

**Sustained Macroeconomic Reforms, Tepid Growth:
A Governance Puzzle in Bolivia?**

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0. Background.

We are increasingly cognizant of the limits to large cross-country empirical studies in trying to understand in-depth a particular country reality, in ways useful for advice. At the same time, merely relying on a single country account at a particular point in time ignores the historical and comparative cross-country perspective. Worse, an in-depth investigation of a single issue within a country begs the question of whether such particular issue may be fundamental for the country's growth and development relative to other determinants, or not. Further, drawbacks exist from excessive reliance on narrow empirical approaches, or on mere qualitative narrative.

Consequently, the approach undertaken here for the case of Bolivia is of an integrated nature, combining the following strands: i) an *historical* perspective from the twin standpoints of the evolution of the *enterprise and government sectors* over the past half century; ii) an in-depth *review of the literature* on explanations of Bolivia's performance; iii) an empirical analysis of the country's enterprise sector performance on the basis of a detailed *firm-level survey* conducted recently in 80 countries, and, iv) an empirical analysis of Bolivia's public agencies based on a *survey of public officials* in Bolivia working in over 100 institutions. To provide an additional element of comparability, we also utilize *cross-country governance* indicators.

The historical background sections provide a simplified background of the evolution of Bolivia's political economy, in turn helping frame key hypotheses tested in the subsequent econometric analysis. In particular, a salient hypothesis in this paper, resulting from the historical account, and tested subsequently with the new datasets, is the ascent and entrenchment of 'unofficialdom' in Bolivia: both the enterprise sector and the public sector are characterized by substantial unofficial and informal behavior, and these are related. In the public sector it is linked to politics of patronage, of 'clientelism' and of corruption, while in the enterprise sector it relates to the lack of level playing field and high costs of formality – only the elite benefiting from staying in the formal sector. Thus, central to this probe is the role that misgovernance in Bolivia has played in framing the dynamics linking the public and private sectors and the underperformance of formal institutions (and obstacles to modernization) in both the public and private sector arena.

In turn, the extent of 'unofficialdom' and misgovernance in Bolivia, has had adverse consequences in terms of the country's growth performance. Consequently, a key tenet in this work is that the potentially much higher growth rate that Bolivia could have enjoyed in the aftermath of ambitious macro-economic reforms boldly launched in the mid-eighties have been thwarted. In undertaking this approach to our inquiry, with its stated hypotheses, a number of conventions are challenged -- such as the notion that broad macro-economic reforms can *suffice* to attain high growth rates. Instead we highlight the potentially key role that may be played by non-traditional institutional factors such as misgovernance, corruption and 'unofficialdom'. The empirical approach permits us to quantify at a micro-level the effects of 'soft' variables usually not subject to measurement, such as extent of politicization of public agencies, the degree of 'voice' afforded to enterprise, and the effectiveness of protection of its property rights. Further, within the exploration of the effects of misgovernance on enterprise behavior and performance, we also test hypotheses such as the beneficial 'grease' role of corruption.

More broadly, the methodological approach questions the limits of concentrating on *country aggregates* as a relevant unit of empirical observation. The empirical evidence in this paper attests to the large variance in performance and governance across *institutions*, and also on the variance across policy and institutional *factors* -- within a country. This challenges the tendency to rank (or 'grade') countries with summary indicators, ignoring the within-country variance and thus masking the strengths and weaknesses that institutions in the country may have -- in turn clouding the need to provide prioritized and focused policy advice at the country level.

I. Introduction.

The Calderon-Vargas family have been members of Bolivia's upper middle class for generations. Over the last two generations, the family has alternated its residence between La Paz, the seat of government, and Santa Cruz, the entrepreneurial center. Don Ramiro Calderon, nowadays the family elder statesman, lived much of his life in Santa Cruz with his spouse, Marta Vargas de Calderon, a historian by training. Ramiro Calderon Sr. was a moderately successful and highly respected businessman, eventually becoming the elected head of the country's industrialist's association in the early eighties. At that point he passed on the management of his family business to his daughter, Patricia Calderon-Vargas, and, through a high-level contact in the party currently in power, secured his spouse's Marta a mid-level position in the Ministry of Development. Thus, both parents, Ramiro and Marta, moved to La Paz, with their son, Jose Calderon Jr., who was still in high school – while Patricia stayed in Santa Cruz in charge of the family business. In La Paz, after graduating from the university with a degree in public policy in 1993, and through the recommendation of his mother, young Jose joined the Ministry of Finance in a technical position.

Eight years later, at the turn of the new millennium, Ramiro Sr. was in full retirement, Marta was in her last year in Government, and their son, Jose, had ascended to the post of undersecretary of the budget. Meanwhile, in Santa Cruz, Jose's sister Patricia was adroitly weathering the depressed environment faced by her business, carrying out downsizing measures which, coupled with some creative accounting, lowered substantially the firm's tax burden, enhancing the chances of survival of the firm.

Over the Christmas weekend recess in Santa Cruz at the end of the year 2000, with her parents and brother visiting from La Paz, the conversation turned to her account of the managerial challenges of the business, and her concern at the plight of some of the dismissed workers - one of whom she had seen the previous week peddling wares informally in the sidewalk of the main street in the center of town, with one child at his side. More generally, she was also troubled about a number of recent dramatic social unrest episodes the country had experienced, the result of economic hardships by many who felt disenfranchised and also due to unpopular tariff hikes for public services. She voiced her view that Bolivia had already awkwardly entered the globalized 21st century with unclear prospects; a country with a seemingly perennial per capita income hovering around only US \$1,000 per year, with about one-half of the population living at less than two dollars a day, and with a dormant enterprise sector.

“But it is not as if recent governments have sat idly”, her brother Jose protested, adding “...in fact we should put our challenge in perspective and consider the scope of what has been achieved since the mid-eighties. Following decades of political and economic chaos, political stability was restored within a democratic framework, and since then there have been fifteen years of resolute economic reforms.” Unimpressed, Patricia retorted: “Then, how come there is so little to show for it?” Their mother Marta intervened, referencing her readings of the literature, which pointed to a such a multiplicity of different potential obstacles to high growth in Bolivia – which had averaged virtually zero in annual per capita terms since the mid-eighties. With her erudition, she alluded to the many writings about Bolivia and Latin America, as summarized in the Matrix I bibliographic summary review below, where depending on the author and study referred to, virtually the full gamut of obstacles to growth have been emphasized.

Matrix I: What are the Main Obstacles to Bolivia's Growth Performance?: A Synthesis of Bibliography Review

Main cause of low growth Author's Study	Period covered	Macro-economic mismanagement	Trade policies/taxation/	Political Obstacle	Institutional Obstacles	Infras-structure	Entrepreneurship/labor/skills	Finance	External factors	Geography	Ethnicity	Non-diversified economic structure (mono-producer)
1. Barrera, F. and Lora E. 1997.	1983-1995	XX	XX				XX	XX				
2. Camara Nacional de Industrias	various years 1990's				XX	XX	XX	XX		XX		
3. Chavez, J., C. (1997)	1990's						XX					XX
4. Easterly, W., Loayza, N and Montiel, P. 1996	1960-1993	XX	XX		XX			XX				
5. Eder, G.,J. (1968)	1950-1960	XX										X
6. Fundación Milenio (various)	1990's				XX	XX	XX	XX	XX	X		XX
7. Gallup, Sachs, and Mellinger 1999	Multiple periods to 1990's	XX	XX							XX		
8. Grebe, H. (1999)	1990				XX		XX					
9. IDB. 1997. Economic and Social Progress in Latin America Report	1980's-1990's				XX	XX	XX			X		
10. IMF. 1998. Country report	1950's-1990's	XX	XX	X			XX		XX			
11. Montano, G., and Villegas, C. 1993	1950's-1990's				XX	XX	XX	XX		X		XX
12. Morales, J.A. and Pacheco, N. 1999	1900-1990	XX	XX	XX	XX	X		XX	XX	X		XX
13. OECEI. 1969. Country report	1920-1967	XX	XX		XX	X		XX	XX	X		XX
14. Rodriguez Ostría, G. 1999.	1900-1990			XX	XX		XX	XX	XX			XX
15. Sachs, J. and Morales, J.A. 1990	1950's-1980's	XX	XX	XX	XX	X	X	XX	XX	X		XX
16. United Nations. 1958. Country report	1940-1958					XX	XX	XX	XX	XX		XX
17. Whitehead, L. 1991.	1930-1980			XX	XX				XX		X	XX
18. World Bank, 1994. Structural adjustment	1980's - 1990's		XX		XX	XX	XX	XX		XX		
19. World Bank, 2001 Micro-economic constraints	1990's				XX			XX	XX			
20. World Bank 16R 2001	1990s			XX	XX							

Note: Two xx's signifies that particular prominence is given by study/author(s) to the factor identified in that cell-column, while one x indicates that while there was treatment of such obstacle to growth in the study, but not given primary prominence. An empty cell signals absence of treatment of such factor in the study. Source: Authors' review of bibliography (and as such there is an element of subjectivity).

Upon reviewing the complicated ‘multi-faceted’ picture that emerges from a review of the existing literature – which in their view did not permit them to focus on the priority factors for Bolivia’s growth nowadays, during that Christmas evening the four members of the family decided to devote some of their free time to investigate the question posed: why is it that in the aftermath of bold and sustained reforms for fifteen years, the economy had grown so tepidly?¹ They were aware of the costs due to the landlocked nature of Bolivia, and of its topography as well as the vagaries of the terms of trade, yet they agreed that there was much more that needed to be understood.

With his vast entrepreneurial experience for half a century Ramiro Sr. would provide a historical perspective from the enterprise’s vantage point (section II), while Marta Calderon, with her historical background, political economy erudition, and public sector experience would provide a historical account of the politics of the public sector (section III). The younger generation would then complement the dual historical perspective of their parents, with Patricia undertaking to analyze current empirical evidence on the obstacles to the firm operating officially and of vigorous enterprise growth -- relying on a very large survey of enterprises worldwide which included Bolivia (section IV), while her brother Jose would suggest a framework and analyze empirically the determinants of public sector performance, in turn based on an in-depth survey of public officials in Bolivia (section V). The four of them agreed that they would meet in a few short months to discuss and attempt to integrate their accounts and draw implications from this exercise (concluding section VI).

II. The Entrepreneurial Historical Context: Severe obstacles to enterprise development in Bolivia -- resulting in the rise of Unofficialdom.

Mr. Ramiro Calderon Sr. uncanny memory can recall in enormous detail the travails that the Bolivian private sector has gone through in the last 50 years, where most often the entrepreneurial segment faced a hostile business environment. He has witnessed dramatic political changes: from a revolution which transformed the country into a “modern” nation, the attempt of a “state capitalist”² model, two major inflation episodes³, to the implementation of a far reaching economic reform in recent decades. The latter has transformed the country into one of the most privatized economies in Latin America, yet paradoxically the climate for enterprise is still subpar nowadays. The private sector has developed under political and constitutional instability, within arbitrary and changing set of rules, coping with uncompetitive practices by those that had privileged interactions with the state, and facing property rights insecurity. This, in turn, has been associated with a large and entrenched unofficial economy.

Before the 1952 revolution, the Bolivian economy essentially relied on the production of tin and a very rudimentary agricultural system. The mining industry was composed by three major private firms – Patiño, Hochschild and Aramayo Mining Co.-, which, by providing most of the State’s revenues⁴, exerted extraordinary political and economic influence, illustrating a case akin to ‘state capture’ – defined as the capacity of firms to shape and affect the formation of the state’s basic rules of the game (including its policies, laws and regulations). The extent of the capture of the state by these firms gave place to the label of the “Mining Super-State”, signaling the enormous

¹ The Calderon-Vargas ‘family’ is a narrative construct, and as such is fictitious, yet their personalities, experiences and insights attempt to capture elements of Bolivia’s reality. By contrast, none of the data and evidence presented in this work is fictitious, and all named persons (other than the Calderon-Vargas family) are real.

² Morales and Sachs, 1990.

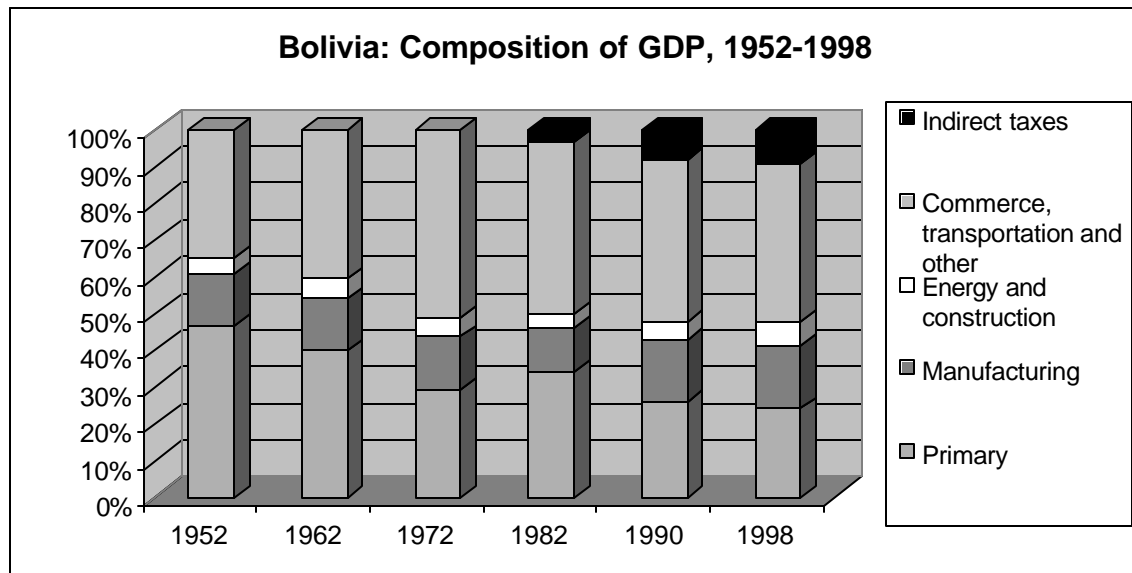
³ The second hyperinflation, which peaked in 1985 at an impressive 25,000% a year rate, has been the major hyperinflation not caused by war.

⁴ Morales and Pacheco (1999) estimate that taxes on mining production and international trade represented 66.8% of the total revenues of the Bolivian state in 1940. .

influence they wielded.⁵ At the time, the agricultural system was based on large land holdings in the hands of the few, with an archaic quasi-feudal production structure, resulting in very low productivity of the sector – a net importer.⁶

Industry concentration was also marked, with very few producers of food processing, beverages, textiles and confections products, a pattern which has not changed dramatically until today⁷, as seen in Chart 1. Industrial and agricultural development was affected by the high profitability of the mining industry, and its concomitant ‘Dutch disease’ effect through an exchange rate which was overvalued in terms of promoting the development of the non-mining sectors.

Chart 1. Evolution of the composition of GDP in Bolivia (1952-1998)



Source: Based on figures in Sachs and Morales, 1990 and The World Bank, 2001

In 1952 a violent revolution brought the National Revolutionary Movement (MNR) to power. The MNR was formed by middle class professional and veterans from the Chaco war against Paraguay. The main ideology of the party was the creation of a national state and the overthrow of the mining-landlords oligarchy. The mines were nationalized and its management unified into a large corporation – The Bolivian Mining Corporation (COMIBOL). Land reforms were carried out. A new economic model was implemented, “state capitalism”, whereby import substitution and large public investments in infrastructure were emphasized. Large resources were transferred to the agro-industrial and manufacturing sector, and institutions to promote industrial development were created or strengthened.

The government set up a complex set of incentives and sanctions to influence the private sector’s production and investment decisions, relying on heavily subsidized credit, financed by the use of differential exchange rates, and tax incentives. Protective barriers were also set in place⁸, and an increasingly interventionist state on the enterprise sector became a reality.

⁵ In Hellman, Jones and Kaufmann, 2000, the notion of state capture is developed and analyzed empirically for modern day transition economies of the former socialist states, and it is found that about one-half of the economies in transition exhibit high levels of state capture by the elite enterprise sector.

⁶ For a good overview of the Bolivian economy before 1952 see Morales and Pacheco, 1999.

⁷ United Nations, 1958; Rodríguez Ostría, 1999.

⁸ The new regime inherited already a complex tariff structure which was composed by thousands of different rates.

Within such growing role of the state in the operations of the enterprise sector, the political realities were ripe for the development of an elaborated system of job ‘patronage’ vis a vis the government-owned enterprises (SOEs), i.e. the use of such enterprises as political tools to hire supporters of the regime. Political imperatives, coupled with the weakness of the judiciary also gave place to ‘clientelism’ - the use of governmental (or SOE) public contracts to garner support from specific individuals or groups. The main employer became the public sector, a situation which was to remain that way for another forty years, until the mid-nineties.⁹

A competitive private enterprise sector was not encouraged by this statist strategy, which politicized the sector and affected the relationship with the business community. For the new administration the public sector was to be a main engine of growth. Prominent businessmen associated with the former regime were discredited; they were replaced by new insiders with connections with the incoming regime, who benefited from the incentives offered by the state. The supply response was tepid, since the complex system of interventions undermined business confidence. There was uncertainty over property rights, after land reform and nationalization, and corrupt and illegal influence schemes by insiders led to a non-competitive economic structure of the market. Major resource misallocation took place in agriculture and industry, growth rates turned negative, while overspending by the government sector complemented by an expansionary monetary stance, resulted in annual inflation rates exceeding 100% per year in 1956-7.¹⁰

By the late fifties, a stabilization plan was put in place as a response (emulated decades later in the 1985 stabilization plan), featuring price liberalization, exchange rate unification and a drastic reduction in the fiscal deficit through the elimination of subsidies and specially targeted benefits. Trade openness, coupled with a disciplined fiscal stance, exposed the inefficiencies of much of the enterprise sector: of 1,556 firms registered in 1955 only 878 survived by 1958¹¹. These measures were kept in place until 1965, when barriers to trade were re-introduced. This period also witnessed the beginning of a period of military rulers (interspersed by very short-lived democratic administrations), which was to last until 1982 (see table 1). Following the military coup of 1964, the State Capitalism ideology remained as the basic economic model, and consistent with it, the nationalization of the Gulf Oil company took place¹².

Growth resumed by the late sixties, at a time when the economy benefited from a favorable international commodity price environment, the rapid development of the eastern part of the country and its commercial agriculture, and growth of the hydrocarbons industry as a result of previous investments. Large influxes of foreign aid funds, particularly from international agencies resulted from Kennedy’s ‘Alliance for Progress’ initiative. The practices of patronage and clientelism governing the relations between the state and enterprise did not change from one regime to another, however. The use of jobs for political payoffs and of public contracts awards to derive political benefit were part of the political system, and associated with corrupt behavior.

⁹ For a good overview see Morales and Sachs, 1990, where *inter alia* the misgovernance manifestations of ‘patronage’ and ‘clientelism’ are addressed. Clientelism is defined by them as ‘the use of public contracts to maintain support from specific individuals or groups - in public contracts and purchases – from both government and State Owned Enterprises’, while patronage is ‘the use of public enterprises to hire supporters of the regime’. According to the Webster, patronage is ‘the power to make appointments to public sector jobs specially for political advantage’. Among political scientists, clientelism in Latin America is also often seen as the exchange of votes from blocks of voters in return to access to resources by the politician when in power (Rehren, 2001).

¹⁰ George Jackson Eder was the leader of the Technical Assistance Mission of the US government that supported the government of Bolivia with the Stabilization plan of 1957. For an overview view of the Mission, see Eder, 1968.

¹¹ OECEI, 1969.

¹² Grebe, 1998; Morales and Sachs, 1990; Montano and Villegas, 1993. In Bolivia the conventional Import Substitution Industrialization (ISI) strategy was never aggressively pursued as in other Latin American countries. In this sense, in Bolivia there was never a coherent and long lasting policy to develop industrial sites. For an overview of other Latin American countries implementing the ISI, see Thorp, 1998.

Table 1: Political and Economic Regimes in Bolivia: 1950-2000

Period	Political Phase	President	Ideology	Modality of ascend to power	Major Economic Measures	Average fiscal deficit %	Average inflation rate %	Average growth rate %
1952-56	MNR revolutionary government	Victor Paz Estenssoro	Nationalism	Revolution	Nationalization, land reform, tax incentives, subsidies to increase agricultural production and manufacturing, roads to connect the lower lands and increase agricultural production. Creation of more SOE's.	-	127.9 ↑	-2.0 ↓
1956-60		Hernan Siles Suazo	Nationalism	Election	Stabilization package, price liberalization, exchange rate unification and trade liberalization, end of all subsidies, SOE's regulation so to obtain only same benefits as PS.	-	37.5 ↓	0.7 ↑
1960-64		Victor Paz Estenssoro	Nationalism	Election	Export diversification and import abandon, economic planification begins, plan to mechanize the mines.	-	5.6 ↓	4.7 ↑
1964		Victor Paz Estenssoro	Nationalism	Election		-	10.1 ↓	4.8 ↑
1964-65	Military ¹³	Rene Barrientos Ortuno	Right wing	Coup	Large subsidies credits, large investment in public sector, foreign direct investment in oil and mining.	-	6.5 ↓	6.9 ↑
1965-66		Alfredo Ovando Candia Military	Right wing	Designated by the army	Continuation of policies	-	4.9 ↓	7.0 ↑
1966-69		Rene Barrientos Ortuno	Right wing	Election	Continuation of policies	-	6.2 ↑	6.0 ↑
1969		Luis Adolfo Siles Salinas	Center-right	VP elected	Continuation of policies	-	2.2 ↓	4.7 ↓
1969-70		Alfredo Ovando Candia	Nationalism	Coup	Nationalization of private oil company.	-	3.0 ↑	5.2 ↑
1970-71		Juan Jose Torres G.	Populist	Coup	Nationalization of some private firms.	1.4	3.7 ↑	4.9 ↓
1971-78		Hugo Banzer Suarez	Right wing	Coup	Credit subsidies, boom in exports of gas and tin, investment incentives for private firms, coca industry begins and expands rapidly, large subsidies to private sector.	1.8 ↑	18.8 ↑	5.4 ↑
1978		Juan Pereda Asbun	Right wing	Coup		2.7 ↑	10.4 ↓	3.3 ↓
1978-79		David Padilla Arancibia	Right wing	Coup		3.8 ↑	15.0 ↑	1.8 ↓
1979		Transition period. (Short military and congress appointed governments)	Walter Guevara Arze	Center	Designated by Congress		4.9 ↑	19.7 ↑
1979	Alberto Natusch Busch		Right wing	Coup		4.9	19.7	1.8
1979-80	Lidia Gueiler Tejada		Center	Designated by Congress	Stabilization plan attempted but failed because of military overthrow.		33.4 ↑	-0.55 ↓
1980-81	Luis Garcia Meza Tejada		Right wing	Coup	Major increase in coca industry and corruption.	6.0 ↑	39.6 ↑	0.3 ↑
1981	Military Junta		Right wing	Designated by the army		5.6 ↓	32.1	0.3
1981-82	Celso Torrelio Villa		Right wing	Designated by the army		5.6	77.8 ↑	2.8 ↑
1982	Guido Vildoso Calderon		Right wing	Designated by the army		22.3 ↑	123.5 ↑	2.8

Table 1 Cont.

¹³ Barrientos was democratically elected in a widely criticized election in 1966. He was a member of the Armed Forces and worked closely with them.

Table 1, Cont.

Period	Political Phase	President	Ideology	Modality of ascend to power	Major Economic Measures	Average fiscal deficit %	Average inflation rate %	Average growth rate %
1982-85	New Democratic phase	Hernan Siles Suazo	Left-wing	Election	Hyperinflation, minimum wage increases, black markets	23.4 ↑	4471.7 ↑	-3.0 ↓
1985-89		Victor Paz Estenssoro	Center-right	Election	Stabilization package, price liberalization, trade liberalization, reforms to smooth market mechanism, end of subsidies.	7.7 ↓	75.0 ↓↓	1.8 ↑
1989-93		Jaime Paz Zamora	Center-right	Election	Privatization of small SOE's	4.3 ↓	14.7 ↓	3.9 ↑
1993-97		Gonzalo Sánchez de Lozada	Center-right	Election	Privatization of large SOE's. Establishment of regulatory framework Creation of private pension funds Banking Law Central Bank Law	3.2 ↓	8.8 ↓	4.4 ↑
1997-2001		Hugo Banzer Suarez	Center-right	Election	Judicial Reform National Dialogue Anti-drug program	3.7 ↑	5.2 ↑	2.4 ↓
2001-2002		Jorge Quiroga	Center-right	VicePresident elected. Assumed Presidency after Banzer's resignation due to illness.	Proposed program for year 2001/2002: Implement Poverty Strategy Implement anticorruption program Implement Emergency Program for economic recovery	3.7*	3.7*	2.5*

Sources: Mesa, Mesa and Gisbert, 1998; Morales and Sachs, 1990; Morales and Pacheco, 1999; IMF 1998, 2001; The World Bank, 1994; Authors' calculations. Note: Upward arrow depicts an increasing trend over the period. *Estimated.

Hugo Banzer came to power in 1971 through a violent coup; his dictatorship lasted until 1978, a period of relatively high growth (table 1; see also chart 2 below), when the economy benefited from high commodity prices, a boom in the production of gas and large influxes of capital financed through heavy borrowing – Bolivian external debt exploded during these years from \$480m. in 1970 -- Bolivia had essentially been cutoff from international financing since 1931--, to \$2,228m. in 1980¹⁴. The economic expansion also benefited from the emerging cocaine industry at the time (valued then at about US \$400 million¹⁵), the result of the boom in cocaine consumption in the US and the lax attitude by the Bolivian government -- with the military directly involved in this industry.

The period witnessed a stronger support for the elite segment of the private sector, due to an alliance between members of the business community and the military regime (which inter alia resulted in industrialists occupying important positions in government), complemented by repressive measures against trade unions and labor. The elite in the private sector sought stability, business opportunities and the control of the labor class -- which had benefited from former regimes with increases in wages and labor legislation. Lobbies such as in agriculture strengthened their influence (emerging from Banzer's birthplace). Influence became a key feature in the relationship of elite firms with the State, while the bulk of the enterprise sector – those without influence – were effectively shut off from benefits of staying in the formal sector.

These type of elitist relationships between the State and private firms resulted in *“large subsidies being vested to interest groups that supported the regime. Friends of the government, particularly in the military and among the private business community, were frequently favored with property rights over hitherto public land, with mining concessions, and, most importantly, subsidized credit.”*¹⁶ Medium and small entrepreneurs, with no links to the government were excluded from any of these incentive schemes. Anti-competitive practices were again prevalent, the result of the

¹⁴ Morales and Sachs, 1990.

¹⁵ Doria Medina 1986, quoted in Morales and Sachs, 1990.

¹⁶ Morales and Sachs, 1990.

powerful influence of insiders. These practices, combined with the long standing policies favoring capital intensive extracting policies, implied little incentive for budding entrepreneurs, job seekers and small and medium enterprises to be full participant in the formal economy, resulting instead in the evolution of the informal sector. By the early eighties the estimate of the informal economy approached about one-half of GDP.¹⁷ These ‘crony’ relationship between the economic elite and the State, and its particular financial manifestations, also had the deleterious effect of undermining the health of the financial sector: businessmen and bankers colluded to obtain subsidized, state-guaranteed credits, and borrowing from the state development banks and then defaulting the loans was also common practice and resulted in perverse soft budget constraint mechanisms.

Democracy returned in 1982 but within a context of economic and political unrest. Debt buildup coupled with domestic political instability, poor macroeconomic management, a very weak tax system, and poor export prospects, resulted in a lack of access to new sources of foreign loans after 1981. The government did not raise taxes or cut expenditure; instead it substituted domestic credit expansion for capital inflows, and a new inflationary process was underway¹⁸. It peaked in 1985 at an unprecedented (worldwide in a country not at war) annualized rate of inflation at 25,000%. The crisis pushed many firms into bankruptcy. Industrial output fell by almost 40% compared to its 1978 level. However, elite firms or individuals, with access to hard currency – e.g., through special relations with the Central Bank and thus to subsidized foreign currency (then resold in the black market at 15 times its subsidized cost), let to the unproductive enrichment of a few who had preferential access to these rents. The Association of Private Entrepreneurs of Bolivia (CEPB) called for general strikes against the government.

In August 1985, a new government headed by the three times ex-President Paz Estenssoro came into power. Only three weeks after the new administration took office, a stabilization package was introduced and, with this, a set of reforms which transformed radically the existing economic model, which the same president had introduced under State capitalism in 1952. The stabilization package was composed of several measures embodied in the Supreme Decree 21060, which has become the axis of the economic policy since then¹⁹. The plan included immediate price labor market liberalization, exchange rate unification on current and capital account and the free convertibility of foreign exchange, trade liberalization abolishing all import and export controls and reduction of tariffs to a flat rate of 20% at first and further down subsequently. A radical reduction in the public deficit was implemented, the price of fuel was increased many-fold, lay-offs in the public sector and a freeze in public sector wages and investment were carried out, as well as an end to subsidies.

The program had remarkable short-term results: inflation was controlled in 10 days and growth resumed already by 1987, while international trade soared.²⁰ Labor unions opposed this austerity program, while import substitution industries opposed trade liberalization which once again exposed their inefficiency, yet the Government prevailed. The tax regime was also revamped (including through the introduction of VAT) following stabilization, and far-reaching financial sector reforms were also implemented.²¹

¹⁷ Doria Medina, 1986.

¹⁸ Morales and Sachs, 1990.

¹⁹ For a complete description of the stabilization package see Morales and Sachs, 1990.

²⁰ For a description of the evolution of exports and imports see Camara Nacional de Industria 1997.

²¹ These included implementation of Basle accords on prudential regulation and supervision, minimum reserve requirements and equity capital, the supervision of the banks was transferred from the Central Bank to an independent Superintendency of Banks, and state-owned banks were closed. In 1995, the financial sector reform was completed when a new law governing the Central Bank was passed. Under this law, the Central Bank has the pursuit of price stability as main objective and gained politically and economic independence from the executive branch.

By the early 1990's it was already apparent that the stabilization reform package needed to be complemented by structural and social reforms.²² In 1993, Gonzalo Sanchez de Lozada – the Minister of Planning and architect of the stabilization plan under the previous regime – became the fourth consecutive democratically elected president since the return to democracy in 1982. His government introduced an ambitious package of reforms: the five largest SOE's were privatized under the “capitalization” program²³, the pension system was reformed (strongly linked to the capitalization program), a decentralization process was initiated, and an educational reform was launched. Aiming at autonomy from the political process, a new regulatory framework particularly for the privatized SOEs was put in place via the Superintendencies (Water, Telecommunications, Financial Institutions, etc.), as well as a General Superintendency to regulate the framework.²⁴

In 1997 Hugo Banzer – who had come to power by a coup in 1971 and was a military dictator until 1978 - became the fifth consecutive democratically elected President of the country since the return to democracy (Table 1). During his tenure there have been a number of additional reforms, such as the long overdue Customs reform, and institutional streamlining of social programs, so to reduce political influence and achieve greater efficiency. The reforms in social programs were implemented via external donor pressure, since social funds have been a traditional source of corruption and patronage. Further, belatedly, participatory processes became a policy priority: this most recent period has witnessed the launch of consultative initiatives with civil society, to define national strategies and policies and allocation of financial resources which would be freed by the HIPC debt reduction program for which Bolivia qualified.

By 1998, the economic and political situation started to deteriorate as consequence of external and internal factors. In the external side, the effects of the Brazilian devaluation and the climate phenomena of “El Niño” and “La Niña”, had a severe effect in the Bolivian economy. These costs were aggravated in the short term by the successful governmental efforts to reduce the cocaine industry, and by measures taken by Customs to stamp out smuggling²⁵. At the same time, political and economic mismanagement played a role; these led to a recession in 1999, and unemployment started rising rapidly fueling an already charged political situation. Coupled with the extreme levels of poverty, serious internal conflicts arose -- such as the riots in the third largest city, Cochabamba, following an increase in water tariffs, which brought a state of emergency. The conflict was finally resolved when the government passed a new law governing the tariff structure for water provision²⁶ and the private consortium which administered the water enterprise left the country.²⁷ The eradication effort by the government have also brought major unrest in the areas where coca was normally produced.²⁸

²² For an analysis of the reforms and fiscal impact see The World Bank 1994; For an overview of the reforms and principal objectives see Morales, 1998; Morales and Pacheco, 1999; IDB, 1997. For a description of the effects of the reforms on the manufacturing sector see Camara Nacional de Industria (various) and Montano and Villegas 1993.

²³ The new scheme transferred ownership of 50% of the shares of the enterprise to a private firm in exchange for an investment commitment. The other 50% of the shares were transferred to all the citizen older than 21 as 1995. These shares were allocated in special Collective Capitalization funds administered by Private Pension Funds. The allocation of the 50% of shares to private enterprises was made by public tender and the winner determined by higher bid. The process achieved commitments exceeding US\$ 1.5bn to be invested over an eight year period.

²⁴ For details on the regulatory framework see Chavez, 1997; Muller & Asociados, 1997; Fundacion Milenio 1997.

²⁵ A study by Nogales, 2001, estimates the reduction in smuggling in \$US 538 millions and in drug trafficking in \$US 448 millions for the years 1997 to 2001.

²⁶ Financial Times, Oxford Analytica, Associated Press.

²⁷ The second large riots were observed in the highlands, in the western part of the country. A draft legislation pertaining irrigation in the countryside spurred massive protests and road blockades. Again, the protests resulted in violent clashes with the police and armed forces and the conflict was partially solved by an agreement between the peasant organizations and the government. Again, the government relented and increased salaries.

²⁸ Clashes between coca producers and the army had left several people dead, including members of the army.

Clearly, the economic and industrial development path of Bolivia has not been a dynamic one. The productive base has remained relatively un-diversified, as suggested in chart 1 above. Primary commodities nowadays still account for the bulk of exports, in rather similar fashion to fifty years ago. Foreign direct investment has increased over the past 15 years, but at US\$ 760m. in 2000, it is low in per capita terms. While significant macro-economic reforms have taken place since the mid-eighties until the present, the Bolivian economy has grown at less than 3% growth rate p.a. on average during this 15-year period of reforms, or at a mere one-half a percentage point per annum per capita. While external factors have not always been favorable to Bolivia, such performance is still disappointingly low: as seen in chart 2 below, in earlier decades Bolivia had enjoyed higher growth -- and what Bolivia has managed to attain is only a fraction of what on average East Asian economies have managed in terms of per capita growth. This low rate of growth of the Bolivian economy has been insufficient to make a dent on poverty reduction. At a per capita income of about US \$1,000, which is a fraction of neighbors such as Chile or Argentina, Bolivia nowadays still has over one-half of its populace living with less US\$2 per day, and they exhibit some of the highest rates of infant mortality in the world.²⁹ The dire economic realities in Bolivia are made starker by the vast income and asset inequalities.³⁰

While the reforms helped to create a more stable and competitive economy, the productive structure remained relatively un-diversified and vulnerable to external shocks. The enterprise sector is still of the view that much of the official policy and institutional environment is not conducive to business development. In fact, much of the enterprise sector is unofficial. Informality studies provide estimates for informal manufacturing establishments between 53,600³¹ and 95,000³². A recent World Bank study³³ suggests that nowadays the vast majority of manufacturing establishments and labor force may be unofficial (i.e. they operate outside the law and do not have access to the institutional arrangements that enable economic units to realize economies of scale, encourage innovations, and to improve the efficiency of factor markets). Further, a cross-country study assessing the unofficial economy in 69 countries in the mid-nineties placed Bolivia as one of the economies with the largest share in the unofficial sector³⁴.

Thus, a key tenet in this study is that the low productivity of much of Bolivia's enterprise sector is associated with widespread informality, in turn the result of the official policy and institutional favoritism towards a small elite. As stated in the recent World Bank study: *"A vast majority of Bolivians choose to operate informally because the existing institutions are designed to incorporate a privileged minority, consisting of those who can afford the high costs required to become and remain formal. On the other hand, the benefits of being formal are relatively low, because of the poor performance of the judiciary, government agencies, law enforcement and other public services."*³⁵

²⁹ For a complete discussion of recent economic developments and sources of growth in Bolivia, see IMF, 1998. For the effects of the Structural Adjustment program in poverty reduction see Vos and Mejia, 1997.

³⁰ The fact that farmers in the high plains still use oxen to plow fields and hunters use bows and arrows in the jungle, and that rural Indians live without electricity or potable water illustrates.

³¹ Casanovas Sainz, Roberto, 1989, "Informalidad e ilegalidad: Una falsa identidad", in Peres Velasco, Antonio; Casanovas, R; Escobar, S; Larrazabal, H, (eds) *Informalidad e ilegalidad: Una falsa identidad*, CEDLA, La Paz.

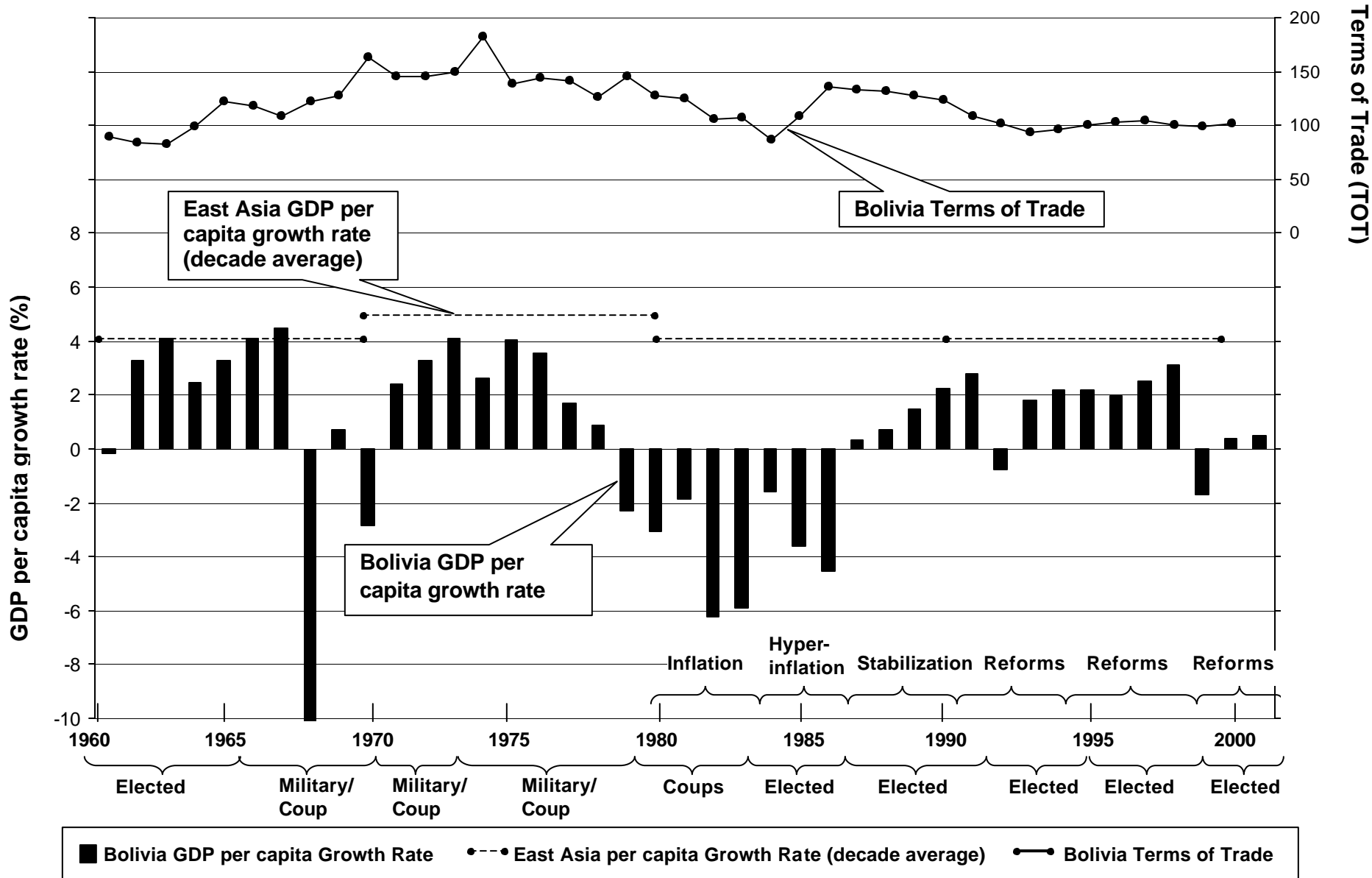
³² Larrazabal, Hernando, 1997, "La microempresa ante los desafíos del desarrollo", Encuentro Nacional Microempresa Versus Pobreza ¿Un desafío posible?", (manuscript), CEDLA, La Paz.

³³ World Bank. 2001. *Bolivia: Microeconomic Constraints and Opportunities for Higher Growth*

³⁴ Johnson, Kaufmann and Zoido-Lobaton, 1998. See section V below for further details.

³⁵ In Bolivia's report on constraints to enterprise, WB'01. The field study carried out in the cities of La Paz and El Alto reveals that the costs of complying with most of the legal requirements to start and to operate a business are extremely high, particularly for smaller businesses. Another key point made in this World Bank 2001 study is that Court cases in Bolivia are costly, lengthy and subject to corrupt influences.

Chart 2: Bolivia GDP per capita growth rate and Terms of Trade



Note: GDP base year = 1995. Data for 2000 is an estimate; 2001 is a projection. Source: World Development Indicators. Nine East Asian countries included in each decade average. Terms of Trade (goods only) base year = 1995 (1995 = 100). Source: IMF. Nine East Asian countries included in regional average for each decade.

In August 2001, after four years in government and one year before his term expired, Hugo Banzer resigned to the Presidency, due to illness. By this time, important sectors of Bolivian society had already demanded his resignation, including the association of private entrepreneurs – a traditional ally of Mr. Banzer. The sitting Vice-President, Jorge Quiroga, was sworn in as new President and appointed a new cabinet. In his inauguration speech he underscored four key objectives, namely, to jump-start the economy, to combat unemployment and poverty, and to fight corruption; and to so he called for transparency in government. He highlighted Bolivia's recently confirmed natural gas reserves, promising that an expected quantum leap increase in export proceeds would benefit the country's poorest – and pledging that corruption and mismanagement will not be an obstacle in the benefits of their proceeds reaching the poor.

In sum, from the perspective of the retired head of the entrepreneur association, Mr. Ramiro Calderon Sr., the Bolivian Structural Adjustment program has attained mixed results. Notably, the process has been undertaken by four different democratic governments, suggesting the broad consensus that the model has achieved. And these reforms transformed the Bolivian economy from “the most statist economy in Latin America, only after Cuba, to become an almost complete private economy in few years.”³⁶ Yet in spite of far-reaching macro-economic reforms, the enterprise sector and the economy have not grown at a rate which permits a substantial increase in income per capita and major poverty reduction. Growth rates in Bolivia have been below the rates attained in East Asia (see Chart 2), and also paled in comparison with rates attained in other Latin American countries such as Chile. Much of the enterprise sector operates unofficially, and does not see the option of formality as potentially beneficial to them. To understand some of the underlying public policy and institutional reasons for the persistence of an adverse environment to business and of the ascent of ‘unofficialdom’ in the public sector as well, we rely on Mrs. Marta Vargas de Calderon, the historian and civil servant.

III. The Evolution of Informality in the Public Sector: Mrs. Marta Vargas de Calderon’s historical and institutional perspective.³⁷

A History of Political Instability, 1952-1985

Even by Latin American standards of political and economic instability, Bolivia has gone through a particularly tumultuous history. By one count, there were more than 190 changes of government between independence in 1825 and the early 1990s, more than one change of government a year. During the 1960s and 1970s there were ‘stable’ military regimes, which implemented state-led capitalism and the state apparatus grew. Between 1970 and 1978, public sector employment rose from 66,000 to almost 170,000. Political turmoil returned in 1978-82, when seven military and two civilian governments replaced each other in quick succession. The political decay reached a crisis proportion during the government of General Luis Garcia Meza, which was repressive and also notoriously corrupt with known ties to drug-traffickers.

³⁶ Morales 1998.

³⁷ This section draws heavily from the analysis in the World Bank’s IGR 2000 report (WB’00).

Stability during the Revolutionary Regime, 1952-64.³⁸ *Since its defeat in the Chaco War (1932-36), Bolivia's traditional social fabric and its political and economic elite's ability to maintain their authority and legitimacy progressively weakened. "Between 1935 and 1952, Bolivia* experienced five successful coups (1935, 1936, 1937, 1943, 1951); two successful urban insurrections (1946 and 1952); at least three large-scale bloody encounters between the army and labor groups (1942, 1947, 1950); and a brief civil war (1947)."³⁹ The disintegration of the "old order" culminated in the MNR-led Revolution in 1952, which introduced sweeping reforms including the nationalization of the large tin mines and agrarian reform, which legalized the peasants' seizure of hacienda lands, and introduction of universal suffrage. Labor, peasants and indigenous groups were included in the broad governing coalition. Power relations with the military were changed through a large-scale purge of officers, reorganization of the military institution itself, and redefinition of its missions to include "civic actions" such as school construction and food distribution.

The Military Regime, 1964-78: Vested interests benefiting the private few. After the fall of Víctor Paz Estenssoro, General Barrientos ruled by decree for most of the next five years until the dictator's death in a helicopter crash. During the next two years, coups and countercoups followed each other as different factions vied for power. In 1971, a coup led by Banzer put an end to this episode of political instability, and reasserted authoritarian control. Banzer continued to use the state as a source of patronage. Patrimonial use of state resources was not limited to dispensation of public jobs: the transfer of public resources to the private sector was done mainly through the state banking system.⁴⁰ As emphasized in the previous section (from Mr. Calderon's perspective), the regime's economic policies in the early seventies (and its repression of organized labor) benefited selected private businesses, while the rest of the private sector did not gain an institutionalized channel of preferential access: "With access structured through personal ties to Banzer, businessmen without those ties or those who sought to put forth sectoral- or class-wide concerns were left without any direct avenues for influencing policy making."⁴¹

The Political Transition and Economic Crisis, 1978-82. By 1977, societal pressure on the Banzer regime to liberalize the political process stretched the regime's capacity to control political participation; elections were carried out, only to be thwarted by the military. During the next four years, seven military and two civilian governments replace each other in quick succession. The political decay reached a crisis proportion during the government of the repressive and corrupt regime of General Luis Garcia Meza, with known ties to drug-traffickers. After the fall of Garcia Meza, the Congress elected Hernán Siles Zuazo as president. Siles' election had broad support from all key sector in society, yet the scope of the economic management challenges meant that the government found itself unable to cope with the deteriorating economic conditions. Furthermore, the same political forces that negotiated Siles' election, mainly the Congress, organized labor, and even Siles' own vice president, obstructed the government's legislative agenda, and even threatened to unseat him. Devoid of congressional support, the Siles administration relied on rules by decree. While the government negotiated several IMF stand-by programs it faced strong opposition from organized labor, which forced the government to soften the content of the stabilization measures. The economy deteriorated further

³⁸ For a detailed account of the political dynamics in the early post-revolutionary period, see James M. Malloy, *Bolivia: The Uncompleted Revolution* (University of Pittsburgh Press, 1970). For an excellent account on the political history of Bolivia, see Eduardo A. Gamarra and James M. Malloy, "Bolivia: Revolution and Reaction." In Howard J. Wiarda and Harvey F. Kline (eds.) *Latin American Politics and Development*, 3rd Ed. 1990. Also, Whitehead, L. 1991. "Bolivia since 1930" in *The Cambridge History of Latin America* (Vol. VIII).

³⁹ Malloy (1970, p. 323).

⁴⁰ During the military dictatorship in the 1970s, for example, the state-owned Banco Agrícola de Bolivia (BAB) provided more than half of all agricultural credit in the country.

⁴¹ *Ibid*, p. 67.

with inflation reaching more than 20,000 percent. Siles was forced out of power one year early, and new elections were called in 1985.

The Maturation of the Democratic Regime, 1985-1997. Against this historical background, a major transformation of the Bolivian political economy began in the mid-1980s. First, through an inter-party agreement ('pact') the newly elected government introduced the bold macroeconomic stabilization measures discussed in the previous section (which became a model for the region). Demonstrations by opposition groups were first controlled by declaring a state of siege, and more generally the authority of the state was re-established from the chaotic years in the early 1980s. Since 1985, the transformation of the Bolivian political economy to a relatively stable multi-party democracy has been a remarkable accomplishment⁴², even as many of the institutional weaknesses and informality in the public sector were not addressed.

Growing Informality in Public Administration since the Eighties. The extent and type of 'informality' in the public sector has become a major source of institutional weakness, given the contradictions between the formal and the informal rules which are resolved in favor of the latter (instead of having both sets of rules reinforce each other to produce predictable and desirable behavioral patterns). Prevalence of informal rules over formal institutions has impaired the task of reform-minded policymakers.

While macroeconomic reforms and consolidation of the democratic political regime was taking place in the mid- to late-eighties, structural and institutional reforms lagged behind, as did efforts to modernize the central administration and the delivery and quality of public services. The core of Bolivia's public sector has remained largely unreformed, and suffers from deep institutional weaknesses. In 1990 the SAFCO (Financial Administration and Control System) Law, designed to turn the public sector into a modern, results-oriented institution, was promulgated, but with limited results so far. Throughout the recent period, public discontent with entrenched corruption and poor public service delivery has increased pressure to reform public administration.

One of the principal formal-legal instruments for public sector modernization in Bolivia is the SAFCO legal framework for regulating public administration. But its implementation has been uneven at best, and thus it has not had its intended impact on the functioning of the Bolivian state bureaucracy either in promoting operational efficiency and results orientation or in ensuring probity and accountability. Key reasons for sub par implementation have been: i) significant delays (often exceeding seven years since the Law's promulgation) in the implementing regulations; ii) limited commitment from the Ministry of Finance (which is in charge of issuing almost all of them), focusing instead on the ***traditional role of macro-fiscal management***, coupled with the weaknesses of central oversight bodies such as the comptroller, as well as in key institutions in the judiciary; iii) resistance from many public officials who did not welcome a rigorous system of accountability⁴³, and, iv) responsibility of donors in the lack of progress on public financial management due to its focus on narrow technical aspects, without paying attention to the crucial importance of ***inadequate incentives, the latter in turn driven by institutional and political obstacles.***⁴⁴

⁴² Consider for instance how through this period several of Bolivia's neighbors have seen their democratic regimes falter because of traditional political elite's inability to cope with their nations' political and economic governance (e.g. Ecuador, Peru, Venezuela).

⁴³ Thus, for example, under SAFCO each agencies' Annual Operational Plans which are meant to guide annual budgetary allocations are not taken seriously by either the Ministry of Finance or the line agencies, and have become "rituals" to fulfill every year during the budget preparation cycle. Similarly, there is little evidence that the "Individual" Annual Operational Plans are used effectively as an instrument of performance evaluation (WB'00).

⁴⁴ While SAFCO implementation has been supported by successive World Bank projects, it is evident that they have failed to achieve greater efficiency and accountability in the ways in which public officials manage the state's financial

Revenue administration: informality results in insufficient public revenue mobilization. In spite of the efforts following the macro-stabilization program, to date efforts to strengthen performance by the Tax and Customs Agencies have fallen short of expectations. While domestic tax collections increased from about 1 percent of GDP to 7.8 percent of GDP between 1986 and 1992, and by 1995 they were up to 10 percent, corruption is said to be a serious problem in tax administration. And customs revenues have stayed constant at around 1 percent during the same period. The topography of the country's borders, high unemployment, and the government's poor supervisory capacity have made Bolivia a prime target for contraband, which has grown dramatically during the 1990s: in 1990, the Bolivian government lost about \$109 million per year in revenue; by 1997, the estimated annual loss had risen to about \$430 million.⁴⁵

Furthermore, survey results indicate that both the Internal Revenue Agency and the Customs Agency are highly politicized and prone to corruption; the respondents from the Internal Revenue Agency estimated that 75 percent of hiring is done for political reasons, while customs was ranked worst in terms of officials' perception of levels of corruption by agency. Evidence also suggests that customs posts are being bought by candidates to have access to illegal sources of revenue for personal enrichment. As we will review in the next empirical section, Bolivia's enterprise sector exhibits one of the highest levels of 'unofficialdom', and, related, of under-reporting of sales so to avoid taxes. This, in turn is related to corruption. Finally, the revenue agency has also been used as a tool for political support, as in the case of a beer factory owned by a political party leader, which is in multimillion dollar tax arrears – yet the factory can continue operating unimpeded due to the political support earned instead.

Informality in public expenditure management. Informality is also evident in public financial management. Instead of annual budgets being one of the most important formal instruments guiding public administration, in practice they are not executed as approved by Congress. Examination of budget data during the first half of the nineties suggests that often up to 50 percent of the approved agency budgets were re-allocated across agencies, far exceeding what may have been justified due to aggregate fiscal stringency needs. Compounding the credibility gap of the budget process and execution is the absence of information on agency transactions (making it difficult for any central oversight body to exercise control). The Treasury does not have timely information on budget execution during a fiscal year; often the comptroller does not audit line agencies' accounts because there is no financial statement to audit. As public officials have said, "everyone knows that the budget formulation is a 'salute to the flag' (i.e., paying lip service), but everybody has to go through this charade in order to get the budget allocation".

Informality in personnel management. Informality is also amply observed in public personnel management, such as the widespread use of "consultants" for line functions, as well as more generally the persistent problem of corruption within the public sector (details below). Survey evidence suggests also other forms of informality in public personnel management, including: i) outside political pressure, with the corresponding fear that refusal to go along with the pressure may result in the loss of either the job or salary; ii) deliberate destruction/concealment of agency-related information at the time of government change; and, iii) use of non-wage budget items (e.g., training) for salary supplements.

Deeper causes of informality: from old oligarchy to political capture. Identifying specific institutional weaknesses that contribute directly to persistence of informality is only the first step of the diagnosis. The question is what motivates these informal behaviors in the first place. In the

resources. The projects have emphasized technical aspects of information systems, paying little attention to altering the *incentives* for better financial management. (WB'00).

⁴⁵ Jose Luis Valencia A. and Justo Alcides Casas, *Contrabando e informalidad en la economía boliviana*. (Opiniones y Analisis, 1998, p. 68).

specific Bolivian context, one of the key reasons is found in the particular ways in which public bureaucracy is captured by political parties. The literature on Bolivia's political economy point to the pervasive practice of patronage and clientelism as a defining characteristic of the relationship between the broader political environment and public administration in Bolivia.

The key sources of patronage politics are: i) weakness of the private sector to generate gainful employment, providing incentive to look for public sector for employment; ii) politicians' incentive in obtaining electoral/political support by distributing public jobs and other types of rents; iii) politicians' incentive in controlling the government bureaucracy by placing "persons of confidence" in critical bureaucratic posts to ensure effective implementation of policies or doling out of favors and rents; and iv) the fragmented party system (which in turn reflects deep social divisions in the country). Such political fragmentation, coupled with the particular electoral institutions, results in a political system with an overwhelming tendency to produce coalition governments. Given the lack of party identity on the basis of clearly differentiated policy programs, parties negotiate coalition arrangements with explicit agreements for sharing state patronage. This practice, called *cuoteo político* (political quota), has been the basis for formation and sustenance of governing coalitions, and thus of democratic stability (WB'00).

Throughout these decades of the sixties and beyond, the Bolivian political economy was characterized by the extensive use of public sector employment as a source of patronage to be distributed among the politically well-connected. While patronage politics is by no means unique to Bolivia, its extreme dependence on it is salient in the Bolivian economy.

Relatively stable coalition arrangements have also facilitated legislative passage of certain key reform measures in times of *deep crisis*, such as helping forge a consensus during hyperinflation towards the macroeconomic stabilization program in the mid- 1980s. Yet the cost was high: deteriorating public services at the micro-institutional level due to excessive politicization of the government bureaucracy and the resulting weak institutional capacity. State modernization, creating a cadre of highly professional civil servants and of a service-oriented approach in the public sector, all processes that take time and transcend political cycles, failed to evolve.

Aborted Civil Service Reform: another illustration of institutional weakness and political capture. There was at least recognition of the need to address the importance of creating a corps of technically competent, motivated public employees. The Civil Service Program (PSC) was born in 1992 and aimed to create a critical mass of around 2500 employees. Yet by the end of 1997, less than 250 positions had been filled! Furthermore, turnover was high and retention was low, due to the highly politicized upper and lower levels of public personnel. In the event, the PSC itself became politicized and lost credibility. By 1998, with only 30 posts were assigned to the PSC, it ground to a halt.

Inadequate decentralization program: continuation of 'clientelism' and lack of accountability. Another important institutional reform in Bolivia has been the decentralization and deconcentration of many public services, embodied in the Popular Participation Law (PPL), the Law of Municipalities, and the Administrative Decentralization Law (ADL). These reforms constitute part of an on-going effort at shrinking the state and increasing popular participation in government decisions that directly affect citizens' lives. The PPL makes local governments responsible for considerable resources and public investment decisions, and establishes mechanisms whereby local communities can monitor local government spending and hold their elected officials accountable for spending decisions. The ADL deconcentrates resources and operational responsibility to the prefectures, in an effort to increase public sector efficiency and tailor services to departmental needs. Yet the results of these reforms have been mixed. While some large cities have improved performance, the clientelistic culture of the central government

has simply spread to much of the local level (note that prefects are named by the President). Further, inadequate human resource capacity at local levels has been a constraint (as illustrated by unprepared financial municipal statements). Finally, the administrative decentralization program did not shrink the overall size of the state, creating instead a bloated bureaucratic structure at the departmental level, hampering efficiency of local public service (WB'00).

The Judiciary: captured legacy, vested interests, and partial reforms.

Lack of judicial independence and conflictive judicial reform. Through the first decades of the recently completed century, Bolivia's justice sector developed much like that of the rest of Andean South America. Under the civil code tradition (mixture of Spanish and French influences) the judiciary was the weakest of the three branches of government, with a role confined to conflict resolution and rule enforcement. Despite a 1931 constitutional amendment reconfirming judicial independence, there were sixteen massive purges of the judiciary (generally with each new government) between 1936 and 1982, which made courts subservient to the specific interests and partisan identifications of the government in power. With the opening of coalition democracy in 1982, the judiciary was not immune to patronage and parties implemented means for dividing up judicial positions.

The Government began judicial reform efforts in the early 1990s with changes in the constitution and supportive legislation, yet reform attempts have encountered stubborn resistance from entrenched interests inside and outside the judiciary – resulting in the slow implementation of key institutions as the Judicial Council, judicial career and training program, and Constitutional Court. Progress was made in 1999 through the revamp of the Supreme court, but the country must continue to press for full implementation of the proposed changes as well as others which are still in the planning stage.

Human development impaired by political capture and patronage. In Bolivia, as in many countries, the Ministry of Education provides fertile ground for distribution of patronage. Survey respondents reported that nearly 50 percent of staff are hired for political reasons in the Ministry of Education, while teachers are hired at the prefecture level, where politicization is shown to be even more rampant. Teaching posts are distributed based primarily on political affiliation rather than professional qualifications. The harmful effects of politicized personnel is compounded by the absence of effective budgetary oversight, resulting in low quality of Bolivian education. Despite increased budget allocations for education and some improvement in enrollment rates, by the early nineties still well over one-half the adult population were functionally illiterate, including many who finished primary and even secondary school. Recent test scores in language and math place Bolivian students well below the Latin American regional average, and repetition rates are over 85 percent. Basic health services are also woefully inadequate. Infant, child and maternal mortality rates are among the highest in Latin America. Low prenatal care prevails, while vaccination rates for children have remained stagnant or even worsened since the late eighties, as illustrated by the fact that the percentage of children with measles and polio vaccinations have dropped over the past decade.

The Problems of Patronage Politics: Government capture by Party Politics. The importance of patronage and clientelism has been a central feature of Bolivian politics. Under *clientelismo*, political criteria dominate the organization and management of the state bureaucracy, and is identified one of the most serious obstacles to effective functioning of the state. In a region where political parties have often been primarily vehicles to capture and circulate state patronage among the dependent middle classes, Bolivia stands out as an extreme case. Parties in Bolivia have exhibited a high degree of ideological flexibility, party loyalty has been low, and often the

behavior of parties has been driven more by access to patronage than by constituting programmatically consistent governments.⁴⁶

While the phenomenon itself is not unique to Bolivia (and it exhibits different variants in other regions of the world, as in the case of state capture by the oligarchy in some former soviet economies), it is a major tenet here that capture of the state apparatus by political forces has significant implications for performance of the public sector and overall productivity of the economy. The effects of patronage politics on public sector performance are clear – the use of political over meritocratic and technical criteria for recruiting, selecting, and promoting public sector employees prevents development of professionalism in the public service, and lowers efficiency and accountability of its operations.

Coalition Politics: ‘Captured’ Democracy and the Power of Party Bosses. The dramatic political instability until the mid-1980s was replaced with remarkable stability since then. Political actors have accepted the democratic “rules of the game,” centered around political representation through officially registered political parties, which abide by constitutional means to reach and exercise power. Further, political parties have displayed abilities to arrive at negotiated settlements for power sharing, and the parties’ adept use of coalitions as well as their respect for the independence of the Electoral Court (as an arbiter) illustrate that they are prepared to engage each other within established set of rules in a democratic setting. However, mistrust among parties and their ‘bosses’ is strong, and thus maintenance of political coalitions (a must for the government to carry out its legislative agenda) is a difficult task. Parties are factionalized internally, depending more on the personalities of particular leaders than on well-developed internal organizations.

Further, party bosses can capture the electoral politics. The closed-list proportional representation system, which had been used to elect all of the deputies until the 1997 elections and half of the deputies since then, tends to strengthen the influence of party leaders, who control selection of candidates and their position on party lists. This system provides an incentive for politicians to be more responsive to faction bosses, weakening electoral accountability. And in Bolivia, when no presidential candidate has won a majority of votes, Congress elects the president from the top two (three until the electoral reform in 1995) contenders. Since the return of democracy in 1982, no presidential candidate has won enough votes to be elected without a congressional run-off. This system of indirect presidential election, against the background of a fragmented party system based on a few strong personalities, has also encouraged coalition formation and constant negotiations among the powerful few before and after actual voting.⁴⁷ The need to have an ally for the purpose of winning the presidency induces the major parties to seek compromise with potential coalition partners. And what keeps governing coalitions together is the careful sharing of patronage opportunities⁴⁸

Yet in spite of this fractured and personalized political system, history has shown that in times of crisis, some key reforms can take place. The traumatic hyperinflationary experience of the early eighties played a key role in forging consensus on macro-economic issues: the major reforms in Bolivia have been led by teams of technocrats who have been somewhat relatively insulated from political interference.⁴⁹ Yet in spite of their role in furthering macroeconomic

⁴⁶ Gamarra and Malloy (1996, p. 399).

⁴⁷ Matthew Soberg Shugart and John M. Carey, *Presidents and Assemblies: Constitutional Design and Electoral Dynamics* (Cambridge University Press, 1992).

⁴⁸ WB’00.

⁴⁹ The academic study that has emphasized this aspect most aptly is Catherine Conaghan, James M. Malloy, and Luis A. Abugattas, “Business and the ‘Boys’: The Politics of Neoliberalism in the Central Andes.” *Latin American Research*

reforms, Bolivian technocrats (at least until recently) have had a much weaker institutional presence than in other countries such as in Chile or Mexico (where presidents and party leaders emerge from the technocracy).

In sum, the public sector in Bolivia has evolved within an environment conducive to unofficial behavior, consistent with personalized political party dynamics and the concomitant patronage and clientelism which have characterized its relationship with the enterprise sector. Tellingly, Jorge Quiroga, the 41-year old just installed President as of August, 2001 has urged the creation of a new constitution to minimize the monopoly of the old political parties and open up politics to average Bolivians. While this responds in part to the need to address the discontentment of Bolivia's indigenous farmers, it is also part of a broader constituency among a new generation of politicians intent in modernizing the polity – a rather daunting task given the entrenched vested interests of the still powerful old cadre of politicians – where the new president is likely to face major challenges even within his own party.

IV. The Perspective of the new entrepreneur today, Ms. Patricia Calderón-Valdes: Econometric Analysis from the Firm's Behavior and Performance.

Complementing the historical overview of the previous two sections, drawn from the twin perspectives of the development of the enterprise and public sectors in Bolivia – both exhibiting a significant degree of 'informality' -- as recapped by the 'parents' generation, we move to the perspective of a modern-day entrepreneurial perspective. This is analyzed by the daughter entrepreneur, Patricia. Given her rigorous statistical tooling, this section approaches the question of the perspective of the firm from an empirical perspective. First it probes about the causes of informality in Bolivia, and then on determinants of the firm's performance. It is based on recent empirical evidence. To do so we start by drawing on an existing body of work on determinants of the unofficial economy worldwide. Then we present results from the empirical analysis of a large survey covering close to 10,000 enterprises in 80 countries.⁵⁰

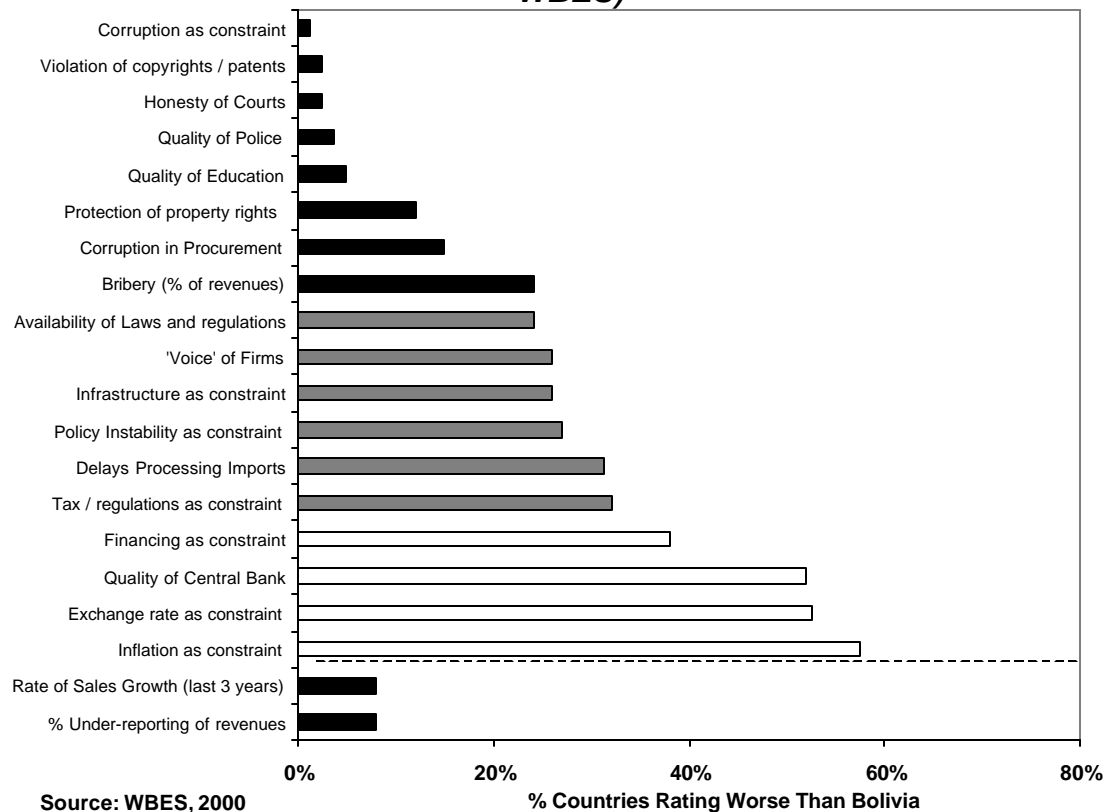
Determinants of Unofficial Enterprise: Brief analytics and worldwide evidence. In considering the importance that unofficial enterprise can play in a misgoverned country, we draw from the framework utilized in Johnson, Kaufmann and Shleifer (JKS) 1997 for the unofficial economy in transition, subsequently extended for 69 countries worldwide (Friedman et al.). In the JKS model the firm makes a rational economic choice whether to operate officially or unofficially based on the incentive it faces, the latter are determined by the government provision (or lack thereof) of public goods (such as rule of law, honesty). The key prediction of the JKS model is the potential separation of economies into two distinct groups. In one, the government offers a sufficiently attractive combination of regulations, honest public administration and public goods that most firms choose to stay in the official sector. In this group, government revenues suffice to provide the public goods, and the unofficial sector is small. In the other group, the government does not offer firms a sufficiently attractive combination of transparency, regulations, and public goods (including rule of law and a honest and efficient public administration) to keep them operating officially, and hence many of them end up in the large unofficial sector. Government revenues in these countries do not suffice to offer more public goods to firms operating in the official sector, and hence the unofficial sector wins the competition for firms.

Review, 25 (1990). The term "boys" here refers to technocrats in government, originally borrowed from the famous "Chicago boys" associated with economic reforms under the Pinochet military regime in Chile. See WB'00.

⁵⁰ This survey is the World Business Environment Survey (WBES) undertaken by the World Bank, in collaboration with EBRD, Harvard University and IDB during 1999/2000.

Empirical Results from worldwide enterprise survey. Extending this earlier aggregate cross-country work, we undertook to probe the determinants of ‘unofficialdom’ by utilizing a new firm-level data set from a recent worldwide enterprise survey. This large survey covered close to 10,000 enterprises in 80 countries worldwide: the World Business Environment Survey (WBES), which was undertaken by the World Bank in collaboration with EBRD, Harvard University and IDB during 1999/2000. The coverage includes all regions of the world. Firms were asked a plethora of questions about their own characteristics and the obstacles they face, which were normally rated in an ordinal scale, with a few questions like growth of sales and extent of under-reporting of official income, where a cardinal numerical figure was obtained (see below for glossary of variables used in this analysis with reference to each question in the survey).

Chart 4: Institutional and Governance Assessment by Firms (% Countries Rating Worst Than Bolivia -- WBES)



First, based on this firm-level data set, we provide a relative cross-country perspective for Bolivia in terms of the environment for the enterprise sector. It is synthesized in Chart 4 above, which does point to some major constraints identified by the entrepreneurial class, contrasting them with other factors, and also placing Bolivia in a relative international standing.⁵² We observe that based on this enterprise survey, Bolivia rates close to the bottom on the extent of ‘corruption as a constraint’ and also very low in terms of corruption in procurement, and in extent of bribery (measured in % of revenues paid in bribes annually), as well as in the quality of customs, in the

⁵² Given the inherent margin of error in these surveys, no precise country rankings can be derived however. Thus, the graphical depiction of the relative standing of Bolivia ought to be interpreted with caution, illustrating in broad categorical terms whether the said obstacle is relatively (to other countries) very large, middling, or lower – rather than intending to have an exact numerical ranking.

extent of violation of patents/copyrights, integrity of courts, and in protection of property rights (which furthermore, according to the survey, had not improved at all compared to 3 years prior to the survey), and finally, in terms of the reported low quality of education. Further, even though not rating as low, firms' in Bolivia are not of the view that have much 'voice' in terms of proper consultation and participation process in the affairs that affect them.⁵³ In terms of behavioral and performance outcome variables, it is also telling that Bolivia rates low both in terms of the extent of the firm's under-reporting of revenues and output growth. Even then, in terms of the extent of under-reporting of the firm's revenues, it is noted that this provides a conservative proxy for the extent of 'unofficialdom' in Bolivia's enterprise sector, due to the tendency to overestimate in survey data the share of revenues officially reported by officially registered enterprises, as well as a result of the fact that *unregistered* enterprises are not covered in this worldwide survey.⁵⁴

By sharp contrast, the evidence from this dataset suggests that neither the exchange rate, inflation, the quality of a key institution such as the Central Bank, or even financing, is found to be a major obstacle to enterprise in Bolivia nowadays in a comparative context. This evidence challenges the conventional notion that within a country with low overall institutional rating all institutional and governance characteristics would rate rather low. Instead, the results of the enterprise responses from Bolivia within the perspective of an 80-country firm-level survey are consistent with the historical account of the Calderon parents, contrasting the performance of different institutions within the country. Indeed, the data suggests that there is enormous variance, with institutions related to macro-economic stability performing rather well, while many others exhibit significant weaknesses. The case for 'localized' knowledge within a country is thus suggested.⁵⁵

Do the factors that entrepreneurs in Bolivia identified as subpar matter for the firm's behavior, and particularly in terms of their decisions to under-report revenues – i.e. unofficial output? To answer this question, we first performed OLS regressions with this firm-level sample, including country effects. For reference, we show explicitly the Bolivia country effect in each regression in tables III and IV below. The basic econometric specifications in table III present the various possible determinants of the unofficial economy behavior of registered firms. There are a number of policy-related variables that are significantly related to the firm's extent of under-reporting of revenues based on this worldwide dataset (such as some macro-economic, regulatory and tax, as well as finance and governance-related constraints). Yet the salient factors that fulfill both conditions of rating low for Bolivia's case *and* also of exhibiting econometric significance of the coefficient of such factor in explaining 'unofficialdom' are ***corruption and property right protection, and related, the quality of courts***. Further, we also note from table III that 'voice' to the enterprise sector also matters. As noted, other significant variables in these worldwide regressions, such as those related to macro-economic constraints, for Bolivia in particular they are not to be interpreted as an explanatory factor in hampering growth in the country, because they are not binding constraints – they rate very highly in a cross-country context (chart 4 above).⁵⁶

Overall, the literature treating corruption presents it as a negative factor in development.⁵⁷ However, in the theoretical literature some strands put forth more nuanced approaches, with equivocal results. In particular, two such strands that challenge the simple notion that corruption *per se* is an unambiguous negative are: i) bribery as 'grease' hypothesis, and ii) the

⁵³ A detailed glossary with the definitions of each variable following the question asked in the survey is presented in annex 1.

⁵⁴ And indeed as noted in section II, existing studies indicate that a very large share of the enterprise sector is not registered and operates fully informally (Doria Medina, 1986; World Bank 2001).

⁵⁵ See Rodrik (2000), who makes a broad case for localization of knowledge.

⁵⁶ Although not shown here, we also run specifications interacting Bolivia country effect with the policy variables, which did not turn out to be significant (while the separate policy effects significance remained rather unaltered).

⁵⁷ See Rose-Ackerman, 1978, Klitgaard 1988, Shleifer and Vishny, 1994, Mauro 1997.

'unpredictability of corruption' hypothesis. Under the 'grease' hypothesis, the notion is that in an over-regulated regime, bribery can be an efficiency-enhancing mechanism effectively deregulating privately, implying that corruption can play an efficiency-enhancing role where red tape is prevalent.⁵⁸ The main conceptual challenge to this notion, however, is that it presumes that the regulatory regime is exogenously given, while in reality often the same bureaucracy has an interest in making such red tape as complex as possible to maximize bribing potential.

Table III: Under-reported Revenues, Corruption and Protection of Property Rights
Dependent Variable : Under-reported Revenues (in %, sample mean = 19%)

Determinants	1	2	3	4	5	6	7	8
Country effect	2.12 0.72	6.08 2.30**	5.98 2.37**	6.11 2.00**	2.37 0.80	2.66 0.87	2.15 0.73	6.08 1.99**
Business Constraints :								
Financing constraint	0.11 0.29	0.69 2.21**	0.22 0.75	0.49 1.25	0.25 0.68	0.31 0.77	0.08 0.23	0.36 0.90
Inflation constraint	-0.28 -0.65	0.14 0.36	-0.17 -0.48	0.09 0.20	-0.21 -0.48	-0.10 -0.20	-0.20 -0.46	0.04 0.09
Policy Instability constraint	1.33 3.05***	1.41 3.77***	1.22 3.53***	1.28 2.75***	1.54 3.62***	1.20 2.50**	1.30 2.95***	1.01 2.10**
Infrastructure constraint	0.84 2.12**	0.78 2.31**	0.68 2.17**	0.70 1.62*	0.95 2.43**	0.72 1.70*	0.88 2.22**	0.55 1.27
Tax/Regulatory constraint	0.92 2.05**		0.91 2.55**			1.52 3.08***	0.90 2.00**	1.09 2.20**
Rule of Law :								
Bribery (% of Revenues)	0.28 4.89***			0.29 4.53***	0.29 5.08***	0.29 4.78***	0.28 4.91***	0.28 4.38***
Quality of Courts		0.29 1.13				-0.30 -0.94		
Protection Property Rights			0.22 0.93				-0.02 -0.07	
Copyrights violations				2.40 6.79***				2.33 6.56***
Firm Characteristics :								
Private ownership	3.74 2.66**	4.06 4.05***	3.98 4.28***	2.53 1.59*	3.69 2.63**	3.08 2.06**	3.68 2.61**	2.55 1.60*
Small/medium size	2.91 2.82***	4.38 4.92***	4.52 5.35***	2.37 2.22**	2.93 2.84***	2.94 2.71**	3.07 2.96***	2.35 2.20**
De novo (since 1994)	0.57 0.65	1.69 2.18**	1.26 1.80*	0.62 0.64	0.61 0.69	1.01 1.04	0.56 0.63	0.58 0.60
Exporter	-1.83 -2.22**	-1.40 -1.94*	-1.15 -1.70*	-1.70 -1.94*	-1.90 -2.30**	-2.01 -2.28**	-1.87 -2.25**	-1.58 -1.80*
Foreign investment	-4.30 -4.28***	-2.94 -3.28***	-2.97 -3.55***	-3.98 -3.72***	-4.33 -4.31***	-4.38 -4.05***	-4.09 -4.04***	-3.94 -3.68***
Adjusted R2	.19	.16	.16	.20	.19	.18	.19	.21

⁵⁸ For expositions of the 'grease' hypothesis of bribery, see Huntington 1968; Leff 1964; Lui 1985.

Number of Observations	3886	4762	5767	3212	3890	3214	3838	3208
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*** : significant at 1% ; ** : significant at 5% ; * : significant at 10% + : significant at 15%

Note: From the survey, business constraints were rated on a scale from 1 to 4, where 1 implies “no constraint” and 4 “major obstacle”. These include inflation, financing, infrastructure, tax/regulation, policy instability constraints, as well as quality of courts, protection of property rights, copyright violations and constraints to exercise ‘voice’ of the firm. Bribery is expressed as percentage of revenues. Fixed country effects were used to account for differences across individual countries; only the Bolivian country effect is reported on the table.

Empirically, Kaufmann and Wei (1998) have shown that a higher incidence of bribery results in more (not less) time wasted with the bureaucracy, and in higher cost of capital for the firm. This challenges the ‘grease’ hypothesis, the evidence supporting instead ‘bribery-as-sand’ hypothesis emerging from a framework where there is endogenous joint determination of the optimal level of harassment by the bureaucrat and bribe levels.

The second nuanced hypothesis in the corruption literature (‘unpredictability’ of corruption) posits that it is not corruption *per se* which has perverse effects, but its unpredictability instead (see, for instance, World Development Report 1997). In other words, in settings where corruption is predictable, the premise is that corruption would not have harmful effects compared to where the degree of unpredictability of corruption is much higher. Predictability of corruption is characterized by both the bribe payer and receiver knowing ‘what it takes’ in terms of payments required, to whom the payment needs to be made, and the degree of certainty that the privately purchased ‘service’ from the official will actually be delivered.

This firm-level dataset permits to empirically evaluate these ‘nuanced’ corruption hypotheses. First, the ‘grease’ hypothesis would predict that a firm engaging in bribery would tend to benefit from less red tape in the official economy and thus have less of an incentive to operate unofficially. The results in tables III (above) and IV (below) point to the contrary, suggesting instead that a ‘sand’ hypothesis is at work: higher levels of bribery are related to a significantly higher propensity to operate unofficially. And the bribery coefficient’s magnitude is relatively large: an increase in bribery payment as share of revenue by two standard deviations would increase the degree of under-reporting of gross output by the firm by five percentage points (e.g. from 15 to 20% of gross revenues, and much larger if it were calculated as share of net income).

Second, we can also test the ‘unpredictability of corruption’ hypothesis through three separate questions in this survey: uncertain ‘price’ of the corrupt service, uncertain whether other officials may subsequently request additional bribe payments, and uncertainty in the delivery of the ‘purchased’ service. Yet as reported in table IV above we find that controlling for other factors, there is no significant relationship between the degree of unpredictability of corruption, on the one hand, and the degree of under-reporting of revenues by the firm, on the other. By contrast, the magnitude and significance of the level of corruption variables, proxied by the amounts of bribes paid or by the frequency of bribery, remain very high—irrespective of which (and if any) ‘unpredictability’ of corruption component is used in the econometric specifications.

Whenever econometric work is performed based on survey data which contains an element of subjectivity or perception stemming from the nature of the firm’s responses to the multiple questions applied during the interview, we face the challenge of possible spurious correlation between the dependent and independent variables: firms that are doing well (performance measures often being the dependent variable) may have a ‘rosier’ view of the obstacles to enterprises (the independent variables) than would be warranted from an objective standpoint. Conversely, firms who are performing poorly, or operate unofficially, may exaggerate in their

Table IV: Firm's Under-reporting of Revenues and Unpredictability of Corruption

<i>Determinants</i>	1	2	3	4	5	6	7	8	9	10	11	12
Bolivia country effect	9.74 3.04***	10.28 3.04***	10.88 3.18***	9.24 2.87***	3.62 1.19	10.20 3.15***	5.04 1.47 ⁺	5.24 1.54 ⁺	6.12 1.79 [*]	8.07 2.70**	2.72 0.91	8.68 3.47***
Business Constraints :												
Financing constraint	0.98 2.42**	0.58 1.21	0.74 1.54 ⁺	0.98 2.41**	-0.14 -0.33	1.00 2.44**	-0.08 -0.16	-0.12 -0.26	-0.12 -0.24	0.66 1.77 [*]	0.12 0.32	0.59 1.94 [*]
Inflation constraint	0.21 0.46	0.35 0.64	0.45 0.80	0.31 0.65	-0.12 -0.24	0.26 0.55	-0.48 -0.86	-0.52 -0.94	-0.47 -0.84	0.27 0.61	-0.21 -0.47	0.21 0.57
Infrastructure constraint	0.87 2.01**	1.35 2.75***	1.21 2.46**	0.86 1.96**	0.40 0.88	0.86 1.96**	1.06 2.15**	1.25 2.54**	1.14 2.30**	0.85 2.11**	0.80 1.98**	0.61 1.87 [*]
Policy Instability constraint	0.96 1.96**	0.91 1.62 ⁺	0.76 1.33	0.88 1.80 [*]	1.39 2.71***	0.83 1.68 ⁺	1.56 2.80***	1.64 2.97***	1.63 2.93***	0.78 1.73 [*]	1.21 2.70***	0.39 1.07
Tax / regulation constraint	1.25 2.51**	0.89 1.45 ⁺	1.02 1.66 ⁺	1.12 2.20**	0.30 0.55	1.23 2.41**	0.59 0.98	0.44 0.74	0.54 0.88	1.19 2.57**	0.91 1.96**	0.67 1.74 [*]
Corruption :												
Bribery (% revenues)	0.21 3.47***	0.22 3.48***	0.21 3.30***	0.21 3.45***		0.22 3.46***	0.25 3.94***	0.25 4.00***	0.25 4.04***	0.26 4.44***	0.28 4.86***	
Frequency of bribery					2.34 6.96***							2.81 13.83***
Corrupt Service Unpredictability			-0.07 -0.21	0.73 2.33		0.29 0.85						
Corrupt Payment Unpredictability		0.22 0.70						0.17 0.57	0.15 0.47			
Corrupt Extra request Unpredictability	-0.10 -0.38			-0.08 -0.30		-0.09 -0.35						
'kvetch' control :												
Government inefficiency		1.24 2.90	1.27 2.98	0.71 1.93						0.88 2.60		0.66 2.35
Government unhelpfulness					-0.55 -1.47	0.12 0.33			-0.70 -1.73		-0.35 -1.07	
Firm characteristics :												
Private ownership	3.71 2.44**	3.26 1.94 [*]	3.33 1.96**	3.44 2.26**	4.67 3.00***	3.91 2.54**	3.74 2.14**	3.52 2.03**	4.01 2.30**	3.23 2.31**	4.02 2.81***	3.48 3.53***
Small/medium size	2.95 2.64**	2.71 1.90 [*]	2.57 1.78 [*]	3.04 2.71***	3.90 2.89***	2.91 2.58**	3.44 2.34**	3.58 2.46**	3.50 2.39**	2.56 2.52**	2.94 2.81***	3.15 3.63***
De novo (since 1994)	0.24 0.25	0.90 0.84	0.78 0.73	0.29 0.30	0.06 0.06	0.31 0.31	0.85 0.80	0.97 0.92	1.02 0.96	0.43 0.48	0.66 0.73	0.26 0.36
Exporter	-1.86 -2.07**	-0.79 -0.74	-1.16 -1.07	-1.69 -1.88 [*]	-2.23 -2.19**	-1.79 -1.96**	-2.24 -2.03**	-1.87 -1.70 ⁺	-1.93 -1.74 [*]	-0.94 -1.13	-1.88 -2.23**	-0.89 -1.28
Foreign investment	-4.44 -4.03***	-4.75 -3.40***	-4.80 -3.39***	-4.57 -4.14***	-3.20 -2.46**	-4.51 -4.03***	-4.59 -3.21***	-4.72 -3.34***	-4.90 -3.45***	-4.36 -4.35***	-4.34 -4.23***	-3.03 -3.47***
Headquarters in capital/large city					0.45 0.47	-1.43 -1.53 ⁺		0.23 0.22	0.17 0.16	-1.14 -1.34	-0.58 -0.67	-0.24 -0.35
Adjusted R2	.19	.14	.14	.17	.13	.18	.13	.13	.13	.18	.18	.19
Number of Observations	3276	2535	2505	3240	3776	3221	2737	2767	2726	3786	3959	5379

*** : significant at 1% ; ** : significant at 5% ; * : significant at 10% + : significant at 15%

Note: From the survey, business constraints were rated on a scale from 1 to 4, where 1 implies "no constraint" and 4 "major obstacle". These include inflation, financing, infrastructure, tax/regulation, policy instability constraints, as well as quality of courts, protection of property rights, copyright violations and constraints to exercise 'voice' of the firm. Bribery is expressed as percentage of revenues. Fixed country effects were used to account for differences across individual countries; only the Bolivian country effect is reported on the table.

account of the obstacles they find and on their assessment of the effectiveness of government policies and its provision of services.

In the context of a particular firm's propensity to complain across all questions this potential spurious correlation resulting from a possible tendency of firms to view many questions with the same subjective lense, this phenomenon has been labeled as the 'kvetch' factor⁵⁹. If these variables are indeed affected by some unobservable 'common perceived view' factor across variables by the same firm (such as the propensity to 'kvetch', or its converse, namely a tendency to gloat throughout the survey interview), then this measurement error would lead coefficient estimates to be biased, and the likelihood of observing spurious correlations among variables whose true underlined correlation is insignificant cannot be ruled out.

We have addressed this possible source of misspecification and bias through a two-prong approach. First, we identify from the survey possible 'kvetch' control independent variables which fulfill the condition of being a public good provided by the government which is commonly faced by all firms within a country, and thus it can be presumed that each firm's response's deviation from the country mean is a proxy to the extent of such firm's 'kvetch' factor.

Given that the firm-level econometric specifications we perform included country effects, direct inclusion of the 'universal' public good suffices as proxy of the kvetch effect, as the subtraction from the country mean is implicitly taken care of by the country effect dummies.

Specifically, we identified four different 'kvetch' control proxies, each one inserted separately in the set of econometric specifications: extent of government efficiency; extent of 'helpfulness' by government, quality of public works, and quality of the postal service.⁶⁰ The first two proxies that we utilize in these tests, of a generic nature, have the advantage of being less subject to enormous variations across different locations (within a city), while the two variables of specific infrastructure nature, are less subject to preferential provision, or exclusion, by the government to a firm. In table IV above this was done with two different variables from the same survey instrument: the degree of government inefficiency as perceived by the firm, and also the firm's view on how helpful is the government to enterprise. Insofar as there is a significant 'kvetch' factor, it would be picked up by these variables.

It is noteworthy that the control is significant for government efficiency, in contrast with the 'government helpfulness' variable. Yet in all cases we find that inclusion of the control variables do not affect the magnitude or high significance of the other variables in the specifications, and in particular those earlier identified as key for Bolivia and elsewhere. We observe, for instance, in table IV, that the significance of the bribery variable remains unaltered. These results were also replicated with the other two 'kvetch control' variables (not shown here), namely quality of public works and of postal services.

⁵⁹ According to the Webster, 'Kvetch' is an accepted term from Yiddish meaning propensity to gripe, or to complain continuously. For related econometric treatment of this potential 'kvetch' perception bias in analyzing survey data based on an element of subjective assessment, see also Kaufmann and Wei 1998, and Hellman et al 2000.

⁶⁰ Admittedly, none of these is an ideal 'kvetch control' proxy, since any such assessments of service provision, even if truly a public good, can always exhibit a measure objective variance across firms within the same country. Thus, not the full extent of the firm's assessment variance from the country mean can be assumed to measure the firm-specific 'kvetch'; it may also measure the actual differential provision of such public service to firms. Thus, it is warranted to perform such test with a number of such possible (admittedly imperfect) proxies with different qualities. At any rate, from the standpoint of addressing such omitted variable bias econometrically, McCallum and Wickens (1972) have shown that even an imperfect proxy is better than omitting an unobservable factor, on the criterion of asymptotic bias.

Second, as an additional test, we also performed a two-stage procedure to purge the possible ‘kvetch’ bias from all independent variables, through a two stage approach: first we regressed each individual explanatory variable on a ‘kvetch control’ variable (“inefficiency of Government”). The residuals of each regression were then utilized in the second stage to determine the effect of these residual variables on the dependent variable, namely under-reported revenues. The results are reported in Annex Table A1, which shows very similar results in terms of coefficient magnitudes, significance and R squares to the one stage OLS results reported in table IV above. Thus, while we found some evidence that some ‘kvetch factor’ may be at play (particularly in the cases of efficiency of government and quality of public works as proxies, whose coefficients are significant), we did not find evidence suggesting that the ‘kvetch’ factor is a source of misspecification and bias of the estimates for the explanatory variables.

Determinants of Enterprise’s Output Growth.

What are the determinants of firm level growth in general, and in particular, what appear to be the main obstacles to enterprise growth in Bolivia? Based on this same worldwide enterprise dataset (WBES), and undertaken the same approach to the above analysis of the unofficial economy, our firm-level data permits us to undertake a preliminary investigation of the possible determinants of output growth by the firm. A question was asked to the firm regarding its growth in sales over the past year. We are aware of the likely noise in such variable (which inter alia refers to a very narrow time frame, while the independent variables of interest are of a more structural nature in the longer term), and thus the results need to be interpreted with caution and regarded as of an indicative nature, in need of support from other empirical analysis as well. Nonetheless, given our broader overall inquiry into the economic performance of Bolivia, and the fact that some possible determinants appear to be significantly related to the growth of firms, within this broader context we present the results on determinants of the firm’s output growth below.

As shown in Table V below, the econometric results indicate that a number of key variables do appear to matter significantly in terms of firm’s growth, notably macro-economic and financing constraints. Yet, as indicated, these are firm-level constraints not binding for Bolivia, relatively speaking, attesting to the far-reaching macro-economic reforms. By contrast, a very significant variable relating to a typical (worldwide) firm’s lower output growth performance, *and* which exhibits a low rating for Bolivia, is in the extent of corruption and bribery. Furthermore, protection of property rights (including through the effective performance of the courts, matters significantly. Conversely, a variable such as ‘availability of laws and regulations’ (which is not a strong feature in Bolivia) is however not found to be significant in explaining the firm’s output growth performance, consistent with the notion that the constraints are typically found in implementation, not in passing laws by fiat itself. The Bolivia country effect dummy suggests that even after accounting for all the obstacles to growth, Bolivia would not have been expected to grow as fast as the fastest performer in this sample (Latvia). The econometric specifications with interactive terms between Bolivia and the various obstacle variables did not yield any significant term (column 6, Table V), suggesting that the slope of the coefficients for Bolivia is not significantly different than for the overall worldwide sample.

As in the previous analysis of the determinants of unofficial behavior by officially registered firms, for the case of this investigation into determinants of the firm’s output growth we also tested the validity of the ‘beneficial grease’ and ‘unpredictability of corruption’ hypotheses. Further, to address the possible bias due to the firm’s ‘kvetch’ factor, again we included two

Table V: Obstacles to Output Growth of Firms

Dependent Variable : Sales Growth 1997-1999 (sample 3-year mean = 12.3%)					
Determinants	1	2	3	4	5
Country effect	-6.90 -0.90	-8.91 -1.14	-7.28 -0.94	-9.22 -1.17	-11.07 -1.32
<i>Business constraints :</i>					
Financing constraint	-1.91 -1.99**	-2.09 -2.04**	-1.81 -1.87*	-1.95 -1.89*	-1.74 -1.55 ⁺
Inflation constraint	-2.96 -2.64***	-2.92 -2.44**	-2.83 -2.50**	-2.74 -2.27**	-3.24 -2.49**
Infrastructure constraint	-0.07 -0.07	0.36 0.33	-0.18 -0.17	0.34 0.31	-0.04 -0.03
Policy Instability constraint	-1.34 -1.17	-2.04 -1.67 ⁺	-1.56 -1.35	-2.32 -1.88*	-1.24 -0.92
Tax/Regulations constraint	0.50 0.42	0.33 0.27	0.40 0.33	0.26 0.20	0.27 0.19
<i>Rule of Law :</i>					
Bribery (% of Revenues)	-0.65 -4.52***	-0.72 -4.64***	-0.65 -4.49***	-0.72 -4.60***	-0.71 -4.06***
Availability of Laws			0.35 0.50	-0.07 -0.09	0.53 0.66
Copyrights Violations					-1.66 -1.66 ⁺
Quality of Education		2.05 2.38**		2.08 2.38**	
<i>Firm characteristics :</i>					
Private ownership	13.21 3.50***	14.73 3.73***	12.90 3.39***	14.44 3.62***	11.10 2.45***
Small/medium size	-6.57 -2.37**	-5.16 -1.78*	-6.90 -2.46**	-5.41 -1.85*	-7.07 -2.27**
De novo (since 1994)	10.12 4.34***	11.69 4.73***	10.09 4.29***	11.70 4.69***	12.41 4.48***
Exporter	9.38 4.30***	10.30 4.51***	9.37 4.26***	10.24 4.46***	9.96 4.01***
Foreign investment	1.15 0.43	2.78 0.99	1.21 0.45	2.78 0.98	0.92 0.30
Headquarters in capital / large city	0.45 0.20	1.04 0.44	0.43 0.19	1.10 0.47	0.20 0.08
Adjusted R²	.08	.08	.08	.08	.09
Number of Observations	3394	3060	3356	3028	2752

*** : significant at 1% ; ** : significant at 5% ; * : significant at 10% + : significant at 15%

Note: From the survey, business constraints were rated on a scale from 1 to 4, where 1 implies “no constraint” and 4 “major obstacle”. These include inflation, financing, infrastructure, tax/regulation, policy instability constraints, as well as quality of courts, protection of property rights, copyright violations and constraints to exercise ‘voice’ of the firm. Bribery is expressed as percentage of revenues. Fixed country effects were used to account for differences across individual countries; only the Bolivian country effect is reported on the table.

Table VI: Growth of Firms and Unpredictability of Corruption

Dependent Variable : Sales Growth									
Determinants	1	2	3	4	5	6	7	8	9
Bolivia country effect	-8.78 -0.90	-13.33 -1.50 ⁺	-10.47 -1.03	-12.52 -1.18	-5.30 -0.69	-7.79 -0.80	-11.88 -1.33	-9.55 -0.95	-9.57 -1.19
<i>Business Constraints :</i>									
Financing constraint	-2.58 -1.99**	-2.25 -2.03**	-3.18 -2.25**	-2.56 -1.77*	-1.82 -1.87*	-2.59 -1.98**	-2.20 -1.97**	-1.91 -1.44	-2.28 -2.24**
Inflation constraint	-3.44 -2.25**	-2.57 -1.99**	-4.33 -2.59**	-4.46 -2.59**	-3.09 -2.73***	-3.59 -2.34**	-2.81 -2.15**	-3.51 -2.24**	-3.52 -2.96***
Infrastructure constraint	-0.34 -0.25	0.49 0.41	0.24 0.16	0.62 0.42	-0.17 -0.16	-0.41 -0.30	0.41 0.35	0.02 0.01	0.34 0.32
Policy Instability constraint	-1.86 -1.23	-1.59 -1.20	-2.35 -1.41	-2.19 -1.28	-1.32 -1.14	-1.84 -1.20	-1.54 -1.15	-1.67 -1.08	-1.62 -1.33
Tax / Regulation constraint	0.48 0.30	0.39 0.28	-0.20 -0.11	-0.62 -0.33	0.74 0.61	0.44 0.27	0.59 0.42	0.28 0.17	0.00 0.00
<i>Corruption:</i>									
Bribery (% revenues)	-0.65 -3.83***	-0.70 -4.24***	-0.71 -3.84***	-0.77 -4.00***	-0.63 -4.39***	-0.64 -3.75***	-0.68 -4.11***	-0.69 -3.96***	-0.72 -4.62***
Corrupt Service Unpredictability				-0.39 -0.36				-0.47 -0.49	
Corrupt Payment Unpredictability	-1.22 -1.44		-1.50 -1.63 ⁺			-1.21 -1.41			
Corrupt Extra Request Unpredictability		-0.07 -0.09					-0.17 -0.22		
<i>'Kvetch' control :</i>									
Government inefficiency			0.89 0.69	1.03 0.78					0.59 0.63
Government unhelpfulness					-1.32 -1.57 ⁺	-0.58 -0.51	-1.52 -1.55 ⁺		
<i>Firm characteristics :</i>									
Private ownership	13.38 2.79***	12.05 2.84***	15.03 3.00***	14.45 2.83***	13.32 3.51***	13.12 2.72***	12.23 2.87***	12.59 2.58**	14.82 3.82***
Small/medium size	-7.33 -1.76 ⁺	-7.46 -2.37**	-6.59 -1.52 ⁺	-6.71 -1.51 ⁺	-6.47 -2.30**	-7.28 -1.74 ⁺	-7.50 -2.35**	-7.36 -1.73 ⁺	-6.29 -2.21**
De novo (since 1994)	8.05 2.74***	12.51 4.67***	10.69 3.33***	11.05 3.37***	9.84 4.17***	7.55 2.55**	12.29 4.54***	8.33 2.78***	12.16 4.89***
Exporter	12.17 4.03***	8.63 3.49***	12.58 3.98***	13.25 4.10***	9.35 4.23***	11.70 3.85***	8.50 3.41***	13.01 4.23***	9.40 4.17***
Foreign investment	1.99 0.51	2.76 0.90	3.24 0.77	3.30 0.77	0.81 0.30	2.00 0.51	2.43 0.79	1.85 0.46	1.63 0.59
Headquarters in capital / large city	0.81 0.28	-0.71 -0.28	0.31 0.10	0.88 0.28	0.44 0.20	0.73 0.26	-0.62 -0.24	1.22 0.42	0.07 0.03
Adjusted R2	.08	.07	.08	.08	.08	.08	.07	.08	.08
Number of Observations	2369	2744	2143	2114	3327	2336	2700	2340	3149

*** : significant at 1% ; ** : significant at 5% ; * : significant at 10% + : significant at 15%

Note: From the survey, business constraints were rated on a scale from 1 to 4, where 1 implies "no constraint" and 4 "major obstacle". These include inflation, financing, infrastructure, tax/regulation, policy instability constraints, as well as quality of courts, protection of property rights, copyright violations and constraints to exercise 'voice' of the firm. Bribery is expressed as percentage of revenues. Fixed country effects were used to account for differences across individual countries; only the Bolivian country effect is reported on the table.

options to control for such possible bias, namely government inefficiency and government helpfulness as viewed by the firm.⁶¹ As seen in table VI below, once again we found no empirical support to either the ‘grease’ or ‘unpredictability’ hypotheses: i) bribery levels are significantly and negatively (not positively) related to the firm’s output growth (supporting a ‘sand’ hypothesis instead), ii) none of the components measuring unpredictability of corruption is significantly associated with the firm’s sales growth, and, iii) the large magnitude and significance of the bribery level variable stays rather unchanged irrespective of inclusion of the various components of unpredictability of corruption. In addition, for the determinants of output growth performance we also performed the same two-stage econometric procedure as in the above case of revenue under-reporting by the firm, so to ‘purge’ the explanatory variables of the ‘kvetch’ effect. The results for the determinants of the firm’s output growth are reported in Annex Table A2, and again indicate that bribery, property rights protection and ‘voice’ are significant, contrasting the lack of significance of unpredictability variables.

The micro-economic perspective of the firm provides evidence on the extent to which corruption, property rights protection, and ‘voice’ appears to matter both in terms of the registered firm’s decision to operate officially or unofficially – with a strong bias to the latter in Bolivia – as well as in terms of output growth performance. These strong results contrast the absence of evidence that law-making in itself matters, or that it is the unpredictability of corruption (as opposed to its overall prevalence) that ought to be the focus.

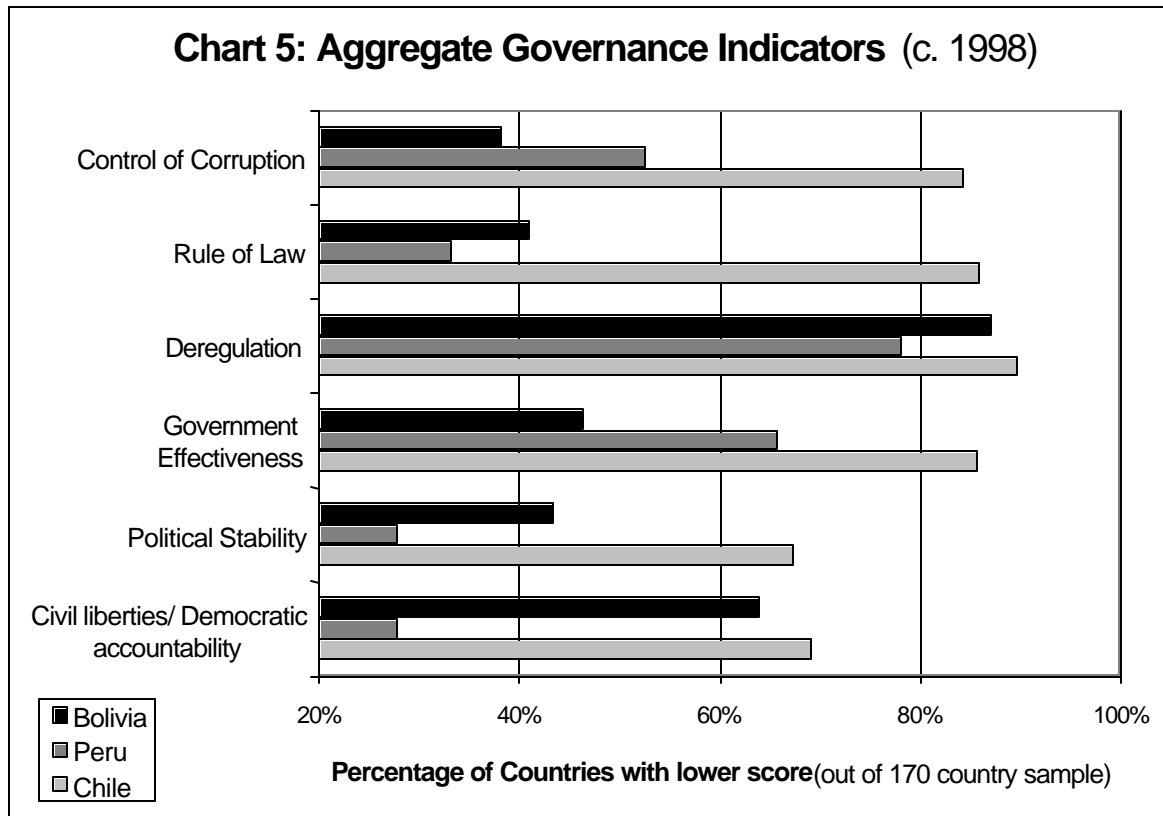
In summing up, Patricia Calderon, the young entrepreneur entrusted with this section of the analysis, underscored the importance that misgovernance appears to play in blocking entrepreneurial development in Bolivia. She noted, however, that it is important to transcend generalities and point to the particular dimensions of governance which are an acute challenge within Bolivia, contrasting some policy-making areas where it rates rather stellarly. Those areas of governance weaknesses, she concluded, matters in explaining the firm’s behavior and performance. To go deeper, she stated, it is paramount to recognize what had been suggested earlier in her mother’s historical section: misgovernance is anchored in the dynamics of the public sector, and relates to the nature of the ‘public goods’ it provides, the degree of politicization of economic activity, clientelism, patronage and associated corruption. Thus, for an integrated analysis, an empirical probe into these complex links within the public was needed, she said, turning to her brother Jose, responsible for this challenging task.

V. The public official perspective today by Jose Calderon Jr.: a micro-institutional analysis of determinants of public sector performance.

While taking a different professional path than his entrepreneurial sister, in substance Jose Calderon Jr., a fast rising technocrat in the government, did not disagree with her rigorous assessment from the perspective of the firm – as presented in the previous section. Rather, Jose, an accomplished civil servant known for his honed technical know-how and integrity, sought to complement such firm-based analysis (as well as the twin industrial-governmental historical perspectives provided earlier by his parents), with an empirically rigorous analysis of the functioning of government institutions.

⁶¹ As in the previous empirical analysis for unofficial economy behavior, for the case of the determinants of the firm’s output growth performance we also performed a two-stage procedure where in the first stage we regressed each independent variable against ‘government inefficiency’, and in the second stage we used the residuals as independent variables explaining the firm’s output growth. The results did not change materially from those reported in the above tables, and are reported in Annex A1.

First, as background Jose Calderon Jr. sought to get an indication of how Bolivia placed in a cross-country context in terms of governance. Based on an existing set of worldwide aggregate governance indicators for six governance components and about 170 countries from 1998, as it can be seen in Chart 5 below, a comparison is suggestive of some of the insights that emerged from the firm-based analysis in the previous section, namely that compared with the rest of the world, Bolivia does face a significant governance challenge, and that the variance among various governance components is very large -- with control of corruption, rule of law and government effectiveness showing as clear weaknesses, while by contrast substantial progress has been attained in democratic processes and deregulation.



Source: "Governance Matters" by D. Kaufmann, A. Kraay and P. Zoido-Lobaton, World Bank Policy Research Working Paper 2196, October 1999. For dataset, sources of all individual variables used in the aggregate governance indicators, methodology of aggregation, as well as estimates of margins of error, at: <http://www.worldbank.org/wbi/governance>

While Jose Calderon regarded a cross-country perspective useful as background and to get a general indication of particular governance challenges afflicting Bolivia, he had clarity that such approach would not suffice to provide an in-depth analysis for Bolivia of the nexus between governance and public sector performance. First, from the historical account in section III above he was keenly aware that the various governance factors interact in complex ways, and he thought that the notions of 'vicious circles' described by political scientists such as Scott and de la Porta to analyze the bi-directional links between political clientelism and corruption in Italy, Mexico and Spain, were relevant for analyzing the challenge in Bolivia, since it recognizes that there is a

joint determination of various endogenous components of governance.⁶² Second, empirically he was to rely on a unique institutional data set for his country, namely an in-depth survey of 1,250 public officials in over 100 public institutions in Bolivia. Such a data set has been subjected recently to statistical analysis in Kaufmann, Mehrez and Gurgur (KMG, '01), who address theoretically and empirically the relative importance of various determinants of public sector performance and governance.

In KMG, a model is developed, which recognizes corruption, lack of transparency, and non-delivery of public services by individual public agencies as related but conceptually distinct concepts, all three of which constitute the key endogenous decision variables, simultaneously determined by the public official. The model characterizes a public official who maximizes his/her welfare subject to constraints: higher levels of corruption being subject to bargaining with the private agent (who tries to minimize the bribe payment) and to reputational costs; lower levels of transparency subject to internal rule-based constraints, and lower level of public goods subject to lower official public service earnings or promotion prospects.

The model highlights the importance of public official incentive structure and behavior along these dimensions in determining the level/quality of public goods provided. Further, and notwithstanding their treatment as exogenous variables, politicization (external negative influence on internal decision-making) and external 'voice' (external positive feedback/checks and balances) also feature prominently in this framework, through an explicit effect on the incentives of public official to settle for a lower governance/performance equilibrium (in the case of politicization), or for a higher equilibrium (in the case of more 'voice') -- in the joint determination of the levels of corruption, transparency and service delivery. In addition to also emphasizing the positive (negative) externalities of a honest (corrupt) public official, the model also integrates formally the importance of institutional norms.⁶³

Indeed, under any circumstance the relationship between the various governance components (such as transparency), corruption, and service delivery is multi-directional. Governance factors, which may determine the rate of corruption, are in turn also affected by corruption. Lack of transparency within an institution may result in a higher level of corruption as a corrupt act is less likely to be detected or exposed; conversely, corruption may lead to poor transparency, given the vested interests by those that engage in corrupt actions. When the link between "cause" and "effect" is not explicitly specified, the implications may be misleading. Thus, contrasting conventional models, where the levels of corruption, transparency or service delivery is

⁶² James C. Scott, "Corruption, Machine Politics, and Political Change," *American Political Science Review* 43 (1969), pp.1142-1158, and also his book, *Comparative Political Corruption* (Prentice-Hall, 1972); and for the account of de la Porta's writings, see Paul Heywood, "Political Corruption: Problems and Perspectives," *Political Studies* 45 (1997).

⁶³ For a description of the full formal model see Kaufmann, D., G. Mehrez, and T. Gurgur, 2001: "Voice or Public Sector Management?: A model and analysis based on a Survey of Public Officials", World Bank, 2001 (KMG), mimeo. The joint determination of the 3 key decision variables by the public official extends the existing literature on corruption, inter alia by allowing for either a positive or negative a priori link between bribery and the level/quality of public service provision by the civil servant, and by explicitly introducing transparency as a separate endogenous factor in the model. A simple illustrative diagram synthesizing the model is included in Annex 2. Derived from the model (analytical equations (9), (11), and (13) in KMG) we obtained a simultaneous system of equations (14) that can be estimated econometrically. Specifically, it implies the following system of equations:

$$\text{ServicePerformance} = h_1(\text{Corruption, Transparency, } \mathbf{X}_1)$$

$$\text{Corruption} = h_2(\text{ServicePerformance, Transparency, } \mathbf{X}_2)$$

$$\text{Transparency} = h_3(\text{Corruption, } \mathbf{X}_3)$$

Theoretically, the system can be estimated if the number of excluded variables is greater than the number of endogenous variables in each equation. The empirically task is to identify the variables that represent the variables/parameters of the model and then estimate the system using these variables.

determined taking the level of the other two variables as given, in KMG the levels of these three key variables are endogenous and determined simultaneously. This requires addressing the issue of reverse causality; to do so we construct a model that identifies a specific equation for each one of these three variables, incorporating the causal effect of exogenous variables as well as other endogenous variables. Then, we estimate the system considering the effect of each endogenous variable on the others (2SLS). Further, we then consider the likelihood that the error terms of the endogenous variables may be correlated, and thus the 2SLS estimates may not be efficient, and thus perform a three stage least square procedure (3SLS). Hence, the KMG model integrates the governance factors and public service delivery performance without imposing *ex ante* structure on the direction of causality.

Through this system of simultaneous equations, in KMG we then estimate the causes of poor governance, using the dataset from detailed responses of public officials working in public sector agencies and municipalities in Bolivia. Based on an in-depth questionnaire with over 200 questions, specific governance characteristics were measured (and composites constructed) for each agency along the following three dimensions: (i) voice-related variables (internal transparency, citizen voice, politicization of agency); (ii) formal public sector management (agency autonomy, rule enforcement, quality of rules, meritocracy, resource adequacy); and (iii) individual public official variables (wage satisfaction, individual 'ethical' values).

The public institutions surveyed include top executive branches (e.g. offices of the President and Vice President); ministries (e.g. education, health, finance); line agencies (e.g. customs, tax, immigration); autonomous agencies (e.g. central bank); departmental institutions; and municipal governments. Each institution in the sample delivers services demanded by at least five percent of the population.⁶⁴ We utilize measures of governance and performance by the average response of all agents within the public agency.⁶⁵ The key variables used in the econometric analysis are presented below in table VII below.⁶⁶

These variables, for which a definition glossary is in table VII below, are used to identify the various parameters of the model and for estimating these parameters using various methods, including ordinary-least-squares (OLS), two-stage-least-squares (2SLS), and three-stage-least-squares (3SLS).⁶⁷

⁶⁴ Within each institution, a stratified random sample of at least 1 percent of all staff was selected at each of the following decision-making ranks: top management, middle management, and rank and file.

⁶⁵ Thus, the unit of observation in our analysis is a public agency.

⁶⁶ For a detailed description of the survey questions we used to construct each variable, see KMG.

⁶⁷ The rationale to estimate the model utilizing a 3SLS procedure emerges from the model's (equation 14, see footnote 53 above). This model in KMG is identifiable, since in each equation the number of excludable variables is greater than the number of endogenous regressors. While the formal model in KMG points to a 3 Stage Least Square (3SLS) econometric estimation procedure, we also argue that it is warranted to perform and present alongside such 3SLS specifications the full econometric results for OLS and 2SLS (as well as simple correlations). In the literature it is suggested that where there is endogeneity, a 2SLS or 3SLS instrumental variable technique should be preferable to an OLS procedure, as the latter estimator is known to be biased and inconsistent. However, the choice of an estimator in a "small" sample remains a challenge in the literature, and many empirical studies the OLS estimator is often found to be close to the 2SLS/3SLS estimator. Green (2000) argues that "it is often found that OLS estimator is surprisingly close to the structural estimator", while Nakamura and Nakamura (1985) show that the asymptotic bias of the OLS estimator will be smaller under reasonable assumptions (see also Heckman 1994 who points out the conditions under which the standard asymptotic approximations to the distributions of instrumental variables break down). Similarly, Monte Carlo studies suggest that the advantage of the system estimators in finite samples is more modest than the asymptotic results would suggest (Intriligator 1984).

The KMG model thus yields the following set of econometric specifications:

$$\begin{aligned} ServicePerformance = & \mathbf{a}_0 + \mathbf{a}_1 Bribery + \mathbf{a}_2 Transparency + \mathbf{a}_3 Decentralization + \mathbf{a}_4 WageSatisfaction + \\ & + \mathbf{a}_5 RuleEnforcement + \mathbf{a}_6 IndividualValues + \mathbf{a}_7 Politicization + \\ & + \mathbf{a}_8 Re\ sourceEnvelope + \mathbf{a}_9 Meritocracy + \mathbf{a}_9 Voice + \mathbf{e}_1 \end{aligned}$$

$$\begin{aligned} Bribery = & \mathbf{b}_0 + \mathbf{b}_1 ServicePerformance + \mathbf{b}_2 Transparency + \mathbf{b}_3 Meritocracy + \\ & + \mathbf{b}_4 WageSatisfaction + \mathbf{b}_5 RuleEnforcement + \mathbf{b}_6 IndividualValues + \\ & + \mathbf{b}_7 Politicization + \mathbf{b}_8 Re\ sourceEnvelope + \mathbf{e}_2 \end{aligned}$$

$$\begin{aligned} Transparency = & \mathbf{c}_0 + \mathbf{c}_1 Bribery + \mathbf{c}_2 WageSatisfaction + \mathbf{c}_3 RuleEnforcement + \\ & + \mathbf{c}_4 IndividualValues + \mathbf{c}_5 Politicization + \mathbf{c}_6 Re\ sourceEnvelope + \\ & + \mathbf{c}_7 Voice + \mathbf{c}_8 AgencyAutonomy + \mathbf{c}_9 Education + \mathbf{e}_3 \end{aligned}$$

We estimate the system using four methods and present the results in Table VIII below. First, we use simple correlation between the variables. Second, we estimate a linear least square of each equation separately. Third, we estimate the system using 2-stage-least-square (2SLS) and finally we estimate the system using 3SLS.⁶⁸ In the main specifications shown here, we use the bribery index as a measure of graft, as presented in Table VIII below. In addition to using the bribery variable, we also repeated the same procedure utilizing a composite corruption index instead, which is a broader index capturing illegal budget diversion and purchase of public positions, as well as including the frequency and level of bribery.⁶⁹

From the main results summarized in the table below, we first note that the outcomes of the simple correlations are substantially different than the controlled econometric estimations. This is suggestive of the large bias inherent in deriving policy advice from simple correlations. By contrast, we observe that the econometric results of the OLS, 2SLS and 3SLS specifications do provide similar estimates, with 3SLS results even more robust than the simpler specifications.

The main results, presented in Table VIII below indicate that: i) the *service delivery performance* depends negatively on the level of corruption and positively on external voice of users and on transparency; ii) *bribery and corruption* depends positively on the degree of politicization of the agency and negatively on internal transparency in the agency and on meritocracy (although the latter does not affect quality of public services directly), iii) *transparency* is affected positively

⁶⁸ The instruments used in the first stage of the 2SLS and 3SLS estimation are the entire set of exogenous variables, since we used a system of equations model. The choice of adequate instruments for corruption and service delivery performance is not extensively addressed in the empirical literature on corruption (see, however, Bai and Wei, 2000, Svensson, 2000, Kaufmann, Kraay and Zoido-Lobaton, 1999), and virtually non-existent for transparency. In the context of 2SLS and 3SLS two requirements for a variable to be used as a good instrument are that such instruments are correlated with the endogenous variable, but they are not correlated with the error terms of these variables. In our context, the first requirement can be attained through instruments exogenous to the public officials themselves. The variables utilized as instruments are controlled by the institutions, such as constitution, parliament and government, or determined at the ministry level. Agency autonomy, whether the agency is in a municipality or a central institution, civil service pay, meritocracy, existence of voice mechanisms, or existence and effectiveness of rule enforcement mechanisms are such variables. The first stage regressions for the three endogenous variables yield high R^2 (0.55 for service delivery, 0.62 for corruption, and 0.78 for transparency), suggesting a high explanatory power of the instruments. Shea (1998) argued that R^2 can be a useful measure of relevance only in the case of univariate models and proposed a new R^2 measure when there are multiple endogenous variables. For each of the three endogenous variables, this statistics is also found to be around 0.71.

⁶⁹ The results of the specifications utilizing a composite corruption index instead of the bribery variable are not shown here; see KMG.

by voice, and negatively by corruption and politicization; iv) where the agency is in the localities (such as a *municipality*, labeled as the decentralization variable), its performance in terms of quality of public service delivery is lower than for central agencies – although in some services they do provide more access to the poor; v) the level of educational attainment by the staff of a public institution is also significantly associated with transparency in such agency; vi) although the formal model allowed for such effects, there is no empirical evidence that traditional *public sector management variables* such as civil service wage, availability of resources and enforcement of rules have any significant direct effect on corruption; and, vii) the variable capturing individual *ethical values* is not significant either.⁷⁰

Table VII: Analysis of Bolivia’s Public Agencies – Variable Description

Variable	Measure
Service Performance	The average of three standardized service delivery indicators (if applicable): quality, quantity, and accessibility. The index is re-scaled using the mean and standard deviation of national service, such that high numbers correspond to high performance in service delivery.
Bribery Index	The average of two standardized bribery indicators: frequency of bribery, and bribe/official income ratio. The index is re-scaled using the mean and standard deviation of corruption at the national level, such that high numbers correspond to high corruption.
Corruption Index	The average of four standardized corruption indicators: frequency of bribery, bribe/official income ratio, percent of jobs purchased, and percent of budget diverted illegally. The index is re-scaled using the mean and standard deviation of corruption at the national level, such that high numbers correspond to high corruption.
Transparency	Percent of cases where the actions of the public officials and the decision making are transparent
Enforcement	Percent of the cases where rules, guidelines, regulations, and processes in the personnel, budget, and service management are strictly monitored and enforced
Meritocracy	Percent of the cases where the decisions on personnel management issues are based on level of education, or professional experience, merit, and performance.
Politicization	Percent of cases where decision on personnel, budget, and service management are free from political interference
Autonomous Agencies	Central Bank, Bank and Finance Superintendence, Telecommunication Superintendence Hierarchical Affairs Superintendence, Transportation Superintendence, National Comptroller, Electoral Court, Constitutional Tribunal,

⁷⁰ When there are several variables that are determined endogenously the *full* (general equilibrium) effect of a change in any of the exogenous variable can be significantly different from the *direct* (partial equilibrium) effect. For example, an increase in voice will improve transparency, in turn reducing corruption, which will increase transparency even further. In order to estimate the full effect of policy variables, we draw from KMG’s calculations of the reduced form equations using the estimates of the structural equations (i.e. incorporating the linkage between the various endogenous variables). The results (reported in full in KMG) indicate that the full effects of key variables is substantially larger than the partial effect that can be derived from single equation results as presented in Table VIII. In particular, the full effect of voice on corruption increases due to its effect on transparency, which has a significant impact on corruption, and the effect of politicization on corruption also becomes stronger because corruption causes less transparency that, in turn, leads to even higher level of corruption. And by contrast, the empirical estimates of the full effect based on this Bolivia survey suggest again that traditional public sector management factors, such as rule enforcement and government pay, or individual public official characteristics, such as ‘ethical values’, do not appear to exert a significant impact on corruption.

	Supreme Court, Ombudsman, Judicial Council.
Resources	Percent of cases where the physical, financial, and human resources of the agency are adequate
Values	The probability that if a public official was overpaid by an administrative error, the public official will return the money given that there is 100% chance of not getting caught and the superiors are doing the same without getting caught.
Voice	An index representing the existence of consumer feedback and complaint mechanisms
Wages	The extent of satisfaction with the wages and other benefits.
Decentralization	A dummy variable representing the municipal agencies

These results also underscore the importance of focusing on the *high variance* that may prevail within a country, along two dimensions typically left to country level aggregate analysis which obscures the within-country variability containing much information at the local level: i) variance across determinants of public sector performance, in terms of which factors are relevant and significant, and, and ii) governance quality variance across public institutions.

Indeed, as per results for Bolivia in Table VIII below, and illustrated in the Charts 6a-f, it is clear that ‘voice’- and transparency-related determinants may be more relevant in explaining performance of public agencies than conventional public sector management variables. Charts 6a-g illustrate determinants which are very significant, while by contrast, Chart 6h, for wages, is one illustration of a variable often emphasized in traditional public sector management writings, yet the empirical evidence here suggests that it is a non-significant variable.⁷¹ Further, in these charts we can also observe that there is enormous variance in governance quality and performance *across institutions* within the country, backstopping the ‘localization of knowledge’ notion emphasized in the previous empirical section on enterprise.

Indeed, Jose Calderon Jr., in ending his exposition to the rest of his family, stressed in fact this particular finding of significant variability across public institutions in Bolivia, pointing to the need of unbundling the generic notions of policy-making, governance and institutional quality, and of localizing knowledge. As a well regarded and proud senior civil servant, who had colleagues, friends and superiors with similar traits in the public sector, he concluded by stating that one ought to avoid generalizations such as ‘the public sector in Bolivia is totally corrupt and dysfunctional’. Instead, he said, the focus ought to be in distilling the positive lessons of good performance and governance in some areas of policy-making (and from some well performing agencies) for supporting institutional reforms, so to support the required revamp in those institutions afflicted by deep systemic weaknesses.

⁷¹ Due to space considerations, among non-significant variables, only wages is depicted in the chart; the absence of significance of the agency’s resource envelope, agency autonomy, rule enforcement, and individual ethical values explicit in Table VIII.

Table VIII: Determinants of Performance of Public Agencies in Bolivia: OLS, 2SLS and 3SLS Estimation results⁷²

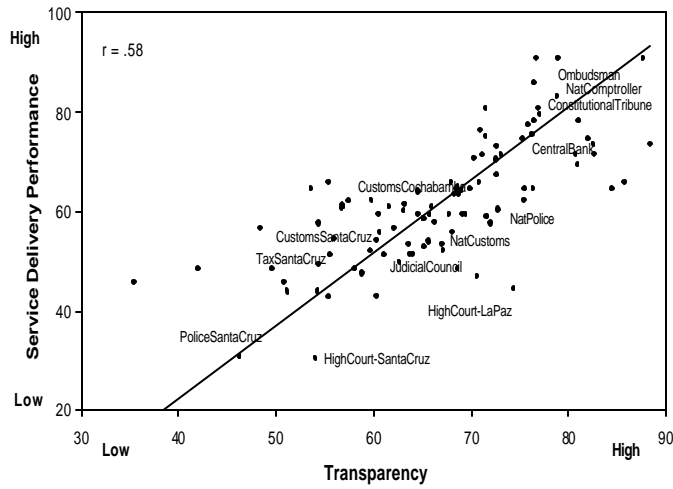
Variable	Model	Dependent Variable: Service Delivery				Dependent Variable: Bribery				Dependent Variable: Transparency				Variable
		Simple Correlation	OLS	2SLS	3SLS	Simple Correlation	OLS	2SLS	3SLS	Simple Correlation	OLS	2SLS	3SLS	
Service Performance						-0.46***	-0.17 (-1.11)	0.65 (0.39)	0.78 (0.99)	0.72***				Service Performance
Bribery		-0.46***	-0.29** (-2.27)	-0.27* (-1.78)	-0.24** (-2.12)					-0.46***	-0.19*** (-4.01)	-0.22* (-1.78)	-0.31** (-2.47)	Bribery
Transparency		0.72***	0.30** (2.42)	0.40† (1.61)	0.45** (2.23)	-0.54***	-1.10** (-4.17)	-1.54** (-2.29)	-1.61*** (-2.62)					Transparency
Resource Envelope	Z*, f ₁ , f ₂ , f ₃	0.62 ***	0.25** (1.92)	0.24† (1.59)	0.17† (1.54)	-0.39***	-0.08 (-0.41)	-0.10 (-0.65)	-0.11 (-0.74)	0.52***	-0.07 (-0.69)	-0.07 (-0.58)	-0.08 (-0.84)	Resource Envelope
Politicization	f ₁ , f ₂ , f ₃	-0.32***	-0.06† (-1.41)	-0.04 (-0.67)	-0.09 (-1.14)	0.40***	0.32** (2.49)	0.29** (2.12)	0.33** (2.35)	0.47***	-0.13** (1.99)	-0.13** (-2.40)	-0.13** (-2.21)	Politicization
Wage Satisfaction	f ₁ , f ₂ , f ₃	0.13	0.13 (0.68)	0.03 (0.87)	0.11 (0.60)	-0.21**	-0.75† (-1.60)	-0.81 (-1.04)	-0.87† (-1.52)	0.32***	0.24** (1.98)	0.26* (1.76)	0.21† (1.52)	Wage Satisfaction
Rule Enforcement	f ₁ , f ₂ , f ₃	0.58***	0.13 (1.15)	-0.04 (-0.65)	-0.04 (-0.64)	-0.33***	-0.41 (-1.30)	-0.28 (-1.19)	-0.21 (-1.12)	0.61***	0.24** (2.49)	0.20* (1.90)	0.21** (2.00)	Rule Enforcement
Individual Values	g(.)	0.03	0.01 (0.35)	-0.02 (-0.40)	-0.04 (-0.80)	-0.03	-0.06 (-0.68)	0.14 (0.81)	0.03 (0.69)	0.10	0.03 (0.75)	0.04 (0.95)	0.06 (1.22)	Individual Values
Meritocracy	f ₁ , f ₂	0.45***	-0.08 (-0.70)	0.06 (0.54)	0.14 (0.74)	-0.42***	-0.53** (-2.09)	-0.34* (-1.82)	-0.30** (-2.01)					Meritocracy
Decentralization	Z*	-0.04	-1.87 (-1.19)	-3.67 (-1.33)	-6.55* (-1.91)									Decentralization
Voice	Z*, T*	0.68***	0.44*** (2.67)	0.41** (2.44)	0.39** (2.36)					0.72***	0.60*** (3.92)	0.58*** (3.15)	0.38*** (2.65)	Voice
Agency Autonomy	T*									0.26***	-1.74 (-0.65)	-2.17 (-0.70)	-2.45 (-0.67)	Agency Autonomy
Education	T*									0.23**	3.89 (1.23)	2.75 (1.32)	4.19† (1.43)	Education
Adj.R2			0.64	0.55	0.44		0.47	0.39	0.38		0.63	0.61	0.55	Adj.R2

⁷² Significance levels depicted in table: *** Significant at 1%, ** significant at 5%, * significant at 10%, † significant at 15%. All variables are scaled from 0 to 100. Service performance index is the average of three standardized service delivery indicators (if applicable): quality, quantity, and accessibility. Bribery index represents the average of two standardized bribery indicators: frequency of bribery and bribe/official income ratio. The indices are re-scaled using the mean and standard deviation of national service quality and bribery, respectively such that high numbers correspond to high performance and high corruption. Number of observations in each public institution is chosen as the weight of each institution in the regression. Sample size is 89.

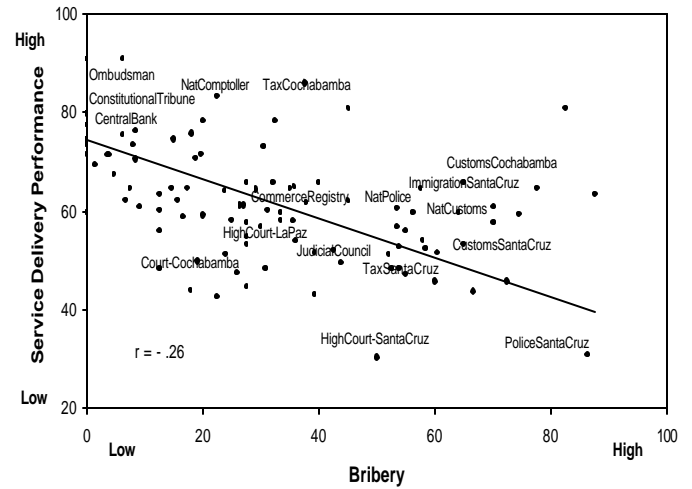
Charts 6 a-f: Performance and Governance in Bolivia's Public Institutions

Empirical Analysis of Public Officials Survey ⁶³

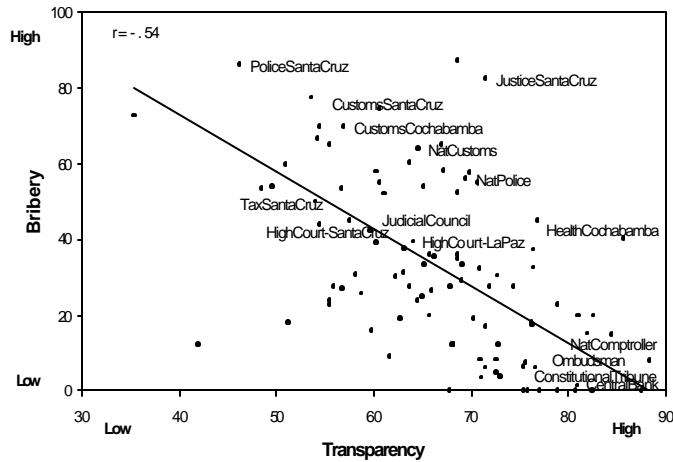
6a: Public Service Delivery and Transparency in Bolivia's Public Institutions



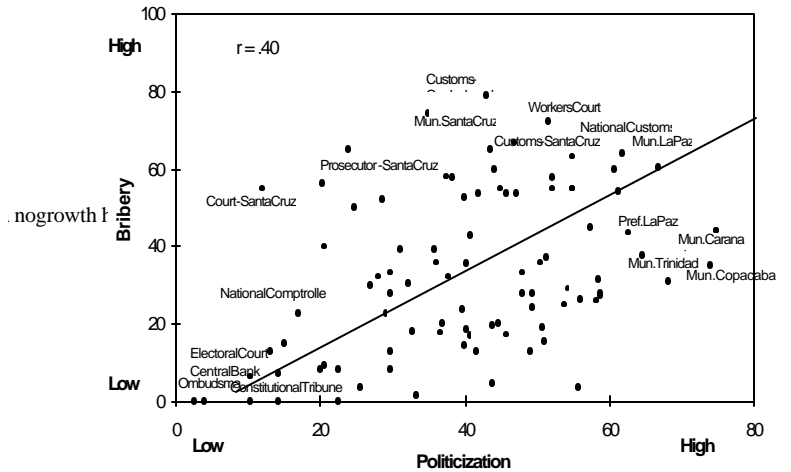
6b: Public Service Delivery and Bribery in Bolivia's Public Institutions



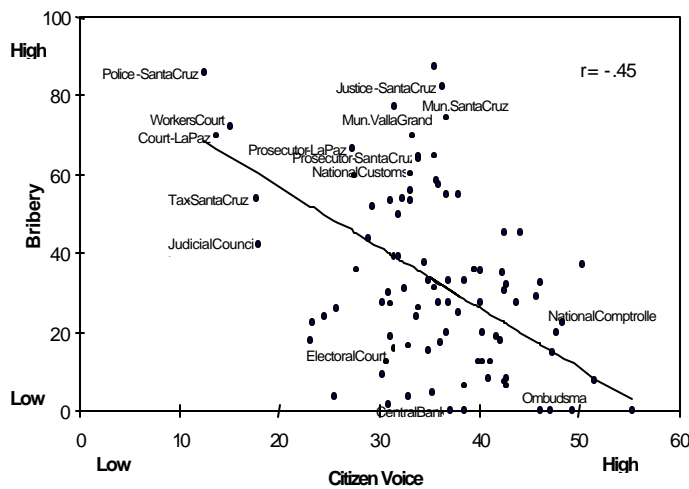
6c: Bribery and Transparency in Bolivia's Public Institutions



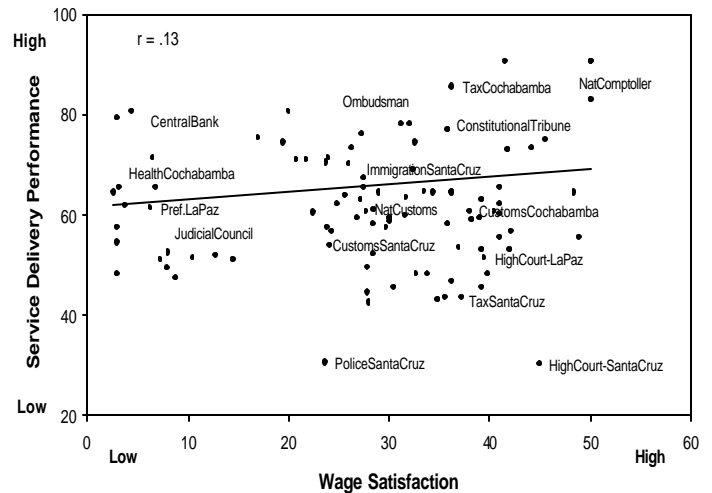
6d: Bribery and Politicization in Bolivia's Public Institutions



6e: Bribery and Citizen Voice in Bolivia's Public Institutions



6f: Service Delivery and Wage Satisfaction in Bolivia's Public Institutions



⁶³ In the plotgrams above, each point represents a public sector (central, departmental, or municipal) agency in Bolivia. The fitted line is the predicted linear relationship between the dependent and the independent variables, which is calculated from the 3-equation model based on the 3SLS econometric estimates of the system as reported in Table VIII. Source: Kaufmann, Mehrez, Gurgur (2001): "Voice or Public Sector Management? An Empirical Investigation of the Determinants of Public Sector Performance Based on a Survey of Public Officials", World Bank Institute, mimeo.

VI. Implications and Conclusions

For our inquiry into the Bolivia puzzle of strong and sustained macro-economic reforms with tepid economic growth performance over the past 15 years we took an integrated approach, combining the following: i) a two-pronged historical perspective from the twin standpoints of the evolution of the enterprise and government sectors over the past half century; ii) an in-depth review of the literature on possible determinants of Bolivia's growth performance; iii) an empirical analysis of Bolivia's enterprise sector performance on the basis of a detailed firm-level survey conducted recently in over 80 countries, and iv) an empirical analysis of Bolivia's public agencies based on a survey of over 1,200 public officials in Bolivia working in over 100 institutions. As empirical background to the above, placing Bolivia in international perspective, we also utilized cross-country empirical evidence. The historical background sections, complemented by the review of the literature, provided a background of the evolution of Bolivia's political economy, helping frame key hypotheses tested in the subsequent econometric analysis with both datasets on enterprise and public officials.

We provided evidence on the ascent and entrenchment of 'unofficialdom' in Bolivia: both the enterprise sector and the public sector were characterized by substantial unofficial and informal behavior. From the public sector this is in turn related to politics of patronage, of 'clientelism' and of corruption, in an individual-centered political landscape, where public agencies have been hampered in their performance through entrenched politicization. In turn, politicization, patronage, clientelism and corruption has defined a significant part of the relationship with the elite enterprise sector, while for the rest of the enterprise sector unofficialdom and informality had been the response to the absence of a level playing field -- and the concomitant high costs of formality (including corruption), with the elite being the beneficiaries from remaining in the formal sector. Thus, central to this inquiry has been to study the role that misgovernance in Bolivia has played in the lack of effective functioning of formal institutions in the public and private arena.

In turn, the extent and particular manifestations of 'unofficialdom' and misgovernance in Bolivia have had adverse consequences in terms of its growth performance and thus significantly dampened the higher growth rate that Bolivia may have enjoyed in the aftermath of ambitious macro-economic reforms boldly launched in the mid-eighties. In so doing, our work challenges some conventions, such as the notion that broad macro-economic reforms can *suffice* to attain high growth rates. Instead we highlight the potentially key role that may be played by non-traditional institutional factors such as misgovernance, politicization of the government agencies, corruption and 'unofficialdom'. Within the exploration of the effects of misgovernance on enterprise behavior and performance, we also found that there is no empirical support for either the beneficial 'grease' hypothesis about bribery, or to the 'unpredictability' of corruption hypothesis. The *extent* of corruption faced by a firm, and experienced within a public institution, does matter significantly and adversely for their performance.

More broadly, the methodological approach and findings of this study questions the value of concentrating on a *country* aggregate as a relevant unit of empirical observation. The empirical evidence attests to the large variance in performance and governance across *institutions*, and also on the variance across policy and institutional *factors* -- within a country. This challenges the tendency to rank (or 'grade') countries as if the within-country variance was low, obscuring the strengths as well as weaknesses that institutions in the country may have -- in turn clouding the need to provide properly prioritized and focused policy advice at the country level.

The Calderon-Vargas family has gathered again during a break in August, 2001, and are reviewing the work they have put together on probing into Bolivia's low growth. They are relatively satisfied about the four key components of the work (the historical parts by the parents, the present-day empirically-based research by their offsprings), from the new evidence emerging, and from the integrated picture emerging from pulling such pieces together. The mother, Marta, always rigorously self-critical, is of two minds: with more time additional materials and further integration would have been possible, she says, yet at the same time she is of the view that the additional benefits from taking more time to probe and integrate further are unlikely to alter the main results and implications emerging from the overall analysis. Philosophically, she adds: 'Let us keep in mind that whether we unveil this work tomorrow as is, or within a year after further work, a basic tenet will remain: while it is true that we can suggest some insights regarding some overlooked institutional areas that require priority, none of us here or anywhere can really tell for sure what the optimal recipe is for Bolivia to grow stronger – not even the experts from the International Financial Institutions! Indeed, the recent review of the overall development field, suggests that this is not specific to our country; there is simply no universally accepted truth on what are the most important factors in making a country grow. In part, the answers vary from setting to setting, in part, there are imponderable unknowns and mysteries even within settings however deeply we study them. This means we need to have a modicum of modesty in concluding our work and in how to make use of it', she concluded.

'I agree', retorted the son Jose, 'yet as you hint, in our work we have pointed to a few areas that for too long have been neglected due to a combination of insufficient analytical and empirical analysis as well as vested interests for inaction, and in this process of working together we have also challenged some conventions. We are making a strong case for focusing on political and institutional reforms which have not been accorded the priority they deserve ever since the major macro-economic reforms of the eighties started, and that message and rationale ought to be conveyed. Nowadays there may be an historical window of opportunity for Bolivia, with the imminent change in leadership – the passage of the old to the new. Many in the cabinet-to-be or entourage of designated President Jorge Quiroga, such as designated Vice-Minister of the Presidency (and former head of the team in charge of governance reforms), Alberto Leyton, the ex-Superintendent of Banks and Financial Entities, Jacques Trigo, former La Paz Mayor and anti-corruption reformist, Ronald MacLean⁷³, or the Superintendent of Civil Service, Walter Guevara, do suggest that there may well be seriousness of purpose in these key areas.'⁷⁴ Since Jose personally knew some of them from his professional work, he suggested he could contact them in order to provide them with the key findings and messages from the analysis for the possible use by the incoming administration.

Ramiro, the father, with his old sagacity and a tinge of skepticism, interjected. 'We can do that, but let us keep some perspective; I have seen a number of promising new administrations come and go with dashed hopes. It is one thing to have the good rhetoric in all these speeches and statements of intention, or even to pass more laws and regulations and other such superficial measures seemingly to eliminate misgovernance by fiat. But, as we have seen in our review and evidence, it is a rather different and politically courageous task to do what really matters: deep-seated political and institutional reforms. Lets face it, even very bright young leaders with a competent cabinet may find such task daunting, particularly when the political cycle is so short

⁷³ See his book with Robert Klitgaard and Lindsay Parris, 'Corrupt Cities' (2000).

⁷⁴ While writing the last version of this work, a series of events have brought several of the issues explored in this paper to the center of public debate. The expulsion of two members of parliament who have judicial processes opened against them because of corruption practices, as well as a scandal in the police involving even members of parliament which has forced a series of anti-corruption actions from the government, are proving an increased awareness in the country on governance and corruption issues.

and the old guard is still entrenched.’ Patricia, with her entrepreneurial practical-orientation, suggested then that they put together a brief memo to the authorities synthesizing the findings in their work, and suggesting what its implications in terms of main policy recommendations would be. She asked her mother what would she suggest to present first on these set of recommendations.

Marta retorted by focusing on the need for *Political reforms, and the de-politicization of public institutions*. She stressed the notion that the politicians’ fortunes are still overly reliant on the *cuoteo politico* system, yet was of the view that at present there is a real opportunity for reform with the new regime, yet countervailing forces are likely to be present, however, because unless resolute action is taken early in the new administration, public discontent inherited from the outgoing government and with the existing political system may lead to serious deterioration of democratic institutions – akin to other Latin American countries currently in turmoil. Thus, a central institutional reform that needs to emerge is the transformation of the Bolivian state from a patronage-based system to a modern professional set of institutions providing quality public goods to the citizenry and enterprise, in turn key for sustained growth and poverty alleviation.

Jose, the son, stressed the notion that *Voice, Participation and Transparency Matters* fundamentally. “Voice” and participation by the citizenry and by the enterprise sector in order to enhance accountability over public administration; in this context they agreed that it would be useful to broaden and deepen initiatives such as the National Dialogue, and the Popular Participation reform which has empowered (at least some of) the communities’ ability to hold local governments accountable for their actions. (WB’00). In this context, Ramiro suggested that the government could put together a strategy of engaging the private sector and the media as supporters of the reform agenda, consulting with them more closely on reform implementation issues, and providing information on institutional performance of the public sector so that these societal actors can monitor progress in implementation and sustain constructive pressure.

They concurred that improved transparency and access to information by key government agencies are likely to be critical, particularly in the budgetary and public account institutions. Further, major transparency-related reforms are needed at the *local level*, where substantial weaknesses persist, and where many municipalities and local agencies are rife with corruption. Jose, from his current perspective of a serving civil servant, was of the view that it was important to offer at least some concrete suggestions; initiatives such as holding public audiences for budgetary decision-making in the *municipalities*, web-based tools for transparent and competitive procurement, transparent access to public officials (and their dependents) asset and income declaration, voting records of local councils, and the like.

In this context of municipal level misgovernance, Marta, drawing from her broader historical experience, pointed to the reforms at the local level in the United States following the widespread corruption related to clientelism and patronage in local political machines (e.g. Tammany Hall) in the late 19th and early 20th centuries.⁷⁵ In particular, she thought that one particular innovation dating a hundred years ago in the US in response to such ingrained corruption at the local level could be of use in so many localities in Bolivia today, namely the movement to technocratize local level management (‘manager movements’).⁷⁶ She also was of the view that lessons could be learnt also from the far-reaching anticorruption reforms introduced by a previous major in La Paz, and from the reversal of such reforms once he left office – which point to the need of civil

⁷⁵ Robert H. Wiebe, *The Search for Order: 1877-1920* (New York: Hill and Wang, 1967), James C. Scott (1969) op. cit., and Michael Johnston, "Patrons and Clients, Jobs and Machines: A Case Study of the Uses of Patronage," *American Political Science Review* 73 (June 1979), pp. 385-98.

⁷⁶ Rehrens (2001), op cit.

society involvement in local administration so to both provide checks and balances and institutional continuity in local level reforms.

Patricia emphasized the need focus on a much improved framework for *protection of property rights* for enterprise, on the simplification of some regulatory procedures and delicensing, and measures to combat *bribery and corruption*. In this context, she underscored the fact that in spite of efforts in the right direction over the past three years, *judiciary reforms and the anticorruption program* were very much unfinished agendas, and that a bold re-launch in those two areas may be warranted. Without these reforms, she noted, the major challenge of ‘unofficialdom’ of the enterprise sector was unlikely to be addressed, and that in turn, would continue to dampen the growth prospects of Bolivia.

The Calderon-Vargas family decided to begin drafting such policy memo to the incoming administration, focusing on the above elements of political and institutional reforms, with emphasis on improved governance, voice, transparency, judiciary and local level reforms, and related, on defining an anticorruption program that would emphasize institutional systemic reforms and complement efforts that were already ongoing – since the incoming president, Quiroga, as outgoing Vice President, had been entrusted previously with the responsibility of coordinating an anticorruption plan.

In writing the policy memorandum they were to frame such policy note by pointing out in the introduction that they were not going to claim to have definitive answers in this complex field full of unknowns, yet they did know that nowadays the stakes were possibly higher than ever – not only because of the civil unrest of the recent past, but also due to the potential windfall or curse of the newly proven natural gas reserves (which had just recently grown from 6.6 to 46.8 trillion cubic feet). Given such windfall, Bolivia’s path could continue to deteriorate in the direction taken by Venezuela or Nigeria if misgovernance was not addressed. Conversely, under a much improved governance framework, involving institutional reform that including key institutional and political structures, countries like Chile or Botswana may be more fitting examples.

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Annex A1 (from section IV): Glossary of Terms for Variables in Empirical analysis, and Background Econometric Results from Worldwide Business Survey (WBES)

GLOSSARY OF DEPENDENT VARIABLES:

Under-Reported Revenues: 'Recognizing the difficulties many enterprises face in fully complying with taxes and regulations, what percentage of total sales would you estimate the typical firm in your area of activity reports for tax purposes?' (%)

Sales Growth Rate: 'Estimate of growth of your company's sales over the past three years' (%)

GLOSSARY OF INDEPENDENT VARIABLES:

'Voice' of the Firm: "In case of important changes in laws or policies affecting my business' operation the government takes into account concerns voiced either by me or by my business association." [1: always true -....-6: never true]

Constraints in: Financing; Policy Instability; Exchange Rate; Inflation; Corruption;

Tax/Regulations (for each): Please judge on a four point scale how problematic are the following factors for the operation and growth of your business: [1 : no Obstacle - ... -4 : Major Obstacle]

Bribery: 'On average, what percent of revenues do firms like yours typically pay per annum in unofficial payments to public officials?' (%)

Courts Protection of Property Rights: "I am confident that the legal system will uphold my contract and property rights in business disputes": To what degree do you agree with this statement now? [1: fully agree-....-6: fully disagree]

Availability of Laws: "In general, information on the laws and regulations affecting my firm is easy to obtain." [1: fully agree-....-6: fully disagree]

"Quality of Services": 'Please rate the overall quality and efficiency of services delivered by the following public agencies or services (education, judiciary/courts, public works, postal system, water, police, Central Bank).' [1 : very good-....- 6 : very bad]

"Copyrights Violations" : Please judge on a four point scale how problematic the following practices of your competitors are for your firm ('they violate my copyrights, patents or trademarks'): [1: No Obstacle -....-4: Major Obstacle]

"Corruption in Procurement": "When firms in your industry do business with the government, how much of the contract value must they offer in additional or unofficial payments to secure the contract?" [1 : 0% - 6 : greater than 20%]

"Corruption of Bank Officials" : Please judge on a four point scale how problematic is this financing issue for the operation and growth of your business [1 : no obstacle – 4 : major obstacle]

"Frequency of bribery" : "Thinking about government officials, it is common for firms in my line of business to have to pay some irregular ' additional payments' to get things done." [1: always true -....-6: never true]

"Corrupt Service Unpredictability": "If a firm pays the required ' additional payment' the service is usually also delivered as agreed." [1: always true -....-6: never true]

"Corrupt Payment Unpredictability": "Firms in my line of business usually know in advance about how much this 'additional payment' is." [1: always true -....-6: never true]

"Corrupt Extra Payment Unpredictability": "If a firm pays the required additional payment to a particular government official, another government official will subsequently require an additional payment for the same service." [1: always true -....-6: never true]

"Government inefficiency" : How would you generally rate the efficiency of government in delivering services? [1 : very efficient-....-6 : very inefficient]

"Government unhelpfulness": Please rate your overall perception of the relation between Government and/or bureaucracy and private firms on the following scale. "All in all, for doing business I perceive the state as": [1 : very helpful...-5 : very unhelpful]

Table Annex A1: Underreported Revenues and Unpredictability of Corruption –

Results of second stage of two-stage procedure controlling for ‘Kvetch’ factor; the regressors are residuals of first stage regression of control variables on ‘Inefficiency of Government’ variable. See Section IV for details on the ‘Kvetch control’ procedure, and on distilling the econometric results on the ‘grease’ and ‘unpredictability of corruption’ hypotheses.

Dependent Variable : Under-reported Revenues								
Determinants	1	2	3	4	5	6	7	8
Bolivia country effect	8.03 (2.60)**	14.34 (5.86)***	8.95 (2.67)**	10.06 (2.89)***	10.23 (2.91)***	8.59 (2.90)***	14.85 (5.13)***	14.81 (5.07)***
Financing constraint	1.06 (2.96)***	1.00 (3.59)***	1.40 (3.57)***	0.94 (2.03)**	1.09 (2.34)**	1.14 (3.11)***	0.99 (2.50)**	1.00 (2.50)**
Inflation constraint	0.70 (1.66)*	0.58 (1.75)*	0.73 (1.57)*	0.78 (1.45)	0.84 (1.52)*	0.56 (1.31)	0.79 (1.72)*	0.86 (1.83)*
Infrastructure constraint	0.68 (1.74)*	0.32 (1.03)	0.65 (1.51)*	1.04 (2.16)**	0.96 (1.97)**	0.26 (0.65)	0.34 (0.79)	0.29 (0.68)
Policy Instability constraint	0.93 (2.17)**	0.24 (0.73)	0.97 (2.04)**	0.92 (1.67)*	0.79 (1.42)	0.52 (1.18)	0.46 (0.98)	0.41 (0.86)
Bribery (% revenues)	0.29 (5.17)***		0.25 (4.10)***	0.27 (4.28)***	0.25 (3.93)***			
Frequency of Bribing		-2.98 (-15.51)***				-2.96 (-10.98)***	-2.97 (-9.21)***	-2.73 (-8.47)***
Corrupt Service Unpredictability					0.02 (0.05)			0.18 (0.61)
Corrupt Payment Unpredictability				0.19 (0.64)			0.21 (0.78)	
Corrupt Extra Request Unpredictability			-0.01 (-0.04)			0.16 (0.63)		
Government inefficiency	1.58 (4.79)***	1.19 (4.52)***	1.50 (4.15)***	1.94 (4.62)***	1.98 (4.73)***	0.83 (2.44)**	1.41 (3.79)***	1.47 (3.95)***
Adjusted R2	0.18	0.19	0.18	0.14	0.14	0.19	0.15	0.15
Number of Observations	3786	5379	3218	2535	2505	3683	3166	3118

*** : significant at 1% ; ** : significant at 5% ; * : significant at 10% + : significant at 15%

Note: all independent variables were regressed in the first stage regression against Government Inefficiency variable, and only the residuals of the former were used in this second stage reported above (so to additionally control for ‘kvetch’). In addition, the Government inefficiency variable itself has been included in specifications, as in the one-stage control procedure described in the text of section V in the paper.

Annex Table A2: Growth of Firms and Unpredictability of Corruption

(Results of second stage of two stage procedure to control for 'kvetch' factor; see section IV for details)

Dependent Variable : Sales Growth

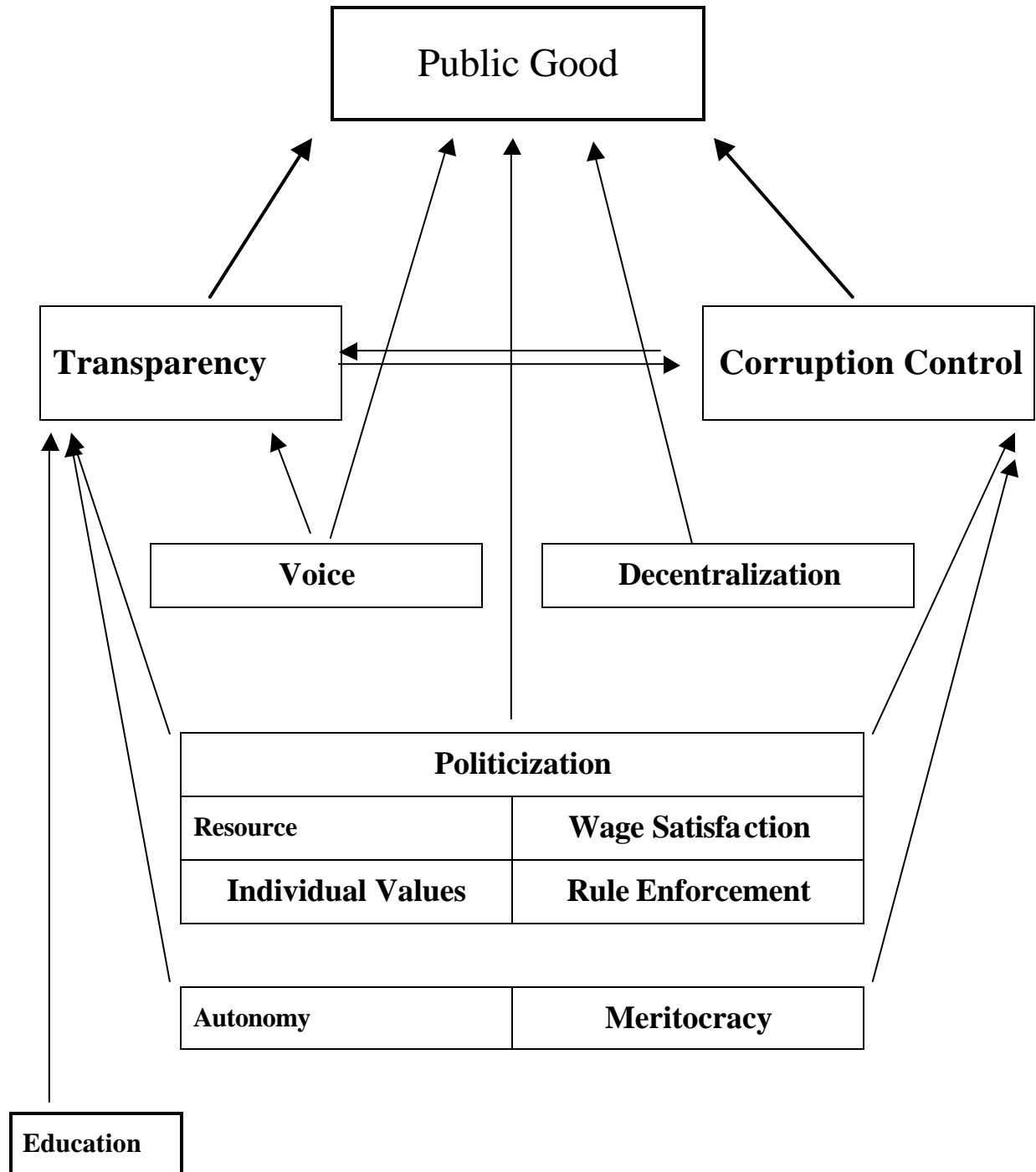
Determinants	1	2	3	4	5	6	7	8
Bolivia country effect	-5.48 (-0.84)	-5.57 (-0.66)	-5.40 (-0.66)	-10.29 (-1.45)	-3.33 (-0.59)	-5.04 (-0.68)	-1.79 (-0.33)	-3.36 (-0.63)
Financing constraint	-2.13 (-2.75)***	-2.34 (-2.11)**	-2.82 (-2.58)**	-2.20 (-2.60)**	-2.38 (-3.68)***	-2.51 (-2.40)**	-1.94 (-2.87)***	-2.27 (-3.68)***
Inflation constraint	-3.68 (-4.34)***	-4.56 (-3.73)***	-4.97 (-4.13)***	-2.92 (-3.13)***	-2.75 (-3.86)***	-3.17 (-2.77)***	-2.13 (-2.87)***	-1.79 (-2.61)***
Infrastructure constraint	1.04 (1.25)	1.37 (1.20)	0.94 (0.84)	1.53 (1.67 ⁺)	1.60 (2.33)**	1.18 (1.09)	2.03 (2.79)***	1.28 (1.95)**
Tax Regulation as constraint	-0.38 (-0.41)	-1.41 (-1.01)	-0.83 (-0.60)	-0.64 (-0.62)	-0.96 (-1.22)	-1.32 (-1.00)	-0.79 (-0.95)	-1.24 (-1.64) ⁺
Bribery (% revenues)	-0.55 (-4.51)***	-0.58 (-3.86)***	-0.56 (-3.77)***	-0.54 (-4.18)***				
Frequency of bribing					-0.05 (-0.11)			
Corrupt Service Unpredictability		0.08 (0.10)				0.57 (0.74)		
Corrupt Payment Unpredictability			-0.85 (-1.19)			-0.97 (-1.32)		
Corrupt Extra Request Unpredictability				0.03 (0.06)		0.65 (0.88)		
Voice							-1.55 (-2.67)***	-1.34 (-2.49)**
Court Protection of Property Rights								0.43 (0.85)
Copyrights Violations							-1.48 (-2.46)**	
Government inefficiency	-0.04 (-0.06)	-0.02 (-0.02)	-0.23 (-0.24)	-0.23 (-0.31)	0.02 (0.03)	-0.54 (-0.57)	0.91 (1.41)	0.48 (0.79)
Adjusted R2	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.05
Number of Observations	4480	3030	3064	3820	6479	2946	3775	4345

*** : significant at 1% ; ** : significant at 5% ; * : significant at 10% ⁺ : significant at 15%

Note: all independent variables were regressed in the first stage regression against Government Inefficiency variable, and only the residuals of the former were used in this second stage reported above (so to additionally control for 'kvetch'). In addition, the Government inefficiency variable itself has been included in specifications, as in the one-stage control procedure described in the text of section V in the paper.

Annex Diagram A1 on KMG Model (from section V):

Determinants of Public Sector Performance



The model's Endogenous Variables are: Public (Goods) Service Provision, Corruption, and Transparency. The remainder are exogenous variables in the model. Source: Kaufmann, D., G. Mehrez, and T. Gurgur, 2001: "Voice or Public Sector Management?: A model and analysis based on a Survey of Public Officials".