mechanism follows most closely. I nevertheless apply a number of different methods fitting the time structure in each sources of ADL specification to the analysis to evaluate the inconsistency in the estimates. I started with OLS estimator based on dynamic model specification and the move on to GMM estimator which are better in addressing endogeneity problem and the correlation between the lagged DV and the error term.

### 5.3.3.1 OLS, Within Effect, and Random Effect Model

If the Autoregressive Distributed-Lag specification in equation 2 is believed to reflect a Partial Adjustment mechanism or Error Correction process, regression analysis based on Least Squares methods can be applied without violating the *zero-conditional-mean-of-errors* assumption because the errors in the ADL model will be i.i.d. following the basic assumptions of Partial Adjustment and Error Correction. Partial Adjustment and Error Correction are different in characterizing the process of adjusting and reaching the equilibrium. In a Partial Adjustment mechanism, adjustments toward the equilibrium in every period is a constant portion of the distance between equilibrium and real value, while in Error Correction Model, the short term effect is divided into the instantaneous shift due to shifts in dependent variables and structural adjustment as reflected by the gap between real value and equilibrium value. Both mechanisms are possible in the context: the observed change in “IGO membership” in one period could reflect the impulse from instantaneous changes in the dependent variable plus the structural adjustment towards the equilibrium relationship expressed as  $\delta (IGO_{it} - IGO_{it}^*)$  where  $IGO_{it}^* = \alpha \cdot Polity_{it} + \beta \cdot Integration_{it} + \gamma \cdot ExtractiveCapacity_{it}$ . It is thus not theoretically unfounded to start the analysis with OLS based methods.

Table 5.3 reports the results from pooled OLS, within effect and random effect regressions on the membership of political economic IGOs between 1982 and 2005 using the global sample of countries. I start the analysis with a baseline model following the specification of equation 2 and include lagged key independent variables up to  $L^2$ . Coefficients on all  $L$  terms are reported and only coefficients on  $L^2$  are reported if significant with  $p$ -value  $\leq .05$ . The result of Breusch-Pagan test cannot reject the null hypothesis that the random intercept in the random effect model equals zero, suggesting the equivalence of random effect model with pooled OLS regression. The results of random effect model and pooled OLS is indeed

very close. The result of Hausman test, however, rejects the null hypothesis that random effect model produces consistent estimates as within effect model, suggesting one or more of the independent variables are correlated with the country specific effect,  $u_i$ , in the composite error term of Equation 2. The decomposed error term from the within effect regression shows the idiosyncratic error accounts for 40% of the error. While these test statistics tend to favor the within effect regression, results from the three regressions are fairly consistent with each other. In all three regressions, “Polity Score” and its lags are insignificant. The three measures of economic integration again display different results.<sup>18</sup> The second lag of “Primary Income Payment” is positive and significant in all three regressions. “Direct Investment” is negative and significant in all three regressions. “International Trade” is positive significant only in the within effect regression. “Income Taxation” and its lags are also insignificant in none of the three regressions. The results also show that “Oil Revenue” and “Labor Productivity” tend to be negatively correlated with membership in political economic IGOs and countries with higher levels of development have more memberships in political economic IGOs.

As a placebo test, I also run the exact same set of regressions on membership in IGOs with **non**-political-economic focus and low levels of institutionalization. The results are reported in Table 5.4. The significance of the key coefficients are expected to be weakened or eliminated given these IGOs are less likely to fulfill the function as external commitment devices. The results confirm the claim. The coefficient of “Primary Income Payment” and its lags is insignificant in all three regressions. This contrast suggests “Primary Income Payment” as a measurement of integration works very specifically in shaping a country’s the membership in political economic IGOs but not memberships in other type of IGOs. “Direct Investment”, interestingly, remains negative and significant in all three regressions

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<sup>18</sup> The three measurements of economic integration are simultaneously included in the model as there exists a substantive foundation suggesting trade, investment, and income payment function through different causal channels in the theoretical framework. See the discussion of measurement for details.

Table 5.3: Panel Results: Political Economic IGO Membership 1982-2005

	Pooled OLS	Within Effect	Random Effect
<i>L</i> .Pol-Econ IGO	.96** (.004)	.819** (.011)	.96** (.004)
Polity Score	-.104 (.095)	-.0747 (.094)	-.104 (.095)
<i>L</i> .Polity Score	.051 (.097)	.089 (.01)	.051 (.097)
Primary Income Payment	.077 (.186)	-.029 (.026)	.077 (.186)
<i>L</i> .Primary Income Payment	-.034 (.023)	-.042* (.022)	-.034 (.023)
<i>L</i> <sup>2</sup> .Primary Income Payment	<b>.035**</b> <b>(.015)</b>	<b>.029**</b> <b>(.011)</b>	<b>.035**</b> <b>(.015)</b>
Direct Investment	-.117** (.033)	-.097** (.033)	-.117** (.033)
<i>L</i> .Direct Investment	.012 (.046)	.0327 (.040)	.0121 (.046)
International Trade	.091 (.158)	.349** (.172)	.090 (.158)
<i>L</i> .International Trade	-.027 (.017)	-.017 (.018)	-.027 (.017)
Income Taxation	-.066 (.137)	-.055 (.171)	-.065 (.137)
<i>L</i> .Income Taxation	.141 (.148)	.191 (.17)	.141 (.148)
Government Consumption	-.225 (.254)	.015 (.639)	-.225 (.254)
Labor Productivity	-.398** (0.018)	-.326** (0.075)	-.398** (0.018)
Oil Revenue	-.324** (.096)	-.434 (.291)	-.324** (.096)
GDP(log)	.004 (.013)	-.605** (.139)	.004 (.012)
GDP per capita(log)	.088** (.036)	.948** (.203)	.088** (.036)
Total Number of IGOs	.004 (.011)	.273** (.021)	.004 (.011)
Constant	.666 (.408)	-5.58** (1.06)	.666 (.408)
<i>N</i>	2956	2956	2956
<i>F</i> -stat ( <i>pr.</i> )	—	976(0.000)	—
Wald $\chi^2$ ( <i>pr.</i> )	9872(0.000)	—	13815(0.000)
$\sigma(u_i)$	—	1.676	0
$\sigma(e_{it})$	—	0.912	0.9192
Breusch-Pagan test			
<i>pr.</i> > $\bar{\chi}^2$	—	—	1.000
Hausman test			
<i>pr.</i> > $\chi^2$	—	0.000	0.000

in Table 5.4, suggesting a suppressing effect of foreign investment inflows on memberships in all types of intergovernmental organizations. Also, three regressions in Table 5.4 tend to show that “International Trade” is negatively associated with memberships in non-political-economic IGOs. “Income Taxation” and its lags remain insignificant, suggesting the capacity of tax extraction does not have a direct impact on a country’s membership in all types of IGOs. Comparing results in Table 5.3 and Table 5.4 suggests previous findings regarding the effect of “Oil Revenue”, “Labor Productivity”, and “GDP per capita” on membership in political economic IGOs apply to the non-political-economic IGO membership.

### 5.3.3.2 Dynamic Panel Models

One of the methodological concerns with using OLS based methods with a dynamic model specification such as autoregressive distributed-lag (ADL) model in panel data analysis is the correlation between the lagged dependent variable and the composite error term. The correlated independent variable and errors by construction in the dynamic specification result in endogeneity and inconsistent estimates. Such problem is particular salient in panel dataset with relatively small  $T$ . The regression estimates presented in the previous subsection is potentially subject to this issue with  $T$  in the dataset smaller than one fifth of  $N$ . One straightforward remedy of the problem is first differencing the equation which removes the unit specific effect and using variables uncorrelated with the error term to instrument the differenced lagged dependent variable. Arellano and Bond developed a GMM estimator based on this idea that use the second and third lags of the dependent variable as instruments for the first difference of the lagged dependent variable in the regression.<sup>19</sup> The first column in Table 5.5 reports the results of regression using Arellano-Bond estimator with exact same model specification seem before. The findings are generally consistent with those from previous regressions using Least Squared based methods. While “Polity Score” remains

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<sup>19</sup> Arellano and Bond (1991)

Table 5.4: Non-Political-Economic IGO Membership: 1982-2005

	Pooled OLS	Within Effect	Random Effect
<i>L</i> .IGO Membership	0.9765** (0.0036)	0.8321** (0.0109)	0.9729** (0.0038)
Polity Score	-0.0000 (0.0167)	0.0059 (0.0171)	0.0009 (0.0167)
<i>L</i> .Polity Score	0.0133 (0.0164)	0.0311* (0.0169)	0.0137 (0.0163)
Primary Income Payment	0.0465 (0.0460)	0.0485 (0.0564)	0.0504 (0.0450)
<i>L</i> .Primary Income Payment	-0.0557 (0.0543)	-0.0530 (0.0469)	-0.0550 (0.0536)
<i>L</i> <sup>2</sup> .Primary Income Payment	0.0417 (0.0279)	0.0301* (0.0175)	0.0405 (0.0275)
Direct Investment	-0.0167** (0.0048)	-0.0139** (0.0041)	-0.0171** (0.0049)
<i>L</i> .Direct Investment	0.0021 (0.0049)	0.0057 (0.0045)	0.0018 (0.0050)
International Trade	0.0032 (0.0032)	0.0060** (0.0030)	0.0029 (0.0031)
<i>L</i> .International Trade	-0.0070** (0.0033)	-0.0036 (0.0029)	-0.0071** (0.0033)
Income Taxation	-0.1225 (0.2429)	0.0165 (0.2615)	-0.1263 (0.2433)
<i>L</i> .Income Taxation	0.1758 (0.2453)	0.1671 (0.2602)	0.1674 (0.2460)
Government Consumption	-0.0009 (0.0040)	0.0055 (0.0112)	-0.0010 (0.0042)
Labor Productivity	-0.0139** (0.0039)	-0.0320** (0.0108)	-0.0131** (0.0041)
Oil Revenue	-0.0056** (0.0021)	-0.0054 (0.0056)	-0.0060** (0.0022)
GDP(log)	0.0483* (0.0278)	-0.4674 (0.2870)	0.0571** (0.0291)
GDP per capita(log)	0.2668** (0.0756)	1.1206** (0.3741)	0.2690** (0.0784)
Total Number of IGOs	0.0008 (0.0018)	0.0479** (0.0035)	0.0014 (0.0018)
Constant	-0.1385 (0.7699)	-9.1153 (1.8786)	-0.2149 (0.7857)
<i>N</i>	2956	2956	2956
<i>F</i> -stat ( <i>pr.</i> )	—	976(0.000)	—
Wald $\chi^2$ ( <i>pr.</i> )	9872(0.000)	—	13815(0.000)
$\sigma(u_i)$	—	1.676	0
$\sigma(e_{it})$	—	0.912	0.9192
Breusch-Pagan test			
<i>pr.</i> > $\bar{\chi}^2$	—	—	1.000
Hausman test			
<i>pr.</i> > $\chi^2$	—	0.000	0.000



insignificant, “Primary Income Payment” once again shows positive and significant correlation with membership in political economic IGOs in its second lag. “Direct Investment” and “International Trade” are negatively associated with political economic IGO membership. “Extractive Capacity” remains insignificant in the regression.

A shortcoming of Arellano-Bond estimator is the fact that lags of the dependent variables are usually poor instruments for the differenced dependent variable, particular when the time effect is highly persistent, indicated by weak stationarity of the series in the model. Such problem is a potential concern for the dataset being used. To fix this problem, I use Blundell-Bond estimator<sup>20</sup> which adds lagged differences of the dependent variables as instruments in the GMM estimation to estimator the same model. The results are reported in column 2 and 3 of Table 5.5. The results from using Blundell-Bond estimator do not show structural change in the parameters. “Polity Score” becomes negative and significant in the last regression. “Primary Income Payment” shows positive association with political economic IGO membership while “Direct Investment” and “International Trade” continue to show negative correlation with membership in political economic IGOs. The second lag of “Extractive Capacity” turns positive in the Blundell-Bond estimation.

Table 5.6 explores the differences between regime types in the effect of regressors using the Blundell-Bond estimator and the same model specification of Table 5.5. Panel (A) reports the regression results with the dependent variable being the number of memberships in political economic IGOs. Most notably, in the first regression of panel (A), “Polity Score” has a negative and significant coefficient with the sub-samples of non-democracies. Meanwhile, the association between “Polity Score” and membership in political economic membership among democracies is insignificant in the second regression in panel (B). The lag of “Primary Income Payment” is positive and significant among both democracies and non-

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<sup>20</sup> Blundell and Bond (2000)

Table 5.5: Political Economic IGO Membership: Dynamic Panel Models

	Arellano-Bond	Blundell-Bond	Blundell-Bond(2S)
<i>L</i> .Pol-Econ IGO	0.7976** (0.0140)	0.8368** (0.0125)	0.8375** (0.0048)
Polity Score	-0.0041 (0.0109)	-0.0183* (0.0108)	-0.0184** (0.0043)
<i>L</i> .Polity Score	0.0075 (0.0100)	-0.0049 (0.0109)	-0.0036 (0.0044)
Primary Income Payment	0.0094 (0.0327)	0.0226 (0.0358)	0.0312* (0.0176)
<i>L</i> .Primary Income Payment	-0.0285 (0.0216)	-0.0089 (0.0232)	-0.0071 (0.0118)
<i>L</i> <sup>2</sup> .Primary Income Payment	<b>0.0399**</b> <b>(0.0172)</b>	<b>0.0453**</b> <b>(0.0218)</b>	<b>0.0408**</b> <b>(0.0090)</b>
Direct Investment	-0.0086** (0.0040)	-0.0113** (0.0050)	-0.0117** (0.0017)
<i>L</i> .Direct Investment	0.0025 (0.0039)	0.0005 (0.0048)	0.0001 (0.0010)
International Trade	0.0021 (0.0019)	0.0015 (0.0020)	0.0012 (0.0008)
<i>L</i> .International Trade	-0.0034** (0.0016)	-0.0059** (0.0019)	-0.0058** (0.0007)
Income Taxation	-0.1811 (0.1861)	-0.0898 (0.1859)	-0.1524 (0.1587)
<i>L</i> .Income Taxation	0.2703* (0.1512)	0.3584** (0.1575)	0.4100** (0.1989)
GDP(log)	-0.5173** (0.1648)	-0.2797** (0.1162)	-0.2991** (0.0518)
GDP per capita(log)	0.5584* (0.3223)	0.1234 (0.2182)	0.0911 (0.0740)
Government Consumption	-0.0037 (0.0095)	-0.0053 (0.0101)	-0.0069 (0.0048)
Oil Revenue	-0.0011 (0.0030)	-0.0038 (0.0040)	-0.0035** (0.0016)
Labor Productivity	-0.034** (0.015)	-0.011 (0.009)	-0.013** (0.003)
Total Number of IGOs	0.0303** (0.0023)	0.0190** (0.0018)	0.0192** (0.0004)
Constant	-3.4546* (1.9488)	-0.0228 (1.4026)	0.3388 (0.5371)
<i>N</i>	3557	3720	3720
Wald $\chi^2$ ( <i>pr.</i> )	20626(0.000)	25646(0.000)	16746(0.000)
Arellano-Bond test			
AR(1) <i>z</i> -stat ( <i>pr.</i> )	-9.252(0.000)	-9.272(0.000)	-9.331(0.000)
AR(2) <i>z</i> -stat ( <i>pr.</i> )	-5.997(0.000)	-5.988 (0.000)	-6.052(0.000)
Sargan test			
$\chi^2$ ( <i>pr.</i> )	1510 (0.000)	1800 (0.000)	1800 (0.000)

Table 5.6: IGO Membership: Regime Differences

	(A) Pol.Econ IGOs		(B) Non-Pol.Econ IGOs	
	Non-Democracy	Democracy	Non-Democracy	Democracy
<i>L</i> .Pol.Econ IGO Membership	0.8261** (0.0086)	0.6677** (0.0352)		
<i>L</i> .Non-Pol.Econ IGO Membership			0.8381** (0.0069)	0.7808** (0.0423)
Polity Score	<b>-0.0161**</b> <b>(0.0073)</b>	0.1006 (0.0674)	0.0296** (0.0070)	-0.1088 (0.1622)
<i>L</i> .Polity Score	0.0113* (0.0059)	0.0483 (0.0782)	0.0168** (0.0060)	-0.1037 (0.1353)
Primary Income Payment	0.0144 (0.0158)	0.3209** (0.1380)	0.0333 (0.0248)	-0.1021 (0.2879)
<i>L</i> .Primary Income Payment	-0.0100 (0.0129)	-0.5601** (0.1902)	0.0029 (0.0194)	-0.2102 (0.2879)
<i>L</i> <sup>2</sup> .Primary Income Payment	<b>0.0230**</b> <b>(0.0062)</b>	0.5002** (0.1420)	0.0135 (0.0211)	-0.0930 (0.2320)
Direct Investment	-0.0145** (0.0024)	-0.0425** (0.0131)	-0.0089** (0.0031)	0.0207 (0.0219)
<i>L</i> .Direct Investment	0.0017 (0.0019)	0.0345** (0.0149)	-0.0002 (0.0019)	-0.0401** (0.0180)
International Trade	0.0036** (0.0012)	0.0056 (0.0045)	0.0019 (0.0019)	0.0055 (0.0088)
<i>L</i> .International Trade	-0.0008 (0.0008)	-0.0090 (0.0062)	-0.0042** (0.0019)	-0.0030 (0.0127)
Income Taxation	0.2538** (0.1238)	-1.2201* (0.6408)	-0.0328 (0.3729)	-0.2997 (1.8646)
<i>L</i> .Income Taxation	0.0814 (0.1695)	0.7380 (0.4857)	-0.1122 (0.2159)	1.9539 (1.8896)
Polity×Income Taxation	<b>-0.0144**</b> <b>(0.0066)</b>	0.0087 (0.0078)		
GDP(log)	-0.4633** (0.0925)	0.3388 (0.3458)	0.5690** (0.0814)	0.7790 (0.5841)
GDP per capita(log)	0.0765 (0.1456)	0.7172 (1.1173)	-0.5164** (0.1946)	3.0699 (2.2238)
Government Consumption	-0.0026 (0.0054)	-0.0366 (0.0869)	-0.0277** (0.0043)	0.1747 (0.1405)
Oil Revenue	-0.0009 (0.0024)	-0.0084 (0.0082)	0.0013 (0.0013)	-0.0080 (0.0088)
Labor Productivity	0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Total Number of IGOs	0.0182** (0.0008)	0.0254** (0.0033)	0.0112** (0.0009)	0.0012 (0.0051)
Constant	1.9261** (0.8908)	-12.8716 (8.0026)	0.8295 (1.1813)	-26.6402 (17.9252)
N	2503	1217	2503	1217
Wald $\chi^2$ ( <i>pr.</i> )	111823(0.00)	177149(0.00)	264800(0.00)	161076(0.00)
Arellano-Bond test				
AR(1) <i>z</i> -stat ( <i>pr.</i> )	-8.847(0.00)	-4.257(0.00)	-5.233(0.00)	-5.364(0.00)
AR(2) <i>z</i> -stat ( <i>pr.</i> )	4.323(0.07)	3.683(0.04)	4.773(0.07)	3.029(0.02)
Sargan test				
$\chi^2$ ( <i>pr.</i> )	97.79 (1.00)	36.68 (1.00)	93.01 (1.00)	39.01 (1.00)

democracies. The coefficient of “Direct Investment” is again negative and significant among both democracies and non-democracies. “Income Taxation” has a positive coefficient in the first regression of panel (A) while its multiplicative product with “Polity Score” acquires a negative and significant coefficient. This finding is consistent with that of the cross-sectional analysis. A negative interaction term “Polity×Income Taxation” suggest stronger negative correlation between “Polity Score” and political economic IGO membership. Put differently, the marginal effect of “Polity Score” on political economic IGO membership is increasing as “Income Taxation” grows. The marginal effect of “Polity Score” is plotted in Figure 5.6.

#### 5.3.4 Discussion of Results

Several key findings underlie the analysis presented above. First, “Polity Score” and membership in political economic IGOs tend to be negatively correlated among non-democracies. Countries falling into the category of “the least democratic regimes” actually have more membership in “political economic” IGOs than other non-democratic regimes considered somewhat more democratic. Such a negative association between political freedom and involvement in international institutions is, however, insignificant among democracies as the analysis shows. Also, “Political Score” shows little impact on the membership in non-political-economic IGOs regardless of the regime type of countries. The mechanism connect political liberty and international institutional involvement works very specifically with a particular type of intergovernmental organization that has political economic focus and facilitate collective action among international actors in relevant issue areas.

Second, results reported in the above analysis suggest that different aspects of economic integration bring about divergent impacts on a state’s level of international institutional involvement. The “Primary Income Payment” measure captures specifically the global integration of value chain and the international mobility of factor productivity which tends

to be positively associated with membership in political economic IGOs, a result consistent with the predictions of my theory. This finding is partly applicable to democratic regimes as the analysis shows. Inflows of direct foreign investment measure superficially resemble the “Primary Income Payment” measure but lacks a dynamic characterization of the actually process and outcome of industrial integration across countries. Results of the analysis indeed show direct investment inflows have distinctively different impact on involvement in international political economic institutions. Unlike “Primary Income Payment” which raises the level of international institutional involvement, direct investment inflows tend to associated with lower levels of involvement in international institutions. The volumn of trade also tends to show negative instead of positive impact on institutional involvement, particularly among non-democratic regimes. These findings highlight the importance of distinguishing different aspects of international economic integration in assessing the political economic implications of economic globalization.

Lastly, the results suggest the extractive capacity of non-democratic regimes significantly shapes the pattern of association between political liberty and involvement in international political institutions. In line with the predictions of my theory, regimes lacking well-functioning democratic political system but have high capacity in extraction of revenue are more vulnerable to the efficiency loss incurred by the commitment difficulty and thus acquire a stronger incentive in fixing the problem with either domestic or international remedies. This explains the negative coefficient of the product of political liberty and extractive capacity in both cross-sectional and panel data regressions.

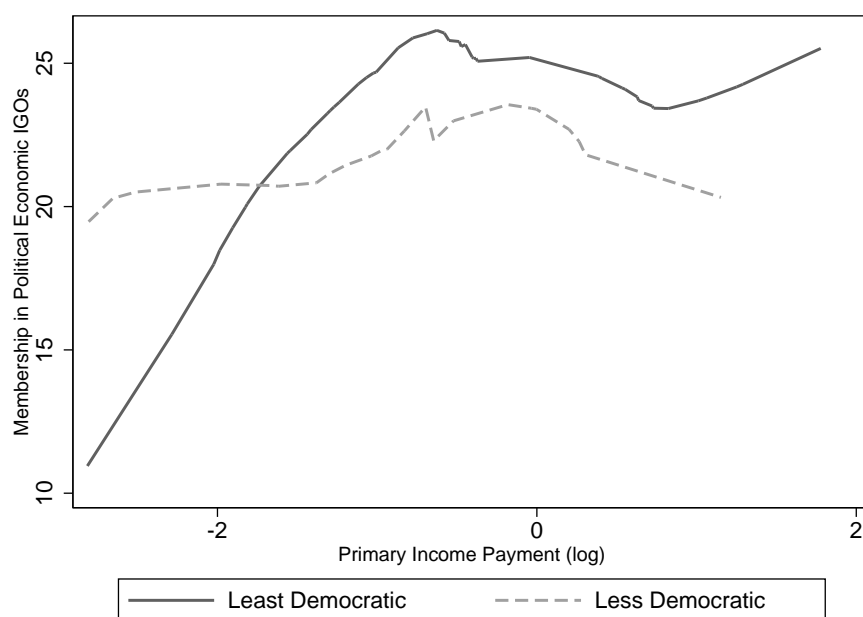


Figure 5.2: Factor Payment and Polity Score

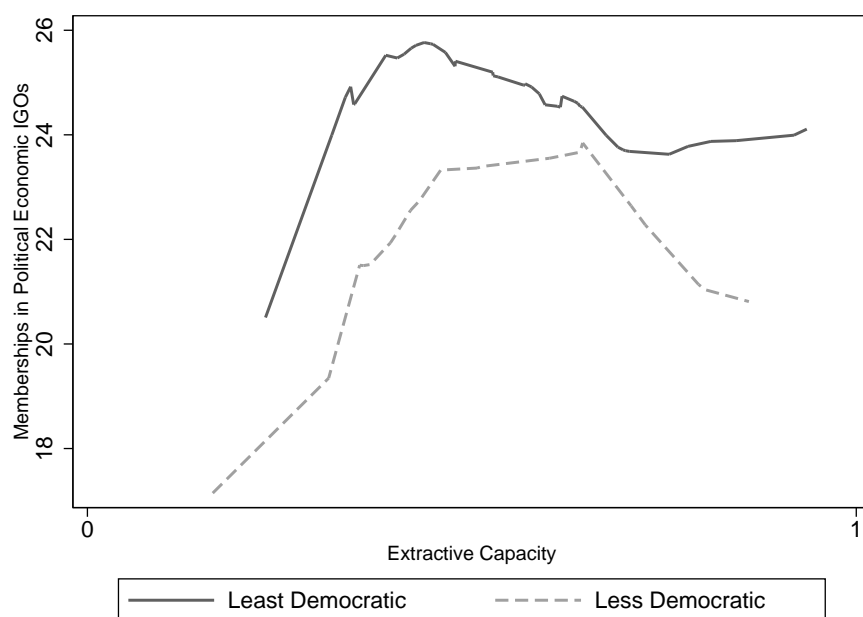


Figure 5.3: Extractive Capacity and Polity Score

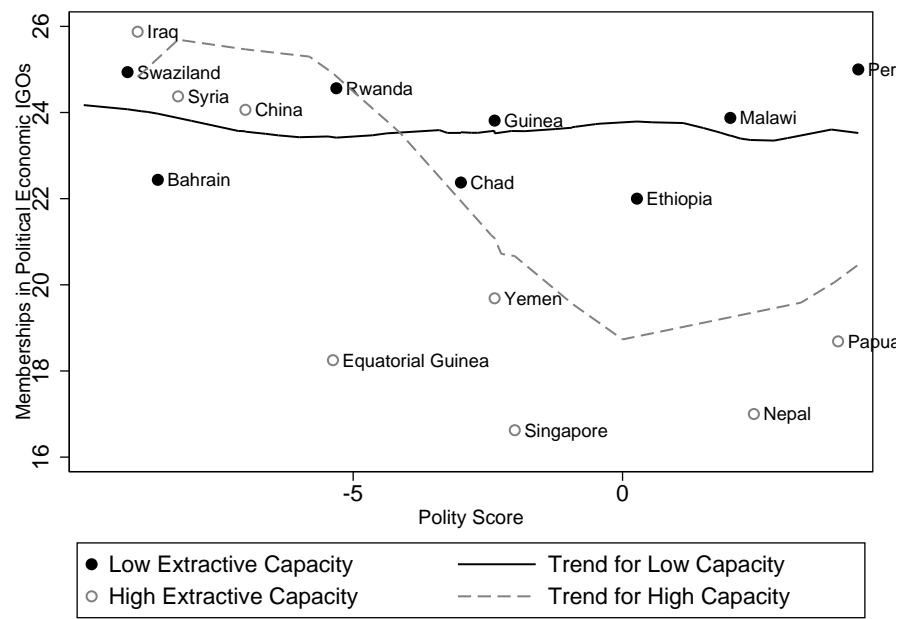


Figure 5.4: Polity Score and Extractive Capacity

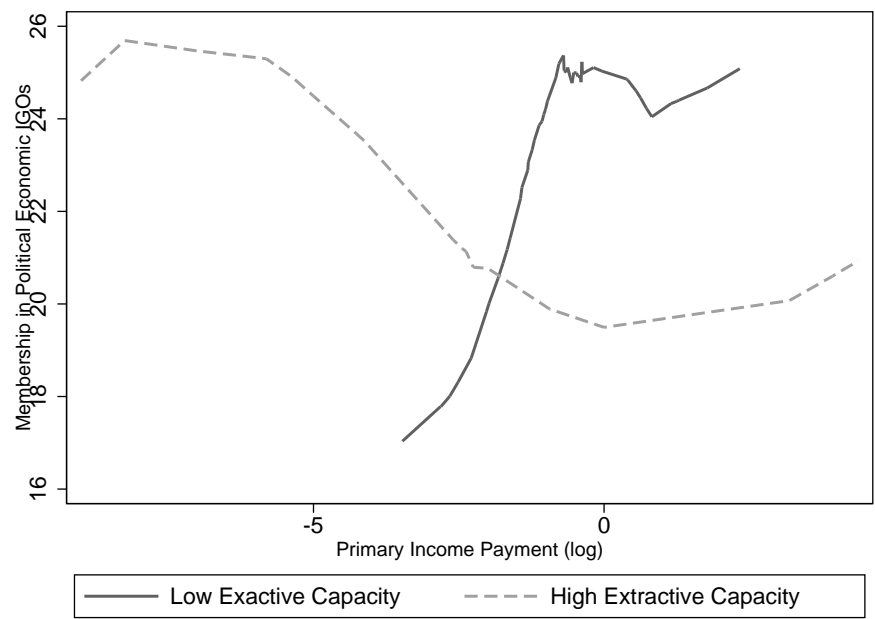


Figure 5.5: Primary Income Payment and Extractive Capacity

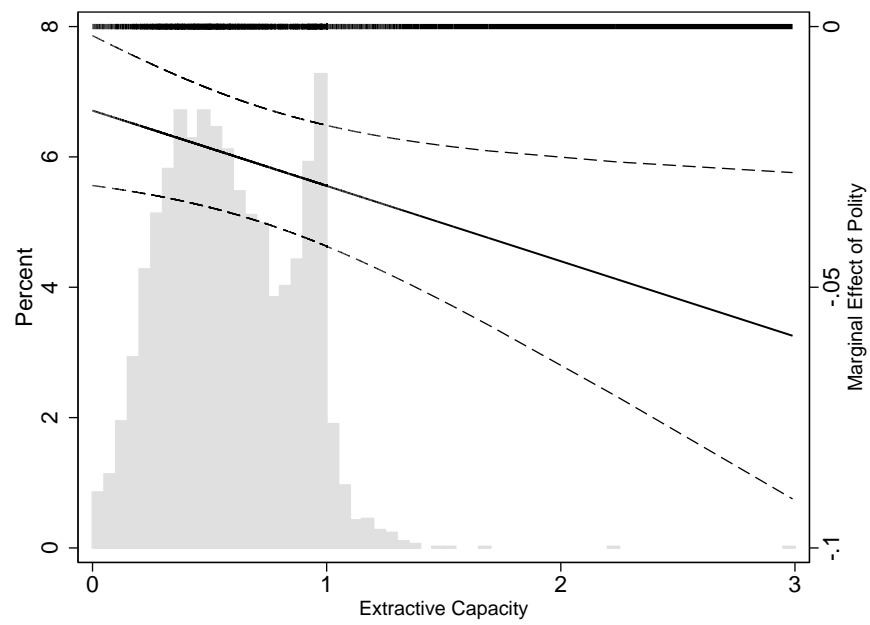


Figure 5.6: Marginal Effect of Polity on Membership in Political Economic IGOs: Non-democracies



## **Chapter 6**

### **Adverse Regime Change and New IGO membership**

The preceding chapter presents a series of time-series cross-sectional evidences that substantiated the hypothesized relationship between political liberty and the involvement in intergovernmental organizations. The results obtained in these analyses, however, are subject to the concern of the exogeneity of the independent variables. First and foremost, the collected data suggests that the regimes that have been both stubborn autocratic and highly involved in international institutions tend to concentrate in the Middle East and have rich reserves of natural resource. Such an observation would lead the observer to suspect the relationship between political liberty and IGO memberships is spurious. Scholars have long studied the negative association between natural resource wealth and political development. Also the economy of large exporters of natural resources tends to be dependent on international economic exchanges which generates stronger demand for participation in international institutions. The economic and political consequences of natural resource wealth, instead of commitment difficulties under non-democratic rules, would turn out to be an alternative explanation for the empirical puzzle.

To address this concern, this chapter presents an exogenous check of the causal claim by evaluating the impact of domestic political shocks on the timing of the acquisition of formal membership in institutionalized intergovernmental organizations. The main objective of the analysis of this chapter is to associate the occurrences of abrupt domestic political events

with the likelihood of new membership in IGOs. Within the theoretical framework laid out in earlier chapters, I particularly focus on political events that quickly and drastically re-structured the domestic political system and shifted the functioning of domestic institutions away from democratic principles and toward institutionalized autocracy.

Table 6.1: New IGO Membership by Occurrence of Adverse Regime Change

	<i>Adverse Regime Change</i> $t-1$	
	Yes	No
<b>Mean</b> [ <i>New Membership</i> $t$ ]	<b>.564</b>	<b>.395</b>
	(.080)	(.015)
<i>N</i>	39	1049
<b>t-test</b> ( $H_0$ : <i>difference in mean</i> = 0)	$t = -2.05^{**}(p = 0.046)$	

Data source: *COW-2 IGO Dataset*; *PITF State Failure Project*

Taking a sneak peek of the empirical formulation of the problem, Table 6.1 provides a comparison of the probabilities of obtaining formal memberships in institutionalized IGOs by the occurrence of abrupt political events that resulted in democratic backsliding in the previous year. Among all the country-year level observations across 33 years (1972-2005), the proportion of observations with new IGO membership given the adverse regime change took place in the previous year is much higher than that of the observations not preceded by adverse regime change events. Among the cases of adverse regime changes, 56% of them established new membership in institutionalized IGO in the following year, which is about 17% higher than that of the cases without adverse regime change. The difference is also significant at the 0.05 level level in the t-test.

The most prominent cases of such abrupt political events are *coups d'état* and *adverse regime changes*, the latter of which includes *executive self-coup* and autocratic backsliding. The common political consequences of these types of events rest in the dismantling of

democratic procedures and hand-tying institutions in domestic governance. *Coup d'état* is defined to be the forcible ouster of an established executive through military or military-backed means. While not all coups d'état immediately resulted in permanent change of the political institutions, the non-constitutional and oftentimes violent contest of power in the course of coups severely damaged the constitutional basis of the domestic political authority and resulted in an instantaneous concentration of power in the hand of the military or the party with the support from the military. *Adverse regime change* involves more permanent changes in the domestic political structures towards more autocratic authority. It could be an violent event that replaced the established government and institution with a highly centralized and authoritarian regime. It could also be *executive self-coups* which are events of “autocratization” initiated by the ruling executive. Both forms of adverse regime change induce *permanent* institutional changes that cutback the power of the legislature and judiciary while boosting the unilateral power of the ruling executive. The occurrence of such events significantly impaired the capability of the standing government in making credible commitments to future policies. Regimes recently experienced such events would then be compelled to find internal or external remedies for the impaired domestic commitment capability.

In connecting domestic political events with involvement in international institutions, the analysis in this chapter particularly emphasizes two prominent features of adverse regime changes. The first feature is whether such political events led to significant deterioration of political liberty and nullification of democratic institutions in domestic governance. Political events will negatively affect the functioning of liberal political institutions that are critical in underwriting the credibility of the standing government.

Second, the occurrence of such political events should not led to a complete collapse of the domestic political rule. The new authority or regime must retain sufficient control

of the political process and administer the social and political order effectively. In this sense, the distinction between *adverse regime changes* and events of *state failure* should be highlighted. Acquiring formal membership in intergovernmental organizations is usually an arduous process which requires extensive state capacity and administrative support. The domestic needs for external commitment devices will only be transmitted to turnouts at the international level if the occurrence of the political events did not breakdown the political and administrative capacity of the regime. Joining intergovernmental organizations can take years from the inception of the initiative to eventual signatory of the organization's charter. A set of durable rules and stable institutions after the adverse regime change is needed to accommodate the delay in the response to the domestic needs for external commitment devices.

The analysis in the rest of the chapter intends to explore the connection between coup d'etat/adverse regime change in particular year and the probability of acquiring new membership in institutionalized IGOs the subsequent years. The most prominent finding of the analysis is that the occurrence of adverse regime change is strongly and positively associated with the probability of new formal membership of the country in institutionalize intergovernmental organizations.

## **6.1 Abrupt Political Events and the Politics of Commitment**

Adverse regime changes, as defined in Marshall, Gurr and Harff (2006), are “major, adverse shifts in patterns of governance”. For the focus of the analysis here, the scope of adverse regime changes is limited to those resulted in “major and abrupt shifts away from more open, electoral systems to more closed, authoritarian system”. More concretely, events of adverse regime change could be identified by the record of significant and rapid deterioration of the democratic components of the political institutions over a very short period of time.

### 6.1.1 Coups D'etat

There exist several ways in which the adverse regime changes were induced and completed. The first and most standard way is coup d'etat. In the existing literature, a *coup d'etat* was conceptualized as the seizure of effective executive authority through the threat or use of force. Although coups could happen both in democracies and non-democracies, the key common defining feature of coup d'etat is the use of non-constitutional and forceful means by a small group of the state establishment in contesting for the executive power. The occurrence of coups is detrimental to the continuity and predictability in the domestic political institutions and policies. Although a lot of coups did not result in large scale violence and social disorder, Coups “can alter political process and social institutions as drastically as any class revolutions”.<sup>1</sup>

For coups taking place in democracies, the democratic institutions were stalled which leads a decreasing commitment capability of the government regarding future policies. By and large, Coup d'etat has been the single most important factor leading to the downfall of democratic governments. Accompanying coup is not just the illegitimate seizure of executive power from the elected government but also nullification of the functioning of independent and power-sharing legislature and judiciary. As elaborated in earlier chapters, these institutions are the critical elements in democratic politics that guarantee the creditworthiness of the government in economic policy making. The new regime would face tremendous obstacle in establishing credibility and commitment in the absence of such institutions.

Even in cases where democratic rules were put back in place after the coup in a timely manner, the impact of such event could still affect the ability of the new institutions in underwriting about the credibility of the government. The key resides in the importance of the

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<sup>1</sup> Gurr (1968)

continuity of the institutionalized governance to the dynamics of political reputation. Coup d'état interrupted the working of institutions and lead to a compromise of the belief that the domestic political rules under the democratic procedures are stable and durable. While the liberal institutions and rules could be re-installed after coups, the damages to the reputation of the authority and the domestic audience's confidence in the democratic institutions are permanent and may not be recover in a short period of time.

Coups d'état taking place in non-democratic regimes could also lower the credibility of the government in making domestic commitments, although through a different political channel from that in democracies<sup>2</sup>. While there are numerable cases where coups d'état were plotted with the purpose of overthrowing the authoritarian regime and installing electoral institutions, the majority aims to replace the current regime with another dictatorship. Such incidences spawned instability of the regime and led the domestic audience to question the durability of the political rule and hence the incentive of the regime in making forward looking policies. As a consequence, The newly installed regime by the coup would face greater difficulty in convincing the domestic audience of the credibility of the commitments made. This generates compelling needs for the new regime to acquire external commitment devices.

### 6.1.2 Self-Coups

Another form of adverse regime changes that led to deterioration of democratic institutions is initiated by the constitutional executive of the established regime. These events are termed *self-coup* or *autogolpe*<sup>3</sup>. Unlike coups d'état, self-coups were initiated by the executive who used illegal instruments to cutback the power of the independent legislature

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<sup>2</sup> Examples are the 1960 military coup in Turkey, the 1970 military coup in Cambodia, and 1996 military coup in Sierra Leone.

<sup>3</sup> Examples of elected state executive staging self-coup includes Ferdinand Marcos (Philippines, 1972), Juan Bordaberry (Uruguay, 1973), Robert Mugabe (Zimbabwe, 1982) and Alberto Fujimori (Peru, 1992).

while aggrandizing the power of the executive branch of the government. The political outcome of successful self-coups is close to that of coups d'état but the process and aftermath is different. Since self-coup is initiated by the executive who has established control of the state apparatus, the course of self-coup usually faces fewer obstacles and struggles.

The most critical difference between self-coups and coup d'état resides in the impact of the occurrence of such events to the political and administrative capacity of the regime. While coups d'état tend to result in political violence and compromise of state apparatus, self-coups incur much fewer permanent damages to the administrative capacity of the regime. As noted earlier, the administrative capacity of the country is a critical basis for reaching out to intergovernmental organizations and acquiring formal memberships.

It needs to be clarified here that other forms of political regime transitions and changes are excluded from the analysis here. They include regime changes caused by popular uprising or revolution, dissolution of state as a result of civil wars, internal failure of central authority, and occupation by foreign military forces. These causes of regime changes are associated with or induced by intense destruction of the political and administrative capacity of the state, which makes international institutions a futile remedy for the states and societies just experienced extraordinary devastation. Governments, in the aftermath of these regime changes, lack the capacity to initiate the process of acquiring new formal IGO memberships. Furthermore, commitments and duties stipulated as part of the new IGO memberships are less likely to be taken as credible and enhance lose the real function as commitment devices.

### **6.1.3 Foreign Influence and the Political Rule Following Adverse Regime Change**

One prominent aspect of the political trajectory following the occurrence of adverse regime changes is the influence from foreign actors. Most coup leaders were concerned in-

tensively about the foreign reactions to the political incidence and many rely heavily on the support from foreign actors in maintaining the post-coup political rule. In many cases, the coup entrepreneur made immediate effort to honor the existing foreign relations and commitments and obtain recognition from key world or regional powers. The durability of the political rule installed after coups crucially depends on the support and recognition the coup group received from international community.

International recognition and support is critical in stabilizing domestic political situations in two aspects. First, the regime installed by coups may rely heavily on the supply of funds and resources from foreign power. The material resources conveyed through recognition is instrumental in keeping the domestic situation under control. Second, relations with foreign powers constitute a set of external commitment devices that help calm the domestic audience in the aftermath of coups. Recognition from foreign powers, particularly those who are deeply involved in the countries political economy infrastructures, is effectively underwriting the credibility of the new government and send signals to the domestic audience regarding the trustworthiness of the regime.

There are, however, several limitations of the material support from foreign powers in stabilizing the domestic political rule after the regime change. First, material resources provided by foreign sponsors alone are unable to maintain domestic rule in the long run. The critical task the new regime is facing is to establish confidence in the government among the domestic audiences. The leader of the new regimes desperately need an external actor to vouch for the credibility and responsibility of the new government. Unilateral sponsors of the new government, who were frequently motivated by geopolitical and strategic considerations, are less likely to be regarded as credible and effective vouchers of responsibility of the new government with impaired credibility. The insufficiency in the unilateral sponsors in underwriting the governance of the new regime thus generated the need to look for more



effective external commitment devices.

For the same reasoning explicated in Chapter 3, multilateral intergovernmental organizations with high level of institutionalization in political and economy affairs are regarded as neutral external actors that could effectively constrain the power of the new government and enhance the domestic credibility of the regime. Institutionalized IGOs with functional focuses on political and economic issues assume particularly salient role in stabilizing the domestic economy in the political aftermath of radical regime changes. Formal memberships in institutionalized intergovernmental organizations most directly carried the function of solidifying the credibility of international commitments made to foreign stakeholders such as investors and creditors. Assuring the safety of the domestic assets owned by these foreign stakeholders is crucial for the new regime. It safeguarded the inflows of foreign investments and loans in the future which critically promote the external economic balance of the domestic economy.

More importantly, the presence of foreign stakeholders in the domestic economy consolidated by international commitment devices helped the new regime to establish confidence of the domestic audience in the responsibility and credibility of the government. The new government just experienced drastic political change just retained sufficient state apparatus and capacity would take commitments and duties made at the signatory as opportunity to strengthen the international and domestic commitment capacity of the new regime.

**Hypothesis 6.1.** *The occurrence of adverse regime change increases the probability of new formal membership in institutionalized political economic IGOs in the subsequent year.*

## 6.2 Data and Analysis

To test the hypothesis derived above, I use an expanded panel dataset based that used in Chapter 5 which adds a binary variable indicating if new membership in institutionalized IGOs were obtained in the year and variables recording the occurrence of adverse regime change events from the Political Instability Task Force Project Datasets and other sources. The main empirical model used is binary choice model for panel data.

### 6.2.1 Dependent and Independent Variables, and Measurement

The dependent variable of the analysis is a binary indicator variable recording if *any* new membership in institutionalized political and economic IGOs was obtained in each country-year observation. The scope of the IGOs classified as “institutionalized” and with “political economic functionality” is identical to that used in defining the main dependent variable in Chapter 5<sup>4</sup>. For the same reasoning explicated in Chapter 3 and 5, the causal mechanism underlying the hypothesis to be tested here resides in the institutional capacity and functional focus of intergovernmental organizations that provides a cost-effective solution to salvaging the credibility of the new regime.

The key independent variables used in the analysis is a binary indicator variable recording the occurrence of abrupt political events that resulted in the elimination or rapid deterioration of democratic components in the established political system over a very short period of time. The cases where the regime change resulted in a total collapse of the domestic political order and failure of state apparatus and administrative capacity, are excluded from being regarded.

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<sup>4</sup> For a theoretical discussion of the criteria used in classifying the types of intergovernmental organizations, see Section 2 of Chapter 3.

The key measurement of the autocracy-oriented political event comes from the *Adverse Regime Change dataset* in the *State Failure Project* published by the Political Instability Task Force (PITS). In this dataset, events of adverse regime change are identified by a “record of a six or more point drop in the value of a state’s POLITY index scores over a period of three years or less”. The occurrence of abrupt drops in POLITY index indicates “major shifts away from more open, electoral systems to more closed, authoritarian system”. The Adverse Regime Change dataset includes specific description of the political event leading to significant democratic backsliding. Such changes were accomplished by coup, fiat, or popular referendum. While recording the timing of such abrupt political events, the PITS dataset also codes two magnitude scales for each observation that quantify the damage the events caused to the democratic institutions and to what extent the authority and capacity of the central state was weakened. The first magnitude scale, MAGCOL, ranging from 1 to 4, measures the extent to which “democratic or quasi-democratic institutions are weakened or replaced, through the use or threat of force, by autocratic political institutions”<sup>5</sup>. This is the core conceptual aspect of the explanatory variable that captures the occurrence and magnitude of democratic backsliding.

The second magnitude scale, MAGFAIL, ranging from 1 to 4, measures the failure of the state authority in maintaining political order in “significant” parts of the country<sup>6</sup>. This magnitude scale provides a intuitive guideline for selecting and classifying cases by failure of political authority, enabling the separate treatment of cases with different degrees of state failure for reasons explicated earlier in the chapter.

By the combination of MAGCOL and MAGFAIL, I created a partition of the events

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<sup>5</sup> A score of 1 indicates “abrupt or disruptive transitions within autocratic political system”, whereas a score of 4 indicates “a fully democratic polity is forcefully replaced by an autocratic political system”.

<sup>6</sup> A score of 1 indicates “no significant weakening of state institutions or persistent collapse of public order”, whereas a score of 4 indicates “complete collapse or near-total failure of state authority”.

in the Adverse Regime Change dataset for the succeeding analysis. The group of events that is of the strongest interests of this study constitutes cases with high MAGCOL score and low MAGFAIL score. Thus, a binary indicator variable AUTO1 is created to record abrupt political events that witnessed the replacement of a democratic or quasi-democratic policy by an autocratic political system accompanied with no significant weakening of state institutions and political order. As a comparison, an indicator variable, AUTO2 that records the occurrence of all autocracy-oriented regime change regardless of the damages to political authority and domestic order is also created.

Another independent variable to be included in the analysis records the occurrence of successful coups d'état as well as attempted but failed coup d'état. Two sources of data are used: the first is the Coup D'état dataset maintained by the Center for Systemic Peace (Marshall and Marshall 2014). In this dataset, a coup d'état is defined as “forceful seizure of executive authority and office by a dissident/opposition faction within the country ruling or political elites that results in a substantial change in the executive leadership and the policies of the prior regime.” Auto-coups, ouster of leadership by foreign forces or rebel forces, and resignation of executive due to poor performance or loss of authority are not considered coups d'état in this dataset.

An alternative source of coup d'état data is that developed by Powell and Thyne (2011). This dataset also records both successful and failed coups d'état but the criteria in determining if an event is coup are less stringent than that used in Marshall and Marshall (2014). Most importantly, regimes changes induces by popular uprising and forced resignation of executives are effectively considered successful coup d'état.<sup>7</sup>

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<sup>7</sup> Taking the forced resignation of Hosni Mubarak from the Presidency of Egypt in 2011 as an example, the ensuing regime change is considered a coup d'état in Powell and Thyne's dataset but not in Marshall and Marshall's dataset.

### 6.2.2 Control Variables

While this chapter does not intend to provide a general analysis of all the factors affecting the probability of obtaining new IGO membership, several control factors are included in the empirical model to address the concern of potential bias caused by omitted variables. These factors are the total number of IGO membership, a binary regime type variable, the size of the economy, the per capital GDP, and the rate of economic growth. These factors are included in the analysis because they can be associated with both the occurrence of adverse regime changes and the probability of new IGO membership at the same time. For example, the type of political regime could possibly correlate with the occurrence of adverse regime change. It was suggested in the existing studies that non-democratic regimes are more susceptible to political instability and societal conflict which are regarded hotbed of coups d'état and other abrupt political events. At the same time, the major findings in Chapter 5 suggest non-democratic regimes could be more involved in institutionalized IGOs. Including the binary regime type variable would be helpful in alleviating the concern that the empirical pattern identified between coup d'état/adverse regime change and IGO membership is spurious. The rest of the control variables are included with similar consideration.

### 6.2.3 The Method

Since the dependent variable is a binary variable, binary choice models are used in the analysis. The main challenge of the empirical modeling comes from the panel data structure. Salient problems to be addressed properly in the analysis concern mostly the unobserved unit/country heterogeneity in the panel data. While time-varying confounding factors such as per capita GDP growth rate and regime type have been included in the control variables, there could exist unobserved yet stable characteristics of the state, economy, or society that are associated with both the DV and IVs. To this end, two methods are employed to accommodate the structure of the data. The first is conditional/fixed effect

Logit model, which are good for controlling for unit-specific characteristics that vary little over time in non-linear binary choice models.<sup>8</sup>

The second is Linear Probability Model (LPM) with fixed effect based on the OLS estimator. In the particular context of this study, LPM is regarded a relevant complement for MLE based binary response model for several reasons. First, LPM provides more robust control for unobserved unit effects, which is the predominant concern of the panel data used here yet retains desirable properties of the estimator. Second, the weakness of LPM in its linearity assumption and predictions is less of a concern here given the binary key explanatory variable. Admittedly, LPM may generate biased estimates if there is significant measurement error in the binary dependent variable, which would be a potential concern in this study.<sup>9</sup> Only if the majority of the predicted probability falls between 0 and 1 will this concern be alleviated. As discussed later, the results obtained with the LPM is generally consistent with those in Logit/Probit model, suggesting the appropriateness of the use of linear model in this context.

#### 6.2.4 Results

Table 6.2 presents the results of Conditional Logit Model and Linear Probability Model with the “Adverse Regime Change” as the key independent variable. In model (1), the lagged adverse regime change does not display a significant impact on the probability of new IGO membership. This result yet does not draw conclusive evidence of the effect of adverse regime change on new IGO membership. Model (2) through (4) suggests that the impact of adverse regime change depends on primary income payment as seen in the negative and significant interaction term “Regime Change<sub>*t-1*</sub> × Payment<sub>*t-1*</sub>”. This suggests that adverse

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<sup>8</sup> Conditional/fixed effect Logit models are regarded superior to other models for controlling for observed unit heterogeneity in the MLE family such as fixed effect Probit/Logit with dummy variables.

<sup>9</sup> This problem is particularly related to the classification of different types of IGOs to be included in generating the binary dependent variable.

Table 6.2: Adverse Regime Change and Probability of New IGO Membership

	Conditional Logit			Linear Probability	
	(1)	(2)	(3)	(4)	(5)
Adverse Regime Change $_{t-1}$	0.271 (0.36)	<b>15.783**</b> (6.88)	<b>15.634**</b> (6.93)	<b>3.318**</b> (1.13)	<b>3.285**</b> (1.18)
IGO membership $_{t-1}$	-0.136** (0.02)	-0.137** (0.02)	-0.137** (0.02)	-0.031** (0.00)	-0.031** (0.00)
Democracy $_{t-1}$	0.327** (0.12)	0.337** (0.12)	0.335** (0.12)	0.081** (0.04)	0.080** (0.04)
GDP $_{t-1}$	0.681** (0.14)	0.704** (0.15)	0.704** (0.15)	0.156** (0.04)	0.156** (0.04)
Per capita GDP $_{t-1}$	-0.556** (0.21)	-0.665** (0.22)	-0.664** (0.22)	-0.150** (0.05)	-0.150** (0.05)
Economic Growth $_{t-1}$	-0.007 (0.01)	-0.006 (0.01)	-0.006 (0.01)	-0.001 (0.00)	-0.001 (0.00)
Primary Income Payment $_{t-1}$		-0.314 (1.09)	-0.317 (1.09)	-0.061 (0.37)	-0.062 (0.37)
Regime Change $_{t-1} \times$ Payment $_{t-1}$		<b>-16.158**</b> (7.20)	<b>-16.116**</b> (7.20)	<b>-3.380**</b> (1.17)	<b>-3.367**</b> (1.18)
Regime Change $_{t-1} \times$ Democracy $_{t-1}$			0.150 (0.87)		0.028 (0.17)
Constant				0.727 (0.45)	0.727 (0.45)
N	4050	3969	3969	3973	3973

\*\* p&lt;0.05

regime change will more likely to increase the probability of new IGO membership when primary income payment is low. This finding runs contrary to that in Chapter 5.

Does adverse regime change actually have a significant effect on the probability of joining new IGOs in the subsequent year given the intervening effect of primary income payment? The answer, based on model (2) of Table 6.2, is positive. Figure 6.2 and 6.3 plot the effect of adverse regime change on the response function and predicted probability using the estimates in model (2). And it is shown that adverse regime change leads to significant raise in the probability of joining institutionalized IGOs only when the primary income payment is sufficiently low. The thick black intervals in Figure 6.2 and 6.3 stand for the range of the distribution primary income payment under which adverse regime changes would result in

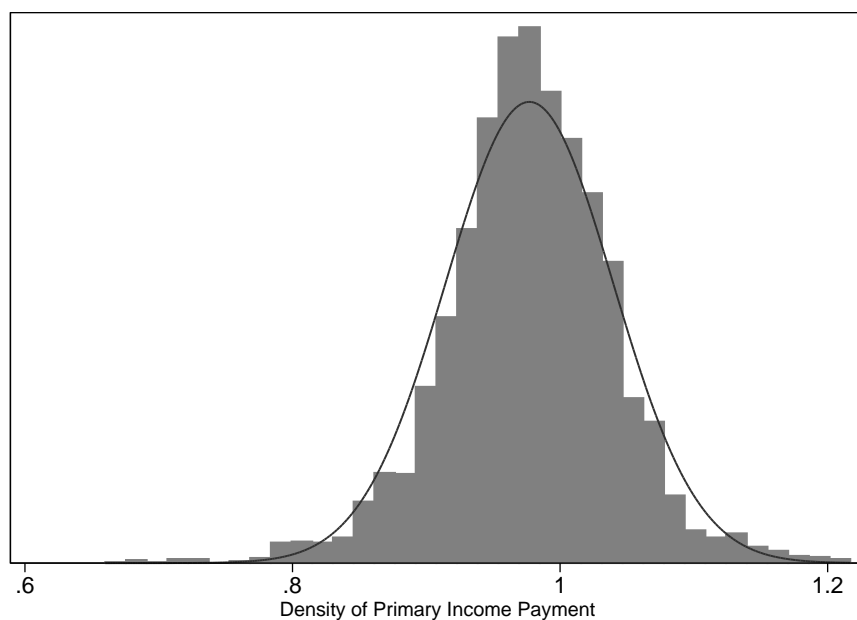


Figure 6.1: Empirical Distribution of Factor Payment

positive different in the predicted probability of new IGO memberships. Given the empirical distribution of primary income payment plotted in Figure 6.1, adverse regime change will raise the probability of new IGO membership in roughly 37% of the cases among the sample. Thus, the reason that adverse regime change does not gain significance is because most of the majority of the observations are with a primary income payment that is high enough to make the gross effect of adverse regime change insignificant from zero.

The results regarding the other control variables in the models in Table 6.2 are very consistent. Consistent with the existing knowledge, Lagged Democracy and GDP are positively correlated with new IGO membership.<sup>10</sup> IGO membership and Per capita GDP are negative associated with new IGO membership, which is consistent with intuition. Rate of economic growth and the interaction term consisting of Regime change and Democracy do not gain statistical significance in any of the models.

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<sup>10</sup> Mansfield and Pevehouse (2006)



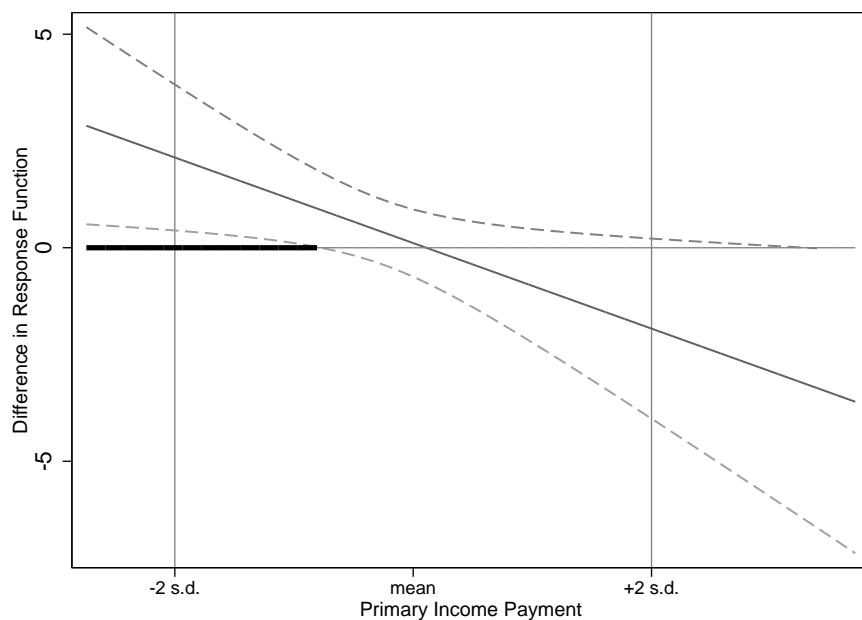


Figure 6.2: Difference in Response Function as Factor Payment Varies

As it was defined earlier, adverse regime change are abrupt political events that resulted in a rapid drop in the POLITY index of a country. While a lot of the adverse regime change are caused by coups d'état, many coups d'état did not incur *permanent* changes to the democratic or quasi-democratic institutions. Yet what is of interest here is if coups d'état have similar effect on the probability of new IGO membership as found in the previous set of analyses. Table 6.3 presents conditional logit models of the probability of new IGO memberships with the occurrence of coup d'état as the key independent variable using similar model specification to that in Table 6.2.

The most prominent findings in Table 6.3 is that coups d'état have a positive effect on the probability of new IGO membership in the subsequent year and this effect is independent of the factor payment. In model (1) and (3) of Table 6.3, the coefficient of the lagged Coup is positive and significant, whereas in model (2) and (3) where factor payment and its

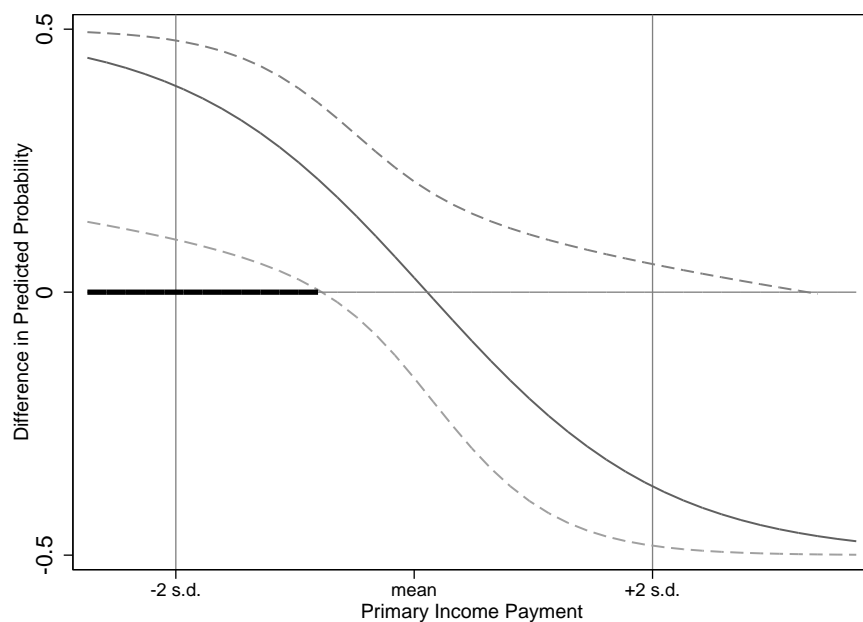


Figure 6.3: Effect of Adverse Regime Change on New IGO Membership

interaction with coup is included, neither the coup nor the interaction term is statistically significant. This finding is robust across the two different source of data on the occurrence of coups d'état. The signs and significance of the control variables are also highly consistent with those in Table 6.2.

The difference in the findings regarding the effect of adverse regime changes and coups d'état merits treatment. As the results of the statistical models suggest, both Coup D'état and Adverse Regime Change compromise the credibility of the political authority and prompt the new regime to resort to IGO membership as an external commitment device to some extent. This finding is consistent with the theoretical expectation explicated earlier in the chapter that elaborates the mechanisms through which the democratic or quasi-democratic institutions are impaired and the commitment capability of the political authority is harmed. The fact that the interaction term consisting of abrupt political events and economic interdependence is only significant for adverse regime changes, however, suggests close economic

Table 6.3: Coup D'etat and Probability of New IGO Membership

	Powell& Thyne		Marshall& Marshall	
	(1)	(2)	(3)	(4)
Coup <sub>t-1</sub>	<b>0.505**</b> (0.232)	5.072 (4.688)	<b>0.556**</b> (0.239)	4.060 (4.136)
IGO Membership <sub>t-1</sub>	-0.137** (0.015)	-0.139** (0.016)	-0.137** (0.015)	-0.138** (0.016)
Democracy <sub>t-1</sub>	0.367** (0.116)	0.407** (0.119)	0.371** (0.116)	0.404** (0.119)
Size of Economy <sub>t-1</sub>	0.690** (0.139)	0.720** (0.149)	0.689** (0.139)	0.718** (0.149)
Per capita GDP <sub>t-1</sub>	-0.565** (0.210)	-0.669** (0.225)	-0.562** (0.210)	-0.667** (0.225)
Economic Growth <sub>t-1</sub>	-0.007 (0.006)	-0.005 (0.006)	-0.007 (0.006)	-0.005 (0.006)
Primary Income Payment <sub>t-1</sub>		-0.302 (1.098)		-0.287 (1.101)
Coup <sub>t-1</sub> × Payment <sub>t-1</sub>		-4.526 (4.839)		-3.487 (4.287)
Coup <sub>t-1</sub> × Democracy <sub>t-1</sub>		-0.405 (0.759)		-0.193 (0.941)
N	4050	3936	4050	3936

\*\* p&lt;0.05

linkages with foreign stakeholders may substitute for external commitment devices under scenarios where the damage to democratic institutions in turbulent political times is permanent and significant.

While the theoretical argument developed in this thesis cannot immediately accommodate this finding, there exists a plausible conjecture for the underlying rationale. In short, economic independence can substitute for external institutional remedies only when the foreign stakeholders' interests are severely threatened by the abrupt domestic political change. If the foreign stakeholder's interests are only marginally impacted by the occurrence of abrupt political events, foreign powers will lack the incentive to intervene and act as the external enforcer of commitment on an *ad hoc* basis. At the same time, one has reasons to believe that adverse regime changes that caused more permanent and irreversible damages to democratic

or quasi-democratic institutions than most coups d'état, and hence constitute greater threats to the business interests of foreign powers. The damages to the credibility of the authority in economies with tight foreign economic linkages are thus more likely to be absorbed and remedied by the *ad hoc* intervention from foreign powers.

On the other hand, coups d'état presented smaller risks to foreign business interest yet still compromised the domestic commitment credibility of the authority. Given that *ad hoc* interventions from foreign power is not likely, the new authority after coups d'état would resort more to institutionalized remedy provided by intergovernmental organizations. Consequently, the level of economic interdependence would make little difference to this trade-off.

### 6.3 Concluding Remarks

This chapter functions as an additional check of the causal mechanism connecting domestic political institutions with international institutions. The analysis is centered on the impact of abrupt political events whose occurrence and outcome could be regarded more exogenous than the variable measuring regime type in Chapter 5. While the analyses in this chapter does not replicate all the empirical findings in Chapter 5, they focuses on testing the key effect exogenous shocks to the domestic political institutions on the involvement in international institutions. The results of the statistical modeling confirm the positive impact of adverse regime change and coup d'état on the probability of joining institutionalized political economic intergovernmental organizations. While the finding pertaining to the interaction of economic interdependence and regime change somewhat contradicts the finding in Chapter 5, the results suggests there are more analyses to be conducted to fully account for the problem identified.

In a broader research context, this chapter independently constitutes a research initia-

tive that complement the existing studies of regime change and international institutions. The major findings of this chapter speak particular relevant to the study of IO membership by Mansfield and Pevehouse (2006). Both the studies are set up in a very similar empirical framework to address a common question: how do regime change affect the incentive of joining international institutions? The specific empirical strategy differs nevertheless between the two studies which leads to different findings and answers to the question. Mansfield and Pevehouse found that regimes experiencing transition from autocracy to democracy tend to join more IGOs. They also found that regimes experience democratic backsliding has no significant impact on the tendency to join IGOs.

The discrepancy of findings originates from two aspects of the empirical strategy. The first is the focus of IGOs in the study. Mansfield and Pevehouse used the universe of all IGOs in the COW-2 dataset while this study limits the focus to those with high levels of institutionalization and substantive focus on political and economic issues. The narrowed scope of intergovernmental organizations in this study is theoretically justified – the attributes of IGOs as stipulated are closely related to the core conceptual component of the causal theory, commitment difficulty. While Mansfield and Pevehouse also mentioned the commitment function of IOs in developing their hypotheses, the wide scope of IOs in functions, areas, and institutionalization blur the connection between the theoretical argument and their empirical strategy.

The other aspect of difference is the operationalization of adverse regime change. Mansfield and Pevehouse coded the dummy variable of regime change based on POLITY index but without particular inference to the event that results in the political change. The event-based strategy of this study comes with several advantages. The operationalization of regime changes by abrupt political events is more likely to be regarded exogenous as these events happens abruptly and the success of these events, particular coup d'état, is fairly random.

This design of empirical strategy more closely captures the *treatment* effect and hence better copes with the concern about the endogeneity of the regressors.

## **Chapter 7**

### **Conclusion**

Focusing on the distinctive domestic political economic mechanism underlying the participation of non-democratic regimes in institutionalized cooperation, this dissertation seeks to develop a political economic theory that explains the variation among non-democratic regimes in the level of involvement in international institutions and its implication for the path of domestic political development. The theory generates propositions for empirical analysis which will be conducted in the following chapters. A coarse comparison of the process of political development in countries in Middle East with countries in Latin America from the 1970s to 1990s constitutes a primitive qualitative illustration of the fundamental insights of the model. After arduous struggles with military dictatorships, most countries in Latin America accomplished their regime transitions to democracy by the early 1990s. Meanwhile most of the Middle East and North African states remain ruled by non-democratic regimes.<sup>1</sup> Because of their distinctive economic structure, Middle East countries are usually of high levels of foreign economic exposures, measured by the volume of trade and the presence of foreign investment.

In contrast, Latin American countries were significantly less exposed to global integration as a result of the Import Substitution Industrialization strategy that had prevailed in the region for almost half of the 20th century. Also, as the example of Egypt and Chile

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<sup>1</sup> Countries recently attempted democratic transitions are still struggling even for the consolidation of the social order and it is very unclear if transitions will be successful.

suggests, Middle East countries have been more involved in institutionalized cooperation than states in Latin America. Such patterns of association suggested in the comparison is consistent with the core predictions of my theoretical model regarding the international economic exposure, involvements in international institutions, and the domestic political liberty: Non-democratic regimes with high levels of exposure to the global integration are more likely to survive by taking part in institutionalized international cooperation.

## **7.1 Contribution and Implications**

The theoretical enterprise in this dissertation makes contributions in both theoretical and policy aspects to the study of international cooperation and domestic political change. Theoretically, the argument seeks to fill the gap in extant research in autocratic regimes' cooperation behavior by unpacking the domestic imperatives underlying non-democratic regimes' involvement in international institutions. Understanding the mechanism of authoritarian states' involvement in international institutions is also important from the policy standpoint because such an understanding illustrates more dynamically how international institutions and cooperation structurally alter the mechanism of domestic political economy under the autocratic rule, shedding light on the importance of effective patterns of institutional design of international organizations and foreign policy making that could help improve the practice of domestic governance and precipitate political change in authoritarian regimes.

One of the implications of the theory developed here regards the effect of international institutions in alleviating domestic political economic sub-optimality. Following the early insights of Neo-liberal Institutionalism, IR scholars have produced theoretical and empirical studies that assess the role of international institutions in improving the efficiency in interstate interactions, primarily through precipitating enforcements, enhancing information, and facilitating communication and coordination. Taking one step forward, the theory developed in this dissertation explores how the way that international institutions function



at the interstate level interacts with domestic political economy and institutions. As has been demonstrated, the presence of international institutions as devices that make international collective actions and coordination more achievable looms large on the dynamics of political economy under the autocratic rule in the background of economic globalization. Through empowering international stake holders, international institutions enhance the self-enforceability of domestic political contract, and therefore correct the distortionary effect of skewed political power distribution and the inefficiency incurred. This thesis constitutes a distinctive development of Neo-liberal Institutionalism that explores the domestic efficiency-enhancing effect of international institutions as a form of positive externality of the international function of institutions.

Another implication drawn from the argument reads that international institutions and cooperation could, under certain conditions, enhance the domestic accountability of non-democratic government. It is worth-noting that although there have been studies explaining democratizations of non-democratic regimes as the result of involvements in international organizations (Mansfield and Pevehouse 2006), the mechanism through which the international organizations and institutions function as the catalyst for political transformations has been theoretically ambiguous. The argument in this dissertation suggests that the dynamics connecting the political economic structure in non-democracies and international cooperation could consolidate authoritarian rule and in the meantime enhance domestic accountability of government in the short run. The long term impact of the international involvement of authoritarian regime on the domestic political institutions, however, remains unclear. Will the authoritarian rule consolidated by international involvement sustain in the long run, or will the enhanced domestic accountability of government serve as a starting point for a gradual transformation of domestic political institutions toward decentralization of political power? These are questions to be addressed in the future research.

Econometric analysis conducted in this dissertation identifies statistical evidences supporting the theoretical predictions of the formal model that applies specifically to the participation of non-democratic regimes in a well-defined form of institutionalized cooperation: membership in political economic intergovernmental organizations. Most importantly, results of the analysis show political liberty and involvement in political economic IGOs are negative associated with each other among non-democratic regimes and the association is particularly intense among regimes with relatively high extractive capacity. Moreover, non-democratic regimes experiencing high international mobility of factor productivity, measured by primary income payment in the current account are associated with higher level of involvement in political economic IGOs. Not all of these findings, as the analysis shows, are generalizable to democratic regimes. Although the results seem to suggest the most democratic regimes among democracies are associated with more memberships in non political economic IGOs, there is a lack of evidence in the analysis showing political liberty and involvement in political economic IGOs are associated among consolidated democratic regimes. Also, extractive capacity does not show significant conditioning impact on the marginal effect of political liberty on IGO membership among democracies. The analysis does show the finding that primary income payment raises involvement in political economic IGOs among non-democracies is also present among consolidated democracies. The other two measures of economic integration also show similar impacts on political economic IGO membership in democratic regimes as those in non-democratic regimes.

## **7.2 Future Agenda**

The theoretical foundation of the empirical analysis is built explicitly with a model that specifically addresses the peculiar political economic dynamics under non-democratic rules. Hypotheses in the design of the empirical research are therefore formulated to reflect the mechanism in the specific context of non-democratic regimes. As the empirical results display discrepancies in the validation of the theoretical expectation between democratic

and non-democratic regimes, the need emerges that calls for an unified theoretical framework capable of accounting for the strategic domestic incentives under the involvement in institutionalized cooperation in a variety of political contexts. While this dissertation tackles strategic domestic incentives of cooperation in non-democratic regimes, there has been a growing field of research developing theories of strategic motivation underlying the participation of democracies in international institutions. Some of the examples are Downs and Rocke (1995), Mansfield, Milner, and Rosendorff (2002), and Fang (2008). These studies focuses primarily on strategic information problems in consolidated democracies. To unify these theories for democratic and non-democratic regimes, future research should address theoretically the sources of strategic problems in a continuum of political spectrum that encompasses both democracies and non-democracies.

A potential methodological concern in the research design of the empirical research are to be addressed in future studies. The theoretically model from which hypotheses are derived does not posits the causal direction of the relationship between political liberty and involvement in international institutions. The negative association between political liberty and international institutional involvement identified in the empirical results is interpreted (in the simple Markov Chain presented earlier) as the causal outcome of a lack of domestic commitment device that calls for international remedy. But neither the theory nor the empirics is able to reject the possibility of a reverse causality at work. That is, if somehow a non-democratic regime increases the level of involvement in international institutions for some idiosyncratic reasons, it is possible that the trajectory of domestic political development will be changed thereafter. If the causality in the opposition direction is plausible, the application of a single equation model specification in the estimation becomes problematic given the correlation between political liberty as one of the regressors and the errors. In the presence of this problem, the estimated coefficients likely to display a upward bias. One way to fix this bias is using a system of equations estimation that captures the equilibrium state

of the causality in both directions, which is left for follow-up research in the future. Using simultaneous equations estimations not only mitigates the endogeneity issue but also may produce substantive findings regarding the nuances in the causal mechanism that are not characterized in the theoretical model.

#### **7.2.0.1 Theoretical Extensions: Domestic Political Structures and Patterns of International Cooperation**

One extension of the theoretical model regards the integration of democratic regimes into the theory which provides a more general understanding of the linkage between domestic politics and international cooperation. The theoretical foundation discussed above is built explicitly on a model that specifically addresses the peculiar political economic dynamics under non-democratic rules. The core of the theory is centered on the weak commitment capability of autocrats which induces time-inconsistent policy. Empirical analyses accomplished so far indeed suggest that results identified among non-democratic regimes cannot be replicated using the sample of states with fully consolidated democratic political systems. The next step of the project is to develop an unified theoretical framework capable of accounting for the strategic domestic incentives underlying that international cooperative behavior in a variety of domestic political contexts. More specifically, the unified model should capture how the strategic problems in the domestic political arena stemming from different political structures shape the needs for the leaders to reach out for assistance from different types of international institutions.

While the theory of cooperation developed here highlighting the commitment difficulty and time-inconsistency under non-democratic rules, it is well established in the political accountability literature that the political efficiency in democratic regimes is more frequently compromised by informational problems, such as adverse selection and moral hazard.<sup>2</sup> More

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<sup>2</sup> Ashworth (2012) provides a synthetic overview of the literature.

importantly, there has not been theoretical work rigorously exploring the source of political inefficiency in a generalized political model encompassing a variety of political systems. Borrowing the framework from ?, the next project would be the development of a principal-agent model where the concentration of political power could vary, characterizing democratic and autocratic regimes. Such a model would allow me to endogenously derive the sources of political inefficiency under different power distributions. When the power is highly concentrated in the hands of the agent, as seen in an autocratic system, incomplete information on types and behavior tends not to be the main source of inefficiency whereas time-inconsistency claims most of the distortion of efficiency. As the political power becomes more evenly distributed between the principal and agent, suggesting a move toward democracy, time inconsistency weakens and informational problem becomes a dominant source of political sub-optimality. One conjecture such a model derives is that when states resort to international institutions to remedy domestic political inefficiency, autocratic regimes are more likely to join institutions that impose constraints on policy behavior such that time-inconsistency can be alleviated, whereas democratic regimes are more likely to join institutions functioning as informational devices that send credible signals about types and behavior of the incumbent to the domestic audience.

#### **7.2.0.2 Empirical Extensions: Do International Institutions Enhance Domestic Economic Performance?**

One of key insights of my original theoretical model is that memberships in international organizations enhance efficiency in domestic political economy. Such a claim, which is central to the empirical argument underlying the negative association between domestic political liberty and international cooperation, is yet to be directly tested. My theoretical model equates the economic efficiency with the political survival of the ruler, which is a somewhat unrealistic assumption to make. Cases are ubiquitous where the autocratic

regime manages to survive due to factors unaccounted in my theory despite the regime's poor economic performance. Taking into consideration these idiosyncratic factors prolonging or shortening the regime survival, a positive relationship between the involvement in international institutions and the economic performance under the autocratic rule should be expected. That is, among the most illiberal regimes which managed to survive, those more involved in political economic IGOs are expected to have better performance in economic growth than those less involved in international institutions.

A follow-up research project is in order which empirically evaluate the impact of political economic IGO memberships on the economic performance of non-democratic regimes. To provide further support for the theory in this dissertation, the project would seek to identify evidences suggesting non-democratic regimes with high involvement in political economic IGOs or relatively high political liberty outperform other non-democratic regimes in economic growth. Such a finding, if corroborated by further analyses, carries salient implications upon the impact of international institutions on the domestic economic governance. Along with the theoretical foundation articulated earlier, I could argue with rigorous theoretical reasoning and empirical evidences that international institutions not only improve inefficiency in international interactions but also induce better domestic governance in countries with weak institutions and brings about productive economic outcomes.

## **.1 Time-inconsistency and Commitment: A Basic Game Theoretical Formulation**

If the ruler and the domestic producer move simultaneously, given the utility function of the ruler and the domestic investor provided in (1) and (2), the first order condition

establishes the following simultaneous equations:

$$\begin{cases} \ell(\tau) = \frac{(1-\tau)}{\gamma} \\ \tau(\ell) = \frac{\ell}{\mu} \end{cases} \quad (1)$$

Solving the simultaneous equations provides  $\tau = \frac{1}{1+\mu\cdot\gamma} \triangleq \tau''$  and  $\ell = (1 - \frac{1}{1+\mu\cdot\gamma}) \cdot \frac{1}{\gamma} \triangleq \ell''$ .

If the ruler is the Stackelberg leader of the sequential game, then the first order condition for the domestic producer,  $\ell(\tau) = \frac{(1-\tau)}{\gamma}$ , should be plugged into the ruler's utility function (2) which provides:

$$R(\tau) = \tau \cdot \frac{(1-\tau)}{\gamma} - \frac{1}{2}\mu \cdot \tau^2. \quad (2)$$

Maximizing  $R(\tau)$  establishes  $\tau = \frac{1}{2+\mu\cdot\gamma} \triangleq \tau^*$ , and therefore  $\ell(\tau^*) = (1 - \frac{1}{2+\mu\cdot\gamma}) \cdot \frac{1}{\gamma} \triangleq \ell^*$ .

## .2 Time-inconsistency in the presence of Foreign Investors

After incorporating the international producer, the ruler's utility function becomes

$$R_f(r) = \frac{\tau \cdot \ell - \frac{1}{2}\mu \cdot \tau^2 + h \cdot \omega \left( \frac{1}{2+\mu\cdot\gamma} - \tau \right)}{1 - \delta}. \quad (3)$$

The domestic producer's response function is still given by  $\ell(\tau) = \frac{(1-\tau)}{\gamma}$ . Given that the ruler and the producer act simultaneously, the best response function of the ruler and the producer establish

$$\begin{cases} \ell(\tau) = \frac{(1-\tau)}{\gamma} \\ \tau(\ell) = \frac{\frac{(1-\tau)}{\gamma} - h \cdot \omega}{\mu} \end{cases} \quad (4)$$

Solving the equations system provides

$$\begin{cases} \tau = \frac{1-\gamma\cdot h\cdot\omega}{1+\mu\cdot\gamma} \\ \ell = \left( \frac{\gamma\cdot h\cdot\omega + \mu\cdot\gamma}{1+\mu\cdot\gamma} \right) \cdot \frac{1}{\gamma} \end{cases} \quad (5)$$

Therefore  $\tau_f'' = \frac{1-\gamma\cdot h\cdot\omega}{1+\mu\cdot\gamma}$ , and  $\ell_f'' = \left( \frac{\gamma\cdot h\cdot\omega + \mu\cdot\gamma}{1+\mu\cdot\gamma} \right) \cdot \frac{1}{\gamma}$ .

### .3 Finding the steady state vector of Markov Chain and $\sigma(x_2, x_3)$

Three states in the Markov process are *State 1* : *low* political liberty and *low* involvement in international institutions, *State 2* : *low* political liberty and *high* involvement in international institutions, and *State 3* : *high* political liberty and *low* involvement in international institutions. The *transition matrix*  $T$  is given as :

$$T = \begin{bmatrix} 1 - 2p & p & p \\ k_1 & 1 - k_1 & 0 \\ k_2 & 0 & 1 - k_2 \end{bmatrix}$$

$k_1$  and  $k_2$  are fixed parameters positive and less than or equal to 1. Let  $X$  denote the steady state vector of the Markov process:

$$X = \begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix}$$

where  $x_1 + x_2 + x_3 = 1$ . To find the steady state vector, let

$$X(T - I) = \mathbf{0}$$

or

$$\begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix} \cdot \begin{bmatrix} -2p & p & p \\ k_1 & -k_1 & 0 \\ k_2 & 0 & -k_2 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \end{bmatrix} \quad (6)$$

Along with  $x_1 + x_2 + x_3 = 1$ , the linear equation system in ( 6) provides

$$\begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix} = \begin{bmatrix} \frac{k_1 k_2}{p(k_1 + k_2) + k_1 k_2} & \frac{p k_2}{p(k_1 + k_2) + k_1 k_2} & \frac{p k_1}{p(k_1 + k_2) + k_1 k_2} \end{bmatrix}$$

Since  $p$  is an uniform random variable,  $x_1$ ,  $x_2$ , and  $x_3$  are random variables as well. Since  $p$  follows uniform distribution  $U(e, e + 1)$ ,  $E(p) = e - \frac{1}{2}$ . The expectation of  $p^2$  could



be computed as follows:

$$\begin{aligned}
 E(p^2) &= \int_e^{e+1} p^2 f_P(p) dp \\
 &= \frac{1}{3} p^3 \Big|_e^{e+1} \\
 &= e^2 + e + \frac{1}{3}
 \end{aligned}$$

$E(x_2)$  and  $E(x_3)$  can be computed using:

$$E(x_2) = \frac{k_1 E(p)}{(k_1 + k_2)E(p) + k_1 k_2}; E(x_3) = \frac{k_2 E(p)}{(k_1 + k_2)E(p) + k_1 k_2}$$

$x_2 x_3$  and  $E(x_2 x_3)$  is given by

$$\begin{aligned}
 x_2 x_3 &= \frac{p^2 k_1 k_2}{[p(k_1 + k_2) + k_1 k_2]^2}; \\
 E(x_2 x_3) &= \frac{k_1 k_2 E(p^2)}{(k_1 + k_2)^2 E(p^2) + 2k_1 k_2 (k_1 + k_2) E(p) + (k_1 k_2)^2};
 \end{aligned}$$

The covariance of random variables  $x_2$  and  $x_3$ ,  $\sigma(x_2, x_3)$ , which characterizes the pattern of association between  $x_2$  and  $x_3$ , can be computed using

$$\begin{aligned}
 \sigma(x_2, x_3) &= E(x_2 x_3) - E(x_2)E(x_3) \\
 &= -\frac{k_1 k_2 (1 + 2e)^2}{[k_1 k_2 + (k_1 + k_2)(1 + 2e)]^2} \\
 &\quad + \frac{k_1 k_2 \left(\frac{1}{3} + e + e^2\right)}{k_1^2 k_2^2 + 2k_1 k_2 (k_1 + k_2)(1 + 2e) + (k_1 + k_2)^2 \left(\frac{1}{3} + e + e^2\right)}
 \end{aligned}$$

## .4 Additional Tables and Graphs

Table 1: Membership in Different Types of IGOs *Dependent Variable: IGO membership*

	(A) 1972-1991		(B) 1990-2005	
	All IGOs	Pol-Econ IGOs	All IGOs	Pol-Econ IGOs
Polity Score	.624** (.215)	.069 (.089)	.638** (.253)	-.117 (.091)
Primary Income Payment	.84 (.927)	.23 (.383)	<b>3.36**</b> <b>(1.01)</b>	<b>1.42**</b> <b>(.363)</b>
Direct Investment	-.399 (.564)	-.297 (.233)	-.586* (.344)	-.324** (.124)
International Trade	-.013 (.037)	.014 (.015)	-.126** (.036)	-.052** (.013)
Income Taxation	-.75 (6.17)	-1.22 (2.55)	<b>16.7**</b> <b>(7.64)</b>	<b>5.59**</b> <b>(2.76)</b>
Government Consumption	-.086 (.141)	-.029 (.058)	-.13 (.188)	-.088 (.068)
Oil Revenue	-.185** (.087)	-.029 (.035)	-.00131 (.098)	.011 (.035)
GDP(log)	3.86** (.868)	.747** (.358)	3.72** (.995)	.443 (.359)
GDP per capita(log)	2.09 (1.45)	.31 (.6)	.223 (1.6)	.094 (.577)
Constant	-8.8 (9.42)	7.35 (3.89)	10.7 (10.1)	20.4 (3.64)
<i>Adj.R</i> <sup>2</sup>	.558	.214	.542	.304
<i>N</i>	123	123	140	140
<i>F</i> -stat	18.1	3.75	19.2	7.76

Table 2: Political Regime Type: Regime Differences. *Dependent Variable: Polity Score*

	Model 1		Model 2	
	Non-Democracy	Democracy	Non-Democracy	Democracy
<i>L</i> .Polity Score	0.8425** (0.0109)	0.8215** (0.0128)	0.8425** (0.0109)	0.8215** (0.0128)
Primary Income Payment	-0.0846** (0.0413)	-0.0515 (0.0605)	-0.0854 (0.1005)	0.3691 (0.3081)
Direct Investment	0.0108 (0.0069)	0.0117 (0.0153)	0.0108 (0.0069)	0.0126 (0.0153)
International Trade	0.0002 (0.0020)	0.0014 (0.0031)	0.0002 (0.0021)	0.0015 (0.0031)
Income Taxation	-0.3785 (0.3229)	-0.3693 (0.3769)	-0.3795 (0.3430)	-0.0237 (0.4512)
Primary Income Payment×Income Taxation			-0.1465** (0.0721)	-0.4411 (0.3168)
GDP(log)	0.9357** (0.1011)	0.1510 (0.1150)	0.9357** (0.1011)	0.1576 (0.1151)
GDP per capita(log)	-1.1083** (0.2103)	-0.0414 (0.3281)	-1.1083** (0.2104)	-0.0330 (0.3280)
Oil Revenue	-0.0032 (0.0042)	0.0045 (0.0096)	-0.0032 (0.0043)	0.0044 (0.0096)
Constant	1.5315 (1.3051)	2.3549 (2.1304)	1.5328 (1.3119)	1.8798 (2.1569)
Adj.R2	0.809	0.749	0.809	0.749
N	2285	1607	2285	1607
F	1228.8827	605.7275	1091.8403	538.9678
$\sigma(u_i)$	1.644	0.405	1.644	0.400
$\sigma(e_{it})$	1.934	1.347	1.939	1.365

Table 3: Summary Statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
Year	overall	–	–	1972	2005	N = 4766
Economic IGO Membership	overall	20.07344	7.01924	0	39	N = 4766
	between		4.986755	8.147059	31.05882	n = 153
	within		4.927136	3.838143	31.83814	$\bar{T} = 31.1503$
IGO Membership	overall	54.58875	21.00114	1	129	N = 4766
	between		17.8237	17.94118	111.5882	n = 153
	within		11.14524	17.91228	82.29464	$\bar{T} = 31.1503$
Polity Score	overall	11.72144	7.448079	1	21	N = 4710
	between		6.179957	1	21	n = 153
	within		4.147984	-5.3962	24.1038	$\bar{T} = 30.7843$
Primary Income Payment	overall	1.173509	1.517145	-1.03322	33.5859	N = 4766
	between		1.126693	0.115611	6.922086	n = 153
	within		0.979572	-3.82244	31.22831	$\bar{T} = 31.1503$
Direct Investment	overall	2.264699	5.682091	-82.8921	145.202	N = 4040
	between		3.337457	0.055174	24.55644	n = 153
	within		4.87333	-97.3558	122.9103	$\bar{T} = 26.4052$
International Trade	overall	64.33776	41.57688	1.160625	421.6822	N = 4668
	between		36.20769	3.84226	243.4528	n = 153
	within		20.20231	-52.4244	260.3406	$\bar{T} = 30.5098$
Income Taxation	overall	0.788594	0.366128	-0.17829	2.989929	N = 4766
	between		0.343984	0.095935	1.427445	n = 153
	within		0.123543	-0.32859	2.972747	$\bar{T} = 31.1503$
Government Consumption	overall	11.15726	8.193731	0.732014	67.189	N = 4668
	between		7.563677	1.854843	51.76651	n = 153
	within		3.309112	-12.2569	36.99979	$\bar{T} = 30.5098$
Oil Revenue	overall	9.519978	18.75219	0	474.8112	N = 4766
	between		15.58389	0.003444	133.8144	n = 153
	within		10.17663	-117.648	350.5168	$\bar{T} = 31.1503$
Labor Productivity	overall	18494.37	20312.64	476.1	139221.3	N = 4766
	between		19150.32	797.3439	89783.77	n = 153
	within		4984.598	-11346	67931.95	$\bar{T} = 31.1503$
GDP (log)	overall	9.874597	2.141303	3.737264	16.34637	N = 4668
	between		1.990895	5.451283	15.35433	n = 153
	within		0.674855	7.445266	13.46629	$\bar{T} = 30.5098$
GDP per capita (log)	overall	8.191163	1.294702	5.080144	11.06973	N = 4668
	between		1.256571	5.961675	10.99285	n = 153
	within		0.254467	6.803305	10.42899	$\bar{T} = 30.5098$
Total Number of IGOs	overall	304.0164	39.79474	210	352	N = 4766
	between		12.92461	300.2121	340.6923	n = 153
	within		38.69127	211.4103	355.8042	$\bar{T} = 31.1503$

Table 4: Data Sources

Variable	Measurement	Data Sources
Economic IGO Membership	Membership in Economic IGOs	COW-IGO 2.3
IGO Membership	Membership in All IGOs	COW-IGO 2.3
Polity Score	Polity 2 score	Polity IV
Primary Income Payment	Factor income in Current Account debit as percentage of GDP	International Financial Statistics (IMF)
Direct Investment	Net FDI inflow as percentage of GDP	World Development Indicator
International Trade	Import and Export as percentage of GDP	Penn World Table 8
Income Taxation	Total Taxes on Income and Profits as percentage of Tax Revenue	Government Financial Statistics (IMF) and World Development Indicator
Government Consumption	General Government Budget as percentage of GDP	Penn World Table 8
Oil Revenue	Oil Revenue as percentage of GDP	World Development Indicator
Labor Productivity	Standardized Labor Output Elasticity	Extended Penn World Table 4
GDP	Real GDP (ppp) in 2005 USD	Penn World Table 8
GDP per capita	Real GDP (ppp) per capita in 2005 USD	Penn World Table 8
Total Number of IGOs	The number of existing IGOs in the system	COW-IGO 2.3
Adverse Regime Change	Political Events Leading to greater than 6 drop in POLITY2	POLITY IV
Successful Coup 1	Successful Coup D'etat that results in new political rule lasting for more than 3 months	Marshall and Marshall (2014)
Successful Coup 2	Successful Coup D'etat that results in new political rule lasting for more than 3 months	Powell and Thyne (2011)

## Bibliography

- Abbott, Kenneth W. and Duncan Snidal. 1998. "Why States Act Through Formal International Organizations." Journal of Conflict Resolution 42(1):3.
- Acemoglu, Daron. 2003. "Why not a Political Coase Theorem? Social Conflict, Commitment, and Politics." Journal of Comparative Economics 31(4):620–652.
- Acemoglu, Daron. 2006. "A Simple Model of Inefficient Institutions." Scandinavian Journal of Economics 108(4):515–546.
- Aguiar, Mark and Manuel Amador. 2011. "Growth in the Shadow of Expropriation." The Quarterly Journal of Economics 126(2):651–697.
- Arbetman-Rabinowitz, Marina and Jacek Kugler. 1997. Political Capacity and Economic Behavior. Westview Press Boulder, CO.
- Arbetman-Rabinowitz, Marina and Kristin Johnson. 2007. "Relative political capacity: Empirical and theoretical underpinnings." Sentia Group, Claremont, Calif .
- Arellano, Manuel and Stephen Bond. 1991. "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations." The Review of Economic Studies 58(2):277–297.
- Ashworth, Scott. 2012. "Electoral Accountability: Recent Theoretical and Empirical Work." Annual Review of Political Science 15:183–201.
- Axelrod, Robert and Robert O. Keohane. 1985. "Achieving Cooperation under Anarchy: Strategies and Institutions." World Politics 38(1):226–254.
- Bailey, Michael A., Judith L. Goldstein and Barry R. Weingast. 1997. "The Institutional Roots of American Trade Policy: Politics, Coalitions, and International Trade." World Politics 49(3):309–338.
- Baltagi, Badi. 2008. Econometric analysis of panel data. Wiley. com.
- Barro, Robert. 2000. Democracy and the Rule of Law. Yale University Press.
- Baunsgaard, Thomas and Michael Keen. 2010. "Tax Revenue and (or?) Trade Liberalization." Journal of Public Economics 94(9/10):563–577.

- Besley, Timothy and Torsten Persson. 2009. "The Origins of State Capacity: Property Rights, Taxation, and Politics." American Economic Review 99(4):1218–44.
- Blundell, Richard and Stephen Bond. 2000. "GMM estimation with persistent panel data: an application to production functions." Econometric reviews 19(3):321–340.
- Boehmer, Charles, Erik Gartzke and Timothy Nordstrom. 2004. "Do Intergovernmental Organizations Promote Peace?" World Politics 57(1):1–38.
- Brownlee, Jason. 2007. Authoritarianism in an Age of Democratization. Cambridge University Press.
- Broz, J. Lawrence. 2002. "Political System Transparency and Monetary Commitment Regimes." International Organization 56(04):861–887.
- Brumberg, Daniel. 2002. "The Trap of Liberalized Autocracy." Journal of Democracy 13(4):56–68.
- Bueno de Mesquita, Bruce and Alastair Smith. 2009. "Political Survival and Endogenous Institutional Change." Comparative Political Studies 42(2):167–197.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson and James D. Morrow. 2005. The Logic of Political Survival. The MIT Press.
- Bueno de Mesquita, Bruce and George Downs. 2005. "Development and Democracy." Foreign Affairs 84(5):77–86.
- Conley, John P. and Akram Temimi. 2001. "Endogenous Enfranchisement When Groups' Preferences Conflict." Journal of Political Economy 109(1):79–102.
- Cowhey, Peter F. 1993. "Domestic Institutions and the Credibility of International Commitment: Japan and the United States." International Organization 47(02):299–326.
- Dai, Xinyuan. 2005. "Why Comply? The Domestic Constituency Mechanism." International Organization 59(02):363–398.
- Dai, Xinyuan. 2006. "The Conditional Nature of Democratic Compliance." Journal of Conflict Resolution 50(5):690–713.
- Downs, George W and David M. Rocke. 1995. Optimal imperfection?: Domestic uncertainty and institutions in international relations. Princeton University Press Princeton, NJ.
- Downs, George W., David M. Rocke and Peter N. Barsoom. 1996. "Is the Good News about Compliance Good News about Cooperation?" International Organization 50(03):379–406.
- Dreher, Axel and Stefan Voigt. 2011. "Does Membership in International Organizations Increase Governments' Credibility? Testing the Effects of Delegating Powers." Journal of Comparative Economics 39(3):326–348.



- Fang, Songying. 2008. "The Informational Role of International Institutions and Domestic Politics." American Journal of Political Science 52(2):304–321.
- Fang, Songying and Erica Owen. 2011. "International Institutions and Credible Commitment of Non-democracies." The Review of International Organizations 6(2):141–162.
- Fearon, James D. 1994. "Domestic Political Audiences and the Escalation of International Disputes." American Political Science Review pp. 577–592.
- Fearon, James D. 1997. "Signaling Foreign Policy Interests: Sinking Cost versus Tying Hands." Journal of Conflict Resolution 41(1):68–90.
- Fearon, James D. 2005. "Primary Commodity Exports and Civil War." Journal of Conflict Resolution 49(4):483–507.
- Gandhi, Jennifer. 2008. Political Institutions under Dictatorship. Cambridge University Press.
- Gandhi, Jennifer and Adam Przeworski. 2007. "Authoritarian Institutions and the Survival of Autocrats." Comparative Political Studies 40(11):1279–1301.
- Garriga, Ana Carolina. 2009. "Regime Type and Bilateral Treaty Formalization." Journal of Conflict Resolution 53(5):698–726.
- Gaubatz, Kurt Taylor. 1996. "Democratic States and Commitment in International Relations." International Organization 50(01):109–139.
- Gehlbach, Scott and Philip Keefer. 2011. "Investment without Democracy: Ruling-party Institutionalization and Credible Commitment in Autocracies." Journal of Comparative Economics 39(2):123–139.
- Ginsburg, Tom and Tamir Moustafa. 2008. Rule by Law: the Politics of Courts in Authoritarian Regimes. Cambridge University Press Cambridge.
- Goldstein, Judith L. 1996. "International Law and Domestic Institutions: Reconciling North American and Unfair Trade Laws." International Organization 50(04):541–564.
- Goldstein, Judith L. and Lisa Martin. 2000. "Legalization, Trade Liberalization, and Domestic Politics: A Cautionary Note." International Organization 54(03):603–632.
- Gould, Erica R. 2003. "Money Talks: Supplementary Financiers and International Monetary Fund Conditionality." International Organization 57(03):551–586.
- Greene, William. 2012. Econometrics Analysis.
- Greif, Avner. 2006. Institutions and the Path to the Modern Economy: Lessons from Medieval Trade. Cambridge University Press.

- Greif, Avner, Paul Milgrom and Barry R. Weingast. 1994. "Coordination, Commitment, and Enforcement: The Case of the Merchant Guild." Journal of Political Economy 102(4):745–776.
- Gurr, Ted. 1968. "A Causal Model of Civil Strife: A Comparative Analysis using New Indices." American Political Science Review 62(04):1104–1124.
- Hanson, Jonathan K and Rachel Sigman. 2013. "Leviathan's Latent Dimensions: Measuring State Capacity for Comparative Political Research." Manuscript, Maxwell School of Citizenship and Public Affairs, Syracuse University pp. 1–41.
- Huang, Yasheng. 2007. "Ownership biases and FDI in China: Evidence from two provinces." Business and Politics 9(1).
- International Monetary Fund. 2012a. Government Financial Statistics. The International Monetary Fund.
- International Monetary Fund. 2012b. International Financial Statistics. The International Monetary Fund.
- International Monetary Fund. 2013. Balance of Payments and International Investment Position Manual. Washington, DC: .
- Keohane, Robert O. 1984. After Hegemony: Cooperation and Discord in the World Political Economy. Princeton University Press.
- Khandelwal, Amit K., Peter K. Schott and Shang-Jin Wei. 2013. "Trade Liberalization and Embedded Institutional Reform: Evidence from Chinese Exporters." American Economic Review 103(6):2169–95.
- King, Gary, Jennifer Pan and Margaret E Roberts. 2013. "How censorship in China allows government criticism but silences collective expression." American Political Science Review 107(02):326–343.
- Koremenos, Barbara, Charles Lipson and Duncan Snidal. 2001. "The Rational Design of International Institutions." International Organization 55(04):761–799.
- Kydland, Finn E and Edward C Prescott. 1977. "Rules rather than discretion: The inconsistency of optimal plans." The Journal of Political Economy pp. 473–491.
- Lake, David A. and Matthew A. Baum. 2001. "The Invisible Hand of Democracy." Comparative Political Studies 34(6):587–621.
- Leeds, Brett Ashley. 2000. "Credible Commitments and International Cooperation: Guaranteeing Contracts Without External Enforcement." Conflict Management and Peace Science 18(1):49–71.
- Leeds, Brett Ashley and David R. Davis. 1999. "Beneath the Surface: Regime Type and International Interaction, 1953-78." Journal of Peace Research 36(1):5–21.

- Leeds, Brett Ashley, Michaela Mattes and Jeremy S. Vogel. 2009. "Interests, Institutions, and the Reliability of International Commitments." American Journal of Political Science 53(2):461–476.
- Levi, Margaret. 1989. Of Rule and Revenue. University of California Press.
- Levy, Brian and Pablo T Spiller. 1994. "The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation." Journal of Law, Economics, and Organization 10:201.
- Lizzeri, Alessandro and Nicola Persico. 2004. "Why Did the Elites Extend the Suffrage?" Quarterly Journal of Economics 119(2):707–765.
- Magaloni, Beatriz. 2008. "Credible Power-Sharing and the Longevity of Authoritarian Rule." Comparative Political Studies 41(4-5):715–741.
- Maggi, Giovanni. 1999. "The Role of Multilateral Institutions in International Trade Cooperation." American Economic Review 89(1):190–214.
- Maggi, Giovanni and Andrés Rodríguez-Clare. 2007. "A Political-Economy Theory of Trade Agreements." American Economic Review 97(4):1374–1406.
- Mansfield, Edward D., Helen V. Milner and B. Peter Rosendorff. 2000. "Free to Trade: Democracies, Autocracies, and International Trade." American Political Science Review 94(2):305–321.
- Mansfield, Edward D., Helen V. Milner and B. Peter Rosendorff. 2002. "Why Democracies Cooperate More: Electoral Control and International Trade Agreements." International Organization 56(03):477–513.
- Mansfield, Edward D., Helen V. Milner and Jon C. Pevehouse. 2005. "Vetoing Cooperation: The Impact of Veto Players on International Trade Agreements." American Political Science Association, Washington, DC .
- Mansfield, Edward D., Helen V. Milner and Jon C. Pevehouse. 2008. "Democracy, Veto Players and the Depth of Regional Integration." World Economy 31(1):67–96.
- Mansfield, Edward D. and Jon C. Pevehouse. 2006. "Democratization and International Organizations." International Organization 60(01):137–167.
- Mansfield, Edward D. and Jon C. Pevehouse. 2008. "Democratization and the Varieties of International Organizations." Journal of Conflict Resolution 52(2):269–294.
- Marshall, Monty and Donna Ramsey Marshall. 2014. "Coups D'état Events, 1946-2013." Center for Systemic Peace .
- Marshall, Monty G., Ted Robert Gurr and Barbara Harff. 2006. "Political Instability (State Failure) Problem Set: Internal Wars and Failures of Governance, 1955–2004."

- Martin, Lisa L. 2000. Democratic Commitments: Legislatures and International Cooperation. Princeton University Press.
- McGillivray, Fiona and Alastair Smith. 2000. "Trust and Cooperation Through Agent-specific Punishments." International Organization 54(04):809–824.
- McGuire, Martin C. and Jr. Olson, Mancur. 1996. "The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force." Journal of Economic Literature 34(1):72–96.
- Milgrom, Paul R., Douglass C. North and Barry R. Weingast. 1990. "The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs." Economics & Politics 2(1):1–23.
- Milner, Helen. 2006. Why Multilateralism? Foreign Aid and Domestic Principal-Agent Problems. Cambridge University Press.
- Milner, Helen V. 1997. Interests, Institutions, and Information: Domestic Politics and International Relations. Princeton, NJ: Princeton University Press.
- Milner, Helen V. 1998. "Rationalizing Politics: The Emerging Synthesis of International, American, and Comparative Politics." International Organization 52(4):759–786.
- Milner, Helen V. and B. Peter Rosendorff. 1997. "Democratic Politics and International Trade Negotiations." Journal of Conflict Resolution 41(1):117–146.
- Moravcsik, Andrew. 2000. "The Origins of Human Rights Regimes: Democratic Delegation in Postwar Europe." International Organization 54(02):217–252.
- Myerson, Roger B. 2008. "The Autocrat's Credibility Problem and Foundations of the Constitutional State." American Political Science Review 102(01):125–139.
- North, Douglass C. and Barry R. Weingast. 1989. "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England." The Journal of Economic History 49(04):803–832.
- North, Douglass C., John J. Wallis and Barry R. Weingast. 2009. Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History. Cambridge University Press.
- Olson, Mancur. 1993. "Dictatorship, Democracy, and Development." The American Political Science Review 87(3):567–576.
- Persson, Torsten and Guido Tabellini. 1994. Monetary and Fiscal Policy: Volume 1, Credibility. MIT Press, Cambridge, MA.
- Persson, Torsten and Guido Tabellini. 2002. Political Economics: Explaining Economic Policy. The MIT Press.

- Pevehouse, Jon C. 2003. Democratization, Credible Commitments, and Joining International Organizations. pp. 77–104.
- Pevehouse, Jon, Timothy Nordstrom and Kevin Warnke. 2004. “The Correlates of War 2 International Governmental Organizations Data Version 2.0.” Conflict Management and Peace Science 21(2):101–119.
- Poast, Paul and Johannes Urpelainen. 2013. “Fit and Feasible: Why Democratizing States Form, not Join, International Organizations1.” International Studies Quarterly 57(4):831–841.
- Powell, Jonathan M and Clayton L Thyne. 2011. “Global Instances of Coups from 1950 to 2010: A New Dataset.” Journal of Peace Research 48(2):249–259.
- Putnam, Robert D. 1988. “Diplomacy and Domestic Politics: the Logic of Two-level Games.” International Organization 42(03):427–460.
- Rosendorff, B. Peter V. and Helen Milner. 2001. “The Optimal Design of International Trade Institutions: Uncertainty and Escape.” International Organization 55(04):829–857.
- Ross, Michael L. 1999. “Review: The Political Economy of the Resource Curse.” World Politics 51(2):297–322.
- Rudra, Nita and Nathan M. Jensen. 2011. “Globalization and the Politics of Natural Resources.” Comparative Political Studies 44(6):639–661.
- Schelling, TC. 1980. The strategy of conflict. Harvard university press.
- Simmons, Beth A. and Allison Danner. 2010. “Credible Commitments and the International Criminal Court.” International Organization 64(02):225–256.
- Smith, Alastair. 2008. “The Perils of Unearned Income.” The Journal of Politics 70(03):780–793.
- Spiller, Pablo T. 1996. “Institutions and Commitment.” Industrial and Corporate Change 5(2):421–452.
- Stone, Randall W. 2004. “The Political Economy of IMF Lending in Africa.” American Political Science Review 98(04):577–591.
- Tang, Man-Keung and Shang-Jin Wei. 2009. “The Value of Making Commitments Externally: Evidence from WTO Accessions.” Journal of International Economics 78(2):216–229.
- Tarar, Ahmer. 2001. “International Bargaining with Two-Sided Domestic Constraints.” Journal of Conflict Resolution 45(3):320–340.
- Vreeland, James Raymond. 2003. The IMF and Economic Development. Cambridge University Press.

- Wang, Yuhua. 2011. When Do Authoritarian Rulers Tie Their Hands: The Rise of Limited Rule of Law in Sub-National China. PhD thesis The University of Michigan.
- Wei, Shang-Jin. 2000a. “How taxing is corruption on international investors?” Review of economics and statistics 82(1):1–11.
- Wei, Shang-Jin. 2000b. “Natural Openness and Good Government.” NBER Working Paper No.7765 .
- Wintrobe, Ronald. 1990. “The Tinpot and the Totalitarian: An Economic Theory of Dictatorship.” The American Political Science Review 84(3):849–872.
- Wintrobe, Ronald. 2000. The Political Economy of Dictatorship. Cambridge University Press.
- Wooldridge, Jeffery M. 2002. Econometric analysis of cross section and panel data. The MIT press.