FISCAL TRANSPARENCY AND ECONOMIC PERFORMANCE

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ABSTRACT

Recent research has shown a robust relation between institutions and the economic performance of countries. A less satisfactory conclusion, however, has been drawn on the link between measures of institutions quality and policy making tools. This paper is an initial attempt to present an institutions-related variable, fiscal transparency, which is connected with economic performance and also has a neat policy dimension. Although a measure of fiscal transparency can be regarded as an interesting alternative to other institutions measures in terms of its proxy potentiality, it can also be considered a direct measure of institutional quality. In this sense, Adam Smith's development views provide a perspective where the absence of agents able to influence the justice paved the way to a "regular government". This is precisely what fiscal transparency is about. By defining the scope and responsibilities of the government in a clear manner, making available the fiscal information for the population, openly preparing and executing the budget, and assuring the integrity of fiscal procedures, a transparent fiscal environment limits corruption and diversion and, therefore, facilitates development and the increase in living standards.

This paper presents a new data set on fiscal transparency based on an IMF assessment of progress on the implementation of the Fiscal Transparency Code by 45 countries in the fiscal modules of Reports on Observance of Standards and Codes. Our empirical estimations show a strong link from fiscal transparency to per capita income. Standard steps on budget preparation and execution, and fiscal procedures are identified as a set of policy tools to improve the fiscal transparency of countries.

JEL Codes: O1, H6, E6.

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"But what all the violence of the feudal institutions could never have effected, the silent and insensible operation of foreign commerce and manufactures gradually brought about…….
The great proprietors were no longer capable of interrupting the regular execution of justice or of disturbing the peace of the country…… they became as insignificant as any substantial burgher or tradesman in a city. A regular government was established in the country as well as in the city, *nobody having sufficient power to disturb its operations in the one any more than in the other*".

A. Smith, "*An Inquire Into the Nature and Causes of he Wealth of Nations*", B. III, Ch. 4, italics added.

Introduction

Recent research has shown a robust relation between institutions and the economic performance of countries. A less satisfactory conclusion, however, has been drawn on the link between measures of institutions quality and policy making tools. This paper is an initial attempt to present an institutions-related variable, fiscal transparency, which is connected with economic performance and also has a neat policy dimension. Although a measure of fiscal transparency can be regarded as an interesting alternative to other institutions measures in terms of its proxy potentiality, it can also be considered a direct measure of institutional quality. In this regard, Adam Smith's quotation provides a development perspective where the absence of landowner's power to influence the justice paved the way to a "regular government". This is precisely what fiscal transparency is about. By defining the scope and responsibilities of the government in a clear manner,

making available the fiscal information for the population, openly preparing and executing the budget, and assuring the integrity of fiscal procedures, a transparent fiscal environment limits corruption and diversion and, therefore, facilitates development and increase in living standards.

This paper presents a new data set on fiscal transparency based on an IMF assessment of progress on the implementation of the Fiscal Transparency Code by 45 countries in the fiscal modules of Reports on Observance of Standards and Codes. Our empirical estimations show a strong link from fiscal transparency to per capita income. Standard steps on budget preparation and execution, and fiscal procedures are identified as a set of policy tools to improve the fiscal transparency of countries.

Fiscal Transparency

Fiscal transparency has long being recognized as a requisite of a well functioning public sector. During the last 10 years, however, a significant progress has been made on cementing a concept of fiscal transparency which allows the development of quantitative measures of it. Particularly relevant has been the international financial community's initiative to launch the Reports on Observance of Standards and Codes (ROSCs) in the late 90s as a vehicle for strengthening the financial system's stability.

The main idea behind the initiative was to strengthen institutions with the aim of promoting good governance and transparency. Better institutions provide a link to the improvement of the accountability and credibility of policies and reduce the vulnerability to crises. The development of international standards and codes has been accelerated recently by the Financial Stability Forum's endorsement of internationally recognized standards in 12 areas: accounting, anti-money laundering, auditing, banking, corporate governance, dissemination of data, fiscal transparency, insolvency and creditors rights, insurance regulation, monetary and financial transparency policies, payments systems, and securities markets regulations. Theses areas cover three main categories: *transparency standards* (data, fiscal, and monetary and financial policy transparency); *financial sector* (banking supervision, securities, insurance, payment systems, and anti-money laundering); and *market-integrity* for the corporate sector (corporate governance,

accounting, auditing, and insolvency and creditor rights).[1] The Financial Stability Forum has emphasized the importance of the 12 standards by saying that "the international community attaches much importance to the adoption and implementation of these standards because of their beneficial effects on the stability of financial systems both inside countries and globally" [2]

In 2001, the IMF and the World Bank agreed that ROSCs would be a principal tool for undertaking country assessments. Both institutions have taken a central role in developing, implementing, and assessing internationally recognized standards and codes. ROSCs are now a central element of the IMF's surveillance.[3]

The Code on Good Practices on Fiscal Transparency (CGPFT)

The CGPFT was adopted by the IMF on 1998. The Code, together with the explanatory Manual on Fiscal Transparency, is based on the following four principles which provide the organization of the Code.

The first principle deals with the *clarity of roles and responsibilities* of the government. This principle assesses the extent to which the non-commercial activities of the government are clearly distinguished from the rest of the economy; how clearly defined are the responsibilities of the executive, legislative and judicial branches; how the budgetary and extra-budgetary activities are coordinated and managed; how clear are the arrangements between the government and non-government public agencies; how clear and nondiscriminatory is the government involvement in the private sector; how open and comprehensive are the budget laws defining the commitment and administrative rules; how explicit, easily accessible and understandable is the legal framework for taxation; and how well defined and publicized are ethical standards of public servants' behavior.

[1] The transparency standards were developed by the IMF. The financial sector standards were designed by institutions like the Basel's Committee, the International Organization of Securities Commissions, and the International Association of Insurance Supervisors. The standards on market integrity were developed by related institutions and the World Bank.
[2] See: www.fsforum.org/compendium.
[3] A main responsibility of the IMF is to promote a dialogue among countries on economic and financial policies. This process of monitoring and consultation is referred as IMF surveillance.

The second principle, *public availability of information*, relates to the publication of comprehensive fiscal data and information at specified times. The principle stresses the publication of all the budgetary and extrabudgetary operations of the government; the comparison of the current year budget with two previous year outturns and to two projected year fiscal aggregates; the assessment of quasi-fiscal activities, contingent liabilities, and tax expenditures; the publication of full information on the level and composition of government's debt and assets as well as the consolidated account with the sub national level of government; the legal obligation nature of fiscal data publication and the need to announce advance release date calendars for fiscal publications.

The third principle is about *open budget preparation, execution and reporting*. The annual budget framework should include an assessment of fiscal sustainability and be based on fiscal policy objectives; fiscal rules should be clearly specified; the annual budget should be prepared within a comprehensive and consistent quantitative macro framework, and the main assumptions underlying the budget should be provided; the budget should identify major fiscal risks; budget data should be reported on a gross basis distinguishing revenue, expenditure, and financing, with expenditure classified in economic, functional and administrative category; the public sector balance should be reported in cases where non government public agencies undertake significant quasi fiscal activities; payments arrears should be comprehensively reported; procurement and employment regulations should be standardized and accessible to all parties; budget execution should be internally audited, and audit procedures should be open to review; the tax administration should be legally protected from political direction, a mid-year report on budget developments should be presented to the legislature.

Finally, the fourth principle refers to *assurances of integrity*. Budgetary data should reflect recent revenue and expenditure trends, underlying macroeconomic developments, and well-defined policy commitments; the annual budget and the final accounts should specify the accounting basis (cash or accrual) and the standards used in the compilation and presentation of data; specific assurances should be provided as to the quality of the fiscal data. It should be indicated if fiscal data is internally consistent and has been reconciled with data from other sources; a national audit body, which is independent of the executive, should provide timely reports to the legislature and public on the financial integrity of fiscal

accounts; independent experts should be invited to asses fiscal forecasts; an independent national statistics agency should verify the quality of the fiscal data.

Fiscal Transparency and Growth

Adam Smith's view about the raise of industry and commerce as paving the way to the development of a "regular government" where nobody has the "sufficient power to disturb its operations" is particularly relevant. The absence of fiscal transparency can be associated to countries characterized by corruption, take over of regulatory frameworks and bodies, and diversion.

The IMF Manual on Fiscal Transparency stresses the central importance of good governance on achieving high-quality growth providing a link between fiscal transparency and good governance. In terms of the Manual "fiscal transparency should make those responsible for the design and implementation of fiscal policy more accountable. The stronger, more credible fiscal policies that follow should attract the support of well-informed public, result in more favorable access to capital markets, and reduce the incidence and severity of crises" (IMF, 1999).

Corruption and rent-seeking have well known adverse effects on economic development (Mauro, 1995, Hall and Jones, 1998, Rodrik, 1998). Certainly, avoiding corruption is at the core of a transparent fiscal framework. As Folsher points out "the institutionalization of transparency in budget practices creates the demand for those types of government systems which are key to combating corruption: namely an independent, effective and efficient auditing system, an internal accountability system and an information system that produces timely and accurate information" (Folsher, 1999).

Djankov et al (2004) point out that a more transparent government allows the economy to incur in lower social costs as the government undertakes the task of controlling economic disorder. In addition, since transparency is likely to be influenced by what the authors called civic capital, the greater the level of transparency the lower the social costs of controlling disorder at the efficient choice.

Institutions, Growth and Policies

The empirical analysis of output per worker has recently followed two main approaches. On the one hand, studies based on an aggregate production function where differences among countries' productivity levels are associated with differences in savings, and physical and human capital (Mankiw et al, 1992). On the other hand, there is an approach which goes beyond the production function and tries to focus the output per capita as a variable related to more profound determinants of inputs and productivity. This approach is more philosophical since it tries to comprehend the ultimate causes of factor accumulation in lieu of the immediate effects of inputs and technology on output per capita. In a seminal paper, Hall and Jones (1999) presented the role of social infrastructure as determining economic performance. Social infrastructure was conceptualized as the set of institutions and public policies that determine the economic environment in which economic agents take decisions on saving, human capital accumulation, and family size. Social infrastructure's main role is to protect the output of individual units from diversion. A government policy prevents diversion not only by anti-diversion policies but, also, by refraining itself from diverting behavior. In order to measure social infrastructure, Hall and Jones use the combination of two indexes: an index on government anti-diversion policies[4], and an index on openness to international trade. The Hall and Jones paper paved the way to contributions focused on the relation between institutions and economic development (Rodrik, 1999; Rodrik, Subramanian and Trebbi, 2004). In a well known contribution Acemoglu, Johnson and Robinson (AJR, 2001) used the mortality rates expected by settlers as an instrument for current institutions. In AJR a risk of expropriations index is used as a measure of institutions.

Policy implications

A key aspect of the recent literature is that improving institutions and property rights will have a significant effect on per capita income and poverty reduction. Besley and Burgess (BB 2003) calculate that a halving of world poverty can be achieved by either a twofold increase in the standard deviation of Hall and Jones' social infrastructure index, or by an increase of halve of one standard deviation on AJR's property rights protection measures.

[4] A related index also based in the same data source is used by Rodrik (1998) as a proxy for conflict-management institutions.

However, as BB points out, "how to map from these findings into concrete policy suggestions about property rights or social infrastructure is not immediately clear". In a related opinion, Sokoloff and Engerman (SE 2002) state that "ascribing differences in development to differences in institutions raises the challenge of explaining where the differences in institutions come from. Those who have addressed this formidable problem have typically emphasized the importance of presumed exogenous differences in religion and social inheritance". One of the main reasons behind the present skepticism is that, although the institutions literature offers robust estimations of the institutions-development relation, a corresponding relation between institutions and concrete policy tools needs further development and research. Clearly, if the determinants of economic performance are either exogenous or policy disconnected, little can be done in the medium run to raise living standards in poor countries[5].

On the other hand, the literature associated with focusing the initial conditions as having enduring influences over the institutional and economic development of the developing world (AJR, SE) provide little clues about policy action. As SE points out "although one could imagine that extreme inequality could take generations to dissipate in even a free an even-handed society, such biases in the path of institutional development likely go far in explaining the persistence of inequality over the long run in Latin America and elsewhere in the New World". Consequently, a crucial question is if there are alternatives to a mere passing of time and if these alternatives are available for policy makers through concrete tools.

Measuring Fiscal Transparency

The measurement of fiscal transparency has recently been facilitated by the new data and research based on the international financial community's recommendations on standard and codes. Alt and Lassen (2002) used self-reported measures of fiscal transparency from a 1999 OECD questionnaire sent to Budget Directors of OECD member countries.

[5] This view has been challenged by AJR (2001) by saying that "our findings do not imply that institutions today are predetermined by colonial policies and cannot be changed". The same argument is raised by Rodrik, Subramanian, and Trebbi (2004). The evidence they present, however, are episodes such as the case of Japan during the Meiji Restoration and the case of China since the late 70s, countries which have not experienced the immigration aspects highlighted in the AJR and SE literature. In this regard, one of the three AJR's paper premises is that colonial state and institutions persisted even after independence and the empirical interest rests on "the effects of colonization policy *conditional* on colonization".

In this paper we make use of an IMF assessment (IMF, 2003) on fiscal transparency practices for a set of 45 countries. The Fund paper assesses fiscal transparency of countries in comparison with the best practices implied by the Code on Fiscal Transparency. Our data come from Annex 2 of the IMF paper where three main categories of fiscal transparency are analyzed: fiscal data quality, use of off-budget mechanisms, and clarity on tax policy and administration. The categories are assessed for a sample of 45 countries including 17 developing, 8 transition, 14 emerging, and 6 advanced nations. The fiscal quality data category has 4 components, the use of off-budget mechanisms category includes 3 components and, finally, the tax policy and administration category encompasses 2 components. The components of these categories for each country are classified in a pass-fail range allowing, therefore, for a quantitative measurement of a fiscal transparency index.

The quality of fiscal data category is has four components. The first element is budget realism. The assessment includes the discrepancy between budgets and outturn, the budgetary covering of obligations, the overuse of supplementaries, and the occurrence of under funded utilities. The second component is about budget execution data and focuses on the quality of ex-post data and control procedures. It also focuses on whether data is reconciled, if suspense accounts are cleared, and if arrears and irregular procedures are common and unreported. The third component is the coverage of fiscal activity. The analysis is focused on the comprehensiveness of the general government data coverage. Particular attention is paid on the consistency with which the government data is treated in the Ministry of Finance and in the Central Bank accounts, the quality of timely data on sub national levels of government, and the use of the privatization proceeds. In addition, the inclusion of extrabudgetary funds, and externally financed projects into fiscal reports and documents are taken into account. The fourth component is about external audit and considers if the audit of final accounts is made on a satisfactory mode, if the periodicity of audits is reasonable, if there are adequate resources and technical capacity to carry out the audits, and if there is a follow up on audit findings.

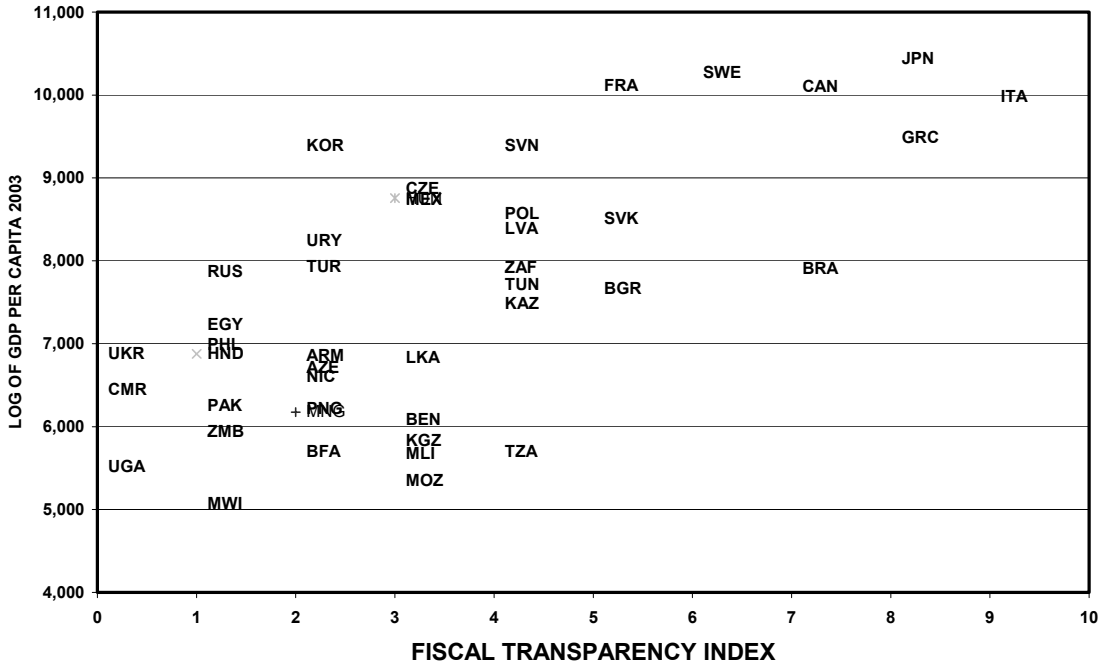
The second main category is the extrabudgetary activity. This category has three components: the complete coverage of contingent liabilities, the quasi-fiscal operations related to the financial sector, and the quasi-fiscal operations related to the non-financial public enterprises. Quasi-fiscal activities related to below market interest rates, lending

policies, loan guarantees and/or individual lending decisions subject to political direction are considered in this category. Non-reported employment, price setting, below cost pricing, and cross subsidizing in public firms are also taken into account.

The third category is the clarity on tax policy and administration and includes two components. It assesses whether tax expenditures are published in budget documents. In addition, it analyzes if the tax administration procedures are subject to administrative discretion and characterized by unclear rules, inadequate or bureaucratic appeal procedures, and poor observation of the legal framework.

Following Jones, Sanguinetti and Tomasi (1997), we computed our index on fiscal transparency by adding up the components across the categories. Since the three categories have a total of 9 component, the highest level of the fiscal transparency index is nine and the lowest level is cero. In our sample the country with greater transparency index is Italy whereas three countries receive cero index level: Cameroon, Uganda and Ukraine. Figure I plots the log of 2003 per capita income against our fiscal transparency index.

FISCAL TRANSPARENCY INDEX AND LOG OF GDP PER CAPITA



Estimation

Our empirical analysis is based on the assumption that fiscal transparency is a summary variable for the institutional quality of nations. To study the effect of transparency on per capita income we run regressions of the form:

$$\text{Log } y_i = \alpha + \beta \, FITRA_i + X'_i \, \gamma + \varepsilon_i \qquad (1)$$

Where y_i is per capita income in country i, FITRA is the fiscal transparency index of country i, X_i is a vector of geographic, health, and other variables, and ε_i is a random error term. Particularly relevant is the coefficient β, which captures the influence of fiscal transparency on economic performance. The empirical approach behind equation 1 has been used by AJR, Rodrik, Subramanian and Trebbi (2002), Arthur and Sachs (2001), and Sachs (2002). Equation 1 allows us to assess the empirical link between institutions and geographic and health variables on per capita income. AJR used an index of protection against expropriations (EXPROP) to capture institutional differences. In their empirical results EXPROP instrumented with the measure of settlers' mortality rates from the early 19th century is a significant variable for explaining per capita income differences. In addition, geographic variables are not significant in their regressions. Rodrik, Subramanian and Trebbi used a rule of law variable as a measure of the quality of institutions; their empirical results stressed the importance of institutions in explaining income differentials and found that controlling for institutions, geographic and integrations variables do not have additional power in explaining development. Arthur and Sachs also use EXPROP as an institutional quality measure; they examine the role of other geographically-related variables such as malaria prevalence or health indicators. Under a more comprehensive data set than the one employed by AJR et al, Arthur and Sachs conclude that both institutions and geographical-related variables play a significant role in explaining income differentials; they also show that the predominance of institutional variables found by AJR are probably the result of the small sample of ex-colonies and to the limited geographic dispersions of those countries. Finally, Sachs (2002) empirical results show that malaria transmission directly affects per capita income after controlling for institutions.

We use 3 geographic and health variables in our empirical analysis: LATABS, the absolute value of latitude, TROPICAR, the percentage of land in the tropics, and MALFAL, the proportion of countries' population at risk of malaria transmission. We run regressions using two measures of our dependent variable, economic performance. The first is the log of PPP-adjusted GDP per capita in 2003. The second is the log of output per worker in 1988 from Hall and Jones. Table 1 presents descriptive statistics for the variables of interest. The first column refers to the whole sample. The second column presents the statistics for the subset of observations corresponding to the countries with availability of data on the log of adult mortality raters in the early 19th century (LMORT). This is relevant since our IV estimations include LMORT as instrument.

Table 1

Descriptive Statistics, Mean and SD of Variables

	SAMPLE		
	FULL	LMORT	N
FITRA	**3,2** (2,2)	**2,83** (2,2)	**45**
Log GDP03	**7,55** (1,51)	**7,22** (1,42)	**45**
LATABS	**0,37** (0,20)	**0,24** (0,17)	**45**
TROPICAR	**0,36** (0,46)	**0,56** (0,46)	**45**
MALFAL	**0,25** (0,40)	**0,33** (0,41)	**45**
MEANTEMP	**18,99** (8,74)	**21,64** (7,05)	**35**
LMORT	**4,49** (1,25)	**4,49** (1,25)	**18**
EXPROP	**7,33** (1,64)	**6,62** (1,63)	**35**
HALLJOYL	**8,68** (1,10)	**8,54** (1,07)	**33**

Note: standard errors are in parentheses.

Estimating equation 1 by OLS is subject to well known problems of simultaneity and measurement errors in our explanatory variable FITRA. For this reason, we use LATABS, LMORT, TROPICAR, and MEANTEMP (mean annual temperature) as instruments. Table 2 presents the results for log of GDP per capita as dependent variable. Columns (1) to (3)

are our main specifications and include FITRA as a regressor while adding a different geographic and health variable. Columns (4), (5), and (6) substitute FITRA for EXPROP, which measures the risk of expropriation. Since EXPROP has been utilized as a measure of institutions by AJR, and Arthur and Sachs, and Sachs, we are interested in comparing both set of specifications.

Panel A of Table 2 shows the OLS results whereas panel B presents the IV results. Several aspects are worth to mention. First, FITRA is a significant variable in all the regressions. In terms of the per capita GDP effect of fiscal transparency, our IV lowest FITRA coefficient, 0.49 from column (1), helps us to asses that the 7.2 times of per capita income differential between South Africa and Zambia, would have been reduced to 1.7 times had Zambia developed the transparency of South Africa's fiscal institutions. Second, the IV estimation and the need to include LMORT in our set of instruments sharply reduce the number of observations. This problem, also found by Arthur and Sachs, stems from the restrictive data set available for LMORT. Including LMORT in our instruments, however, is important to place our results under the perspective of the recent literature about institutions and performance. Third, all the geographic variables with the exception of MALFAL are significant. Fourth, once FITRA is replaced by EXPROP, geographic and health variables are no longer significant and EXPROP is a highly significant variable, as it has been the case in the recent literature.

Table 3 presents the results for the case of log of GDP per labor as dependent variable. The results and main conclusions are similar to the previous case. Using log of GDP per labor confirms the result that when EXPROP is the measure of institutions the geographic and health variables are not relevant. This result is not robust in the case that FITRA is chosen as the institution variable.

Policy implication and further work

Our results suggest that focusing on the improvement of fiscal transparency can be a concrete action to provide a growth impulse. By mapping institutional upgrading to proposals including the clear definition of the scope and responsibilities of the government, the public availability of fiscal information, the openly preparation and execution of the budget and the assurance of the integrity of fiscal procedures, policy makers and financial

institutions can add a new dimension of policy tools. Our results, however, are preliminary and need to be confronted with the evidence stemming from a more comprehensive data set. The development of such data set can be facilitated by the ongoing assessment of countries made by multilaterals organizations.

Table 2

REGRESSION OF LOG GDP PER CAPITA						
	(1)	(2)	(3)	(4)	(5)	(6)
PANEL A: OLS						
Constant	**5,19 ***	**6,96 ***	**6,94 ***	**2,45 ***	**4,36 ***	**4,38 ***
	(0,33)	(0,30)	(0,28)	(0,88)	(1,17)	(0,84)
FITRA	**0,37 ***	**0,35 ***	**0,34 ***			
	(0,07)	(0,07)	(0,06)			
LATABS	**3,14 ***			**1,65**		
	(0,77)			(1,31)		
TROPICAR		**-1,52 ***			**-1,26 ***	
		(0,31)			(0,47)	
MALFAL			**-1,89 ***			**-1,81 ***
			(0,35)			(0,40)
EXPROP				**0,65 ***	**0,51 ***	**0,51 ***
				(0,16)	(0,13)	(0,10)
R^2	**0,62**	**0,66**	**0,68**	**0,63**	**0,68**	**0,76**
N	**45**	**45**	**45**	**35**	**35**	**35**
PANEL B: IV						
Constant	**4,91 ***	**5,96 ***	**5,83 ***	**2,5 ****	**2,07**	**1,31**
	(0,54)	(0,91)	(1,13)	(1,14)	(1,74)	(2,28)
FITRA	**0,49 *****	**0,68 ***	**0,65 ****			
	(0,27)	(0,23)	(0,28)			
LATABS	**3,8 *****			**2,73**		
	(2,07)			(1,76)		
TROPICAR		**-1,2 *****			**-0,33**	
		(0,68)			(0,64)	
MALFAL			**-1,38**			**0,03**
			(1,23)			(1,3)
EXPROP				**0,61 ****	**0,8 ***	**0,89 ***
				(0,22)	(0,22)	(0,29)
R^2	**0,61**	**0,44**	**0,44**	**0,77**	**0,67**	**0,63**
N	**18**	**18**	**18**	**18**	**18**	**18**

Notes: Standard error are in parentheses. Significance at the 1 percent, 5 percent, and ten percent levels are denoted respectively by *, **, and ***

TABLE 3

REGRESSION OF LOG GDP PER LABOR						
	(7)	(8)	(9)	(10)	(11)	(12)
PANEL A: OLS						
Constant	**7,18 ***	**8,97 ***	**8,95 ***	**5,55 ***	**7,22 ***	**7,27 ***
	(0,25)	(0,25)	(0,19)	(0,65)	(0,81)	(0,45)
FITRA	**0,17 ***	**0,15 ***	**0,13 ***			
	(0,06)	(0,05)	(0,04)			
LATABS	**3,09 ***			**1,58**		
	(0,68)			(1,01)		
TROPICAR		**-1,53 ***			**-1,29 ***	
		(0,24)			(0,34)	
MALFAL			**-1,92 ***			**-1,65 ***
			(0,22)			(0,22)
EXPROP				**0,37 ***	**0,28 ***	**0,27 ***
				(0,12)	(0,09)	(0,06)
R^2	**0,61**	**0,72**	**0,81**	**0,61**	**0,69**	**0,86**
N	**33**	**33**	**33**	**30**	**30**	**30**
PANEL B: IV						
Constant	**6,99 ***	**7,93 ***	**8,22 ***	**4,84 ***	**5,07 ***	**5,33 ***
	(0,42)	(0,67)	(0,67)	(1,00)	(1,35)	(1,28)
FITRA	**0,28**	**0,43 ****	**0,32 ****			
	(0,21)	(0,17)	(0,16)			
LATABS	**3,16 ****			**1,55**		
	(1,63)			(1,53)		
TROPICAR		**-1,07 ****			**-0,41**	
		(0,48)			(0,50)	
MALFAL			**-1,76 ***			**-0,75**
			(0,72)			(0,73)
EXPROP				**0,50 ****	**0,56 ***	**0,52 ***
				(0,19)	(0,17)	(0,16)
R^2	**0,57**	**0,47**	**0,66**	**0,69**	**0,66**	**0,79**
N	**18**	**18**	**18**	**18**	**18**	**18**

Notes: Standard error are in parentheses. Significance at the 1 percent, 5 percent, and ten percent levels are denoted respectively by *, **, and ***

VARIABLES

LMORT. Natural log of adult mortality rates in the early 19th century, from Acemoglu et al and reported in Sachs.

MEANTEMP. 1987 mean temperature in degrees Celsius, from Gallup, Sachs and Merlinger.

LATABS. Absolute value of latitude, from La Porta et al (1999).

MALFAL. The proportion of a country's population at a risk of malaria transmission in 1999, from Gallup, Sachs and Merlinger.

EXPROP. Average for each country for the 1985 – 1995 period, from Political Risk Services as reported in Arthur and Sachs (2001).

HALLJOYN. Output per worker in 1988, from Hall and Jones (1999), Data Appendix, Version 4, March 1998.

TROPICAR. The percentage of land in the tropics, from Center for International Development at Harvard University data set.

Log GDP03. Natural log of PPP-adjusted GDP per capita in 2003, from World Bank data set.

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APPENDIX TABLE – DATA ON FISCAL TRANSPARENCY

	COUNTRY	WBCODE	FITRA	Log GDP03	LATABS	TROPICAR	MALFAL	MEANTEMP	LMORT	EXPROP	HALLJOYN
1	Armenia	ARM	2	6,856	0,444444	0	0				9,952080
2	Azerbaijan	AZE	2	6,709	0,447778	0	0				
3	Benin	BEN	3	6,087	0,103333	1	1	26,8			7,644650
4	Brazil	BRA	7	7,908	0,111111	0,9312326	0,1935	23,7	4,2626	7,9	9,332290
5	Bulgaria	BGR	5	7,664	0,477778	0	0	10,7		8,92	
6	Burkina-Faso	BFA	2	5,704	0,144444	1	1	28,1	5,6348	4,5	6,952080
7	Cameroon	CMR	0	6,446	0,066667	1	1	24,4	5,6348	6,42	7,902490
8	Canada	CAN	7	10,105	0,666667	0	0	-0,2	2,7788	9,74	10,414420
9	Czech Republic	CZE	3	8,875	0,549444	0	0	0		9,8	8,919570
10	Egypt	EGY	1	7,237	0,3	0,1982739	0	22,6	4,2166	6,77	8,801530
11	Estonia	EST	5	8,590	0,655556	0	0				
12	France	FRA	5	10,116	0,511111	0	0	11,2	3,0042	9,74	10,274070
13	Greece	GRC	8	9,490	0,433333	0	0	16,9		7,78	9,717600
14	Honduras	HND	1	6,877	0,166667	1	0,0108	25,4	4,358	5,33	8,433060
15	Hungary	HUN	3	8,756	0,522222	0	0	9		9,01	
16	India	IND	2	6,292	0,222222	0,5121367	0,28107	25,9	3,8842	8,28	8,021490
17	Italy	ITA	9	9,977	0,472222	0	0	13,4		9,46	10,293920
18	Japan	JPN	8	10,439	0,4	0	0	14,6		9,74	9,943060
19	Kazakhstan	KAZ	4	7,484	0,533333	0	0				
20	Korea	KOR	2	9,395	0,411111	0	0	13,1		8,71	9,509210
21	Kyrgyz Republic	KGZ	3	5,829	0,455556	0	0				
22	Latvia	LVA	4	8,389	0,633333	0	0				
23	Malawi	MWI	1	5,075	0,147778	1	1	22		6,79	6,954360
24	Mali	MLI	3	5,670	0,188889	0,962525	0,62	29,3	7,9862	4	7,113350
25	Mexico	MEX	3	8,737	0,255556	0,4718198	0,00013	19	4,2627	7,51	9,637540
26	Mongolia	MNG	2	6,174	0,511111	0	0	0,3		7,76	
27	Mozambique	MOZ	3	5,347	0,201667	0,902176	1	23,6		6,49	7,232580
28	Nicaragua	NIC	2	6,607	0,144445	1	0,044	26,6	5,0956	5,16	8,401280
29	Pakistan	PAK	1	6,254	0,333333	0	0,52671	23,5	3,6107	6,06	8,423240
30	Papua New Guinea	PNG	2	6,215	0,666667	1	0,79	27		7,32	7,920900
31	Philippines	PHL	1	6,985	0,144445	1	0,617	26,5		5,46	8,405760
32	Poland	POL	4	8,572	0,577778	0	0	6,4		7,67	
33	Russia	RUS	1	7,867	0,666667	0	0				9,601360
34	Slovak Republic	SVK	5	8,505	0,537778	0	0			9	
35	Slovenia	SVN	4	9,386	0,511111	0	0				
36	South Africa	ZAF	4	7,919	0,322222	0,0377543	0	17,7	2,7408	6,96	9,090350
37	Sri Lanka	LKA	3	6,835	0,077778	1	0,2	27,6	4,2456	6,07	8,608180
38	Sweden	SWE	6	10,272	0,688889	0	0	2,4		9,52	10,235880
39	Tanzania	TZA	4	5,704	0,066667	1	1	25,09	4,9767	6,75	7,024240
40	Tunisia	TUN	4	7,714	0,377778	0	0	19,6	4,1431	6,45	8,948420
41	Turkey	TUR	2	7,937	0,433333	0	0	13,2		7,46	8,952590
42	Uganda	UGA	0	5,521	0,011111	1	1	21,57	5,6348	4,46	7,023000
43	Ukraine	UKR	0	6,877	0,544444	0	0				
44	Uruguay	URY	2	8,248	0,366667	0	0	18,4	4,2627	7,07	9,385680
45	Zambia	ZMB	1	5,940	0,166667	1	1	21,3		6,68	7,496170