

What Price Freedom?



An Investigation into the Effect of Institutional Integration on Economic Performance

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EXECUTIVE SUMMARY

The purpose of this paper is to outline the various forms by which policy-makers may opt to limit the sovereignty of the realm through entering into bilateral or multilateral agreements with other states, to assess the impact of the imposition of such arrangements on economic growth and development, and to provide recommendations to East Timor as to whether or not such forms of institutional linkage are desirable. The paper begins by subdividing the “black-box” of institutions into five separate domains: (1) monetary policy and the currency regime, (2) trade policy, (3) labor policy, (4) judiciary, (5) relationship between the executive and the legislature. States are found to regularly enter into arrangements that limit their sovereignty over domains (1) through (3) by entering into currency unions, becoming signatories to the World Trade Organization, and by forming unified labor markets with neighboring countries. The relinquishment of sovereignty over domains (4) and (5), however, represents a more general loss of policy-making capacity, and commonly only comes about in colonial or post-colonial arrangements.

Utilizing an original theoretical model, the body of existing research, and natural experiments provided by variation in the institutional structure of political entities within island groups of the Caribbean and Oceania, the impact of the relinquishment of sovereignty over each of these five domains is assessed. The relinquishment of sovereignty over monetary and trade policy is found to be broadly conducive to economic growth processes, particularly if states form arrangements with highly-developed economies and are successful in spurring imports from such economies. The effect of the relinquishment of sovereignty over labor policy, or migration flows, is theoretically ambiguous and unfortunately the state of the literature is currently insufficient to resolve this ambiguity. Forms of judicial and constitutional linkage are found to have large, positive impacts on the economic development of political units, with levels of income per capita over four times greater in dependencies and territories than independent states once underlying conditions are controlled for. On the basis of this analysis, it is recommended that, in order to promote economic development, the newly-independent state of East Timor should retain the US dollar as its unit of national currency, seek to enter into bilateral or multilateral agreements that promote trade with highly-developed economies and provide for common systems of dispute resolution and contract enforcement, explore the possibility of establishing the right of appeal to the British Privy Council or to high courts in Australia or Singapore, and also investigate the possibility of entering into a form of defense pact with Australia or other regional powers that would provide for the continued political stability of the independent state.

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“Freedom is just another word for nothing left to lose” – Janis Joplin

INTRODUCTION

In 1776, Adam Smith wrote that “the extent of the division [of labor] must always be limited by . . . the extent of the market.”¹ These words, and the conceptual framework in which they were couched, laid the foundation for what is possibly one of the most durable and pervasive theoretical postulations in macroeconomics: that a nation’s living standards will vary in direct proportion to the extent of its integration with other large, developed economies.

In the current era, the notions of Adam Smith gel superbly with the structure and dynamics of the global income distribution. The world’s uppermost levels of income per capita are concentrated disproportionately in North America and the European continent, large geographical stretches replete with natural resources and comparatively unfettered by topographical and political hindrances to the flow of goods, labor, and capital. The world’s two largest nations, China and India, have attained some of the world’s most rapid rates of economic growth over the past decades through the unleashing of the productive capacities of their gigantic home populations on the global economy. A smoothly functioning, vast and secure market for local goods and services is clearly a necessary condition for the attainment of high standards of living.

In recent years, many smaller less-developed nations that border regions of dense economic activity have reaped the rewards of pursuing integration with their larger, richer neighbors. Mexico has experienced rapid economic growth following its entry into the North American Free Trade Agreement and the associated lowering of barriers to trade with its northern neighbors. The growth of Eastern European nations earmarked for early entry into the European Union, such as the Czech Republic, Poland, and Slovakia, have surged ahead. Half a world away, Vietnam has mimicked China’s rapid opening, and experienced unparalleled levels of economic growth.

The question of exactly how countries, particularly those that are small and under-developed, may best facilitate integration with the world economy and spur local growth and development remains very much undecided, however. A recent wave of economic research has attempted to empirically verify the impact of trade penetration and openness on levels of per capita income². However, much less research has

¹ Adam Smith (1776), Book 1, Chapter III

² See, for example, Sachs and Warner (1995) and Frankel and Romer (1999)

examined the question from the perspective of the policy-maker and attempted to assess which strategies to promote integration are likely to be the most efficacious. This paper attempts to do exactly that.

The analysis begins with the notion that inducing investors to undertake initially costly but potentially highly-profitable transactions across national borders requires the local law-making authority to be credibly committed to preventing the expropriation of assets, whether through explicit government action or poor macroeconomic management, and ensuring political stability. As has been powerfully demonstrated by tragic experiences in Zaïre, Democratic Kampuchea, Maoist China, Iraq, and, most recently, in Zimbabwe, a single iniquitous dictator can inflict immense economic and social devastation on a nation. Constitutional structures and political traditions which effectively preclude the rise of such destabilizing forces contribute immeasurably to the willingness and capability of economic actors to undertake investments, engage in transactions, and thereby perform the functions necessary for the creation of wealth.

In countries with a past history of, or future potential for political instability, the task of building credibility in domestic institutions may come at a high price, and, in such cases, it may even be desirable to constrain the actions of the domestic law-making authority as a means of reassuring investors and other economic and political actors. In this respect, it is interesting to note that the most successful of those economies that lie beyond the Atlantic region are those which, as a consequence of their relatively large settler populations, imposed institutional constraints on local political structures and sought to preserve constitutional links with highly developed, prototypically-stable economies in western Europe. New Zealand and Australia, for instance, retain the British monarch as their head of state and, symbolically, grant the Union Jack pride of place in their respective national flags. The highest court of the land in New Zealand lies 12,000 miles away in London. Hong Kong, which until 1997 was retained by the United Kingdom as a vestigial gem in the crown of the British Empire, is archetypical, as is the fact that the richest isles in Oceania, those of French Polynesia, are governed from Paris. A similar story prevails in Caribbean, where the six states with the highest levels of purchasing-power adjusted GDP per capita do not yet have their independence.

The belief that supra-national constraints on domestic institutions are conducive to economic development and political stability has been decisively applied recently in the development of the European Union. Conceived in the wake of the Second World War, the primary motivation for the creation of the institutional framework was to bereave the German government of sovereign control over the natural

resources necessary for military campaigns that might bring about the further destabilization of the continent. However, the extension of the European Union's domain to cover trade policy, monetary policy, and migration policy is indicative of a conviction among member states that their interests were best served through constraining their own sovereign authority. The increasing popularity of currency boards and the widespread success enjoyed by regional trade agreements and the GATT/WTO regime can perhaps be interpreted as evidence of similar sentiments worldwide.

The purpose of this paper is to outline the various forms by which policy-makers may opt to limit the sovereignty of the realm by entering into bilateral or multilateral agreements with other states, and to assess the impact of the imposition of such constraints on economic growth and development. As such, the paper seeks to estimate the macroeconomic price of national institutional freedom. On the basis of this exploration, the author shall seek to recommend to the newly-independent state of East Timor a regime that would most favorably promote high standards of living for the country's citizens.

LITERATURE REVIEW

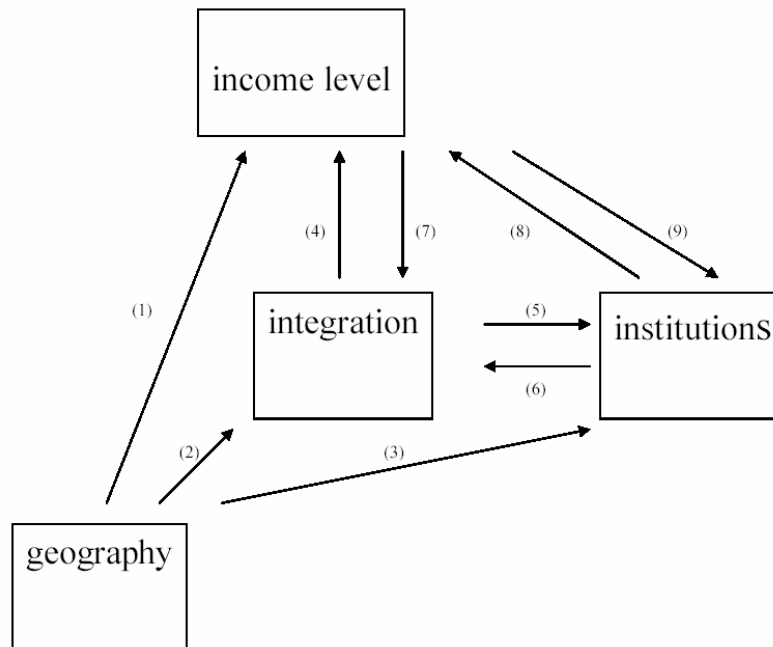
Since the pioneering work of Robert Barro and others in the early 1990s, the empirical analysis of the determinants of high living standards has experienced a celebrated resurgence in interest³. In recent years, the literature has focused particularly on disentangling the effects of three broad determinants: geography, trade penetration, and institutions. Theories abound as to how these three factors affect living standards, either through a complex process of interaction and reinforcement, or through direct causal effects.

The empirical verification of such theories remains, however, complex and controversial. As shown in Figure 1⁴, trade penetration, or "integration" (as measured by volume of trade and/or foreign investment) and institutional quality (as proxied by such things as surveys of perceptions concerning property rights protection and the rule of law) will potentially be affected by interactions with each other, as well as with geography and income. As such, high levels of correlation between trade and income, or institutional quality and income, tell us little about the causal impact that a change in each of these variables is likely to have on current income per capita.

³ See for example Barro (1991) and Summers and Heston (1991)

⁴ Reproduced from Rodrik, Subramaniam, and Trebbi (2002), p. 24

**FIGURE 1 - THE DEEP DETERMINANTS OF INCOME
(FROM RODRIK, SUBRAMANIAM, AND TREBBI [2002])**



Researchers seeking to verify a positive causal relationship from trade to economic performance, must demonstrate the superiority of the direct and indirect (via institutions) effects of integration on income, as represented by channels (4) and (5) in Figure 1, over the reverse feedback from institutions and income, as captured by channels (6) and (7) respectively⁵. Similarly, those seeking to understand the causal relationship from institutions to economic performance must be careful to separate such causal impacts from the indirect effects of integration on income (channel [5]) and reverse causality from economic performance to institutions (channel [9]).

The pervasive problems of endogeneity and reverse causality have recently led researchers to invoke novel techniques as a means of unraveling causal relationships in macroeconomics. In particular, major contributions to our understanding of development processes have recently been provided by the utilization of instruments for integration and institutions. Effective instruments provide for a source of exogenous variation in the explanatory variable of interest that does not inadvertently capture the indirect effects of variation in other explanatory variables. Frankel and Romer (1999) and Acemoglu, Johnson, and Robinson (2001) use such an approach to investigate the respective effects of integration and institutions on income. Yet while such approaches may yield more satisfying empirical results, they have an unfortunate tendency to lack specificity and thereby obscure implications for policy.

⁵ Rodrik, Subramaniam, and Trebbi (2002), p. 3

Frankel and Romer (1999) test the impact of trade on income growth by constructing an estimated trade share using a gravity equation for bilateral trade flows. Due to the fact that the gravity equation relies solely on geographical distances to construct estimates of a country's trade share, this method is not subject to the pitfall of reverse causality that has hindered previous analyses on the effect of trade on growth. On the basis of this approach, Frankel and Romer conclude that increasing the ratio of trade to GDP by one percentage point raises income per person by between one-half and two percent. The estimates of Frankel and Romer have been criticized, however, in that, by drawing on geographical data, they may inadvertently capture the direct effects of geography and natural endowments on income and may therefore be upwardly biased.

The approach of Acemoglu, Johnson, and Robinson (hereafter AJR) is analogous. AJR utilize data on the mortality rates of European settlers (in actuality, soldiers, bishops and sailors stationed in the colonies during the 17th and 19th centuries) as an instrument for the quality of institutions in the respective colony. As such, their analysis is contingent on the hypothesis that colonial powers set up extractive institutions where European settlement was not feasible and “neo-European” institutions where European settlement was feasible and that the type of institution persisted into the post-colonial period. After conducting detailed empirical analysis, AJR find that “differences in institutions account for roughly three-quarters of the differences in income per capita.” This relationship seems not to be driven by outliers and is robust “to controlling for climate, current disease environment, religion, natural resources, and current race composition.” The approach of AJR has however been criticized by on the grounds that their instrument may capture the virulence of the disease environment, and therefore the direct effect of geography on income, in spite of the various geographical controls that AJR employ⁶.

A recent paper by Rodrik, Subramaniam and Trebbi (hereafter RST) estimates the structure shown in Figure 1 by simultaneously testing the impact of variation in the instruments applied by Frankel and Romer and AJR on income per capita, as well as on each other. They find that “once institutions are controlled for, integration has no direct effects on incomes, while geography has at best weak effects . . . [yet in] contrast, our measure of property rights and the rule of law always enters with the correct sign, and is statistically significant, often with t-statistics that are very large.” RST also uncover some interesting evidence regarding links between the various determinants. “[I]nstitutional quality has a positive and significant on integration. Importantly, integration also has a (positive) impact on

⁶ See, for instance, Sachs (2003)

institutional quality, suggesting that trade can have an indirect effect on incomes by improving institutional quality.”

Although the work of Frankel and Romer, AJR, and RST, is undoubtedly of seminal value in enhancing our understanding of the broad determinants of economic growth, the use of the respective instruments for trade and institutions limit the applicability of such research for the purposes of policy development. The use of settler mortality data as an instrument for institutions, for example, necessarily side-steps the question of which specific forms or elements of institutions are especially conducive to economic growth. As such, AJR’s research fails to provide any explanation for “what concrete steps would lead to an improvement in . . . institutions.” Frankel and Romer (1999) acknowledge a similar problem with their research in that variations in trade that are due to geography may not involve exactly the same mix of the various mechanisms as variations that are due to policy. RST address the issue more bluntly with the following comment: “How much guidance do our results provide to policymakers who want to improve the performance of their economies? Not much at all.”

Andrew Rose and a number of co-authors have attempted to extend the instrumental variable methodology to questions pertaining more directly to policy. For instance, in a paper with Jeffrey Frankel, the effect of sharing a common currency is estimated, and is found to triple trade between the two countries sharing the common current⁷. A recent paper⁸ surveys the literature on the effects of common currencies on trade and finds that the Frankel and Rose finding is in line with recent research, which provides for the following conclusions: (1) the hypothesis that there is no effect of currency union on trade can be rejected at standard significance levels, (2) that the combined estimate implies that currency union approximately doubles trade, and (3) that the estimates are heterogeneous and not consistently tied to features of the studies. As such, it appears that the relinquishment of sovereignty over monetary policy, through the formation of a currency union or the adoption of a foreign currency as legal tender, can be used to promote trade penetration and as such integrate the domestic economy into the world market.

The question posed by this paper is most similar to that of Braun, Hausmann, and Pritchett (hereafter BHP) and Easterly and Kraay. BHP perform a comparative analysis of the colonial and post-colonial experiences of countries that were formerly dependent on another state, with a view towards informing “current discussions of reform and integration.” BHP formulate a simple theoretical framework which

⁷ Frankel and Rose (2002)

⁸ Rose (2002)

predicts that the effect of sovereignty on economic development will be conditional on which of the following two contrasting effects dominates: the ‘policy localization effect’ arising from the transfer of governance to indigenous interests, or the market reduction effect arising from the establishment of national borders and, potentially, trade, investment, and migration barriers against the former colonial power. In order to resolve the theoretical ambiguity, BHP employ a three-pronged approach whereby they use an “episodic analysis to compare growth outcomes before and after sovereignty . . . , compare variance of growth outcomes across countries to variances across states . . . [and] examine specific case study of variation across the Caribbean.” On the basis of this analysis, BHP find that “the expansion of sovereignty . . . has not in fact produced universally positive results [, that] the variance of outcomes has been dramatically increased by the expansion in sovereignty [and that] deep integration - in the sense of binding commitments on the range of actions of the national sovereign - holds some promise of reducing growth rate variance but does not guarantee rapid growth.”

Easterly and Kraay (1999) analyze the economic performance of small states, and find that, controlling for location, small states have higher levels of per capita income than their larger counterparts, and do not have different per capita growth rates, with or without controls. Easterly and Kraay find that the annual growth rates of small states are more volatile, “partly because of their greater volatility in responses to terms-of-trade shocks - to which they are exposed because of their greater openness.”

This paper seeks to extend the research of AJR, RST and Frankel and Romer, and Rose and Frankel, by digging within the “black box” of institutions and examining the effect of actual changes in institutional structure on economic performance. The paper further extends the research of BHP by developing a theoretical framework that fully reflects the insights provided by recent research into economic growth processes, such as that of Caselli and Coleman (2001). The paper also considers case studies of states in the Pacific region and in the western Indian Ocean, which are neglected in the analysis of BHP. The paper draws on and extends the work of Easterly and Kraay (1999) by providing concrete recommendations to small states on how to reduce the volatility of their economic growth rates.

THEORETICAL FRAMEWORK

Previous research examining the effect of institutions on economic performance has traded off empirical accuracy for theoretical specificity. In this paper, a central aim will be to identify the different channels through which institutions may affect economic performance, and to make concrete policy

recommendations as to how these institutions may be reformed in the interests of promoting economic growth in less-developed nations.

ELEMENTS OF INSTITUTIONS

A first step in the analysis presented in this paper is to identify the elements of institutions that are subject to revision by public policy, as opposed to other more ‘fixed factors’ such as social capital, cultural values, religion, and so forth. Braun, Hausmann, and Pritchett (2002) provide an important contribution in this regard. They identify five economic features over which fully sovereign states preside: (1) “the control of the movement of *labor* across national borders”, (2) “the control of the movement of *goods* across national boundaries”, (3) “the choice . . . to maintain a national *currency*”, (4) “the control of the *enforcement of contracts*” within the sovereign, and (5) “the ability to set a wide range of legal and regulatory conditions”.

Following BHP, Table 1 segments the “black box” of institutions into five separate domains. Examples of political and constitutional arrangements that provide for different levels of executive sovereignty over the respective domains are also listed.

The national authority may opt to delegate sovereignty over any or all of the five domains by entering into bilateral or multilateral agreements. For example, states may choose to relinquish control over monetary policy by entering into a currency union with a group of other states. In the case of a currency union, the relinquishment of policy is not total, since monetary actions are decided in concert with other states party to the union. On the other hand, the adoption of a currency board, or the more extreme case of ‘dollarization,’ represents the total relinquishment of sovereignty over monetary policy.

Similarly, a state relinquishes its capacity to impose trade barriers upon other countries at its own discretion by entering into bilateral agreements, or multilateral agreements such as the GATT/WTO. The sphere of labor policy is analogous. Under arrangements such as the European Union and the open labor market agreement that exists between Australia and New Zealand, for instance, the national authority gives up the right to determine which individuals, from countries subject to the agreement, are able to live and work in the country. Over each of these three domains, thus, the national authority has the capacity to undertake specific policy actions that limits its sovereignty over the stock of labor, the supply of money, and the barriers to external trade. In so far as the reversal of such agreements involve significant costs of

exit, actions by the current government to relinquish national control in these domains potentially also affects the sovereignty of future regimes.

TABLE 1: ELEMENTS OF INSTITUTIONS

Institutional Domain	Full Sovereignty	Intermediate Regimes	Limited Sovereignty
Currency Regime / Monetary Policy	Fixed / Float	Currency Union / Independent Central Bank	Currency Board / "Dollarization"
Trade Policy	Ad Hoc	Bilateral Agreements	Multilateral Agreements (GATT / WTO)
Labor Flows	Stringent Migration Restrictions	Limited Migration	Supra-National Market for Labor
Judiciary	Politicized Judiciary	Independent Judiciary	Right of Appeal to Supra-National Body
Executive / Legislature	Limited Checks & Balances between Executive and Legislature	Constitutional Review / Supra-National Head of State	Supra-National Head of State and Supra-National Legislature

The case in which a state's authority to enact policy generally is limited through the relinquishment of sovereignty to another authority is represented most explicitly by the example of colonialism. Although arrangements differed in both structure and function, all were defined by the limitation placed on national legislatures and judiciaries to enact and interpret the country's law, be it civil or common.

A variety of constitutional arrangements exist whereby checks are placed upon the authority of the legislature and the executive. For instance, a number of the countries that remain a part of the British Commonwealth retain the British monarch as their head of state and, in so doing, grant the monarch the statutory authority to overturn legislation. In this respect, the sovereignty of either the legislature or the executive is constrained by a separation of powers between the two bodies. The authority of the legislature may also be limited by a process of constitutional review, by which the judiciary assesses whether legislation is in concert with the principles of the nation's constitution and has the power to revoke articles that violate such principles.

Similarly, states may limit the authority of the domestic judiciary by providing for the right of appeal to a supra-national court. The best example in this case is that of former British colonies that have retained the Judicial Committee of the Privy Council, seated in London, as the final tier in their national appeal structure. Such an arrangement ensures the absolute independence of the judiciary, since the highest court provided for by the constitution is insulated from the whims of the executive not only by national borders, but also geographical distance.

Authors such as AJR and RST have provided empirical verification of the decisive effects that variation of the quality of a country's institutional framework has on economic performance. Assuming that such effects are not driven totally by variation in more immutable socio-cultural factors such as religion, social capital, work ethic, or bureaucratic values, the extent of national sovereignty over each of the five domains listed in Table 1 above will impact the quality of a country's institutions, and economic growth.

BASIC MODEL

In order to formalize the channels through which institutional domains are likely to impact economic performance, an economic model is to be constructed. This model builds on the 'Simple Model of Growth and Development' developed by Charles Jones⁹.

The model begins by making the conventional assumption¹⁰ that countries produce a homogenous output good, Y , by combining inputs of labor, L , and capital, K , in the familiar Cobb-Douglas form. In contrast to the simple Solow growth model, however, the model developed by Jones (1998) follows the insight of Romer (1986), that capital can be represented by a range of capital goods, x_j . The specification is as follows:

$$Y_t^i = (L_t^i)^{1-\alpha} \cdot \int_0^{(t^i \cdot A^i)} (x_t^j)^\alpha dj \quad (1)$$

As shown by the above equation, the variety of capital goods (x_j) that workers have the capacity to employ is limited by two factors: the stock of technology (A) and the quality of institutions (I), where the superscript i represents an individual country, and the subscript t represents the time period. This equation is thus similar to that of Jones¹¹, who differs only in assuming that the variety of capital goods is limited by the stock of human capital.

The representation used here is motivated by the intuition that without knowledge of current technology, workers, managers, and entrepreneurs will lack the means to utilize advanced capital goods as an element in the production process. Similarly, if the quality of institutions is poor, as demonstrated by such eventualities as improper protection of property rights, political instability, or civil unrest, there will be little incentive to produce goods and services, other than those that fulfill basic necessities. In the extreme case, where little or no institutional framework exists (e.g. anarchy), it is unlikely that even essential

⁹ Jones (1998), Chapter 6

¹⁰ This follows from Solow (1956)

¹¹ See equation 6.1, p. 116 in Jones (1998)

goods and services will be produced. At the other end of the spectrum, it is hypothesized that the variety of capital goods employed in production will only be maximized when the institutional environment provides an optimal mix of stability and property rights protection. This assumption is motivated by the belief that given a poor institutional environment, it will be unprofitable to incorporate technologically-advanced capital goods in to production processes or to produce final goods that represent only a slight variation of those currently on the market.

Following from Jones (1998), it is assumed that one unit of raw capital can be transformed effortlessly into one unit of any intermediate capital good. In other words, the quantity of capital goods employed in production is equal to the supply of raw capital. Thus, we have the following¹²:

$$\int_0^{(I_t^i \cdot A_t^i)} (x_t^j)^\alpha dj = K(t) \quad (2)$$

Combining equations (1) and (2) yields the result that technology (A) and institutions (I) enter into the aggregate production function as labor-augmenting in the familiar Cobb-Douglas manner¹³:

$$Y_t^i = (I_t^i \cdot A_t^i \cdot L_t^i)^{1-\alpha} \cdot (K_t^i)^\alpha \quad (3)$$

As with the traditional formulation, the accumulation of capital, K , is determined by the difference between the total savings, $s^i Y$, and total depreciation, δK , as per the equation below. The savings rate, (s^i), and the rate of depreciation (δ) are taken to be exogenous. The specification is as follows¹⁴:

$$K_t^i - K_{t-1}^i = s_{t-1}^i Y_{t-1}^i - \delta K_{t-1}^i \quad (4)$$

The equation describing the accumulation of labor is taken from Jones¹⁵:

$$L_t^i = L_0^i e^{nt} \quad (5)$$

The model is assumed to describe the behavior of a small, less-developed economy that does not have the capacity to innovate locally. As such, the country's stock of technology is given by that which has diffused from the world technological frontier and which has been adapted to local conditions. In this sense, there are two inputs to the *technology assimilation function*: the local stock of human capital and the rate of technological diffusion. If human capital is absent in the economy, any technology imported from abroad will be useless as it will not be possible to adapt to local conditions. In addition, a high level

¹² The specification is analogous to that of equation 6.2 in Jones (1998), p. 116

¹³ This modification follows from Jones equation 6.3 in (1998), p. 116

¹⁴ This equation is drawn from Jones (1998), p. 117

¹⁵ Jones (1998), p. 23

of human capital will not be able to raise the economy's stock of technology autonomously and, as such, technology must be imported from abroad. Recent evidence¹⁶ indicates that the rate of technological diffusion is determined, in part, by both the stock of human capital, and manufacturing trade openness vis-à-vis advanced economies. We thus construct the technology assimilation function to reflect these observations, with the additional assumptions that the function assumes diminishing returns to scale in both inputs, and constant returns to scale in both inputs, and that there is a one-period lag from the time a technology is imported until it is adapted. The specification of the technology assimilation function is as follows:

$$A_t^i = (H_t^i)^\beta \cdot \left(\frac{\tau_{t-1}^i}{Y_{t-1}^i} \right)^{1-\beta} \quad (6)$$

In the above specification, the second input, (τ) , is taken to represent trade openness vis-à-vis advanced economies. We construct the following equation to formalize this relationship:

$$\tau_t^i = \frac{\sum_{p=1}^W \left(\frac{M_t^{ip}}{Y_t^p / Y_t^{MAX}} \right)}{W} \quad (7)$$

The above equation informs us that trade openness vis-à-vis advanced economies will be determined by the average of bilateral flows of imports from the foreign country to the home country, weighted by each foreign country's income, Y^p , relative to that of the income of the world's richest country, Y^{MAX} . W is taken to represent the number of foreign countries that the home country imports from. Only imports are considered by the model, since there are few plausible ways in which the exportation of goods would facilitate technological diffusion to the home country. As such, if the home country imports large volumes of goods from rich countries, it is assumed that the country has a high level of trade openness vis-à-vis advanced economies, and will import a correspondingly high amount of technology. By contrast, if the home country imports goods mostly from other less-developed countries, the flow of technology will be accordingly negligible.

The equation governing the accumulation of human capital is similar to that of Jones (1998)¹⁷, in that it is assumed that individuals earn human capital by spending time learning new skills instead of working. As with Jones (1998), ψ is a positive constant that is taken to represent the impact of a change in the quality of institutions, I^i , on the economy's total stock of human capital, H^i . The equation differs from Jones

¹⁶ See, for example, Caselli and Coleman (2001)

¹⁷ See, for example, equation 3.2 in Jones (1998), p. 48

(1998) in that it implies a direct link from the quality of institutions to human capital. The rationale for this specification is that the willingness of individuals to forgo employment earnings in order to learn new skills is likely to be conditioned by the quality of institutions. The equation is thus as follows:

$$H_t^i = e^{(\psi \cdot I_{t-1}^i)} L_t^i \quad (8)$$

As outlined in Table 1 above, a country's institutional framework can be segmented into five separate domains, of which three represent policy choices of the regime, and two represent the constitutional framework that constrain the regime. In this model, it is assumed that the quality of a country's institutions, I^i , is determined by the properties of the constitutional framework that constrain the regime, specifically the legislative and judicial structure, and its relationship to the executive.

The transformation of abjectly non-numerical concepts, such as the quality of the judiciary and legislature, into quantitative variables conducive to empirical analysis is a complex and inevitably controversial exercise. In this paper, we are specifically interested in modeling the impact of the quality of judiciary and legislature on levels of per capita income. In order to frame the analysis, the assumption shall be made that the executive branch of the government holds no interest in promoting economic development in the realm, and during times of economic stagnation or recession may be inclined to pursue rent-seeking practices that are ultimately inimical to the growth process. As such, it is hypothesized that the imposition of robust checks and balances on the power of the executive will improve prospects for economic development.

A judiciary that is politically independent is one important check on the power of the executive and legislative. Thus, the variable representing the quality of the judiciary, J^i , is determined by the judiciary's extent of political independence. Political independence could be quantified in a variety of ways, through a survey of legal agents and citizens in the sample of countries under consideration, or by a more objective investigation of means of judicial appointment and interference in each country. Through the establishment of the right of citizens to appeal to a supra-national body, such as the Privy Council, a country maximizes its political independence and accordingly, its value for the variable, J^i . The power of the judiciary to act as a check on the power of the executive will be further increased if a system of constitutional review prevails by which the judiciary has the capacity to overturn legislation that does not suitably reflect the principles of the constitution. As a means of reflecting this, the marginal impact of judicial change on institutional quality (as represented by the coefficients, λ and ρ in equation (9) below) is assumed to be of a higher value than when no such system of constitutional review prevails.

As with the judiciary, constitutional structures may provide for a separation of powers between the executive and the legislature. One variant is the system by which the president can veto legislation such as in the United States. Some members of the British Commonwealth, such as Australia, Canada, and New Zealand, maintain a more robust yet less operational system by which the British monarch is retained as the official head of state. The existence of such checks and balances limits the capacity of either the legislature or the executive to enact policies that exclusively serve their interests, and as such, are conducive to economic development. In addition, a system of robust checks and balances increases the costs of revolutionary overthrow of the existing regime and potentially also reduces the benefits. This effect is particularly pronounced in the example of states that retain a foreign monarch or other figurehead as head of state, since any an attempted coup d'état would potentially rouse the involvement of military forces from that country. It is thus hypothesized that a robust system of checks and balances between the legislature and the executive will be conducive to economic development.

One potential counterpoint to the line of reasoning advanced above is provided by the work of Douglass North, which suggests that institutional frameworks that promote economic development in one environment may produce similar performance in another environment where supporting norms and complementary institutions are absent. For instance, in a 1994 article entitled “Economic Performance through Time,” North states:

“...economies that adopt the formal rules of another economy will have very different performance characteristics than the first economy because of different informal norms and enforcement. The implication is that transferring the formal political and economic rules of successful Western economies to third-world and Eastern European economies is not a sufficient condition for good economic performance.”¹⁸

To reflect this reality, the qualities of judicial and legislative institutions enter multiplicatively into the *institution production function*, described below. As such, if either judicial or legislative institutions have limited respect for property rights, the perception of institutions generally will be constrained, thereby resulting in the placing of limitations on economic performance. In order to ensure that the model remains well-behaved, the institution production function is assumed to exhibit diminishing returns in its inputs and constant returns to scale. To reflect tendencies for institutional persistence, the values reflecting the quality of the judiciary and legislature enter into the institution production function with a lag of one period. We construct the following equation to formalize these assertions:

¹⁸ North (1994), p. 366

$$I_t^i = \begin{cases} \left((J_{t-1}^i)^\lambda \cdot (L_{t-1}^i)^{1-\lambda} \right) & \text{if } J_{t-1}^i > L_{t-1}^i \\ \left((J_{t-1}^i)^\vartheta \cdot (L_{t-1}^i)^{1-\vartheta} \right) & \text{if } L_{t-1}^i \geq J_{t-1}^i \end{cases}, \lambda > \vartheta \quad (9)$$

The basic model assumes that the quality of the judiciary (J^i), the quality of the legislature (L^i), the level of bilateral imports (M^i), and the rate of population growth (n^i), is assumed to be exogenously given.

THEORETICAL ANALYSIS OF THE IMPACT OF INSTITUTIONAL INTEGRATION ON ECONOMIC PERFORMANCE

In this paper, we are specifically interested in the effect of institutional change on economic growth. In particular, changes in the level of sovereignty exercised by the national authority over each of the five domains are likely to significantly impact the values assumed by each of these variables. The next task for this paper is thus to model the effect of changes in sovereignty on the respective variables of interest.

The tendency for individuals to migrate to regions of higher living standards is well documented. It thus seems relatively uncontroversial to assume that a reduction in the control of the national authority over immigration would result in a large flow of workers from the poorer country to the richer country. In this model, for simplicity we assume that open labor markets are formed only on a bilateral basis, and that workers in the home country receive information concerning living standards in the other country (denoted by the superscript l) with a lag of one period. The period at which the sovereign authority relinquishes control over migration is defined by q . Thus, at this time, the country's population growth rate (n^i), ceases to be determined completely exogenously, and is instead determined by the summation of the exogenous component and the difference between living standards in the two countries that are party to the open labor market agreement (denoted by the superscripts il). We formalize the hypothesized relationship with the following system of equations:

$$n_{t < q}^i = \eta^i \quad (10)$$

$$n_{t = q}^i = n_{t = q}^{il} \quad (11)$$

$$n_t^{il} = \eta^i + \left(\frac{Y_t^i}{L_t^i} - \frac{Y_{t-1}^l}{L_{t-1}^l} \right)^\alpha \quad (12)$$

The above system of equations predicts that when a poorer country enters into a bilateral agreement to form a unified labor market with a richer country, the country will experience an outflow of workers to the richer country. This flow will persist until income levels between the two countries are equalized. As per the standard dynamics of the Solow growth model, when analyzed in partial equilibrium, the effect of

the reduction in the population growth rate should be to increase living standards in the poorer country and decrease living standards in the richer country. Complicating the general equilibrium analysis, however, is the component of the model which follows from Romer (1986) in assuming that the economy's stock of human capital (H^i) is proportional to the economy stock of labor (L^i), that the economy's stock of technology (A^i) is proportional to the stock of human capital (H^i), and that the economy's output per capita is proportional to the stock of technology. As such, whether or not the formation of the unified labor market will increase or decrease living standards will depend upon the values of the coefficients, μ , ψ , α , β , and the stock of institutions, (I^i). The effect of the formation of a unified labor market on per capita income levels is thus ambiguous.

The implications of the relinquishment of sovereignty over the second and third institutional domains listed in Table 1 are clearer. From the work of Frankel and Rose (2002) and other authors as summarized by Rose (2002a), we can expect that the formation of a currency union, currency board, or outright "dollarization" will significantly increase trade volumes between the home country and the country with whom the respective monetary arrangement has been formed. From the equation describing the stock of technology (A^i) above, we know that the flow of technology into the home country is increased by importing a large amount of goods from highly developed economies. Thus, if the home country links its currency to that of an advanced economy, we may expect that the imports from that advanced economy to the home country will increase, and accordingly that the stock of technology in the home country will increase, prompting a rise in per capita income levels.

The entry of the home country into bilateral or multilateral agreements that limit the capacity of the national authority to impose trade barriers on imports from advanced economies is similarly expected to result in increased flows of imports, improved technology and thereby higher living standards. As such, the relinquishment of sovereignty over monetary policy, through the entry into a currency union, a currency board, or the adoption of a foreign currency as legal tender, and over trade policy, through the entry into bilateral and multilateral agreements, is predicted to have unambiguously positive effects on economic development in the home country.

While the limitation of sovereign control over monetary and trade policy has become increasingly common in recent years, the theoretical analysis of the impact of relinquishment of sovereignty over constitutional domains is limited by the relative rarity by which states voluntarily enter into such arrangements. Nevertheless, we may hypothesize on the basis of the experiences of dependencies in the

Caribbean and Oceania, and members of the British Commonwealth, that by entering into some form of *constitutional linkage* with a stable, institutionally sophisticated, highly developed country, less developed countries have the capacity to *import* better institutions. The nature of that institutional improvement, and its effects on the development of recipient country, could potentially take many forms depending on the nature of the agreement. For example, if a country enters into a system whereby aggrieved parties have the right of appeal to a supra-national court, to the Privy Council in London for instance, then the political independence of the country's judiciary will be more or less ensured, at least at the highest levels of the judicial system. Within the context of equation (9), the imposition of such an arrangement would raise the value of the variable that captures the political independence of the judiciary (J^i), thereby improving the quality of the country's institutions and increasing per capita income. The development of a robust system of checks and balances between the legislature and the executive is predicted to have analogous effects.

In order to formalize such a process of constitutional linkage, we denote the period at which the linkage is formed with the subscript q , and the foreign country to which the home country forms a constitutional linkage with k . The process of linkage is then represented as follows:

$$J_{t=q}^i = J_{t=q}^{ik} \quad (13)$$

$$L_{t=q}^i = L_{t=q}^{ik} \quad (14)$$

Given the well-documented tendency for economic actors to form expectations adaptively, and recent evidence concerning institutional persistence¹⁹, it seems unrealistic to presume that the formation of an institutional linkage would cause perceptions of local institutions to change in such a manner as to instantaneously revolutionize the economy's level of potential output. It is expected rather, that the full benefits of institutional linkage for economic development would only be realized once economic actors have become convinced that the inherent modification of the constitutional structure is of a permanent or semi-permanent nature. This institutional lag is expected to be particularly pronounced as a consequence of the fact that the benefits of investments in physical and human capital are only likely to be realized after a period of many years. We formalize the hypothesis concerning the lagged impact of institutional linkage on institutional perceptions in both the judicial and legislative sphere with the following equations:

¹⁹ See, for example, Acemoglu, Johnson, and Robinson (2001)

$$J_t^{ik} = \max\left(J_t^i, (y_{t-1}^k)^\zeta\right) \quad (15)$$

$$\zeta = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{[t-q]-3} e^{-s^2/2} ds$$

$$L_t^{ik} = \max\left(L_t^i, (y_{t-1}^k)^\zeta\right) \quad (16)$$

$$\zeta = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{[t-q]-3} e^{-s^2/2} ds$$

These functions state that following the formation of an institutional linkage, the perception of institutions in either the judicial or legislative domain, and their consequent impact on the production process, will be given by whichever is higher: the perception of the original institutions in the home country, or the perception of the new institutions as provided for by the system of institutional linkage. In this model, perceptions of the new institutions are assumed to evolve adaptively, and to be related proportionally to the level of per capita income in the foreign country in the previous period. Specifically, perceptions of the new institutions, in either the judicial or legislative domain, are determined by the level of per capita income in the foreign country in the previous period raised to a *coefficient of expectation*. We hypothesize that the coefficient of expectation is determined by a probit model, as represented in the second set of equations above. In the probit equations, s is a random variable that is normally distributed with mean zero and unit variance, and $[t - q]$ represents the number of periods that have elapsed since the adoption of the system of institutional linkage. As specified by the above equations, the coefficients of expectation will approach unity as the number of periods that has elapsed following the imposition of institutional linkage grows large. In particular, following the passage of approximately six periods, the specification above indicates that institutional perceptions in the home country will reflect the near total adoption of the foreign country's respective institutions.

The establishment of a system of institutional linkage, in either the judicial or legislative domain, will thus have the impact of improving the quality of institutions over time. As indicated by the aggregate production function above, an improvement in the quality of institutions will increase the variety of capital goods that can be employed in the production process, resulting in an increase in aggregate output and per capita income levels. As such, institutional linkage is predicted to have unambiguously positive effects on economic development in the home country. The predictions of the model concerning the effects of changes in the sovereignty of the national authority over the five institutional domains are summarized in Table 2.

TABLE 2: PREDICTED EFFECTS OF INSTITUTIONAL INTEGRATION OF PER CAPITA INCOME

Institutional Domain	Predicted Effect of Relinquishment of Sovereignty
Currency Regime / Monetary Policy	+
Trade Policy	+
Labor Flows	+ / - (dependent on μ , ψ , α , β , and the quality of institutions, I^i)
Judiciary	+
Executive / Legislature	+

EMPIRICAL ANALYSIS

In order to empirically verify the predictions of the theoretical model developed above, it is first necessary to rearrange the respective equations into a format suitable for empirical testing. In particular, we are interested in the effect of changes in the various institutional domains on income per capita, rather than income *per se*. As such, it is necessary to reorder the aggregate production function to represent per capita values. The appropriate specification is given by the following equation²⁰:

$$y_t^i = (I_t^i \cdot a_t^i)^{1-\alpha} \cdot (k_t^i)^\alpha \quad (17)$$

This specification can then be used to test the theoretical predictions above, namely that the relinquishment of sovereignty over the institutional domains of monetary policy, trade policy, the judiciary, and the relationship between the executive and the legislature will each have a positive impact on levels of income per capita, and that effect of the relinquishment of sovereignty over labor flows will be conditioned by the quality of institutions and the value of the respective parameters.

ECONOMIC EFFECT OF RELINQUISHMENT OF MONETARY AND TRADE POLICY

In order to test the effect of the relinquishment of trade and monetary policy, it is necessary to reorder the equation to a form conducive to econometric analysis. The first step is to reduce the equation *ideas production function* to intensive form. The new equation is as follows:

$$a_t^i = (h_t^i)^\beta \cdot \left(\frac{\tau_{t-1}^i}{Y_{t-1}^i / L_t^i} \right)^{1-\beta} \quad (18)$$

The formulation for the income-weighted import share, τ^i , is substituted into this equation and then the ideas production function is substituted into the aggregate production function, to yield an extended form. This is given as follows:

²⁰ Small caps are used to denote per capita values.

$$y_t^i = (I_t^i)^{1-\alpha} \cdot \left((h_t^i)^\beta \right)^{1-\alpha} \cdot \left(\frac{\sum_{p=1}^W \left(\frac{M_t^{ip}}{Y_t^p / Y_t^{MAX}} \right) / W}{y_{t-1}^i} \right)^{1-\beta} \cdot (k_t^i)^\alpha \quad (19)$$

The next step is to take natural logs of the variables represented in the extended aggregate production function. Following this modification, we arrive at the following specification, which can be tested econometrically:

$$\ln y_t^i = \alpha \cdot (\ln k_t^i) + 1 - \alpha \cdot (\ln I_t^i) + 1 - \alpha \cdot (\ln (h_t^i)^\beta) + 1 - \alpha \cdot \ln \left(\frac{\sum_{p=1}^W \left(\frac{M_t^{ip}}{Y_t^p / Y_t^{MAX}} \right) / W}{y_{t-1}^i} \right)^{1-\beta} \quad (20)$$

The first right-hand side variable in this equation represents the capital stock per worker, for which data is readily available. The second right-hand side variable represents the quality of institutions, which may be proxied by such measures, as corruption perception indices or other such surveys. The third right-hand side variable represents the stock of human capital per worker, which may be proxied through conventional measures of education. The final right-hand side variable represents the income-weighted share of imports, which may be proxied by the share of imports from OECD countries. In order to test the null hypothesis that the entry into a currency union, currency board, or the implementation of “dollarization” has no impact on the equilibrium level of per capita income, a dummy variable accounting for the presence of such arrangements is added to the specification. The equation to be tested is represented below as (21). Similarly, in order to test the null hypothesis that the entry into a bilateral or multilateral trade agreements has no impact on the equilibrium level of per capita income, a dummy variable accounting for the presence of such arrangements is added to the specification. The equation to be tested is represented below as (22). The equations to be tested econometrically are thus as follows:

$$\ln y_t^i = \alpha \cdot (\ln k_t^i) + \beta \cdot (\ln PR_t^i) + \chi \cdot (\ln(EDU_t^i)^\beta) + \delta \cdot \ln \left(\frac{M_t^{OECD}}{y_t^i} \right)^{1-\beta} \cdot (DUMMY^{CU}) + \varepsilon^i \quad (21)$$

$$\ln y_t^i = \alpha \cdot (\ln k_t^i) + \beta \cdot (\ln PR_t^i) + \chi \cdot (\ln(EDU_t^i)^\beta) + \delta \cdot \ln \left(\frac{M_t^{OECD}}{y_t^i} \right)^{1-\beta} \cdot (DUMMY^{TA}) + \varepsilon^i \quad (22)$$

Frankel and Rose (2002) test a specification similar to that in (21), although they take the additional step of using instrumental variable analysis to ensure that the limitation of bias arising from endogeneity among regressors. As aforementioned, their analysis returns the result that a common currency triples bilateral trade, and increases economic growth. In addition, a variety of researchers have performed similar econometric analyses. Rose (2002a) provides a summary of the results of such analyses and concludes that the hypothesis that there is no effect of currency unification on trade can be rejected at standard significance levels, that the combined estimate implies that currency union approximately doubles trade.

In general, the estimation of equation (22) is plagued by problems of omitted variable bias and endogeneity. One of the innovative, but ultimately flawed, attempts to successfully assess the effect of trade on growth is provided by Frankel and Romer (1999), who find that increasing the ratio of trade to GDP by one percentage point raises income per person by between one-half and two percent. The fact that Frankel and Romer's instrumental variable estimates are actually found to be larger than the OLS estimates points particularly to indirect effects of trade on growth, such as that suggested by the ideas assimilation function as specified in equation (6) above.

Thus, the current state of the literature seems to provide support for the theoretical predictions of the model presented above. As such, it seems reasonable to conclude that the relinquishment of trade policy through entry into bilateral or multilateral agreements, and the relinquishment of monetary policy through entry into currency unions, currency boards or through "dollarization" will have positive impacts on per capita income levels.

Of additional interest is the extent to which multilateral trade agreements such as the North American Free Trade Agreement (NAFTA) promote a form of judicial linkage similar to that described in equation (15) above. NAFTA, for instance, provides for a dispute resolution mechanism which links systems of contract enforcement in Mexico to that in the United States and Canada. This, and other forms of binding arbitration, instituted as components of bilateral or multilateral trade agreements would greatly enhance the scope over which such trade agreements could affect economic performance, particularly given that investors will be interested in the means of resolving commercial disputes *per se*, rather than the state of the domestic judiciary as a whole. As such, the dramatic improvement in economic performance that has been witnessed in such countries as Mexico and the Eastern European EU early entrants may, in some part, be due to the impact that the development of standardized mechanisms for resolving commercial

disputes has had on perceptions of security among investors, as well as due to the direct effects of increased trade on income per capita.

ECONOMIC EFFECT OF RELINQUISHMENT OF CONSTITUTIONAL AUTHORITY

By far the most controversial, but potentially most significant, finding of the model is that countries may be able to significantly raise their level of income per capita through establishing a separation of powers that relies upon external institutions to guarantee the independence of the respective branches. For example, a country may opt to ensure the independence of its judiciary by establishing the right of appeal to the Privy Council or the high court in another country. The impact of an independent judiciary on constitutional stability may be further accentuated by establishing a system of checks and balances, such as subjecting legislation to judicial review. Many former dominions of the United Kingdom retain the British monarch as head of state as a means of ensuring constitutional stability and providing a check against the power of the legislature. In the model developed above, it is predicted that the establishment of constitutional linkage to highly developed, and politically stable countries will raise per capita incomes through two separate channels. The first of these channels is suggested by the direct link from institutional quality to per capita income that is provided by the intensive form of the aggregate production function, as follows:

$$y_t^i = (J_t^i \cdot a_t^i)^{1-\alpha} \cdot (k_t^i)^\alpha \quad (23)$$

The institutional ‘black box’ cited in the above equation subdivides into the domains of judicial independence and the structure of checks and balances between the legislature and the executive. The existence of a system by which legislation is subject to judicial review will enhance the relative impact of the quality of the judiciary on the quality of institutions generally. These assertions are summarized in the institution production function, which is substituted in to the intensive form of the aggregate production function, as follows:

$$y_t^i = \left((J_{t-1}^i)^\lambda \cdot (L_{t-1}^i)^{1-\lambda} \cdot a_t^i \right)^{1-\alpha} \cdot (k_t^i)^\alpha, \text{ when } J_{t-1}^i > L_{t-1}^i \quad (24)$$

$$y_t^i = \left((J_{t-1}^i)^\vartheta \cdot (L_{t-1}^i)^{1-\vartheta} \cdot a_t^i \right)^{1-\alpha} \cdot (k_t^i)^\alpha, \text{ when } L_{t-1}^i > J_{t-1}^i \quad (25)$$

Recall from above that $\lambda > \vartheta$. Due to the adaptive nature of institutional perceptions, the immediate economic effect of institutional linkage is predicted to be negligible. Over many periods, however, perceptions of home country institutions should converge to those in the linked country. Recall from above, equations (15) and (16) which describe the quality of judicial and legislative institutions in the

wake of institutional linkage. Following the passage of approximately seven periods, the value of ζ , the coefficient of institutional expectation, will be infinitesimally close to unity. As such, the quality of judicial and legislative institutions will be given as follows:

$$J_t^{ik} = (y_{t-1}^k) \quad (26) \qquad L_t^{ik} = (y_{t-1}^k) \quad (27)$$

Assuming that the home country links both judicial and legislative institutions to the foreign country at the same time, the above equations may be substituted into the intensive form of the aggregate production function. Simplifying, the following specification is obtained:

$$y_t^i = (y_{t-2}^k \cdot a_t^i)^{1-\alpha} \cdot (k_t^i)^\alpha \quad (28)$$

This is an important result, as it informs us that the establishment of a system of institutional linkage will cause per capita incomes in the home country to converge to per capita incomes in the country that is being linked to, conditional on per capita stocks of technology and capital also being equal to levels in the that country. Before proceeding to the testing of the hypothesis proposed by the theoretical model, however, it is necessary to consider the second channel through which institutional linkage can impact per capita incomes in the home country. The extended form of the ideas production function, listed below, states that technology is positively impacted by increases in human capital, and that the quality the rate at which workers accumulate human capital is in turn conditioned by the quality of institutions;

$$a_t^i = \left(e^{(\psi \cdot I_{t-1}^i)} \right)^\beta \cdot \left(\frac{\tau_{t-1}^i}{Y_{t-1}^i / L_t^i} \right)^{1-\beta} \quad (29)$$

As such, the model predicts that institutional linkage will have a positive impact on human capital accumulation, and consequently on the stock of technology per capita. The length of time over which such effects of institutional linkage would become significant, however, is not specified directly by the model, and would inevitably depend upon the level of the coefficient, ψ , and the production function coefficient, β . The empirical testing of the impact of institutional linkage on the stock of technology per capita, a^i , is limited by the lack of suitable measures of technology. More generally, however, it may be possible to test the overall prediction of the model that per capita incomes in the home country should converge to those in the linked country over time, and accordingly, will significantly exceed those in other countries that have not pursued institutional linkage. An appropriate means to test such a hypothesis would ideally involve panel data and an empirical specification described by something similar to the following equation:

$$\ln y_i^i = \alpha \cdot (\ln k_i^i) + \beta \cdot (DUMMY^{INST}) + \gamma \cdot (X_i^i) + \varepsilon^i \quad (32)$$

In the above equation, $DUMMY^{INST}$ represents a dummy variable representing constitutional linkage between the home country and a highly developed, politically stable country, and X^i represents a matrix of other determinants of per capita incomes, uncorrelated with either quality of institutions or the capital stock.

The empirical analysis of the effect of constitutional linkage on per capita incomes is constrained by two factors, however. The first of these relates to the paucity of good quality data on per capita incomes and other economic variables for dependencies and other countries that maintain some form of institutional linkage with a highly-developed, politically-stable countries. The insufficiency of such data accordingly renders the running of such regressions more or less impossible. Secondly, even if economic data on dependencies and other ‘institutionally linked’ states was available, it is questionable whether or not it would be reasonable to draw inference on the basis of empirical evidence provided by regressions of the form such as that listed above. As has been well documented recently in the macroeconomics literature²¹, the diseases of omitted variable bias, reverse causality, and regressor endogeneity reach epidemic proportions in growth regressions, thereby greatly limiting our capacity to understand variation in per capita incomes and growth rates through the application of standard econometric techniques. Thus, another means of testing the economic effect of the relinquishment of constitutional authority is required.

CASE STUDIES OF INSTITUTIONAL LINKAGE

Given the general dissatisfaction with econometrics as an arbiter of competing theories of economic growth, case studies have, in recent years, become an increasingly popular empirical tool for testing theories of economic growth and development. Brock and Durlauf (2000), for instance, provide a technical summary of the implicit assumptions underlying econometric tests of theories of economic growth, and conclude that as there is little basis in presuming that these assumptions are likely to be satisfied, “historical and qualitative studies” should play a far greater role in adjudicating different explanations of economic growth. Leading the way in applying such studies to aid understanding of processes of economic growth is a volume edited by Dani Rodrik, entitled “In Search of Prosperity: Analytic Narratives on Economic Growth”. The introduction to the volume lays out the benefits of case studies as an empirical tool:

²¹ See, for example, Levine and Renelt (1992), Sala-i-Martin (1997), Sala-i-Martin, Doppelhoffer and Miller (2000), and Brock and Durlauf (2000)

“. . . very little . . . econometric work [on economic growth] survives close scrutiny, or is able to sway the priors of anyone with strong convictions in other directions. Moreover, there is little reason to believe that the primary causal channels are invariant to time period, initial conditions, or other aspects of a country's circumstances. There may not be universal rules about what makes countries grow. For a small country near major shipping routes, trade may indeed be the shortest route to economic salvation. For a large country located in a geographically disadvantaged region, a period of institution building may be the only way to escape poverty. Analytical country narratives, informed by growth theory and the cross-national evidence, can play a useful role in developing such contingent hypotheses and testing them (albeit informally).”²²

Just as with econometrics, however, the use and interpretation of case studies requires care and modesty. In particular, one must be careful to ensure that experiences are placed within the appropriate cross-sectional and time-series context, so as to not spuriously infer support for hypotheses on the basis of correlations of events and outcomes driven by unrelated factors.

In this paper, case studies shall be employed to examine the potential effect of judicial regime and sovereignty on economic growth. In particular, the experiences of countries that have preserved the right of appeal to the Privy Council shall be examined as a means of addressing the question of whether the use of this entity as a means of ensuring judicial independence at the final step of appeal affects economic development in any quantifiable manner. To answer the question of how the sovereignty of the executive and legislative branches of government affects economic development, we shall employ an approach similar to BHP. As suggested by BHP, the countries of the Caribbean and Pacific Rim share similar geographic features, population characteristics, and historical experiences, yet have come to possess a variety of contrasting institutional frameworks, ranging from hereditary monarchies headed by native chiefs to territories dependent on European states. This variation in institutions shall be exploited to shed light on the effect of sovereignty on economic growth.

JUDICIAL LINKAGE

The trial of Slobodan Milosevic at a war crimes tribunal in The Hague and the steps taken to establish an International Criminal Court serve as powerful reminders that there is nothing unusual in the notion of extra-territorial jurisdiction. The European Court of Justice (ECJ), one of the principal institutions of the European Union (EU), is charged with ensuring that European law is interpreted and applied in the same way in every member state. The ECJ has the power to force member states to amend law that is found to be in conflict with the law of the EU and it also has the power to annul any EU law that is found to conflict with the Treaties of the Union. The European Court of Human Rights (ECHR) has a narrower scope, but provides recourse directly to individuals who believe that a member state has violated their

²² Rodrik (2003), p. 9

human rights, as well as to member states that allege that another member state has violated the EU Convention of Human Rights. Final judgments of the ECHR are binding on member states that have recognized its jurisdiction. The International Court of Justice (ICJ) of the United Nations has the capacity to provide judgments as a means of settling disputes between nation states, but only if those nation states have agreed to accept the compulsory jurisdiction of the court.

While the ECJ has the capacity to review legislation both of member states and of the European Parliament, neither it nor the ECHR has the authority to review domestic judicial decisions on a general basis or provide redress to parties aggrieved by domestic judicial interpretations. The Judicial Committee of the Privy Council (hereafter referred to as the Privy Council), a vestige of the British Empire and seated in London, is one of the few legal entities that performs such a function. Since its establishment in 1833, the Privy Council has served as the final court of appeal for many legal systems outside of the United Kingdom of Great Britain and Northern Ireland. Initially intended just for British overseas territories and dependencies, the Privy Council has served as the final court of appeal in a range of states within the British Commonwealth, thereby providing for a form of judicial linkage similar to that described by equation (26). Note, however, that although the Privy Council is the supreme body within the respective judicial structure, it does not have the power to review and strike down legislation passed by the domestic law-making authority. The impact of linkage to the Privy Council on the quality of domestic institutions will thus not be as pronounced as in systems whereby the supreme judicial authority is vested with the power of constitutional review, as in the United States. Consequently, the quality of domestic institutions in a country institutional linked to the Privy Council, and the relative marginal products of judicial and legislative reform on income per capita, is described by equation (25), as opposed to (24).

With the advent of the end of the British Empire, many newly-independent states sought to assert the sovereignty of domestic legal institutions by abolishing the right of appeal to the Privy Council. Other newly-independent states retained right of appeal to the Privy Council as a means of building confidence in their own legal system as local capacity and expertise was developed. India, for instance, retained the Privy Council for two years following its independence in 1949. Sri Lanka abolished right of appeal to the Privy Council in 1972, 24 years after it gained independence from Great Britain. South Africa abolished the Privy Council in 1950, Canada did away with the institution in 1949, as did in Australia in 1968 (federal jurisdiction) and 1986 (state jurisdiction). Malaysia, independent in 1957, preserved right of appeal to the Privy Council until 1985. Singapore, which seceded from Malaysia in 1965, did not abolish

appeals to London until 1994. The right of appeal to the Privy Council was also preserved in Hong Kong until its handover to China in 1997. The decision by the above states to retain the Privy Council as the final court of appeal is indicative of a belief that the economic and political success was best served through maintaining a form of judicial linkage to a highly-developed, politically-sophisticated country. In so far as states such as Malaysia, Singapore and Hong Kong were among the most economically successful and politically stable states in Southeast Asia and abolished the right of appeal to the Privy Council, there also seems to be reason to believe, in line with equation (26) above, that there exist significant returns to utilizing judicial linkage as a means to instill credibility in domestic institutions.

Currently, a total of seventeen independent states and nine dependencies retain the Privy Council as the final court of appeal²³. Eleven of the seventeen independent states that retain the right of appeal also have retained the British Monarch as head of state. These are Antigua and Barbuda, the Bahamas, Barbados, Belize, Grenada, Jamaica, New Zealand (including the Cook Islands and Niue), St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Tuvalu. In addition, six states that do not recognize the British Monarch as sovereign grant their citizens right of appeal to the Privy Council. These are the Sultanate of Brunei, Dominica, Kiribati (in limited cases), Maldives, Mauritius, and Trinidad and Tobago. This information is summarized in Tables 4 - 6 below, where the type of government of independent states that retain the Privy Council as the final court of appeal are denoted with a star (*). The nine dependencies of the United Kingdom that incorporate the Privy Council into their judicial structure are Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Falkland Islands, Gibraltar, Montserrat, St. Helena, and Turks and Caicos Islands.

The assessment of the impact of the Privy Council in improving institutional quality and promoting economic development and political stability is limited by the absence of suitable counterfactual cases. However, there exists significant *a priori* evidence to suggest that maintaining a form of judicial linkage offers sizeable benefits. For instance, as indicated by Table 4, only five states (Cuba, Dominican Republic, Haiti, Guyana, and Suriname) in the Caribbean possess no form of judicial or constitutional linkage. The average income per capita of these states (\$3,480) is over three times less than the 23 Caribbean states possess some form of judicial or constitutional linkage (\$11,704). Similarly, in Oceania, the income per capita of the eight states judicial or constitutionally linked to the United Kingdom, France, or the United States (\$10,105), is nearly five times greater than that of the nine states that possess no such linkage (\$2,287). It is also interesting to note that Mauritius, generally considered one of the most

²³ Cox (2002)

economically successful and politically stable states in sub-Saharan Africa, is the only such state to retain the Privy Council as the final court of appeal. The economic and political development of Mauritius (estimated GDP-PPP per capita: \$10,800) also compares extremely favorably with that of other independent republics in the western Indian Ocean, such as Madagascar (estimated GDP-PPP per capita: \$870), and Comoros (estimated GDP-PPP per capita: \$710) and also, intriguingly, with the French dependency of Reunion (estimated GDP-PPP per capita: \$4800). Thus, the economic and political experiences of countries that have retained the right of appeal to the Privy Council tend to offer preliminary evidence in favor of the specification described by equations (25) and (26), which suggest large, positive effects arising from judicial linkage in countries with under-developed political and economic systems.

Further evidence as to the economic impact of judicial linkage, particularly as relates to the Privy Council, is provided, interestingly enough, by recent debates in the Caribbean and New Zealand as to whether the right of appeal to the Privy Council should be abolished. In a discussion document circulated in December 2000 entitled “Reshaping New Zealand’s Appeal Structure,” the Attorney-General of New Zealand outlined the case for eliminating the London court from New Zealand’s judicial system. In the document, the Attorney-General contended that ending appeals to the Privy Council would “recognize New Zealand’s constitutional status as an independent nation, reinforce New Zealand’s confidence in its judiciary, and ensure that final decisions are made by judges . . . familiar with New Zealand society”²⁴. In February 2001, an agreement was reached to form a Caribbean Court of Justice, which would serve as the final court of appeal for citizens in eleven Caribbean states, and which would replace the Privy Council as the final court of appeal in both criminal and civil matters²⁵. The principal political motivation for this move is the limitations that the Privy Council has placed upon the right of Caribbean states to execute convicted criminals, and the political salience of the issue given the rising tide of violent crime in the region. As of the time of writing, however, neither New Zealand nor the respective Caribbean states had formally abolished the Privy Council as the supreme component of their appeal structure.

In spite of the widespread confidence in the competency and independence of New Zealand’s judiciary and of the multilateral institution that is proposed to replace the Privy Council in the Caribbean, the proposal to abolish right of appeal to the Privy Council has provoked considerable debate in both parts of the world. Critically, the most vocal opposition to the proposal came from the business community, with

²⁴ Wilson (2000), p. 1

²⁵ Le Sueur and Cornes (2001)

many industry associations suggesting that, even in the higher reaches of the judiciary, local judges had limited commercial expertise as compared to judges in larger countries, and particularly as compared to the judges that sit on the Privy Council²⁶. Representatives of the business community have also contended that the Privy Council provides for a more global context in which to try commercial cases, and its “anchoring” effect limits the chances of political influence over the judiciary and of judicial activism, particularly given the comparatively unsophisticated state of the constitutional structure in the respective countries²⁷. Such arguments carry particular weight since most appeals to the Privy Council are commercial cases. They are also important because they indicate the crucial role that judicial linkage can have in reassuring investors and improving the overall business climate.

One can extrapolate that the sentiments of business vis-à-vis institutions such as the Privy Council would be even the more vociferous in more under-developed countries where there exists a distinct threat of systematic political interference in the decisions of the judiciary. Given the critical role of investor perceptions in promoting economic growth, it seems reasonable to take the above comments as evidence that linkage to well-respected legal entities with extensive commercial expertise will have large, positive effects on economic development, particularly in countries where there is a shortage of confidence in the political independence, judicial consistency, and commercial expertise of domestic judges. The impact on foreign investment is likely to be even more pronounced, given that the right to appeal commercial cases to an internationally recognized and respected court with jurisprudential traditions spanning hundreds of years would be seen as a decisive comparative advantage vis-à-vis other countries. Accordingly, the existing evidence seems to support the contention formalized in equations (25), (26), and (28), that judicial linkage can significantly improve living standards.

CONSTITUTIONAL LINKAGE

As with the Privy Council, a number of former British overseas dependencies have retained the British monarch as the head of state as a means of imposing constraints on the autonomy of the domestic legislature and executive. Australia, Canada, Jamaica and New Zealand serve as the major examples of this particular constitutional arrangement. Other states in Oceania and the Caribbean that retain the British monarch as head of state are denoted in Tables 4 - 6 with the post-script (UK) in the “Type of Government” column. Queen Elizabeth II and her domestic delegates, or Governor-Generals, have however generally been reluctant to intervene in any manner in the sovereign affairs of member states. As

²⁶ Chapple (2001)

²⁷ Chapple (2001)

such, the extent to which this constitutional arrangement serves as an effective constraint on the actions of domestic political actors is debatable. For instance, when the Malaitan Eagle Force kidnapped the Prime Minister of the Solomon Islands in an April 2000 coup d'état and forced his resignation, the local Governor-General, Father John Ini Lapli, refused to intervene in the constitutional crisis, accepting “with regret” the Prime Minister’s resignation²⁸. Similarly, when Sitiveni Rabuka seized power in Fiji in October 1987, then Governor-General Ratu Penaia Ganilau ultimately endorsed the move to republican status by accepting a leadership role in the new regime²⁹. The reasonable conclusion seems to be that the British monarch’s position as head of state in various members of the British Commonwealth imposes little in the way of real constraints on those determined to destabilize local political systems. As such, it does not seem appropriate to consider such arrangements as meaningful forms of constitutional linkage.

In spite of the decline of the once vast overseas empires of former colonial powers such as France, Great Britain, Spain, and the Netherlands, there remain a significant number of states throughout the world that still act as overseas dependencies of foreign states. The United States, for instance, retains Guam, the Northern Mariana Islands, and American Samoa as unincorporated territories for strategic purposes. France retains a number of dependencies throughout Oceania, the Caribbean, and the Indian Ocean, such as Tahiti, Martinique and Reunion. The Netherlands and the United Kingdom also exercise sovereignty over a number of states in the Caribbean, and the Cook Islands, Niue, and Tokelau, have all ceded control over foreign affairs and defense to New Zealand. Tables 4 – 6 list states in the Caribbean, Oceania, western Indian Ocean, and North Atlantic, with emboldened countries representing dependencies and countries in normal font representing a subset of neighboring states with similar geographic and demographic conditions.

In contrast with independent states that merely retained a foreign monarch as head of state, the “colonial powers” have, on a variety of occasions, undertaken political and military action to preserve political stability and enforce constraints on the capacity of local political actors to enact policy and reform the domestic political structure. The United Kingdom invaded the Falkland Islands in 1982, for instance, to repel an attempt by Argentina to wrest the dependency away from its colonial overlords. The available evidence, however, seems to indicate that popular opinion, as represented by referendums and polls, opposes independence in many of the territories listed, and accordingly, tendencies toward domestic political destabilization have been limited. It thus appears reasonable to conclude that structures of

²⁸ CNN.com AsiaNow (2000)

²⁹ BBC News (2003)

dependency, such as those listed in the “Type of Government” column in Tables 3 – 5, do represent an effective form of constitutional linkage, and, as such, are hypothesized to increase the steady state level of income per capita as per equations (27), (29), and (30).

During the second half of the 20th century, and particularly in the years around 1960, a great many states in the developing world were granted their independence. As this transition involved the creation of local legislatures and, in many cases, the advent of a domestic head of state, independence severed constitutional linkages – the reverse process to that described in equation (25) above. Accordingly, it may be possible to assess the impact of constitutional linkage on economic development by examining the performance of states in the wake of their granting of their independence, and by comparing this to that of states with similar characteristics. BHP employ an episodic *difference of differences* analysis to estimate precisely this effect. The difference of differences method compares the change in economic growth of the newly-independent country after independence with the change experienced by a set of “comparator countries” over the same period. Thus, BHP are able to determine “how much faster or slower the country would have grown had it not experienced an independence episode”³⁰. The specification used to calculate the *difference of differences* estimates is as follows, where $g_{t_0^i, t_0^i+n}^i$ represents the growth rate of the independent country after independence, $g_{t_0^i, t_0^i-n}^i$ is the growth rate of the country before independence, and \bar{g}^C represents the corresponding mean values for the set of comparator countries:

$$\text{Differences of differences } (C, n): (g_{t_0^i, t_0^i+n}^i - g_{t_0^i, t_0^i-n}^i) - (\bar{g}_{t_0^i, t_0^i+n}^C - \bar{g}_{t_0^i, t_0^i-n}^C) \quad (29)$$

As summarized by Table 3, the episodic analysis of BHP yields three conclusions. First, they find no evidence that independence in less-developed countries increases economic growth relative to that of highly-developed countries over the same period. In fact, the estimates of BHP indicate that newly-independent countries grow at a slower rate than their independent, highly-developed counterparts for at least 30 years. Second, BHP find that “post-independence growth is neither dramatically higher nor dramatically lower in countries not experiencing independence”³¹. Third, BHP report an “enormous variability” around the “average results,” with some countries such as South Korea, Taiwan, and Singapore recording growth rates that allowed them to effectively converge to the income levels of highly-developed countries, while other states, such as Guinea-Bissau and Mozambique saw income levels decline dramatically following independence.

³⁰ Braun, Hausmann, and Pritchett (2002), p/ 16

³¹ Ibid., p. 24

**TABLE 3: SUMMARY OF EPISODIC ANALYSIS
(FROM BRAUN, HAUSMANN, AND PRITCHETT (2002))**

	# of countries	Before/after		Difference of differences				Differences			
		10	Long	Developed		LDC		Developed		LDC	
				10	Long	10	Long	10	Long	10	Long
Historical, 1900-1992	6	1.1	2.0	-2.5	.5	-2.1	2.5				
Historical, 1820-1870	2								-.9		-.1
Recent (post 1960)	52							-.9	-1.1	.5	.4
Recent (post 1960)	61									-.6	
Recent (with pre-1960 data)	5	.26	-1.24	-.24	-.66	.38	.06				
Recent (mostly 1970s, 80s)	17	.6					1.2				

A variety of methodological issues limit the applicability of the results of BHP to policy, however. In particular, there is reason to believe that results obtained from episodic *difference of differences* analysis will be biased if time-specific factors affecting economic growth differ systematically between the group of newly-independent countries and the set of comparator countries. For instance, the majority of BHP’s analysis is based on evidence comparing the performance of newly-independent countries with that of developed and less-developed countries before and after the large wave of independences that occurred around 1960. The economic performance of less-developed and developed countries alike was impacted severely in the post-1960 period by large fluctuations in oil prices, however. If oil importers are concentrated primarily in the developed sample and oil exporters in the newly-independent sample, then we would expect the *difference of differences* vis-à-vis developed countries to be biased downward. Another relevant methodological issue is that of endogeneity. For instance, if the occurrence of independence is correlated with other factors that negatively impacted economic growth (for example, if independence was associated with the imposition of a socialist ‘command’ economy, or if the countries in the sample experienced unrepresentative levels of political instability in the aftermath of independence), the estimated effect of independence on economic growth will be lower than the actual effect. In addition, as BHP note, many dependencies and territories lack comparable historical economic growth data, thereby limiting the capacity of researchers to construct adequate counter-factual predictions for newly-independent countries³². The confluence of these issues, and their possibility to affect results, indicates the need for the more nuanced, contextual analysis of the economic progress of dependencies vis-à-vis their independent counterparts.

The lack of extensive historical data on leading economic and social indicators for many dependencies and overseas territories imposes limitations on the sophistication of the empirical analyses that can be performed. Given the inability to perform a standard cross-sectional growth regression, where one

³² Ibid., p. 25

controls for the usual correlates of economic growth, an appropriate empirical strategy is to search for a set of cases where underlying conditions are similar enough to provide for something approaching a *natural experiment*. Although the conditions for a natural experiment, strictly defined, are never likely to be satisfied in cross-country macroeconomics, when states are reasonably similar in geographical, demographic, historical and other factors, but differ, for example, in the quality of their institutions and level of economic development, there exists reason to believe that variation in one of these two factors may in fact be driving variation in the other. Further investigation of the nature of the historical development across the set of cases may then yield a set of clues as to how institutional structure has affected economic development, or vice versa.

As pointed out by BHP³³, the dependencies and states of the Caribbean provide for just such a form of natural experiment. Due to the fact that the islands of the Caribbean were all colonized by major European powers within a comparatively short historical period, and for similar economic purposes³⁴, and are all located within a comparatively narrow geographical span, the entities that have come to define the political map of the Caribbean today differ little in demographic and cultural characteristics, topographical features, natural resource endowments, and distance from potentially large sources of trade, investment, and tourism. Differences in these factors narrow even more when political entities are analyzed within the context of their island group, as opposed to that of the Caribbean as a whole. The islands of the Caribbean do differ substantially, however, in institutional and political structure, and levels of economic development. States such as Haiti, the Dominican Republic, and Cuba received their independence relatively early, others in the global wave of independences in the 1960s and 1970s, and yet others, such as Bermuda, the Cayman Islands, Martinique, and Puerto Rico, remain dependencies or territories. Income levels within the Caribbean also range widely, from GDP per capita levels of \$1,700 in Cuba to \$33,000 in Bermuda. Table 4 arranges political entities in the Caribbean by island group and lists summary statistics relevant to development level (estimated GDP per capita, infant mortality, and literacy), size (population), and institutional arrangement (year of independence and type of government).

³³ Ibid., p. 25

³⁴ See, for example, Sokoloff and Engerman (2000)

TABLE 4 – POLITICAL ENTITIES OF THE CARIBBEAN

Political Entity	GDP per Capita	Population	Infant Mortality	Literacy	Year of Independence	Type of Government
Windward Islands of the Lesser Antilles (Southern Caribbean)						
Trinidad and Tobago	\$9,500	1,163,724	.02420	94%	1962 (UK)	Representative Democracy*
Barbados	\$14,500	276,607	.01171	97%	1966 (UK)	Parliamentary Democracy (UK)*
Grenada	\$4,400	89,211	.01461	98%	1974 (UK)	Parliamentary Democracy (UK)*
St. Vincent and the Grenadines	\$2,800	116,394	.01615	96%	1979 (UK)	Parliamentary Democracy (UK)*
St. Lucia	\$4,500	160,145	.01480	67%	1979 (UK)	Parliamentary Democracy (UK)*
Martinique (France)	\$11,000	422,277	.00762	93%	-	French Overseas Department
Guadeloupe (France)	\$9,000	435,739	.00930	90%	-	French Overseas Department
Netherlands Antilles	\$24,400	214,258	.01106	98%	-	Self-Governing Dutch Territory
Aruba (Neth.)	\$28,000	70,441	.00626	-	-	Self-Governing Dutch Territory
Leeward Islands of the Lesser Antilles (Eastern Caribbean)						
Dominica	\$4,000	70,158	.01594	94%	1978 (UK)	Parliamentary Democracy (UK)*
Antigua and Barbuda	\$8,200	67,488	.02161	89%	1981 (UK)	Parliamentary Democracy (UK)*
St. Kitts and Nevis	\$7,000	38,736	.01583	97%	1983 (UK)	Parliamentary Democracy (UK)*
Anguilla (UK)	\$8,200	12,446	.02368	95%	-	British Territory*
British Virgin Islands (UK)	\$16,000	21,272	.01955	98%	-	Self-Governing British Territory*
U.S. Virgin Islands (USA)	\$15,000	123,498	.00921	-	-	Unincorporated Territory of USA
Greater Antilles (Western Caribbean)						
Haiti	\$1,800	7,062,722	.09335	45%	1804 (France)	Representative Democracy
Dominican Republic	\$5,700	8,791,524	.03341	82%	1844 (Haiti)	Representative Democracy
Cuba	\$1,700	11,224,321	.00727	96%	1902 (Spain)	Communist Dictatorship
Jamaica	\$3,700	2,680,029	.01371	85%	1962 (UK)	Parliamentary Democracy (UK)*
Cayman Islands (UK)	\$24,500	36,273	.00989	98%	-	British Territory*
Puerto Rico (USA)	\$10,000	3,957,988	.00930	89%	-	USA Associated Commonwealth
Northern Islands						
Bahamas	\$15,000	300,529	.01869	98%	1973 (UK)	Parliamentary Democracy (UK)*
Turks and Caicos Islands (UK)	\$7,300	18,738	.01746	99%	-	British Territory*
Bermuda (UK)	\$33,000	63,960	.00928	98%	-	Self-Governing British Territory*
Continental States						
Guyana	\$4,800	698,209	.03837	98%	1966 (UK)	Republic
Suriname	\$3,400	436,494	.02348	93%	1975 (Neth.)	Constitutional Democracy
Belize	\$3,200	262,999	.02431	75%	1981 (UK)	Parliamentary Democracy (UK)*
French Guiana	\$6,000	182,333	.01322	83%	-	French Overseas Department

TABLE 5 – POLITICAL ENTITIES OF OCEANIA

Political Entity	GDP per Capita	Population	Infant Mortality	Literacy	Year of Independence	Type of Government
Polynesia						
Samoa	\$1,450	178,631	.03074	80%	1962 (NZL)	Constitutional Monarchy
Tonga	\$1,660	106,137	.01372	99%	1970 (GBR)	Constitutional Monarchy
Tuvalu	\$1,100 (est.)	11,146	.02200	55%	1978 (GBR)	Constitutional Monarchy (UK)*
Cook Islands (New Zealand)	\$5,000 (est.)	20,811	-	95%	-	Parliamentary Democracy in Free Association with New Zealand*
American Samoa (USA)	\$8000 (est.)	68,688	.01009	97%	-	Unincorporated Territory of USA
French Polynesia (France)	\$17,290	257,847	.00895	98%	-	French Overseas Territory
Micronesia						
Nauru	-	12,329	.01052	-	1968 (AUS)	Republic
Kiribati	\$950	96,335	.05263	-	1979 (GBR)	Republic*
Federated States of Micronesia	\$2,110	135,869	-	89%	1986 (USA)	Constitutional Government in Free Association with USA
Marshall Islands	\$1,970	73,360	.03868	94%	1986 (USA)	Constitutional Government in Free Association with USA
Palau	\$9000 (est.)	19,409	.01932	92%	1994 (USA)	Constitutional Government in Free Association with USA
Northern Mariana Islands (USA)	\$12,500 (est.)	77,311	.00561	97%	-	Commonwealth in Association with USA
Guam (USA)	\$21,000 (est.)	160,796	.00658	99%	-	Unincorporated Territory of USA
Melanesia						
Fiji	\$1,820	856,346	.01372	93%	1970 (GBR)	Republic
Papua New Guinea	\$800	5,172,033	.05653	65%	1975 (AUS)	Parliamentary Democracy (UK)
Solomon Islands	\$620	494,786	.02368	-	1978 (GBR)	Parliamentary Democracy (UK)
Vanuatu	\$1,150	196,178	.02483	53%	1980 (from Anglo-French Condominium)	Parliamentary Republic
New Caledonia (France)	\$15,000 (est.)	207,858	.00823	91%	-	French Overseas Territory

Oceania, which spans from French Polynesia in the southern Pacific Ocean to the Northern Mariana Islands in the north-western Pacific, is also made up of a set of islands of similar demographic, geographic, and historical conditions. As with the Caribbean, many islands in Oceania were colonized by major European powers during the 18th and 19th centuries. The motivations for colonization differed substantially from those which led to the colonization of the Caribbean, and indigenous populations in Oceania faced little of the devastating impacts imposed by European encroachment in the Caribbean. Nevertheless, the historical development of islands within Oceania followed a remarkably similar path until the second half of the 20th century, when some islands achieved independence, while others remained territories or dependencies. Levels of economic development have also come to vary extraordinarily between the political entities of Oceania, ranging from subsistence level in the Solomon Islands and Papua New Guinea to OECD-levels in French Polynesia, Guam, and New Caledonia. Thus, as with the Caribbean, the islands of Oceania, given their striking similarities in initial conditions and

geographical and societal characteristics, provide for a form of natural experiment that may be used to examine the effect of constitutional linkage on economic performance. Table 5³⁵ arranges the political entities of Oceania by island group and lists relevant summary statistics.

In addition to the isles of Oceania and the Caribbean, there are a number of regions around the world that play host to territories and dependencies of substantial size and importance. Principally, these are located in the western Indian Ocean. Given the proximity of independent states with similar underlying characteristics and historical development in both of this region, the comparative experiences of these various political entities provide for a natural experiment analogous to that of the Caribbean and Oceania. The summary statistics of the relevant dependencies and territories, and their respective group of comparator countries, are listed in Table 6.

TABLE 6 – POLITICAL ENTITIES OF THE WESTERN INDIAN OCEAN

Political Entity	GDP per Capita	Population	Infant Mortality	Literacy	Year of Independence	Type of Government
Seychelles	\$7,600 (est.)	80,098	0.01686	58%	1976 (UK)	Republic
Comoros	\$710 (est.)	614,382	0.08179	57%	1975 (France)	Republic
Mauritius	\$10,800 (est.)	1,200,206	0.01665	83%	1968 (UK)	Parliamentary Democracy*
Reunion (France)	\$4,800	743,981	0.00831	79%	-	French Overseas Department

In so far as the aforementioned cases in the Caribbean, Oceania, and the western Indian Ocean do indeed represent a credible natural experiment, and in so far as causality runs directly from institutional quality to economic development and not vice versa, the effect of constitutional linkage on economic development should be effectively captured by the simple correlations between independence and income per capita. When the effect of constitutional linkage on economic development is assessed across the entire sample of the 50 political entities listed in Tables 4 – 6, dependencies and territories are found to have in excess of three times the level of income per capita as independent states. Infant mortality in independent states is found to be approximately two-and-a-half times greater in independent states than dependencies, with literacy rates being 13 percent higher in dependencies than their independent counterparts.

The fallacy in drawing inference from such simple correlations is illustrated, though, by the differences in population sizes across the two institutional forms. Dependencies, on average, are found to have just over a quarter of the population of independent states. This difference in population is just one of many that may exist between dependencies and independent states which may cause the levels of income per capita

³⁵ Data for Tables 4 – 6 was collected from the World Factbook 2002 and from Braun, Hausmann, and Pritchett (2002)

to vary, independent of the effect on institutions. In order to control for such variation in the larger sample, we employ the *natural experiment* technique mentioned above. Specifically, the size of the samples used to make comparisons is limited to countries that are believed to share similar underlying characteristics. As a first step, three separate samples are created: the Caribbean, Oceania, and the western Indian Ocean. When the development indicators of dependencies are compared with those of independent states within their particular region, some interesting results are discovered. In particular, it is found that dependencies in Oceania do particularly well relative to their independent counterparts, recording levels of income per capita over six times greater. Independent states in the Caribbean weren't quite as disadvantaged, but dependencies there were still richer by an average of nearly three-to-one. In the western Indian Ocean, however, the French territory of Reunion was actually poorer than the average among its comparator group.

The analysis of the effect of constitutional linkage on economic development on a region-by-region basis still creates significant potential for omitted variables to bias the results, however. Consider, for instance, that Oceania encompasses states as distant as French Polynesia and Guam, and as different in size as Papua New Guinea, with a population of five million, and Tuvalu, with a population of little over eleven thousand. Similarly, the Caribbean sample stretches all the way from Guyana to Bermuda, and spans states with populations ranging from twelve thousand to eleven million. As mentioned above, one mechanism to control for other underlying characteristics that may impact the economic development process is to analyze the experiences of political entities within the individual island groups specified in Tables 4 – 6. Table 7 presents the results of comparing the development indicators of dependencies to those of other independent states within the same island group. Island groups such as Melanesia and Polynesia in Oceania and the western Caribbean record large differences in development, for instance, between dependencies and independent states. In other island groups, such as the northern Caribbean, the continental Caribbean, and the western Indian Ocean, the effect of constitutional linkage appears to be less pronounced.

In order to determine the overall impact of constitutional linkage on economic development once underlying conditions are controlled for, an unweighted average is taken of the ratios of the development indicators of dependencies and independent states of each of the island groups (of which there are nine). This *average-of-averages* approach returns some quite interesting results. The success of the approach in controlling for underlying characteristics is shown by the ratio of average populations across the two institutional forms. Whereas a simple averaging of indicators across the 50 entities in the sample reported

the result that dependencies had approximately quarter of the populations of independent states, the average-of-averages approach increases that number to three-quarters. As such, this approach succeeds in generating results that are based on comparisons of outcomes across political entities with similar underlying conditions. Of particular interest is the fact that this approach, which treats each island group as a natural experiment, reports an even more decisive effect of constitutional linkage on economic performance. Specifically, dependencies are found to have, on average, over four times the level of income per capita and rates of average infant mortality just over a third of those of independent states within their island group. This result indicates that the consequences of constitutional linkage on economic development are potentially very large.

TABLE 7 – COMPARATIVE DEVELOPMENT OF DEPENDENCIES AND INDEPENDENT STATES

Unit of Comparison	Ratio of Average GDP per Capita (Dep. / Ind.)	Ratio of Average Population (Dep. / Ind.)	Ratio of Average Infant Mortality (Ind. / Dep.)	Ratio of Literacy Rates (Dep. / Ind.)
Southern Caribbean	2.54	0.79	1.90	1.04
Eastern Caribbean	2.04	0.89	1.02	1.03
Western Caribbean	5.35	0.27	3.85	1.21
Northern Caribbean	1.34	0.14	1.40	1.01
Continental Caribbean	1.58	0.39	2.17	0.94
Caribbean	2.72	0.22	1.99	1.07
Polynesia (Oceania)	7.19	1.17	2.33	1.24
Micronesia (Oceania)	4.78	1.76	4.97	1.07
Melanesia (Oceania)	13.67	0.12	3.61	1.29
Oceania	6.38	0.22	3.53	1.20
Western Indian Ocean	0.75	1.18	4.62	1.20
Average of Averages	4.36	0.75	2.87	1.11
Average	3.21	0.27	2.51	1.13

Assuming that the practice of using island groups as natural experiments is able to adequately control for factors likely to be correlated with both constitutional linkage and economic development, there nonetheless may be a number of additional concerns which may cause one to doubt whether the average-of-averages technique accurately represents the impact of constitutional linkage on economic development. For instance, as was a concern with the episodic analysis, we may be concerned that independence is endogenous, or more specifically, that the colonial powers forced independence upon (or never sought to colonize) economically underdeveloped states, or that countries that achieved independence were disproportionately ruled by regimes that pursued policies inimical to economic development. In addition, one might also be concerned that the average-of-averages result is capturing the cumulative impact of economic aid, capital flows, immigration of skilled workers, emigration of unskilled

workers, and other transfers from the colonial state to the dependency, and as such do not represent the impact of constitutional linkage in isolation.

Consider the case of American Samoa, a dependency that is approximately five times richer, in per capita terms, than its western sibling, Samoa. The comparison of American Samoa and Samoa would initially appear to represent a near-perfect form of natural experiment, analogous to that of comparing North and South Korea or East and West Germany. However, America's colonization of the territory has brought with it more than simply American institutions. The presence of the American military on the island has resulted in the provision of increased medical services, and given local citizens the capacity to increase their human capital and earnings through employment in specialized military occupations, thereby speeding the diffusion of technology to other facets of the local economy. One might also hypothesize that the large flows of development aid, and the capacity of American Samoans to migrate to the United States and remit earnings, will have greatly improved the development of the local economy. As such, it is quite unclear just how much of the positive impact ascribed to constitutional linkage results from the effect of institutions *per se*, as opposed to the ancillary financial and other benefits that have been required in order to render continued colonization palatable to local residents in the current era.

Without much more extensive qualitative and quantitative data than is currently available, it is simply not possible to assess accurately the impact of such sources of bias on the results listed above. However, a variety of past studies on the effect of aid flows on economic growth in less-developed countries, and the historical record of economic growth in the various dependencies listed in Tables 4 – 6, suggest reasons to believe that the impact of the ancillary benefits which have accompanied constitutional linkage are not as great as commonly presumed.

Of particular relevance to the question of the relative marginal impact of transfers and constitutional linkage *per se* is a body of empirical research that has sought to examine the effect of foreign aid on economic growth in developing economies. A series of working papers by Boone³⁶, followed up by research by Durbarry, Gemmell, and Greenaway (1998), for instance, demonstrates that foreign aid has negligible effects on both investment and income growth in less-developed countries is negligible. After an extensive empirical investigation, Durbarry, Gemmell, and Greenaway find “negligible growth effects of foreign aid (small and statistically insignificant parameters) in low income countries and those

³⁶ Boone (1994, 1996)

receiving only small amounts of aid”³⁷. Thus, as the rate of return on foreign aid flows is effectively nil in the counter-factual case of an under-developed country with poor institutions, any increases in income per capita flowing from transfers from a colonial power to a hitherto underdeveloped dependency would ultimately be attributable to the impact of constitutional linkage. As such, there is also reason to believe that, in the other counter-factual case of a under-developed dependency with no transfers but good institutions, private capital would be forthcoming given the apparent existence of positive rates of return. Consequently, the marginal growth effect of an improvement in institutional quality would appear to dominate that of an increase in transfers in the case of a constitutionally linked economy.

Of additional relevance when attempting to isolate the impact of the improvement in institutional quality from those of other ancillary benefits of constitutional linkage is the history of the economic development of the various dependencies and territories. For instance, approximately one third of the American Samoan population is employed in the tuna fishing and tuna processing industries, which in turn account for the vast majority of American Samoa’s export revenue. The development of this industry, and the willingness of investors to contribute towards the capital requirements for the construction of tuna processing plants, has unequivocally been aided by the security provided against expropriation of assets by the territory’s constitutional links with the United States. Similarly, extraordinarily prosperous territories such the Cayman Islands, Bermuda, Aruba, and the Netherlands Antilles have all relied upon reputations as offshore financial centers and providers of banking facilities to build up their economies. Given that such industries are critical reliant on investors placing a high level of trust in the stability of government and commercial regulation, it is virtually inconceivable that the aforementioned territories would have prospered to the extent that they have as independent republics. As such, one must attribute a large portion of these territories’ high levels of income per capita to their status as dependencies of politically-stable, highly-developed countries.

Given the reliance of the economies of many small island states place on tourism, it is also important to consider the impact of constitutional linkage on tourist industries. In this regard, the effect of political instability on a tourist industry can be assumed to be generally similar to that on an offshore banking industry. A coup d’état in Fiji in May of 2000 effectively decimated that country’s hitherto prosperous tourist industry, for instance, with visitor arrivals taking at least a full two years to recover to pre-coup levels. On the other hand, the political stability brought by French control over Tahiti has ensured the island is among the most heavily visited in the South Pacific, in spite of its remote location. Islands such

³⁷ Durberry, Gemmell, and Greenaway (1998, p. 18)

as those of the Northern Mariana archipelago and Guam in the North Pacific have also been much more successful than their independent neighbors in attracting both investment in tourism infrastructure and tourists themselves. There can be little doubt that constitutional linkage provides large benefits to economies based heavily around tourism.

The unmatched capability of constitutional linkage to reassure investors and consumers alike and to provide for an institutional environment which ensures a large, positive rate of return on investment thus seems to have been critical to promoting the development of the highly profitable industries that have dramatically increased levels of income per capita in various dependencies and overseas territories. Accordingly, there seems to be very good reason to believe that the large positive impact of constitutional linkage on economic growth described in Table 7 flows from the direct effect of institutional quality on income per capita, and not through ancillary benefits such as transfers or migration.

CONCLUSIONS AND POLICY RECOMMENDATIONS

The body of evidence and theoretical predictions described above indicate that institutional linkage offers substantial economic benefits to small, under-developed political entities. The purpose of this section of the paper is to provide a recommendation to the government of East Timor as to whether it should pursue such institutional linkages with highly-developed, politically stable countries as a means of promoting economic growth. As above, these recommendations are organized according to the five domains over which the regime may elect to relinquish sovereignty.

MONETARY POLICY

As demonstrated by the research as summarized by Rose (2002), entering into a currency union or adopting a foreign currency as legal tender offers the potential to greatly boost trade with that country. Currently, East Timor uses the U.S. dollar as its national currency. The question as to whether or not this is a best case scenario is debatable. The ideal situation would undoubtedly be if the discussed formation of a currency union among Australia, New Zealand and Singapore materialized, and East Timor was admitted as a member of the union. Such an arrangement would enable East Timor to earn seignorage revenues, have a say on monetary policy, and stimulate trade with the economic leaders of the region. In the absence of such a union, however, the Australian dollar or the American dollar both provide for excellent currencies for East Timor to use as a national unit of exchange. Given East Timor's close proximity to Australia and the attendant tendency for the use of the Australian currency to stimulate trade

and investment between the two countries, it might be argued that the Australian unit would hold the slight edge over the two in terms of desirability. Given the substantial costs in switching from the entire country from one currency to another, though, it seems clear that East Timor should retain the US dollar as its unit of national currency for the moment.

TRADE POLICY

The promotion of trade with highly-developed countries is essential in speeding technological diffusion from the world frontiers of knowledge. The standard means by which small, under-developed countries have sought to expand trade in this regard is to join the World Trade Organization and accordingly reduce tariff and non-tariff barriers. Of additional relevance to the government of East Timor, however, is whether it should seek to negotiate bilateral and multilateral trade and investment agreements that provide for a range of dispute resolution mechanisms and other means of institutional linkage. Agreements such as NAFTA and the European Union, for instance, reassure investors wishing to transact across borders by providing for a range of common mechanisms for dispute resolution and contract enforcement. In this regard, such trade agreements can impose a form of judicial linkage in the commercial sphere, without the need to instill such bodies as the Privy Council or provide for the right of appeal to foreign courts. As with the aforementioned currency union featuring Australia, New Zealand, and Singapore, the economic leaders of the Pacific Rim have been active in discussing the formation of such trade pacts throughout the region. New Zealand and Chile, for instance, recently entered into such an agreement. Given the large predicted impact of trade integration and judicial linkage with highly-developed economies, the government of East Timor should be active in expressing its desire to enter into multilateral or bilateral agreements that enable it to promote trade with highly-developed economies and reassure investors from such countries as to the security of assets in East Timor. The pursuit of institutional linkage in this fashion has the potential to be particularly efficacious given its low political prominence vis-à-vis more symbolic mechanisms of pursuing judicial linkage.

MIGRATION POLICY

The theoretical effects of the formation of unified labor markets between less-developed and highly-developed countries are, as described above, ambiguous. In addition, the state of the literature and quality of available data is not currently of a quality that is sufficient to provide for the empirical resolution of this theoretical ambiguity. Given the current political climate in Australia and Singapore and the concerns that governments of these countries have concerning the security of East Timor's western border with

Indonesia, East Timor is not likely to be invited to form a unified labor market with a highly-developed country in the region in the near future. If East Timor grows rapidly over the next few years, maintains political stability, and pursues a policy of institutional convergence with its richer neighbors, such an arrangement may become a possibility, however, particularly if a proposed single labor market between New Zealand and Singapore is eventually given the go-ahead. For the moment, however, it is recommended that the government of East Timor focus on other mechanisms of attaining institutional linkage with highly-developed, politically stable countries.

OPTIONS FOR JUDICIAL LINKAGE

As mentioned above, East Timor may be able to obtain a form of judicial linkage in the commercial sphere through the incorporation of dispute resolution mechanisms into bilateral or multilateral trade agreements. Although such forms of linkage are especially desirable, and particularly so because of their relative political inconspicuousness, their direct impact will be limited only to investors from countries covered by the agreement. Thus, in order to provide assurances for investors generally of the independence and consistency of the East Timorese judicial system, a more comprehensive form of judicial linkage will be required. Opinions expressed in the respective debates in New Zealand and the Caribbean over the abolition of the Privy Council indicates just how much business communities value the institution. As such, one can expect that if East Timor did join the six other states that do not recognize the British monarch as their head of state but which do provide for appeals to the Privy Council, it would serve as an effective measure in reassuring investors of the security of their assets and of the consistency and independence of means of dispute resolution. It is also probable that ordinary citizens, as well as business investors, would welcome this external check on the local judicial system, meaning that the government of East Timor would potentially face limited opposition in advancing such a proposal. Of more serious concern, however, is the future of the Privy Council itself. If New Zealand and the respective Caribbean states do, as planned, abolish the right of appeal to the Privy Council, the future of the body will inevitably be called into question in the United Kingdom. Already, there has been ample discussion as to whether or not it should be abolished entirely³⁸. As such, it is important that East Timorese policy makers keep a close eye on constitutional events in New Zealand, the Caribbean, and the United Kingdom if the proposal to establish the right of appeal to the Privy Council meets with favor. If the Privy Council is abolished or if the capacity to link to the institution is otherwise unavailable, East Timor may wish to explore the option of establishing a right of appeal to the supreme courts of Singapore

³⁸ See Le Sueur and Cornes (2001)

or Australia as a means of providing a check on the domestic judiciary. Although such bodies lack the jurisprudential prestige of the Privy Council, either of them would undoubtedly serve an effective job in reassuring investors and thereby promoting the economic development and political stability of East Timor.

OPTIONS FOR CONSTITUTIONAL LINKAGE

The final form of institutional linkage, that of ceding sovereignty entirely through the adoption of a foreigner as the national head of state or through entry into some form of free association such as that pursued by the Cook Islands with New Zealand, or the Northern Mariana Islands with the United States, would undoubtedly prove extremely controversial. In the case of East Timor, such controversy would indubitably prove insurmountable, particularly given the long struggle that the territory faced in winning its independence in the first place. However, while the empirical analysis conducted above is indicative of large, positive economic benefits to constitutional linkage, it is difficult to perceive of ways in which such arrangements could prove particularly decisive for East Timor, especially given the range of alternative options. The greatest threat posed to East Timor's political and economic stability undoubtedly comes from the threat of a coup d'état posed by the disgruntled elements that fomented civil war in the territory prior to its independence. The extent to which forms of constitutional linkage would be effective in precluding similar outbursts of violence is debatable, however. The evidence that stems from the experience in the Solomon Islands in 2000 and Fiji in 1987 provides reasons for skepticism. Furthermore, the experience in 1999 has indicated that the international community, and particularly Australia, has been willing to intervene militarily to ensure the stability of East Timor and the security of its people, even in the absence of any form of political linkage. As such, there does not appear to be much reason to believe that East Timor could assure itself of any greater extent of political stability or economic progress by ceding sovereignty to a highly-developed, politically stable country such as Australia, Portugal, the United Kingdom, or the United States. A more effective and politically feasible means by which East Timor can improve its prospects for continued political stability is to seek some form of defense pact with Australia, which grants that nation's military forces the right, and obligation, to intervene in the event of political or civil disturbances.

In summary, the analysis conducted above leads the author to the conclusion that East Timor should retain the US dollar as its unit of national currency, seek to enter into bilateral or multilateral agreements that promote trade with highly-developed economies and provide for common systems of dispute resolution and contract enforcement, explore the possibility of establishing the right of appeal to the British Privy

Council or to high courts in Australia or Singapore, and also investigate the possibility of entering into a form of defense pact with Australia or other regional powers that would provide for the continued political stability of the independent state.

WORKS CITED

- Acemoglu, Daron, Simon Johnson, and David Robinson. (2001). "The Colonial Origins of Comparative Development: An Empirical Investigation." American Economic Review. Vol. 91 (December). pp. 1369 – 1401.
- Barro (1991). "Economic Growth in a Cross Section of Countries". Quarterly Journal of Economics. Vol. 106 (May), pp. 407 – 433.
- BBC News. (2003, March 10). Timeline: Fiji – A Chronology of Major Events.
(<http://news.bbc.co.uk/1/hi/world/asia-pacific/1300499.stm>)
- Boone, Peter. (1994). The Impact of Foreign Aid on Savings and Growth. Working Paper: London School of Economics and Centre for Economic Performance.
- Boone, Peter. (1996). "Politics and the Effectiveness of Foreign Aid". European Economic Review, Vol. 40, pp. 289-328.
- Braun, Mattias, Lant Pritchett and Ricardo Hausmann. (2002). Disintegration and the Proliferation of Sovereigns: Are There Lessons for Integration? Unpublished Mimeo: John F. Kennedy School of Government, Harvard University. (http://ksghome.harvard.edu/~lpritch.academic.ksg/sovereign_r4.doc)
- Brock, William and Steven Durlauf. (2000). Growth Economics and Reality. NBER Working Paper 8041 (December). (<http://papers.nber.org/papers/W8041.pdf>)
- Caselli, Francesco and John Coleman. (2001). "Cross-Country Technology Diffusion: The Case of Computers". American Economic Review. Vol. 91 (May). pp. 328 – 335.
- Central Intelligence Agency. (2002). The World Factbook 2002. Online.
(<http://www.cia.gov/cia/publications/factbook/index.html>)
- Chapple, Irene. (2001, December 3). "Law Lords Retain their Appeal". The New Zealand Herald. Sec. D1. (<http://www.nzherald.co.nz/business/businessstorydisplay.cfm?storyID=231263&thesection=business&thesubsection=general&thesecondsubsection=>)

CNN.com AsiaNow (2000, June 15). “Solomons Prime Minister Resigns ‘Under Duress’”.

(<http://edition.cnn.com/2000/ASIANOW/australasia/06/14/solomons.unrest/>)

Cox, Noel. (2002). “The Abolition or Retention of the Privy Council as the Final Court of Appeal for New Zealand: Conflict between National Identity and Legal Pragmatism”. The Commonwealth Lawyer.

Vol. 11 (2). pp. 32 – 34. (http://www.geocities.com/noelcox/Privy_Council_Commonwealth_Lawyer.htm)

Durbarry, Ramesh and Norman Gemmell and David Greenaway. (1998). New Evidence on the Impact of Foreign Aid on Economic Growth. Research Paper: Centre for Research in Economic Development and International Trade, University of Nottingham (August).

(<http://www.nottingham.ac.uk/economics/credit/research/papers/cp.98.8.pdf>)

Easterly, William and Aart Kraay. (1999). Small States, Small Problems. World Bank Development Research Group Working Paper 2139 (June).

Frankel, Jeffrey and Paul Romer. (1999). “Does Trade Cause Growth?” American Economic Review.

Frankel, Jeffrey, and Andrew Rose. (2002). “An Estimate of the Effect of Currency Unions on Trade and Income”. Quarterly Journal of Economics. (May)

Jones, Charles. (1998). Introduction to Economic Growth. W.W. Norton: New York.

Le Sueur, Andrew and Richard Cornes. (2001). The Future of the United Kingdom’s Highest Courts. Unpublished Mimeo: The Constitution Unit, University College of London (July).

(<http://www.ucl.ac.uk/constitution-unit/files/top.pdf>)

Mankiw, N. Gregory, David Romer, and David N. Weil. (1992). “A Contribution to the Empirics of Economic Growth”. The Quarterly Journal of Economics. Vol. 107 (May). pp. 407 – 437.

North, Douglass C. (1994). “Economic Performance through Time”. American Economic Review. Vol. 84 (June). pp. 359-368.

Rodrik, Dani (Ed.). (2003). In Search of Prosperity: Analytic Narratives on Economic Growth. Princeton University Press: Princeton, NJ (forthcoming). (<http://ksghome.harvard.edu/~drodrik.academic.ksg/growthprogram.html>)

Rodrik, Dani, Arvind Subramaniam, and Francesco Trebbi. (2002) Institutions Rule. Unpublished Mimeo: Harvard University. (<http://ksghome.harvard.edu/~drodrik.academic.ksg/institutionsrule.%205.0.pdf>)

Rose, Andrew. (2002). The Effect of Common Currencies on Trade: A Meta-Analysis. Unpublished Mimeo: University of California at Berkeley Haas School of Business.

Sachs, Jeffrey. (2003). Institutions Don't Rule: Direct Effects of Geography on Per Capita Income. NBER Working Paper 9490 (February).

Smith, Adam. (1776). An Inquiry into the Nature and Causes of the Wealth of Nations. The Adam Smith Institute: Online. (<http://www.adamsmith.org/smith/won-index.htm>)

Solow, Robert. (1956). "A Contribution to the Theory of Economic Growth," Quarterly Journal of Economics. Vol. 11, No. 1 (February), pp. 65 – 94.

Sokoloff, Kenneth and Stanley Engerman. (2000). "Institutions, Factor Endowments and Paths of Development in the New World." Journal of Economic Perspectives. Vol. 14 (3). pp. 217 – 232.

Summers, Robert and Alan Heston. (1991). "The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950 – 1988". Quarterly Journal of Economics. Vol. 106 (May), pp. 327 – 368.

Wilson, Margaret. (2000). Reshaping New Zealand's Appeal Structure - A Discussion Paper. Office of the Attorney-General, New Zealand. (<http://www.executive.govt.nz/minister/wilson/privy-council/>)