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The Political Economy of Distribution and Growth in Chile

Klaus Schmidt-Hebbel.

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE  
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**THE POLITICAL ECONOMY OF DISTRIBUTION AND GROWTH  
IN CHILE**

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**Documento de Trabajo N° 417**

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# **The Political Economy of Distribution and Growth in Chile \***

**Third version, April 2012**

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**Catholic University of Chile**

## **Abstract**

This paper addresses the following questions on the political economy of distribution and growth in Chile. How does Chile compare to the world in government size, income distribution, and per capita GDP? Which is the relation between income distribution, government size and structure, and growth in a political-economy model of endogenous growth? How do changes in income distribution affect growth through changes in the size of government, in a model calibrated for Chile? Which are the dynamics of distribution and growth, when they are shaped by political leadership, the policy-making process, and the quality of institutions and policies? Under which conditions of such dynamics does a non-monotonic relation between income distribution and growth emerge, akin to the Kuznets curve? How do Chile's leadership, policy-making process, and reforms affect equity and growth? Which are the political economy requirements for successful adoption of ten key reforms to support growth and equity in Chile?

**JEL Classification:** O15, O40, P16.

**Key Words:** Income distribution, Economic growth, Political economy.

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## 1. Introduction

Chile is at a critical juncture in its path toward development. While Chile's growth has been robust in comparison to Latin America's, Chile's potential growth rate is well below long-term growth in Asia. Absolute poverty has fallen substantially but the distribution of income is highly concentrated. The country enjoys political stability under a mature democracy yet both its political regime and its politicians command little support by survey respondents and motivate large protest movements. While provision of education, health, and government protection has been extended to large parts of the population, the demands for more and better social protection and government services outgrow the larger supply. Access to consumer durables and more leisure has been extended to most Chileans but crime rates are growing steadily and more people feel insecure at their homes and on the streets. As income rises and awareness of environmental problems increases, stiffer trade-offs are faced between economic development and environmental sustainability.

Hence Chile faces many challenges to overcome the "middle-income trap" of many upper middle-income economies. Since the late 1990s, successive governments representing different political coalitions have been aiming at higher growth and less inequality. While their policy objectives and tools have evolved over time, Chilean governments share a similar broad development strategy based on strengthening democracy, the market economy, and government provision of public goods and government services. Yet results have been mixed, partly because of rising difficulties in building strong and stable constituencies in support or required reforms. To join developed nations, Chile's biggest challenge is to strengthen the political economy of its development path toward higher income and less inequality.

I address in this paper several analytical, empirical, and practical questions related to the political economy of distribution and growth in Chile. How does Chile compare to the world in government size, income distribution, and per capita GDP? Which is the relation between income distribution, government size and structure, and growth in a political-economy model of endogenous growth? How do changes in income distribution affect growth through changes in the size of government, in a model calibrated for Chile?

In addition, which are the dynamics of distribution and growth, if they are shaped by political leadership, the policy-making process, and the quality of institutions and policies? Under which conditions of such dynamics does a non-monotonic relation between income distribution and growth emerge, akin to the Kuznets curve? How do Chile's leadership, policy-making process, and reforms shape its relation and dynamics of equity and growth? Which are the political economy requirements for successful adoption of key reforms to support growth and equity in Chile?

The following sections address the latter issues. In section 2 I review two key cross-country empirical relations between government size, income distribution, and economic growth, and Chile's position related to them. Subsequently I introduce a political-economy model of income distribution, government size, and growth, calibrated to Chile, and report simulations for alternative scenarios of income distribution, government spending, and taxation. Section 4 sketches a model for the role of political leadership, the policy-making process, and the quality of institutions and policies in shaping the dynamics of equity and growth. Then I apply qualitatively the framework and dynamic model presented in the previous section to Chile, assessing the features and quality of leadership, policy-making process, institutions, and policies, as well as their links to distribution and growth, and their dynamics. Section 6 identifies ten key reforms to support growth and equity in Chile and discusses the political economy requirements for successful adoption of these reforms. Section 7 concludes.

## 2. Government Size, Income Distribution, and Growth: How does Chile fare in Cross-country Comparison?

Government size, income distribution, and growth are linked through many causal relations, analyzed and measured by a huge literature in the fields of development economics, growth economics, and political economy. While the next two sections focus on some key relations, here I briefly review two key cross-country empirical relations and Chile's position related to them: Wagner's Law and the Kuznets Curve.

Wagner's Law reflects the positive empirical relation between government size (measured by the ratio of general government spending to GDP) and development (measured by per capita GDP). The cross-country data for circa 2008 depicted in Fig. 2.1 reflects this "law", which suggests that government services are valued at a high income elasticity. The continuous line embodies a quadratic relationship that is estimated econometrically. Chile displays a government spending ratio that falls significantly below the international trend. It stands at 26.0% in 2009, when its per capita GDP stands at US\$ 14,300, which is among the highest in the group of high middle-income countries. Moreover, the latter figure reflects Chile's largest government spending ratio in many decades, a result of very high government expenditure growth in 2006-2009. Yet one should take Chile's distance from the cross-country relation with significant caution, because a much larger share of social and infrastructure – ranging from education and health to pensions and highways – is provided by the private sector in Chile than in most other countries in the world. Therefore Chile's government spending levels are correspondingly lower than in most countries.

Older cross-country data tend to confirm a non-monotonic relation between development and income distribution, reflecting income concentration during the development transition from poor to middle-income countries, followed by income dispersion during the transition from middle to high levels of per capita income. This relationship, known as the Kuznets Curve, is reflected by cross-country data until the 1990s, as depicted in Figure 2.2. Chile is again an outlier from the cross-country quadratic regression line, displaying a much higher income concentration (a Gini coefficient of 0.56) than that observed in countries at similar levels of development.

More recent cross-country data, for the period from the mid-1990s through 2008, suggest that the non-monotonic Kuznets Curve has been replaced by a monotonically declining relation between income concentration and development. The estimated regression line depicted in Figure 2.3 also shows that Chile is and has been a historical outlier from the cross-country relation, exhibiting much higher Gini coefficients than most countries at similar levels of development.

Hence Chile is different from two key relations that are observed empirically in cross-country evidence: the size of government is smaller (when government spending data is not adjusted for cross-country differences in public-private provision of services and infrastructure) and the degree of income concentration is larger in Chile than in most countries at similar development levels.

## 3. Political Economy of Equity, Government Size, and Growth in Chile <sup>1</sup>

In a perfect democracy – unhindered by principal-agent problems between government officials and voters – voters determine the overall size of government (the ratio of total taxation and government expenditure to GDP), as well as the composition of taxation and spending. Government

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<sup>1</sup> This section is based on joint work with José Tello (Schmidt-Hebbel and Tello, forthcoming 2012).

size and the composition of taxation and spending affect marginal decisions to save, invest, and work because both taxes and government spending programs are not neutral and hence affect decisions by workers, capital owners, and consumers. While distorting taxation is generally growth and welfare-deteriorating (except taxes on bads), government spending is growth and welfare-augmenting if it falls on public goods or on private goods that raise aggregate production or private welfare.

The latter are standard results of public finance theory that are obtained for an equal society. Income and wealth inequality complicate significantly the latter results for several reasons. First, the representative-agent paradigm does not apply in an unequal society, because differences in factor endowments imply differences in marginal behavior. Second, tax and spending programs affect different agents in different ways, particularly when different income groups pay taxes or receive the benefits of government spending and transfer programs in ways that are not proportional to their income levels. Third, agents may differ in behavior or may face constraints (such as credit constraints) in ways that differ with their income levels. Fourth, any real-world distribution of income differs significantly from a normal distribution, reflecting skewness such that median income lies well below mean income. The (poorer) median voter differs in behavior and voting pattern from the (richer) mean voter. This changes the political and economic equilibrium in societies where the median voter casts his pivotal vote in deciding government size and composition.

In this section I briefly introduce a political-economy model of income distribution, government size, and growth, calibrated to Chile, and report simulations for alternative scenarios of income distribution, government spending, and taxation.

The main features of the model, which is a significant extension of Alesina and Rodrik (1996), are the following.

- (i) The government raises distorting income taxes that are levied on both capital and income, at a tax rate that is exogenous to the government. Tax revenue is used for private welfare-enhancing government consumption and output-raising (productivity-enhancing) government services, at shares decided by the government.
- (ii) The government determines and raises a non-distorting lump-sum tax level that is levied on the rich (all agents above the mean income earner) that is fully distributed as a distorting transfer to the poor, which grows more than proportionately with the distance of the individual poor's income from mean income. The lump-sum tax level paid by the rich grows with income dispersion: the smaller is the ratio of median to mean income (i.e., the more unequal is income distribution), the larger is the level of transfers. While not voted by the median voter but imposed by the government directly, this assumption reflects a second political-economy effect of income concentration, that is, stronger political pressure for larger transfers.
- (iii) Per-capita output is based on a simple endogenous growth technology, with constant returns to scale to reproducible capital and reproducible government services. Including raw labor as a factor of production of total output, there are increasing returns to scale.
- (iv) Competitive factor market conditions are reflected by standard first-order conditions.
- (v) Inter-temporal consumption optimization by the mean (representative) consumer and by the median consumer-voter are based on common standard CRRA preferences, with intra-temporal utility from private consumption goods enhanced by complementary but exogenous government consumption.
- (vi) The pre-transfer income distribution is exogenous and is not normal, with median income below mean income. The income distribution is mapped one-to-one by the distribution

of capital. The distribution of capital is characterized by two parameters: the relative difference between median and mean capital and the relative difference between the 95<sup>th</sup> percentile capital and mean capital.

- (vii) The median voter votes for the rate of income taxation.

The model is solved in the following way. The economy's consumption and investment decisions are taken by the utility-maximizing representative mean-income earner at given factor prices and given tax rates, transfer rates, and government spending ratios. Tax rates are decided by the utility-maximizing median-income earner, given factor prices, transfer rates, and government spending ratios.

Using Chile's 2009 Casen income distribution data summarized in Table 3.1, the ratio of median to mean income is estimated at 0.53 and the ratio of the 95<sup>th</sup> percentile to mean income is obtained as 3.16. Parameter calibration for tax, transfer, and spending functions are determined to match the corresponding ratios observed for Chile.

I start reporting simulation results for three different political-economy environments (Table 3.2). In the first case, there is no voting and therefore the tax ratio is set by a growth-maximizing government or representative agent at a level of 10%, consistent with the share of government productive services in the production function. In addition, there are no transfers. Hence the overall government size (its share in GDP) is 10%. Per capita endogenous growth is 5.45%.

Adding government-set exogenous transfers to the latter implies a transfer ratio of 3.90%. The distorting effect of tax-financed transfers to the 50% poorer voters on capital accumulation implies a decline in per capita growth rate to 4.91%.

The third model solution is obtained for the political-economy and growth equilibrium, in which the median voter chooses an income tax ratio of 18.80%, which added to transfers of 3.63% of GDP, implies a government size of 22.44% of GDP, which is close to Chile's actual government share in GDP. Distorting income taxation reduces per capita growth further, to 4.02%, which is close to several estimates of Chile's potential or trend per capita growth rate (Schmidt-Hebbel 2006).

Now I turn to two sets of simulations, altering the exogenous distribution of income by changing the parameter that reflects the ratio of median to mean income.

I start with considering the general-equilibrium effects of exogenous changes in pre-transfer income distribution. The results, reported in Table 3.3 and Figure 3.2, show the effects of income distribution on growth and government size.

The results are reported for a large range of income distributions, starting with a highly concentrated and skewed distribution ( $\sigma = 0.2$ ) and ending with a normal distribution ( $\sigma = 1.0$ ). For my parameter calibration, the median voter's choice of the income tax rate is not very sensitive to his relative income to that of the mean income earner. The reason is that she balances the costs of larger government expenditure (distorting effects of taxation on growth) with its benefits (higher spending on government productive services and government consumption). In contrast to the latter, transfers from the rich to the poor are highly sensitive to income distribution parameter  $\sigma$ . Their distorting effect is large and therefore per capita growth rates vary between 2.9% and 4.6%.



Finally I report the general-equilibrium effects of exogenous changes in the lump-sum tax level levied on the rich to finance the transfers to the poor, reported in Table 3.4 and Figure 3.3. As above, larger transfers weaken the incentives for capital accumulation and hence lower growth.

The model results point to several conclusions that illustrate the relation between income distribution, the structure of public finance, and economic growth in Chile. First, holding everything constant, a more concentrated income distribution can reduce growth by raising distortionary taxation. Second, composition of government spending and transfers matters for growth: more transfers and less spending on productive government services reduces growth. Third, the more distortionary is taxation, the higher is the reduction in growth.

However, the stylized model presented and calibrated here abstracts from many other causal relationships between equity, government size, and growth. First, there are potential positive links from income distribution to growth for several reasons that were not considered in the previous model. For example, a more equal distribution of income raises social capital and trust, and reduces distributional conflict and crime, leading to higher factor accumulation and productivity improvements. Second, the relationship between income distribution, the median voter's choice, and government is not as one-dimensional and direct as in the previous model. Voters decide on a multi-dimensional package of government decisions, but implementation of voters' decisions is distorted by many principal-agent problems between voters and governments. The relevance of the latter in the case of Chile is discussed in subsequent sections.

#### **4. Dynamics of Income Distribution and Growth**

Here I sketch a model for the role of political leadership, the policy-making process, and the quality of institutions and policies in shaping the dynamics of equity and growth. This framework, developed in Schmidt-Hebbel (2008), is presented in more detail in the Appendix of this paper. I discuss key features of the model next.

Political institutions, as key pillars of the organizational structure of a society, shape the form of government (democracy) and determine both economic institutions and economic policies (Diagram 4.1). Economic institutions, by shaping economic policies, have a major impact on development (growth and equity). The new institutional development economics underscores the importance of economic institutions for achieving higher growth, in contrast to previous views (i.e. the Washington Consensus, see Williamson, 1990) that focused more narrowly on economic policies and their reforms as triggers for growth. Rodrik (2005) warns against the temptation of policymakers to map first-order (universal) economic principles into unique policy packages, recommending to consider carefully local opportunities and constraints in the design of policies and institutions.

Development and democracy interact positively (e.g., Przeworski et al., 2000). The dual challenge of development and democracy is to trigger sustainable reforms of political and economic institutions to break the vicious circle of underdevelopment and autocracy, in order to start a virtuous and sustainable path of high growth, improving equity, and broad-based political participation.

Diagram 4.2 represents the complex relations between the quality of institutions and policies (IP), and economic and political results. It shows the key role of leadership (L), the policy-making process (PMP), and the conditions for attaining cooperative outcomes, as a result of the quality of institutions and policies, with feedback effects from the quality of leadership. Social norms and the political culture of a society also shape the policy-making process. The leaders' own

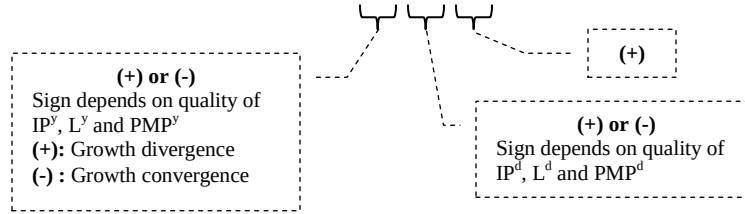
interests and incentives, conditioned by the efficiency of the state, also affect the quality of leadership.

The PMP determines the content and quality of IPs and their reforms, and the latter impinge on economic and political outcomes. Good IP lead to good outcomes, with positive feedback for political stability. In contrast, badly designed, implemented or enforced IP lead to poor results. The latter lead to electoral rejection and democratic change in government when political institutions are strong and democracy is entrenched. However, when political institutions are weak, poor results may lead to political crises, armed domestic conflict, and violent overturn of government, in turn leading to further changes in L, PMP, and IP. Hence the challenge of development and democracy is to get societies on a virtuous path of improved L, PMP, and IP, leading to high growth, better equity, and a stronger democracy.

Next I formalize the dynamic relation between the IP, L, and the PMP in determining the growth of a society's average level of income (or output) and the change in a measure of society's distribution of income among its members.

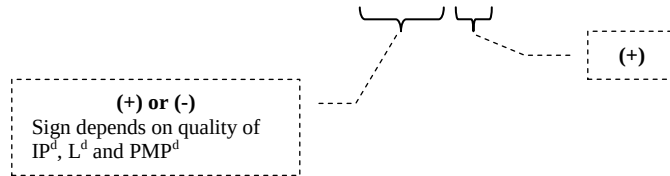
Per capita GDP growth ( $\dot{y}$ ) is specified as a function of per capita GDP ( $y$ ), a measure of income distribution ( $d$ ), and a vector of relevant growth determinants ( $X$ ):

$$\dot{y} = f(y, d, X, \dots) \quad (1)$$



The change in income distribution ( $\dot{d}$ ) is specified as a function of  $y$ ,  $d$ , and a vector of relevant determinants of a better income distribution ( $Z$ ):

$$\dot{d} = g(y, d, Z, \dots) \quad (2)$$



where  $IP$  is a vector of measures of the quality of institutions and policies, comprised by three sub-vectors:  $IP = [IP^y, IP^d, IP^0]$ ,  $L$  is a vector of measures of the quality of leadership, comprised by three sub-vectors:  $L = [L^y, L^d, L^0]$ , and PMP is a vector of measures of the quality of the policy-making process, comprised by three sub-vectors:  $PMP = [PMP^y, PMP^d, PMP^0]$ .

The three sub-vectors in each vector represent sets of key determinants of the sign of the corresponding partial derivatives. The sub-vectors denoted by super-index  $y$  comprise variables within IP, L, and PMP that are keys in determining the sign of the influence of income levels on growth (equation 1). The sub-vectors denoted by super-index  $d$  comprise variables that are key in

determining the sign of the influence of the level of distribution on growth (equation 1), as well as the signs of the influence of both  $y$  and  $d$  in the change of income distribution (equation 2).

High levels of quality of income-relevant institutions and policies ( $IP^y$ ), leadership ( $L^y$ ), and policy-making process ( $PMP^y$ ) contribute to high growth and therefore explain growth convergence to the international income frontier. In the latter case, the partial derivative of GDP growth to the GDP level is negative. By contrast, low levels of quality of the latter three sets of variables lead to growth stagnation or low growth – “divergence, big time” (Pritchett 1997). In this case, the partial derivative of GDP growth to the GDP level is positive. Similar arguments apply to the role of the quality of distribution-relevant  $IP^d$ ,  $L^d$ , and  $PMP^d$  in determining the corresponding partial derivatives.

There are many combinations for the dynamics of income growth and income distribution changes, depending on the signs of the corresponding partial derivatives, determined by the levels of the income-related and distribution-related components of  $IP$ ,  $L$ , and  $PMP$ . Here I focus only on three possible combinations, selected for their relevance for the international development and growth experience, and for Chile’s case discussed below.<sup>2</sup>

The first case (Case A, depicted in Figure 4.1) reflects a low income and equity trap, determined by the low quality of  $IP$ ,  $L$ , and  $PMP$ , reflected in the corresponding partial derivatives of the growth and distribution equations summarized in Figure 1. The steady-state equilibrium represents economies trapped at low income and equity levels. Any deviation from the stationary equilibrium will lead to either oscillatory dynamics around the steady-state equilibrium or to diverging (explosive) or converging (implosive) paths for GDP and distribution.

Case B (Figure 4.2) reflects stable development dynamics that are consistent with growth convergence and deteriorating (improving) income distribution when income is below (above) the corresponding steady-state equilibrium. Growth convergence (the negative partial derivative of GDP growth to GDP levels in the growth equation) is caused by the better quality of  $IP^y$ ,  $L^y$ , and  $PMP^y$ , in comparison to the low income and equity trap of Case A.

Case C (figure 4.3) reflects a second scenario of stable development dynamics, which now are consistent with growth convergence and improving (deteriorating) income distribution when income is below (above) the steady-state equilibrium. The latter distribution dynamics (the negative partial derivative of the change in distribution to the GDP level) are caused by the better quality of  $IP^d$ ,  $L^d$ , and  $PMP^d$ , in comparison to the two preceding cases.

Now let’s combine the three preceding cases to generate a development story that is consistent with the Kuznets (1955) interpretation of a non-monotonic (quadratic) relation between per-capita income levels and the distribution of income.<sup>3</sup> Figure 4 embeds the dynamics of cases A,

<sup>2</sup> I do not discuss comparative dynamics of this model here. This would require identifying which of the two key endogenous variables “jumps” and which “crawls” in order to identify empirically relevant dynamic adjustment paths in response to exogenous shocks.

<sup>3</sup> Several explanations have been provided for an inverted U-shaped relation between inequality and income, including the development transition from agriculture to manufacturing (Kuznets 1955), the existence of European settlers and the transition from subsistence agriculture to commodity exports and to manufacturing (Easterly 1993). However, the evidence on the existence of the Kuznets curve is disputed. For example, Barrios and Strobl (2005) provide supportive evidence while Anand and Kanbur (1993), Adams and Page (2003), and Kustepeli (2006) reject the existence of an inverted U curve in cross-country data. Results seem to be dependent on the country sample, methodology, choice of inequality measure, and the time horizon selected in empirical work – as exemplified by the cross-country evidence reported in section 2.

B, and C. Case A reflects those countries that are trapped at low levels of income and income distribution, as a result of the very poor quality of their institutions, policies, leadership, and policy-making process. With improving IP, L, and PMP, low and middle-income countries that are on a growth-convergence-but-distribution-deteriorating dynamic equilibrium move along the D1–D2 dynamic path toward a steady-state equilibrium that is consistent with case B. Finally, middle-income countries that are on a growth-convergence-and-distribution-improving dynamic equilibrium move along the D3–D4 dynamic path toward a steady-state equilibrium that is consistent with case C. The latter stationary equilibrium is depicted in Figure 4 as consistent with the high income and good-distribution condition that characterizes industrial countries.

The shift from the dynamics of case B to those of case C is caused by an improvement in IP, L, and PMP conditions, beyond a threshold level. In other words, when the quality of IP, L, and PMP attains a given threshold, growth convergence continues but income distribution, instead of deteriorating, starts to improve, taking middle-income countries on a virtuous development path. The latter is coherent with the Kuznets' view of development, reflected by the shift in dynamics embedded in the full D1 – D2 – D3 – D4 development path.

## **5. Leadership, Policy-Making Process, and Reforms shaping the Dynamics of Income Distribution and Growth in Chile**

In this section I apply qualitatively the framework and dynamic model presented in the previous section to Chile, assessing the features and quality of leadership, policy-making process, institutions, and policies, as well as their links to distribution and growth, and their dynamics.<sup>4</sup>

The quality and performance of Chile's political leadership under democracy are largely determined by the following legal and political constraints and traditions:

- (i) Enforcement of institutional and political constraints imposed on abuse and corruption. There is generally low tolerance of Chile's polity to abuse and corruption at the highest levels of government. However, corruption tends to be observed at some of the lower and more decentralized levels of government, like municipalities and public enterprises.
- (ii) Rules of the PMP. Chile has a highly legalistic approach to the PMP in the tradition of the French legal system, with strong weights attached to formal procedures enshrined by law.
- (iii) Interests and goals of government coalitions in government and in opposition. With a strong emphasis on coalition programs and long-term holding of power, the two dominant political coalitions have a longer-term political horizon than weak parties or coalitions centered on strong charismatic leaders.
- (iv) Incentive structure faced by leaders. Political reputation tends to dominate financial returns from holding power at high government levels, attracting able leaders that are paid moderate wages.
- (v) Central government bureaucracy efficiency.

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<sup>4</sup> Aninat, Landregan, Navia, and Vial (2006) and Chumacero, Fuentes, Lüders, and Vial (2006) present valuable assessments of Chile's politics, reforms, and results.

On average (but showing significant dispersion) the bureaucracy of the central government is well trained and provides relatively efficient services to both the leadership and the general public.

(vi) Sensitivity to economic and political results.

Leadership is significantly influenced by economic and political performance (including opinion polls and elections), but largely avoiding open populism.

Chile's PMP under democracy is determined by the following political-institutional factors:

(1) Democratic organization of government.

Chile has attained a high level of democratic rule in cross-country comparison. Political leadership is effectively bound by constitutional rules of the political game.

(2) Strong presidential system.

The government system is rooted in a presidential system with strong executive dominance in the PMP, reflected in government veto points and government initiative in several domains of lawmaking.

(3) State organization.

Chile has a unitary (non-federal) state organization that endows the central government with all relevant decision-making powers regarding regional government budgets and policies.

(4) Binominal electoral system.

Chile's "two-past-the-post" electoral system results in a stable party system dominated by two party coalitions, avoiding veto powers of small parties outside the two coalitions.

(5) State effectiveness and efficiency.

Adjusted for the country's income level, Chile's state and government powers and functions display reasonably high levels of efficiency (see below).

(6) Negotiations and policy agreements.

The PMP relies frequently on government negotiation and policy agreements with the opposition, responding to both constitutional constraints and the need of policy-making legitimacy.

Following Spiller and Tommasi (2003), I identify next the main features of Chile's PMP that contribute to attaining cooperative outcomes:

- (i) Relatively high degree of shared interests and views (consensus) among players, as a result of collective memory of the costly high-conflict period (1969-1988) and large influence of professional economists in politics and in policy design and implementation (an exception in cross-country comparison)
- (ii) Small immediate benefits that accrue to governments that renege on previous agreements attained with the opposition.
- (iii) Small number of decision makers: two large coalitions and few other influential actors (business associations, public-sector trade unions, Catholic Church, armed forces).
- (iv) Repeated interaction among key decision makers (repeated games based on reputation).

- (v) Deviations from agreed-upon behavior are easily observed, due to increasing transparency of political agreements.
- (vi) Existence of credible enforcement mechanisms.

The stages of Chile's reforms of institutions and policies during democracy display the following features:

- a) The first stage of technical preparation of large reforms is frequently entrusted to ad hoc presidential or ministerial commissions responsible for preparing reports with background analysis and very specific technical recommendations about the contents of the reforms. The latter commissions are comprised by a variable number of sector specialists, economists, and interest-group representatives that represent different political and technical views. However, the large share of professional economists in most commissions contributes significantly to attain agreements on recommendations. Most commissions are required to issue public documents with their detailed reform recommendations.
- b) The second stage of preparation of reforms is at the cabinet level, involving internal government commissions under the responsibility of one or several ministers.
- c) Government negotiation of reforms with the opposition is highly variable, depending on the needs of parliamentary votes and political legitimacy.
- d) Government negotiation with negatively affected groups (reform losers) is highly variable, ranging from nil (example: privatization of public enterprises in the 1990s) to moderate (example: free-trade agreements in the 1990s; teachers' union representatives in the 2006 and 2010 Education Reform Commissions) and very large (workers' vetoes to 2007 public port privatization).
- e) There is generally no or only little compensation of reform losers (one exception: workers of closed state coal mines were significantly compensated for job losses in the late 1990s).
- f) Reform experimentation ranges from nil to very little. For example, there are very few cases of experimentation of new social policies in small communities and pilot cases.
- g) Full reform implementation is generally well executed and accords with reform blueprints. (A major exception is the badly designed and implemented 2007 public transport system in Santiago).
- h) Corrections and fine-tuning of complex reforms are introduced frequently, ranging from design to implementation (examples: pension system reforms and electric utility pricing and regulation).
- i) Long-term reform sustainability is generally ensured by good design, ability to introduce corrections, and political legitimacy of reforms.

Chile's success in reforming economic institutions and policies has been the result of the many features. Chile has been and is at the world design and implementation frontier in several reform areas (e.g. pension system, public-private partnerships, free-trade agreements, inflation targeting, fiscal policy rules). Radical economic reforms undertaken under autocracy were legitimized and often improved upon under democracy. Subsequent reforms under democracy are legitimized by democratic implementation. Reform design generally represents the interests of majorities. Positive interaction and threshold effects with reforms in complementary areas are often reaped. Reform reversals are unlikely due to weak influence of reform blockers and losers. There is

broad political and technical consensus on key reforms (e.g. candidates' programs in presidential elections are largely shaped and written by economists). Policies and institutions are improved by learning from mistakes (e.g. financial reforms and the role of bank regulation and supervision, exchange-rate regimes, pension system). A generally competent bureaucracy in key government institutions supports effective reform implementation. Public-enterprise privatization and public-private partnerships are complemented with generally effective government regulation and supervision in new areas (e.g., pensions, infrastructure concessions). Regarding rules versus discretion, Chile's reforms tend to favor adoption of rules and regulations, limiting the scope for government discretion (e.g., monetary, fiscal, and exchange-rate policies; government pricing, regulation, and supervision of private firms in natural monopolies).

An important feature of Chile's reform success has been the positive interaction between Chile's institutions framework and individual leadership since 1990. Rule-bound political institutions and party strength have limited selection and subsequent election of political leaders – in particular, presidents – to individuals that are qualified individuals representing broad majorities. This stands in contrast to many middle-income countries in Latin America and Asia, where weaker institutions and political processes are often unable to stop autocratic, populist, and/or corrupt governments from taking power.

Regarding reform features – including reform depth, speed, timing, and gradualism – Chile's experience since the 1970s points toward three conclusions:

- (1) Reforms have often been deep and broad in scope, and cutting across different reform areas. According to a measure of structural reform progress in different areas, many reforms took place in the late 1970s, were somewhat reversed in the early 1980s, and were continued at a moderate pace since the mid-1980s to the late 1990s, with few structural reforms adopted since the late 1990s (Figure 5.1).<sup>5</sup>
- (2) Many reforms have been very gradualist. One extreme case is the most gradualist inflation stabilization experience in world history: it took Chile 28 years to lower inflation from 1000% in 1973 to 3% in 2001. Regarding trade openness, import tariffs were reduced from a 100% average tariff rates in 1974 to a flat 11% in 1991 and to an average close to 2% in recent years.<sup>6</sup>
- (3) Little attention has been paid by reforming governments to optimal timing and optimal sequencing of reforms. Reforms were adopted because of conviction of political leadership, taking into account their perceived reform support and the restrictions and features of the PMP that were discussed above.

As a result of the reforms started in the mid-1970s and continued in subsequent decades, Chile made a quantum leap in its growth performance (Figure 5.2). After an average annual per-capita GDP growth of 1.5% per year during the 180 years since its independence (1810-1990), per-

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<sup>5</sup> Adoption of full-fledged inflation targeting and of a fiscal rule in 2001 were the main macroeconomic reforms during the last decade. The pension system reform of 2008 was very likely the key structural and social policy reform introduced since 2001. For a more detailed discussion of reforms see Schmidt-Hebbel (2008).

<sup>6</sup> The current 2% average tariff rate is the average of a flat 6% tariff on the small share of imports not covered by free-trade agreements and the nil tariff on the large share of imports covered by free-trade agreements.

capita growth rose to 4.1% in 1991-2005, while the world recorded 1.4% average annual per-capita GDP growth in 1991-2005.

Chile's high growth during 1986-1998 reduced its relative income gap with industrial countries and put it at a distance with most developing economies, except the high-growing East Asian economies. There is significant statistical evidence that Chile's improved institutions and policies – brought by the reforms started in the mid-1970s and continued in subsequent decades – are the main driving forces of Chile's quantum leap in GDP (and TFP) growth (e.g., Gallego and Loayza 2002, Fuentes, Larraín, and Schmidt-Hebbel 2006, Calderón and Fuentes 2006).

However, since 1998 Chile's growth performance has weakened significantly. Estimates of potential or trend GDP growth rates declined from close to 6% in 1987-1998 to close to 4.5% in 1998-2011. The proximate cause of this decline is lower TFP growth, which declined to close to nil during 1999-2011. Ultimate causes are likely to include declining returns to past reforms; distorting effects of some social and labor market policies that discourage saving, education, formal market participation; rising crime; increasing energy costs; lack of structural reforms in areas that are increasingly binding for growth; and adverse cyclical effects due to the Asian crisis and the global financial crisis.

Nonetheless the latter trend growth decline, and somewhat surprisingly, trend GDP growth estimates for 2011-2014 were raised to 5% by the independent Trend GDP Commission of the Ministry of Finance in 2010 (Figure 5.2).

Chile's equity experience is more mixed than its growth record. On the positive side is the massive and systematic reduction in poverty levels (Table 5.1). The population share living in poverty (extreme poverty) has declined from 28% (17%) in 1987 to 11% (4%) in 2009 – a two-decade poverty reduction record that is matched by few other development experiences.

On the negative side is income distribution. Household survey data show that income is highly concentrated in Chile and relative income distribution remained largely unchanged between 1990 and 2003. However, distributional improvement was observed in 2006-2009, compared to 1990-2003 data (Tables 5.2 and 5.3). The same survey also shows that the distribution of household consumption expenditure has become less unequal. However, it is still too early to infer if the latter improvements mark the start of a trend improvement or reflect a few outliers from Chile's highly concentrated income distribution.

Now I turn back to the relation between average income levels and income distribution, and the dynamics between growth and distribution.

Chile's relation between per-capita GDP and income distribution in cross-country comparison has been documented in section 2. For assessing Chile's time dimension, I now use Chilean income distribution data for a longer time horizon (1960-2006), taken from the University of Chile Employment Survey. This data is less reliable and representative than the 1990-2006 data from the CASEN survey that was reported above. However, it provides a useful first approximation to the evolution of income distribution from the 1960s through the 1990s. The time-series relation between the Gini coefficient from this survey and per-capita GDP as depicted in Figure 5.3. The data suggests that, compared to 1960-1975, income distribution deteriorated significantly in Chile between the mid-1970s and 1991, with a partial recovery during 1992-2006.

The relation between income distribution and per-capita GDP shown in Figure 5.3 may suggest that Chile's time-series experience is consistent with a Kuznets curve. While this reading of



the data is tempting, it is likely to be wrong. Not only because of the 1960-2006 income distribution data drawbacks, but also because the sample includes deep recession periods in the 1970s and 1980s that raise the distribution indicator (the Gini coefficient behaves counter-cyclically) and is likely to be too short to support significant changes in income distribution.

Having the latter limitations in mind, now I come back to the simple dynamic framework for growth and distribution spelled out in section 4 to interpret Chile's experience in the light of the latter model. With potential per-capita GDP growth at close to 4% (implying international growth convergence) and a somewhat improving level of (still) high income concentration, Chile may be at some point between D2 and D3 along the stylized growth-distribution path depicted in Figure 4.4. Therefore the country is probably at a juncture where the quality of its PMP, leadership, institutions, and policies could enable it to jump on a dynamic path of improving distribution and high growth. In terms of Figure 4.4, Chile's main development challenge is to get on the D3-D4 train in the near future.

## 6. Political Economy of Key Reforms to Support Growth and Equity in Chile

Now I focus on ten areas of reform identified in Chile's development and policy literature, and by policy analysts and political parties. Needless to say, both selection of these reforms and exclusion of others are controversial, reflecting my personal views. Similar caveats apply to my subsequent assessment of the possible growth and equity impact of the latter reforms, and the political economy obstacles to their adoption.

The reform areas are the following:<sup>7</sup>

1. Education. The low quality of primary and secondary education and the large heterogeneity in the quality of tertiary education are a major hindrance – possibly the largest – to attain a path of high growth and improved income distribution.
2. Poverty Reduction. While past governments have expanded significantly social programs and budgetary funding to reduce poverty, both their effectiveness and efficiency are very heterogeneous. Many social programs are not well designed (implying likely and significant disincentive effects for saving, formal work, and education for aid recipients), while others involve duplication and/or are badly implemented leading to wasteful expenditure and cheating. Major streamlining of social programs is required to raise effectiveness in reducing poverty and providing better opportunities to the poor. Such efforts could imply a rise in aggregate social spending while changing significantly its composition, design, and implementation.
3. Control of crime and violence. Like many developing countries, Chile faces escalating crime and violence that impose a costly and largely regressive tax on development. While

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<sup>7</sup> The subsequent focus on 10 mayor reform areas does not mean to leave aside other key sectors that have been reformed but require – due to inadequate reform design or implementation – further adjustments. For example, the new universal health program started by the Lagos administration (*Plan Auge*) still requires major corrections. The energy sector (after Argentine natural gas cuts and the rise in international oil prices) requires better incentives for an expansion of the private supply of conventional and non-conventional energy sources. Finally, Santiago's new public transport plan – a basket case of bad design and implementation – is still in need of significant design and implementation corrections.

high growth and improved equity are likely to reduce crime and violence, deep reforms are required to improve prevention, detection, and repression of crime and violence.

4. State and government reform. Efficiency of central, municipal, and decentralized government services is low to moderate on average, and exhibits large dispersion across different services and government levels. Most public enterprises operate in many areas where government productive activity exhibits little comparative advantage. While corruption at decentralized and lower levels of government is not necessarily rampant, it is frequently observed and publicly documented. Therefore a wide-ranging reform of government services and enterprises (including broad privatization) should be high on Chile's reform agenda. Partial reforms for improving somewhat the efficiency of the state and the provision of government services have been tackled by successive governments since 2003. Yet the pending reform agenda is still large, including radically improved transparency and accountability of state administration and provision of government services, professional competitive hiring (i.e., non-political selection) of all government employees up to the level of department directors (just below undersecretary level), and large-scale privatization of public enterprises and services that produce private goods (including education and health).
5. Labor markets. Chile's labor market laws and regulations reflect a mixed picture of partial rigidities and incomplete worker protection. Inefficient distortions (high firing costs, constraints on part-time and over-time employment) coexist with low unemployment insurance benefits and minimum wages that are likely to inhibit formal employment of low-skill workers. As a result of the latter rigidities, informal employment and natural unemployment rates are high in comparison to higher-income countries. While collective bargaining strength of organized labor and unions in the private sector ranges from weak to moderate, powerful unions dominate industrial relations in government service, public enterprises, and public education and public health. Training programs for young and unskilled workers are small and not very effective. Female labor participation is low in international comparison. Hence a large agenda of labor market reforms should be tackled to raise employment levels and efficiency.
6. Innovation, Research, and Development. To address Chile's weaknesses in innovation, research, and development (very low private spending on research and development, inadequate government incentives and programs, weak innovation and research activities and output), the 2006-2007 Innovation Commission proposed a comprehensive reform strategy that should be revised and then implemented.
7. Entrepreneurship. Major weaknesses limit private sector development, including red tape or excessive government regulation of start-ups and existing private firms, inadequate bankruptcy procedures, lack of basic skills of young people to start small businesses, weak enforcement of property rights protection, excessive leniency toward informal production and employment, and lack of access to venture and start-up capital. Major reforms are required to remove the latter obstacles in support of private entrepreneurship.
8. Tax Reform. Chile's tax system and administration have not been reformed in several decades. It is beset by complexity, inconsistency, and inefficiencies that lead to inefficient allocation of resources, less saving and investment, and lower formal employment. A comprehensive tax reform should be a high policy reform priority.

9. Environmental Protection. Chile's environmental protection regulation and enforcement is highly haphazard. A consistent evaluation of environmental externalities is missing. Environmental legislation, regulation, and enforcement is highly erratic and subject to political pressure and actions of private lobbies.
10. Selective Regional Integration. Most Chilean governments pay lip service to regional integration, without acting much beyond Latin Americanist rhetoric. Considering the costs of past failed integration efforts with highly unpredictable neighboring countries, it is likely that a passive policy is in the best interest of Chile. Hence it is advisable to continue Chile's policy of full unilateral integration into the world economy, complemented by deep and broad bilateral free-trade agreements with most countries that are relevant for Chile's foreign trade in goods, services, and capital.

As mentioned above, it is hard to assess the expected impact of reforms on Chile's growth and equity prospects. Such an evaluation will depend crucially on actual reform content, design, and implementation, and on interactions with other institutions and policies. Having the latter uncertainty in mind, I present a very preliminary qualitative assessment of the likely size of reform effects on growth and equity (distribution and poverty improvements) in the ten areas of reform proposals (Table 6.1).

Win-win reforms that are likely to yield both high growth and high equity returns are successful reforms in education, social policies that lead to poverty reduction, and control of crime. A second set of reforms are those that are likely to lead to either high growth or moderate equity gains, or the reverse: state and government reform, labor market reform, and development of entrepreneurship. Growth-distribution trade-offs may arise in reforms that promote innovation and R&D, and tax reform. The two latter reforms are likely to have large positive effects on growth but may have low and even negative effects on income distribution, depending on their design and implementation. The growth and distributional impact of reforms that improve environmental protection is also very dependent on reform content and implementation. Regional integration – if it is implemented with erratic neighbors and at the cost of world integration – may yield net losses in equity and growth. Finally, I have added a hypothetical rise in badly designed direct transfers that lead to significant distortions in saving and work decisions of both tax payers and transfer recipients. As shown by the model simulations reported in section 3, such transfers could improve income distribution significantly at the expense of reducing growth.

If reforms have such expected payoffs, why are they not implemented now and why were they not implemented in the past? The political economy literature identifies a host of explanations that point toward different factors explaining the lack of conviction, will or capability of governments to design, negotiate or implement reforms that have positive growth and/or equity payoffs. I refer selectively in Table 6.2 to the main obstacles to reforms identified by the literature and discuss their relevance to the Chilean case.

Chile's main challenge lies in careful design, negotiation, and implementation of institutional and policy changes for future growth and equity gains that complement each other, avoiding stiff growth-equity tradeoffs. To overcome the main obstacles to reform in Chile in the ten areas identified above, I identify a list of selective challenges to strengthen reform analysis and adoption.

1. To overcome reform inhibition by the government:

- 1.1 Use more extensively the valuable work of presidential and ministerial commissions for developing reform blueprints.
  - 1.2 Raise requirements, staffing, and funding of research units in ministries, superintendent offices, and government agencies.
  - 1.3 Put in charge special teams for reform implementation phase and training of public officials.
  - 1.4 Adopt competitive hiring of all professional staff in government until one level below undersecretaries.
  - 1.5 Use more extensively reform experimentation by implementing reforms (particularly in education, health, and social programs), in selected municipalities or regions, learning from the latter experience and adapting reforms over time before adopting them nationally.
2. To overcome distributional factors and reform opposition:
- 2.1 Consider that policies that improve income distribution reduce the distorting effects of a median-income voter with interests that differ strongly from the mean-income voter.
  - 2.2 Consider that policies that improve education and policies that allow for more widely dispersed media ownership reduce the distorting effects of above-median voters on the median voter.
  - 2.3 Extend public and private research on reform proposals to reduce uncertainty about reform losers and winners, in order to weaken anti-reform lobbies.
  - 2.4 Widen disclosure of private and public-sector lobby influence on the executive and the legislative, including more disclosure of campaign financing.
  - 2.5 Counter-act anti-reform actions in the public sector by government employee associations and public enterprise unions (in particular, the National Association of Public Employees, the national teacher's union, and the unions of public health employees and public enterprises) through disclosure of their benefits and interests, and by strengthening private-sector outsourcing and privatization.
  - 2.6 Overcome reform opposition of labor unions by negotiating a comprehensive labor reform that combines significantly more labor-market flexibility with significantly strengthened bargaining power of labor unions in the private sector.
3. To overcome principal-agent problems (including corruption) between government and voters:
- 3.1 Force national, regional, and municipal governments, as well as individual government agencies and officials, to disclose fully their interests and financial positions.
  - 3.2 Provide full and quick public access to most government documents and actions.
  - 3.3 To align governments with longer planning horizons and interests of future generations, require systematic assessment of long-term (inter-generational) effects of reforms with long gestation and return periods.
  - 3.4 To improve voter representation in congress, correct legislative malapportionment, i.e., unequal distribution of parliamentary representation.<sup>8</sup>
  - 3.5 To align governments with longer planning horizons of their principals (i.e., to reduce high government discount rates), and reduce stalemate and conflict between government and

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<sup>8</sup> The political economy literature suggests that legislative malapportionment can have a negative impact on economic development through three channels: underprovision of public goods for underrepresented groups or parties (Alesina et al., 1999 and Ansolabehere et al., 2003), blocking of growth-enhancing reforms that threaten interests of overrepresented groups (Acemoglu, 2006), and resource extraction by overrepresented parties (Acemoglu, 2006).

congress, raise presidential tenure or introduce an option of one presidential reelection. Alternatively, evaluate adoption of a semi-presidential or a parliamentary form of government.

## 7. Conclusions

In this paper I have addressed several positive and normative questions related to the political economy of distribution and growth in Chile.

As a starting point, I noted that Chile is different from two key relations that are observed empirically in cross-country data. First, the size of government appears to be smaller in Chile than in most countries at similar development levels, according to Wagner's law. However, one should qualify this finding, considering that a much larger share of social and infrastructure – ranging from education and health to pensions and highways – is provided by the private sector in Chile than in most other countries in the world. Second, the degree of income concentration is larger in Chile than in most countries at similar development levels, as suggested by the Kuznet's Curve.

Next I reported the simulation results of a political-economy general-equilibrium model for equity, endogenous growth, the size of government, and the composition of government spending based on taxation decided by the median voter. Calibrated to the Chilean economy and its most recent income distribution, the model is able to replicate the size and structure of government spending and the rate of potential GDP growth. Counter-factual simulation results show that transfers from the rich to the poor are highly sensitive to income distribution. A more concentrated income distribution or higher taxes levied on the rich to finance transfers to the poor weaken incentives for capital accumulation and hence lower growth.

Then I presented a simple stylized model for the dynamics of distribution and growth, shaped by political leadership, the policy-making process (PMP), and the quality of institutions and policies. The model suggests that the higher is the quality of the latter, the larger will the likelihood to transit from a dynamic path of high growth and worsening incoming distribution to a different path of high growth and improving distribution. Chile, at potential per-capita GDP growth close to 4%, relatively high income concentration, and moderately high quality of its PMP, leadership, institutions, and policies, may be close to jumping on a dynamic path of improving distribution and high growth. Yet that would require implementing successfully an ambitious reform agenda.

Finally I have listed ten required reforms that are frequently identified in Chile's development and policy literature, and by policy analysts and political parties. They are in the areas of education, poverty reduction, control of crime and violence, labor markets, state and government reform, innovation-research-development, entrepreneurship, tax reform, environmental protection, and selective regional integration. The latter reforms differ widely in their impact on growth and equity. Moreover, in order to be tackled by governments, significant political-economy hindrances to reform have to be overcome. I ended the paper by discussing of several challenges to strengthen reform adoption in three dimensions: to overcome reform inhibition by the government, to counter-act distributional factors, and to overcome principal-agent problems between government and voters.

Today Chile is at a crossroad on its path to development. At a time of increasing political division, rising populism, and declining support of political parties in government and opposition, Chile faces a triple challenge to overcome the middle-income trap. In order to attain a path of high growth and improving equity, a strong consensus has to be rebuilt in support of political reforms to

strengthen voter representation, government efficiency and accountability; growth-enhancing structural changes; and equity-improving reforms.

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## **Appendix 1**

### **A Framework for the Role of Leadership, the Policy-Making Process, Institutions and Policies in Shaping Growth and Equity (Based on Schmidt-Hebbel 2008)**

#### **Policy Hierarchy, Development, and Democracy**

I start by distinguishing between three levels of the institutional/policy hierarchy: political institutions, economic institutions, and economic policies. This distinction is helpful in analyzing subsequently the links between a society's institutional/policy hierarchy and a society's main achievements: development and democracy. The three levels of the hierarchy are closely related to the new institutional development economics, as reflected for example in Acemoglu, Johnson, and Robinson (2001, 2002, 2005) and Rodrik, Subramanian, and Trebbi (2002).

At the most basic level of the institutional/policy hierarchy are political institutions, comprised by legal and social organizations, laws, and regulations that define national values and individual rights, state organization, government functions, and the balance of power. Examples of political institutions include constitutions, laws and regulations, and state and government bodies.

Economic institutions are at a second level. They are comprised by constitutional principles and regulations that influence private-sector behavior and decisions, and by government institutions that take economic decisions and/or regulate and supervise private markets and agents. Economic institutions are derived from or embedded in political institutions. Examples of economic institutions are the central bank charter and organization, tax codes, electric utility regulation and supervision, and social insurance laws.

At the hierarchy's third level are economic policies: the regimes and policy principles that shape and limit the contents and daily exercise of economic decisions by government authorities. They are based on, and conform to, economic and political institutions. Examples of economic policies include the choice of exchange-rate regime, price controls, and transfer programs to poor families.

Institutions and policies shape the two fundamental outcomes in a society: development and democracy. Development is defined here in a narrow sense, being reflected in a society's average income (or consumption) level and equity. Equity reflects a combination of the distribution of income (or wealth or consumption) among all members of a society, their opportunities for material progress, and the number of members of society afflicted by poverty. The latter definition of development – reflecting income and equity indicators – represents a widely accepted function of a society's material welfare and its distribution, but is different from even wider measures of ultimate happiness achieved by the members of a society.<sup>9</sup> This study focuses on the latter, more limited concept of development.

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<sup>9</sup> A small but growing economics literature focuses on the measurement and determinants of happiness, including Morawetz (1977), Di Tella et al. (2001), and Ferrer-i-Carbonell and Frijters (2004).

Following conventional usage, democracy is defined here as a form of government that combines three essential, interdependent principles: the presence of institutions and procedures through which citizens can express effective preferences about alternative policies and leaders, the existence of institutionalized constraints on the exercise of power by the executive, and the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation (from the Polity IV Project; see Marshall and Jaggers 2004).<sup>10</sup>

Political institutions, as key pillars of the organizational structure of a society, shape the form of government (democracy) and determine both economic institutions and economic policies (Diagram 1). Economic institutions, by shaping economic policies, have a major impact on development (growth and equity). The new institutional development economics underscores the importance of economic institutions for achieving higher growth, in contrast to previous views (i.e. the Washington Consensus, see Williamson, 1990) that focused more narrowly on economic policies and their reforms trigger for growth. Rodrik (2005) warns against the temptation of policymakers to map first-order (universal) economic principles into unique policy packages, recommending to consider carefully local opportunities and constraints in the design of policies and institutions.

Development and democracy interact positively (e.g., Przeworski et al., 2000). The dual challenge of development and democracy is to trigger sustainable reforms of political and economic institutions to break the vicious circle of underdevelopment and autocracy, in order to start a virtuous and sustainable path of high growth, improving equity, and broad-based political participation.

### **Leadership, Policy-Making Process, Institutions and Policies**

The preceding framework scratches only at the surface of the links between institutions, policies, democracy, and growth. We have to dig deeper for a better understanding of the processes governing the relations between policy inputs and outcomes. This requires identifying more closely the roles and relations of three key aspects of policies: leadership, the policy-making process, and reforms of institutions and policies.

Leadership (L) – both political and economic leadership – is the ability of authority to initiate and sustain institutions and policies (IP) in support of development and democracy. L entails initiating and reforming IP in a way that translates into an effective policy-making process (PMP).

Leaders are shaped – that is, the quality of leadership is shaped – by:

- institutional and political constraints (i.e.: constraints on corruption)
- rules of the PMP
- interests and goals of groups or parties represented by the leaders
- incentive structure faced by leaders
- efficiency of the state
- economic and political results (elections and other expressions of political legitimacy).

The PMP comprises the ways and stages in the conduct of policies and the reforms of IP by the political leadership. The PMP is determined by following political-institutional factors:

- democratic organization of government

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<sup>10</sup> Other aspects of plural democracy, such as the rule of law, systems of checks and balances, and freedom of the press, are means to, or specific manifestations of, these general principles.

- government system
- electoral system and resulting party system
- state efficiency: government bureaucracy, judiciary (independence, efficiency), parliament (auditing and control).

The PMP is also shaped by social norms and implicit institutions and rules that characterize the political culture and social capital of a country. However, because they are difficult to define and measure, it is hard to identify causal relationships from these “soft” features to PMP.

I follow the political economy literature based on repeated games (Spiller and Tommasi 2003, applied by Aninat et al. 2006 to Chile) in identifying six features of the PMP that contribute to attaining cooperative outcomes among the main players (government and opposition, as well as other actors):

- (i) high degree of shared interests and views (consensus) among players,
- (ii) small immediate benefits from reneging on agreements,
- (iii) small number of decision makers,
- (iv) repeated interaction among decision makers (repeated game),
- (v) easy observation of deviations from agreed-upon behavior, and
- (vi) availability of credible enforcement mechanisms.

Now let's turn to institutions and policies. The reform of IP – designing and putting in place effective IP – is key for development. Yet underdevelopment itself is often a hindrance to reform. Therefore the main triggers of adoption of programs of IP reform are:

- (i) domestic political crises or changes (ends of war, new governments) and domestic economic crises, and/or
- (ii) foreign triggers, including foreign aid conditionality, political or economic association with other countries, changes in international conditions (i.e., major international trade or financial shocks), demonstration effects of internationally successful policies (policy learning)

Sustainable reforms of IP go through the following stages:

- (a) negotiation among main actors and affected groups,
- (b) institutional or policy design,
- (c) experimentation,
- (d) full-scale implementation,
- (e) corrections, and
- (f) ensuring long-term sustainability.

Reforms could result in failure or reversal because of one or several of the following factors:

- bad technical design
- negative interaction with lack of reform in other areas (a form of bad design)
- poor implementation
- lack of democratic legitimacy and political sustainability (done under autocracy; benefit minorities)

- reform reversal due to growing influence of reform losers (which could be few but powerful).

On the other hand, the likelihood of reform success and sustainability is raised by one or several of the following conditions:

- strong influence of technocrats in reform design
- reforms represent interests of majorities (i.e., the “representative consumer”)
- if politically required, reforms allow for compensation of losers
- reforms are enacted democratically
- reforms are shaped by a PMP that favors cooperative outcomes.

The main features of reforms of IP are reform strength or depth (shallow or partial vs. deep or comprehensive), speed (gradualism versus cold turkey), timing (when), and sequencing (in relation to other reforms). A significant analytical literature has developed since the 1970s on the latter reform features, focusing on positive and normative (welfare) aspects of reforms, as well as on their political economy. Most of the latter literature focuses on particular reforms (like macroeconomic stabilization, pension-system reform or anti-poverty programs) or on partial aspects of comprehensive reform programs (e.g., sequencing of trade and financial liberalization, speed of macro stabilization).

Not many sturdy inferences can be derived from the latter literature, due to its largely partial and restrictive focus.<sup>11</sup> The latter is largely unavoidable due to the complexity and country-specificity of reforms. Among the exceptions to the latter conclusion are a few lessons on optimal reform sequencing.<sup>12</sup> More recently, Hausmann, Rodrik, and Velasco (2005) have developed a framework of “growth diagnostics” that complements Rodrik’s (2005) “growth strategies”. Their novel approach focuses on deriving a country’s key policy priorities from identifying the most binding constraints on economic activity. While their framework is based on an explicit general-equilibrium model that embeds economic and political constraints, its practical application is untested yet.

My inference from the world experience and literature on IP reforms since the 1970s is that effective leadership and the quality of the policy-making process are more important for successful adoption of better IP than reform features like optimal timing, speed, or sequencing of reforms. Timing, speed, and sequencing should not be fine-tuned. As long as good L and PMP are in place, and reform capacity and willingness are not strained beyond their limits, the sooner, the quicker, and the more good reforms of IP are designed, executed, and followed through, the larger will be their development impact.<sup>13</sup>

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<sup>11</sup> Sturzenegger and Tommasi (1998), Agénor and Montiel (1999), and Agénor (2004) review the positive economics and the political economy literature on reform gradualism and sequencing. My reading of the latter reviews is that specific conclusions yielded by the analytical models on reform speed and sequencing are highly model-dependent. Results are hard to generalize because the underlying models assume specific forms of initial and/or non-removable distortions. Often the models abstract from general-equilibrium features and from interactions between positive economics and political-economy aspects. Finally, most models abstract from country-specific conditions that shape reforms in the real world.

<sup>12</sup> One general conclusion is that macroeconomic stabilization should not come after sector and microeconomic reforms, and that trade liberalization should precede financial liberalization (Agénor and Montiel 1999, Agénor 2004).

<sup>13</sup> Hausmann et al. (2005) contradict this conclusion, arguing that “Do as much as you can, as best you can” is faulty in its logic because of second-best arguments (not every reform is welfare-improving, given other distortions) and because of the differential welfare impact of different reforms. However, second-best measures of reforms are hard to consider in practice (and should not be used in practice, as suggested by

Now we turn to the complex relations between reform efforts (or the quality of IP) and development results (growth and equity). While there has been analytical and empirical progress in better understanding the latter relations, they are still largely a black box. Among the many possible reasons, I selectively list some of them next:

- Lack of deep macroeconomic foundations that link IP to economic outcomes (particularly true for “soft” institutions, like transparent government, central bank independence or bankruptcy legislation)
- Feedback effects from results to IP (e.g., bad economic results may trigger election losses or, if political institutions are weak, to coups d’etat, leading to further changes in IP)
- Non-linearities and threshold effects between IP and results; critical mass of political will/capability, leadership, human resources in government required for effective reform (e.g., between IP and growth, between IP and democracy)
- Non-monotonicities between economic results (e.g., between equity and growth: the Kuznets curve)
- Path dependence (initial conditions matter both for IP and their reforms, and for economic results)
- Multiple equilibria (similar initial conditions can lead to widely different development paths, depending on particular components of IP and exogenous shocks (good luck, neighborhood and demonstration effects))
- Interaction effects between institutions and policies in different areas: key to consider by governments at reform design and implementation stages
- Interaction effects between institutions and policies in different areas: key in estimation of results (e.g., growing empirical evidence for growth performance).

Without forgetting about the latter difficulties, Diagram 2 makes an attempt to depict the complex relations between IP and economic and political results. It represents the key role of L, PMP, and the conditions for attaining cooperative outcomes, as a result of the quality of IP, with feedback effects from the quality of leadership. Social norms and the political culture of a society also shape the PMP and the leaders’ own interests and incentives, conditioned by the efficiency of the state, also affect the quality of leadership.

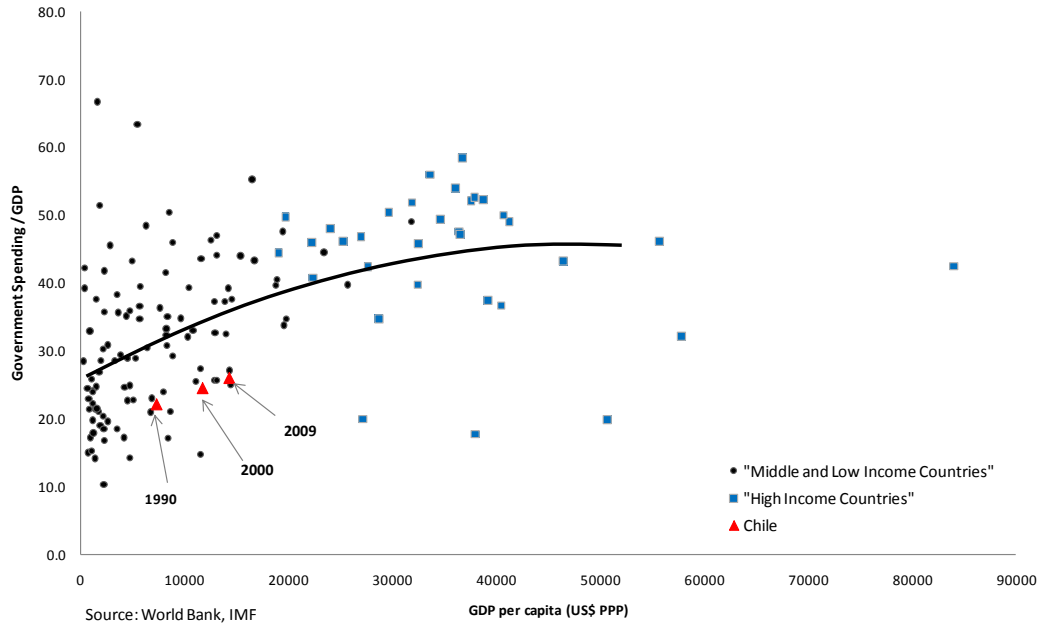
The PMP determines the contents and quality of policies and reforms of IP, and the latter impinge on economic and political outcomes. Good IP lead to good outcomes, with positive feedback for political stability. In contrast, badly designed, implemented or enforced IP lead to bad results. The latter are rejected by the population, leading to electoral rejection and a democratic change in government if political institutions are strong and democracy is entrenched. When political institutions are weak, bad results may lead to political crises, armed domestic conflict, and violent overturn of government, in turn leading to further change in L, PMP, and IP. Hence the challenge of development and democracy is to get societies on a virtuous path of improved L, PMP, and IP, leading to high growth, better equity, and a stronger democracy.

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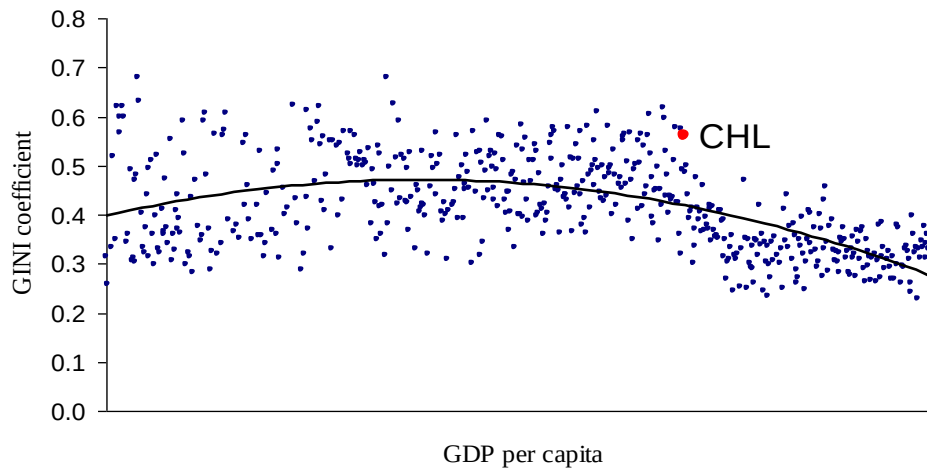
Hausmann et al.) and differential welfare impacts of reforms – considering adequately their positive economic and political costs – are also very hard to come by in practice.

**Figure 2.1**

**Wagner's Law: Cross-Country Relation between General Government Expenditure Ratio to GDP and Per Capita GDP, circa 2008**

**Figure 2.2**

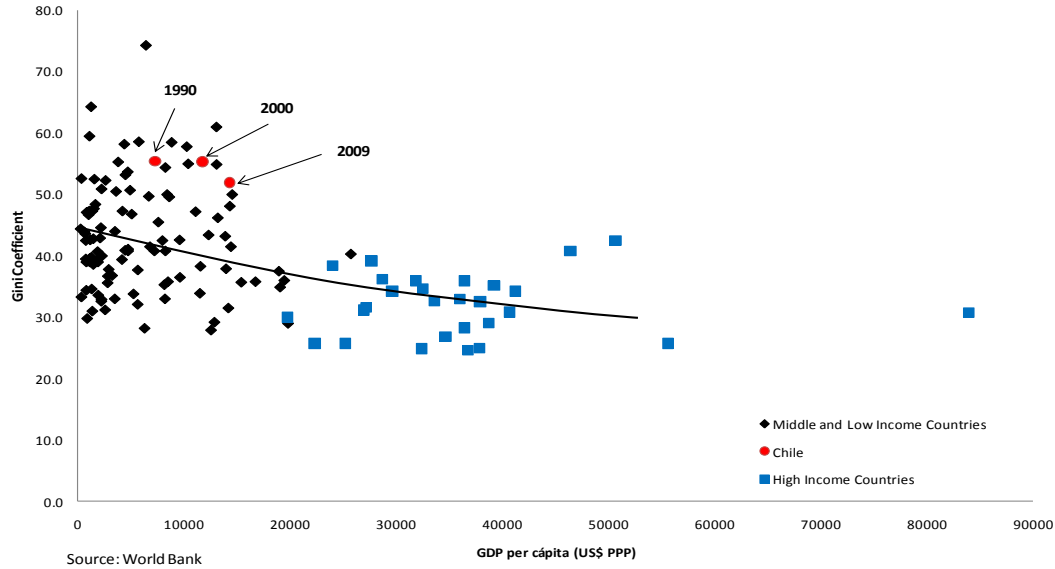
**Kuznets Curve Alive? Cross-Country Relation between Income Distribution (Gini Coefficient) and Per Capita GDP, 1990s**



Source: Author's calculation based on UN-WIDER World Income Inequality Database (2000).

**Figure 2.3**

**Kuznets Curve dead? Cross-Country Relation between Income Distribution (Gini Coefficient) and Per Capita GDP, 1995-2008**

**Table 3.1**

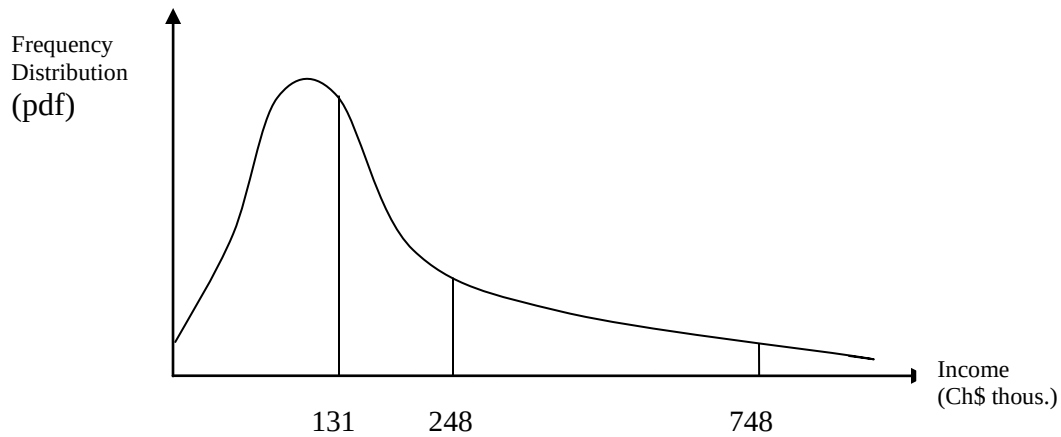
**Chile's Household Income Distribution in 2009**

|                    |              |                               |              |
|--------------------|--------------|-------------------------------|--------------|
| Mean income        | Ch\$ 248,055 | Median income                 | Ch\$ 131,372 |
| Standard deviation | Ch\$ 473,530 | 95 percentile income          | Ch\$ 784,456 |
| Variance           | 2.24e+11     |                               |              |
| Skewness           | 8.861        | <b>Median / mean income</b>   | <b>0.53</b>  |
| Kurtosis           | 115.5        | <b>95 perc. / mean income</b> | <b>3.16</b>  |

*Note:* based on “monetary household data” (ingreso monetario del hogar), i.e., post-transfer household income data.

*Source:* Torche, A. (2010), based on 2009 Casen Survey data.

**Figure 3.1**  
**Chile's Income Distribution in 2009**



*Note:* based on “monetary household data” (ingreso monetario del hogar), i.e., post-transfer household income data.

*Source:* Torche, A. (2010), based on 2009 Casen Survey data.

**Table 3.2**  
**Model Solutions for Growth and Government Size under Different Political Economy Conditions**

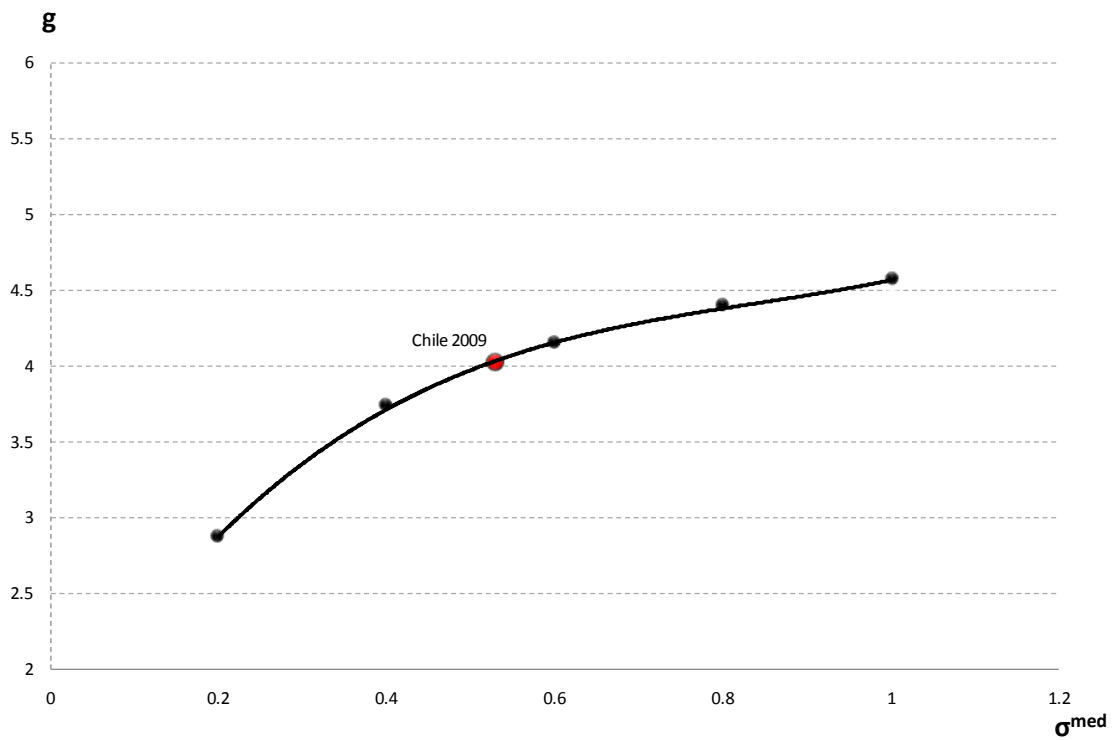
| Benchmark simulations                           | Per capita GDP growth (g) | Tax revenue/ GDP (tau) | Transfers / GDP (tr) | Government size (Tau + tr) |
|-------------------------------------------------|---------------------------|------------------------|----------------------|----------------------------|
| 1. No voting, tax set optimally, no transfers   | 5.45                      | 10.0                   | 0                    | 10.0                       |
| 2. No voting, tax set optimally, with transfers | 4.91                      | 10.0                   | 3.90                 | 13.90                      |
| 3. Voting, with transfers                       | 4.02                      | 18.80                  | 3.63                 | 22.44                      |



**Table 3.3**  
**Effects of Income Distribution on Per Capita Growth and Government Size**

| Income distribution<br>(Median / mean<br>income = Sigma) | Per capita<br>GDP growth<br>(g) | Tax revenue/<br>GDP (tau) | Transfers /<br>GDP (tr) | Government<br>size (Tau + tr) |
|----------------------------------------------------------|---------------------------------|---------------------------|-------------------------|-------------------------------|
| 0.2                                                      | 2.87                            | 18.95                     | 6.61                    | 25.55                         |
| 0.4                                                      | 3.73                            | 18.86                     | 4.36                    | 23.22                         |
| <b>0.53 (Chile 2009)</b>                                 | <b>4.02</b>                     | <b>18.80</b>              | <b>3.63</b>             | <b>22.44</b>                  |
| 0.6                                                      | 4.14                            | 18.79                     | 3.36                    | 22.14                         |
| 0.8                                                      | 4.39                            | 18.77                     | 2.76                    | 21.53                         |
| 1.0                                                      | 4.56                            | 18.77                     | 2.35                    | 21.14                         |

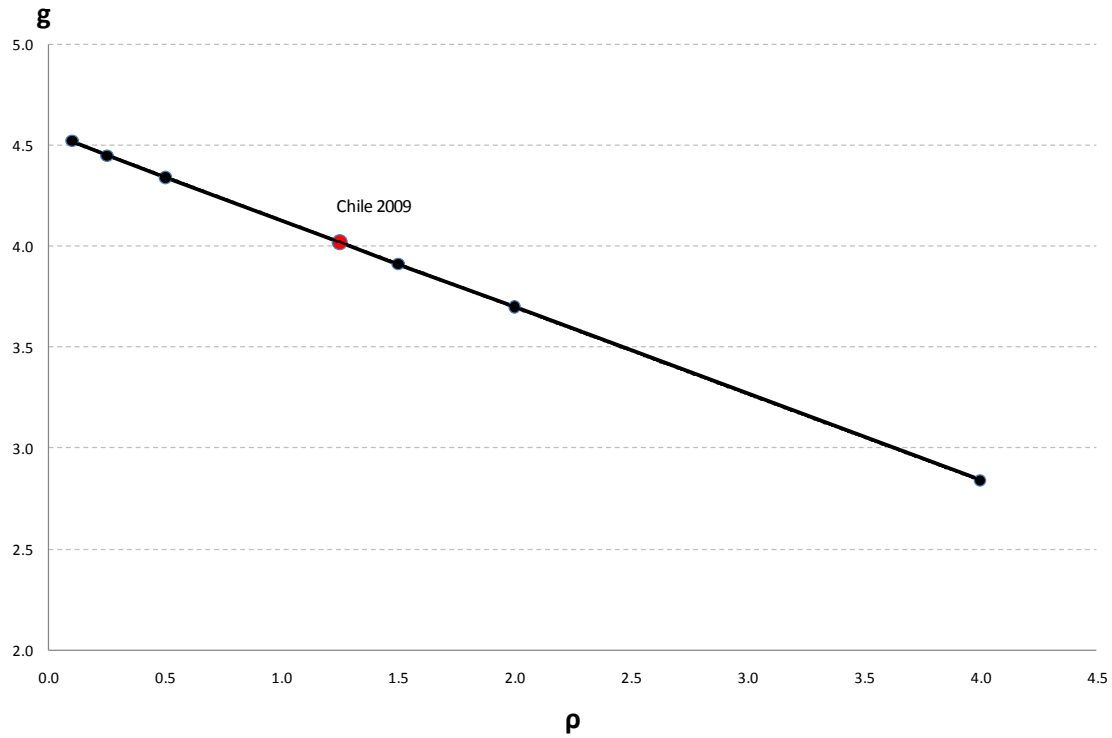
**Figure 3.2**  
**Effects of Income Distribution on Per Capita Growth**



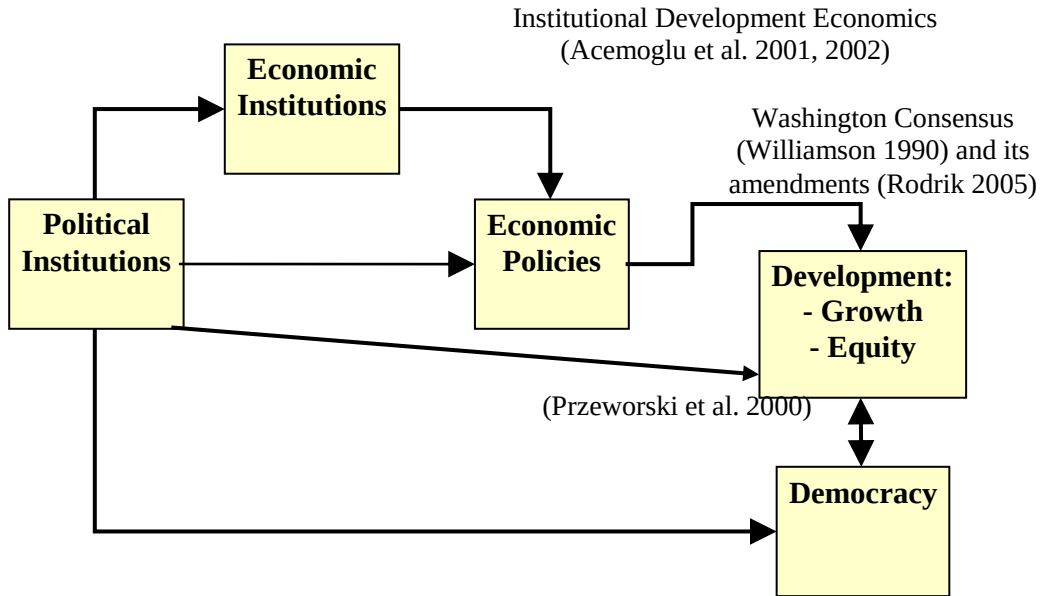
**Table 3.4**  
**Effects of Transfers on Per Capita Growth and Government Size**

| Transfer coefficient<br>(share of $\bar{K}$ = $\rho$ ) | Per capita<br>GDP growth<br>(g) | Tax revenue/<br>GDP ( $\tau$ ) | Transfers /<br>GDP ( $tr$ ) | Government<br>size ( $\tau + tr$ ) |
|--------------------------------------------------------|---------------------------------|--------------------------------|-----------------------------|------------------------------------|
| 0.1                                                    | 4.52                            | 18.84                          | 0.29                        | 19.13                              |
| 0.25                                                   | 4.45                            | 18.84                          | 0.73                        | 19.56                              |
| 0.5                                                    | 4.34                            | 18.83                          | 1.45                        | 20.29                              |
| <b>1.25 (Chile 2009)</b>                               | <b>4.02</b>                     | <b>18.80</b>                   | <b>3.36</b>                 | <b>22.44</b>                       |
| 1.5                                                    | 3.91                            | 18.78                          | 4.38                        | 23.16                              |
| 2.0                                                    | 3.70                            | 18.74                          | 5.83                        | 24.57                              |
| 4.0                                                    | 2.84                            | 18.40                          | 11.68                       | 30.08                              |

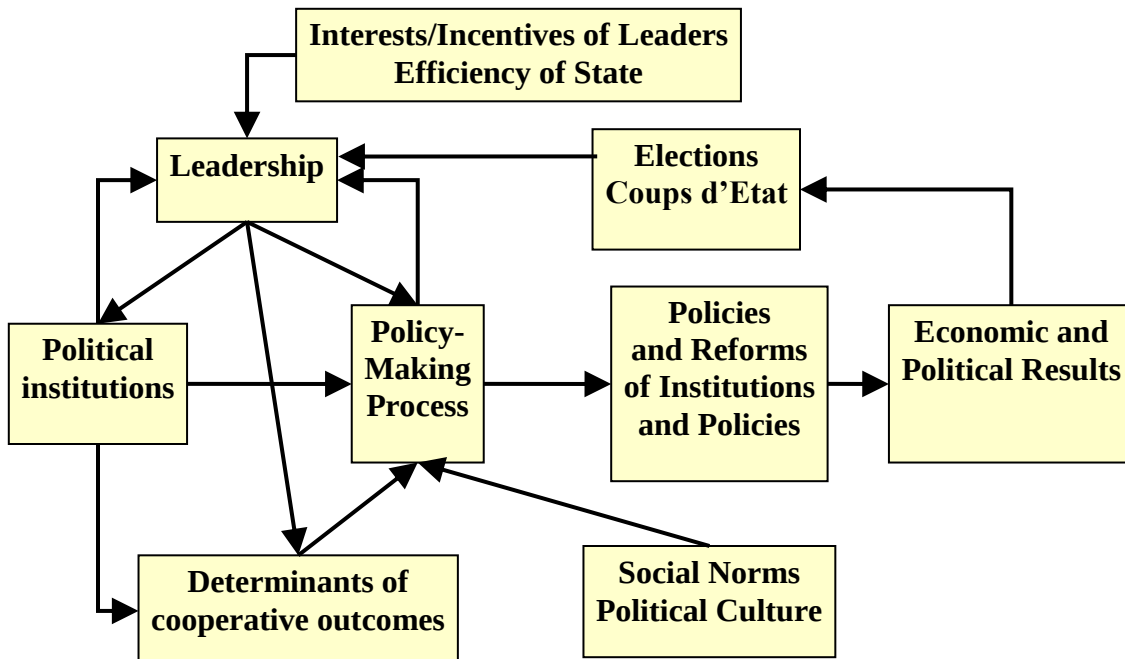
**Figure 3.3**  
**Effects of Transfers on Per Capita Growth**



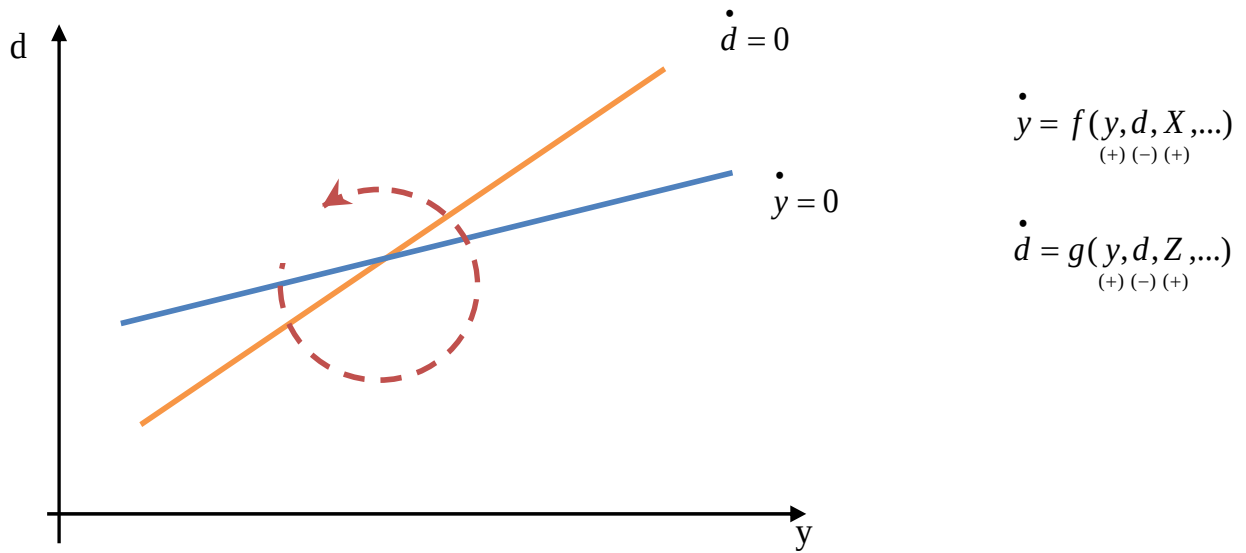
**Diagram 4.1**  
**Relation between Institutional/Policy Hierarchy and Results**



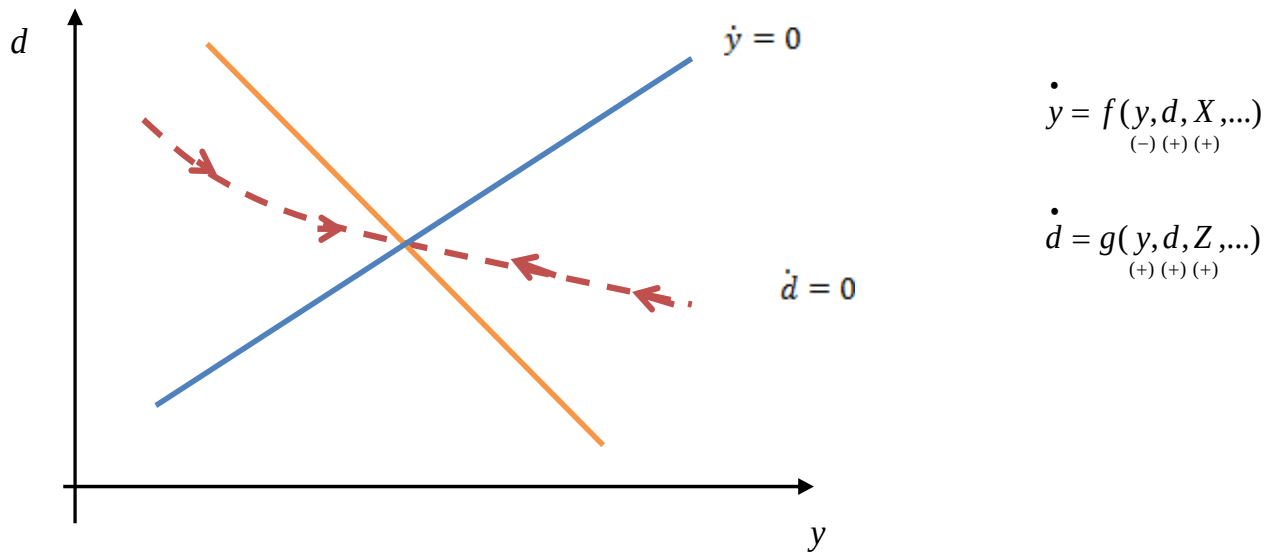
**Diagram 4.2**  
**Leadership, Policy-Making Process, Reforms, and Results**



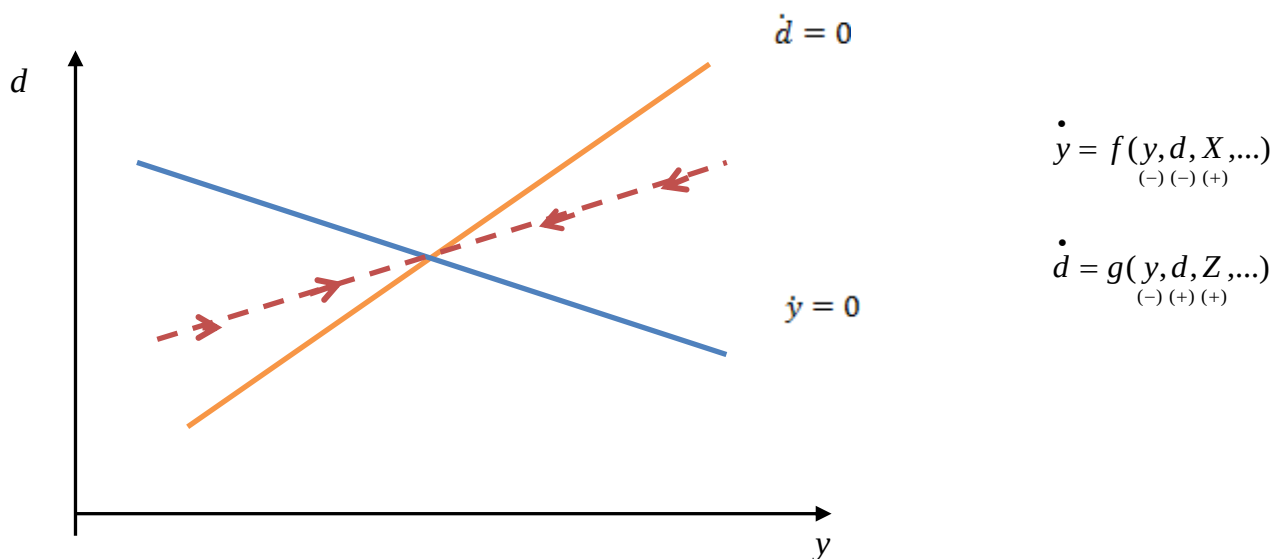
**Figure 4.1**  
**Simple Dynamic Model – Case A: Low Income and Low Equity Trap**



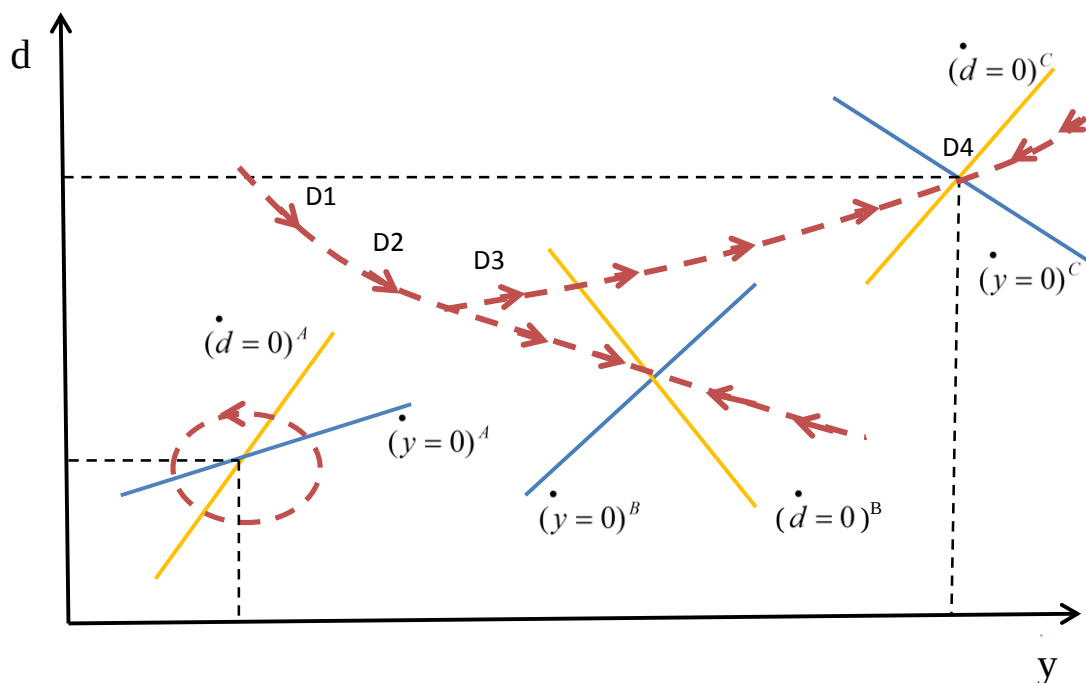
**Figure 4.2**  
**Simple Dynamic Model – Case B: Development Path of High Growth (Growth Convergence) and Deteriorating Distribution**



**Figure 4.3**  
**Simple Dynamic Model – Case C: Development Path of High Growth (Growth Convergence) and Improving Distribution**



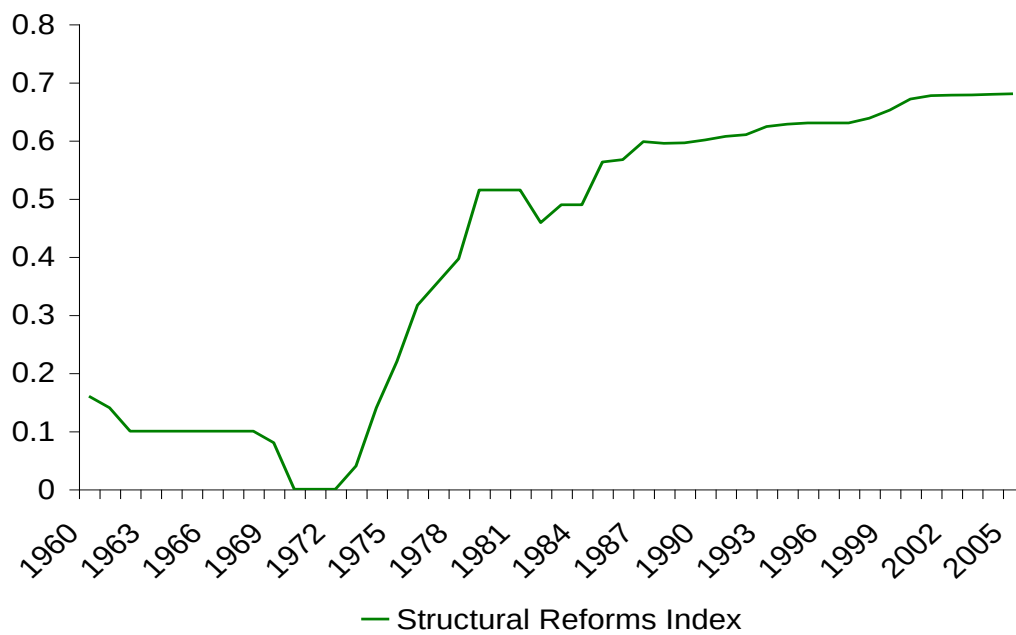
**Figure 1.4**  
**Full Development Path: Shifting Dynamics from Case A to B and C**



Shift from Dynamics B to Dynamics C caused by improving IP-L-MP that shifts and rotates steady-state equilibrium conditions

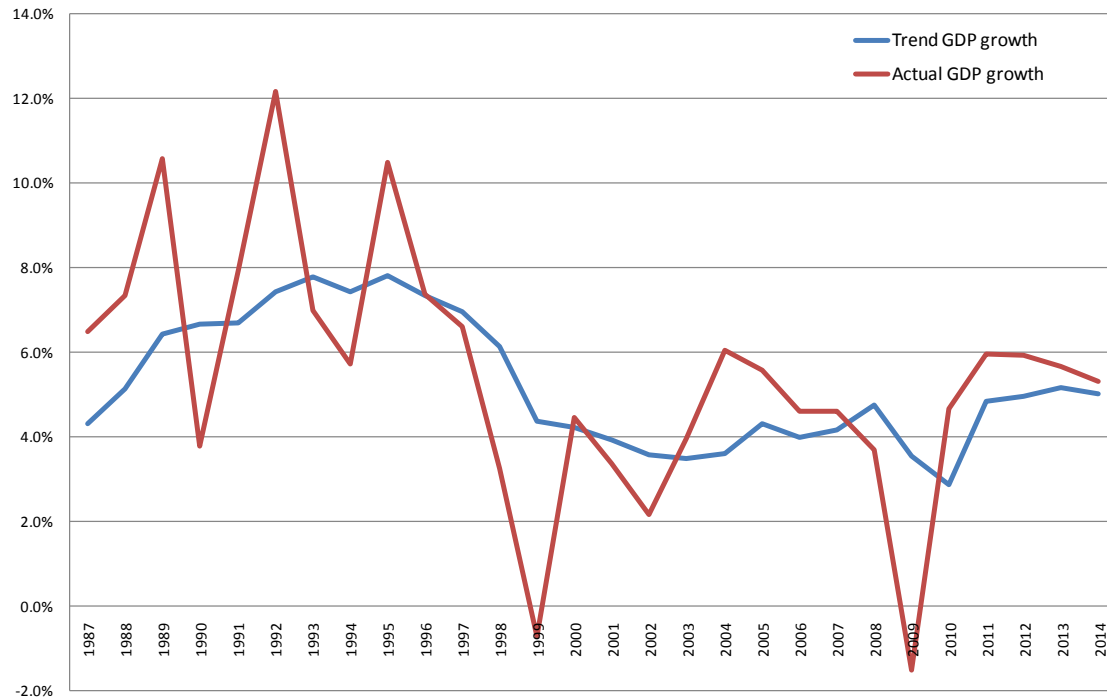
*Note:* D1-D2-D3-D4 is the Kuznets Curve. But other development paths that contradict the Kuznets curve are possible (e.g. Anand and Kanbur, 1993)

**Figure 5.1**  
**Structural Reform Index, 1960-2005**



Source: Author's calculation extending Lora et al., IDB.

**Figure 5.2**  
**Actual and Trend GDP Growth in Chile, 1987-2014**



Source: Ministry of Finance of Chile

**Table 5.1**  
**Population Share living in Poverty in Chile, 1987-2009 (%)**

|      | Poverty | Extreme Poverty | Total |
|------|---------|-----------------|-------|
| 1987 | 27.7    | 17.4            | 45.1  |
| 1990 | 25.6    | 13              | 38.6  |
| 1992 | 23.8    | 9               | 32.8  |
| 1994 | 20.1    | 7.6             | 27.7  |
| 1996 | 17.5    | 5.7             | 23.2  |
| 1998 | 16      | 5.6             | 21.6  |
| 2000 | 14.6    | 5.6             | 20.2  |
| 2003 | 14      | 4.7             | 18.7  |
| 2006 | 10.5    | 3.2             | 13.7  |
| 2009 | 11.4    | 3.7             | 15.1  |

Source: CASEN household surveys.

**Table 5.2**  
**Evolution of Income Distribution across Deciles in Chile, 1990-2009**

| <b>Decil</b> | <b>1990</b> | <b>1992</b> | <b>1994</b> | <b>1996</b> | <b>1998</b> | <b>2000</b> | <b>2003</b> | <b>2006</b> | <b>2009</b> |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>I</b>     | 1.4         | 1.5         | 1.4         | 1.3         | 1.2         | 1.3         | 1.2         | 1.2         | 1.5         |
| <b>II</b>    | 2.7         | 2.8         | 2.7         | 2.6         | 2.5         | 2.7         | 2.7         | 2.9         | 3.1         |
| <b>III</b>   | 3.6         | 3.7         | 3.5         | 3.5         | 3.5         | 3.6         | 3.6         | 3.9         | 4           |
| <b>IV</b>    | 4.5         | 4.7         | 4.5         | 4.5         | 4.5         | 4.5         | 4.7         | 4.9         | 4.8         |
| <b>V</b>     | 5.4         | 5.6         | 5.6         | 5.4         | 5.3         | 5.7         | 5.4         | 5.6         | 5.6         |
| <b>VI</b>    | 6.9         | 6.6         | 6.4         | 6.3         | 6.4         | 6.2         | 6.6         | 7           | 7.1         |
| <b>VII</b>   | 7.7         | 8.1         | 8.1         | 8.2         | 8.3         | 7.9         | 8.2         | 8.7         | 8.5         |
| <b>VIII</b>  | 10.4        | 10.5        | 10.6        | 11.1        | 11          | 10.4        | 10.7        | 11.1        | 11          |
| <b>IX</b>    | 15.2        | 14.8        | 15.4        | 15.4        | 16          | 15.1        | 15.3        | 16          | 15.3        |
| <b>X</b>     | 42.2        | 41.8        | 41.8        | 41.8        | 41.4        | 42.7        | 41.5        | 38.6        | 39.2        |
|              | 100         | 100         | 100         | 100         | 100         | 100         | 100         | 100         | 100         |

*Source:* CASEN household surveys.

**Table 5.3**  
**Income Distribution Indexes in Chile, 1990-2009**

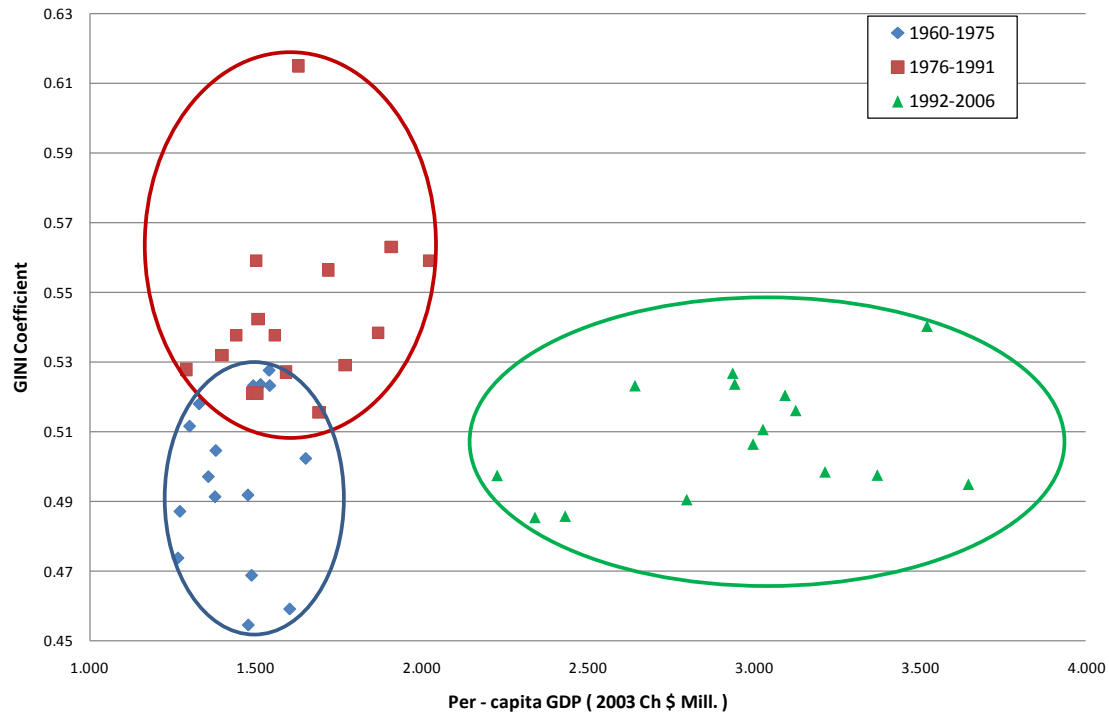
|                         | <b>1990</b> | <b>1992</b> | <b>1994</b> | <b>1996</b> | <b>1998</b> | <b>2000</b> | <b>2003</b> | <b>2006</b> | <b>2009</b> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Ratio 10/10</b>      | 30.1        | 27.9        | 29.9        | 32.2        | 34.5        | 32.8        | 34.6        | 31.3        | 26.2        |
| <b>Ratio 20/20</b>      | 14          | 13.2        | 14          | 14.8        | 15.6        | 14.4        | 14.5        | 13.1        | 11.8        |
| <b>Ratio 10/40</b>      | 3.5         | 3.3         | 3.5         | 3.5         | 3.5         | 3.5         | 3.4         | 3.0         | 2.9         |
| <b>Gini Coefficient</b> | 0.57        | 0.56        | 0.57        | 0.57        | 0.58        | 0.58        | 0.57        | 0.54        | 0.55        |

*Source:* CASEN household surveys

*Note:* Ratios (x/y) represent the share in country's wealth of the x% richest relative to the y% poorest.



**Figure 5.3**  
**A Kuznets Curve in Chile? Income Distribution (Gini Coefficient) and Per Capita GDP, 1960-2006**



Source: Author's calculation based on data of Central Bank of Chile and Employment Survey of University of Chile.

**Table 6.1**  
**Qualitative Assessment of Impact of Reforms on Growth and Equity in Chile**

| Equity Impact  | Growth Impact                                            |                                         |                                           |
|----------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------------|
|                | High                                                     | Moderate                                | Low (Negative)                            |
| High           | 1. Education<br>2. Poverty Reduction<br>3. Crime Control |                                         | (Highly distorting transfers to the poor) |
| Moderate       | 4. State and Government Reform                           | 5. Labor Markets<br>6. Entrepreneurship |                                           |
| Low (Negative) | 7. Innovation + R&D<br>8. Tax Reform                     | 9. Environment                          | 10. Regional Integration                  |

**Table 6.2**  
**Potential Obstacles to Reforms and their Relevance for Chile**

| Potential Obstacles to Reforms                                                                                                                                                              | Relevance for Chile                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Government inhibition due to:</b>                                                                                                                                                     |                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Uncertainty about benefits</li> </ul>                                                                                                                | <ul style="list-style-type: none"> <li>Moderate in case of world frontier reforms</li> </ul>                                                                   |
| <ul style="list-style-type: none"> <li>Costs of reform design</li> </ul>                                                                                                                    | <ul style="list-style-type: none"> <li>Low (high human capital)</li> </ul>                                                                                     |
| <ul style="list-style-type: none"> <li>Costs of reform negotiation</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>Moderate (strong executive)</li> </ul>                                                                                  |
| <ul style="list-style-type: none"> <li>Costs of reform implementation</li> </ul>                                                                                                            | <ul style="list-style-type: none"> <li>Low (but depends on human capital in particular reform area)</li> </ul>                                                 |
| <b>2. Distributional factors</b>                                                                                                                                                            |                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Large difference between median and mean voter (due to high Gini)</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Very large</li> </ul>                                                                                                   |
| <ul style="list-style-type: none"> <li>Large influence of median voters exercised by above-median voters (counter-act the previous effect)</li> </ul>                                       | <ul style="list-style-type: none"> <li>Large</li> </ul>                                                                                                        |
| <ul style="list-style-type: none"> <li>Large uncertainty about who gains and who loses leads to reform blocking by risk-averse voters</li> </ul>                                            | <ul style="list-style-type: none"> <li>Moderate</li> </ul>                                                                                                     |
| <ul style="list-style-type: none"> <li>Power of lobbies in favor or against reforms, distorting reform content</li> </ul>                                                                   | <ul style="list-style-type: none"> <li>Depending on reforms, could be very large: strong private sector lobbies, strong public-sector worker unions</li> </ul> |
| <ul style="list-style-type: none"> <li>Lack of compensation of losers</li> </ul>                                                                                                            | <ul style="list-style-type: none"> <li>Standard</li> </ul>                                                                                                     |
| <b>3. Principal-agent problems between government and voters</b>                                                                                                                            |                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Government represents special interests that weigh larger than median voter</li> </ul>                                                               | <ul style="list-style-type: none"> <li>Moderate</li> </ul>                                                                                                     |
| <ul style="list-style-type: none"> <li>Government disguises its agenda and representation of special interests due to opacity and lack of accountability in government decisions</li> </ul> | <ul style="list-style-type: none"> <li>Moderate</li> </ul>                                                                                                     |
| <ul style="list-style-type: none"> <li>High government discount rate (short planning horizon)</li> </ul>                                                                                    | <ul style="list-style-type: none"> <li>Moderate</li> </ul>                                                                                                     |
| <ul style="list-style-type: none"> <li>Future voters not taken into account</li> </ul>                                                                                                      | <ul style="list-style-type: none"> <li>Low-moderate</li> </ul>                                                                                                 |