

Labor Informality in Latin America and the Caribbean: Patterns and Trends from Household Survey Microdata*

Informalidad laboral en América Latina y el Caribe: patrones y tendencias a partir de microdatos de encuestas de hogares

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Abstract

This paper documents the main patterns and trends of alternative definitions of labor informality in Latin America and the Caribbean, by exploiting a large database of more than 100 household surveys

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covering the period 1989-2005. The evidence suggests that there are no signs of a consistent pattern of reduction in labor informality in the region. Regardless of the definition used, labor informality remains a pervasive characteristic of labor markets in LAC. In several countries the increase in labor informality seems to have been associated more to a sizeable increase in the propensity to set informal arrangements within groups, than to changes in the national employment structure toward more informal sectors.

Key words: informality, employment, Latin America, Caribbean, labor market.

JEL Classification: J01, J21, J31, J42, J8.

Resumen

Este artículo documenta los principales patrones y tendencias de definiciones alternativas de informalidad laboral en América Latina y el Caribe (ALC), explotando una base de datos de más de 100 encuestas de hogares en el período 1989-2005. El trabajo no encuentra evidencia empírica a favor de un patrón consistente de reducción de la informalidad laboral en la región. Independientemente de la definición usada, la informalidad continúa siendo una característica dominante de los mercados laborales en ALC. En varios países el incremento en la informalidad laboral parece estar asociado más a un importante aumento en la propensión a fijar arreglos informales en todos los sectores productivos, que a cambios en la estructura nacional de empleo hacia actividades más informales.

Palabras clave: informalidad, empleo, América Latina, Caribe, mercado laboral.

Clasificación JEL: J01, J21, J31, J42, J8.

Introduction

Academics, policy-makers and commentators have extensively argued about the size of the informal labor market, its welfare implications

and the adequate policy prescriptions. The debate, however, is often obscured by the fact that the term *informality* is ambiguous from a theoretical point of view, and difficult to implement empirically¹. Labor informality usually means different things to different people. While some researchers associate informal labor to low-productivity marginal jobs, others prefer to limit the concept to employment not complying with the legal norms in terms of labor taxes, regulations, and social protection.

This paper makes a contribution to the analysis of labor informality in Latin America and the Caribbean (LAC) by presenting evidence on the main patterns and trends of alternative definitions of informal labor. In particular, we implement a “productive” definition for which informal workers are those in low-productivity jobs in marginal small-scale and often family-based activities, and a “legalistic/social protection” definition for which informal workers are those with no access to social protection or right to certain labor benefits.

The evidence presented in this paper is based on microdata from a large set of more than 100 household surveys covering the period 1989-2005, taken from the *Socioeconomic Database for Latin America and the Caribbean* (SEDLAC), a project jointly developed by CEDLAS at the Universidad Nacional de La Plata and the World Bank’s LAC poverty group. This database allows us to provide a broad picture of the main trends and patterns of labor informality in LAC, and hence, hopefully, contributes to a better informed debate on this issue in the region.

The study of labor informality has a long tradition in the economics literature in Latin America. Most of the studies, however, are limited to a single definition of informality and restricted to one country or a small set of economies. The aggregation of this large set of studies into a survey that provides a unified body of evidence is difficult, as individual researchers construct variables from household surveys in different ways, and take different methodological decisions, many of them not reported in the papers.

¹ In this paper the term *informality* always refer to *labor informality*. There is a large literature that studies the broader issue of the informal or shadow economy. See, for instance, Schneider and Enste (2000) who measure the size of the shadow economy in 76 developing, transition, and OECD countries using various methods.

This article contributes to the study of labor informality in LAC by providing, for the whole region, an extensive set of statistics for alternative definitions of informality, constructed by applying similar definitions and methodologies across countries. The paper is mostly descriptive: it offers a broad view of labor informality in the region, without attempting to get deep into its determinants. However, by showing the results of correlations, multivariate regressions and microsimulations, the paper provides useful preliminary evidence that helps to think about labor informality, and hopefully, motivates future research.

The rest of the paper is organized as follows. Section I discusses the concept of labor informality, the alternatives to empirically estimate it, and proposes specific implementations with the information available in the national household surveys of the region. In particular, we implement a *productive* definition of labor informality associated to the type of job, and a *legalistic* definition associated to the access to social protection linked to the employment.

Section II is the core of the paper, as it presents the main patterns and trends of labor informality at the country level using alternative definitions. Most unskilled workers in LAC are informal for any of the definitions. They are self-employed or salaried workers in small firms without a signed contract in compliance with labor regulations, and without access to social protection and labor related benefits. In fact, that is also the labor condition for a sizeable share of skilled workers in the region. This situation does not seem to be the consequence only of economic stagnation. Despite a positive performance during some periods, most countries in the region have not experienced significant increases in the share of workers in the formal sector. Labor informality remains a pervasive characteristic of labor markets in LAC. The incidence of this phenomenon substantially differs across countries (*e.g.* from 70% in Bolivia and Paraguay to 40% in Chile, according to the productive definition).

In section III we look at wages and hours of work of informal workers. In particular, we provide estimates of the conditional wage gap of being informal. On average, informal (in the productive sense) male workers without a secondary education earn 30% less than their formal

counterparts. In nearly all countries salaried workers without social protection also earn substantially less than formal salaried workers. In contrast, hours of work do not differ much across groups. Entrepreneurs and large-firms employees work in general more hours than in the public sector, while hours of work are approximately the same for the rest of the groups.

Section IV takes a look at changes in informality over the business cycle to assess whether informal employment moves pro or anti-cyclically with the economy and relative wages across sectors. We find that in the recessions informality increased along with a fall in relative wages. However, the symmetric story for the economic expansions did not take place: in several LAC economies informality also increased during periods of strong GDP growth. The evidence of increasing informality both in expansions and downturns in several countries is challenging as it calls for explanations that go beyond the economic cycle.

Section V is aimed at characterizing changes in labor informality at the country level over time. A given increase in the level of labor informality in an economy could be the consequence of either a change in the structure of employment in favor of groups with high propensity to informal arrangements (*e.g.* unskilled services), or a generalized increase in the propensity to informality for all groups. We examine this issue by applying a microeconometric decomposition methodology. We find that in some South American countries the growth in informality is mainly associated to a sizeable increase in the propensity to informality in most groups, and not to a change in the employment structure. El Salvador is the only country in our sample where a fall in informality is driven entirely by a change in the employment structure.

In section VI we carry out some counterfactual simulations to characterize the differences in informality across countries. In particular, we compare the actual informality rate in a given country to the counterfactual rate that would arise if that country “imported” only the observable characteristics of some other economy. The results of the decompositions can be used to assess scenarios under which a country may reduce informality.

Section VII closes with some brief concluding comments.

I. Measuring labor informality

There are at least two different concepts that are referred by the term *labor informality*². The “productive” definition pictures informal workers as those in low-productivity, unskilled, marginal jobs, while the “legalistic” or “social protection” definition stresses the lack of labor protection and social security benefits³. It is important to make clear from the outset that the definitions do not correspond to competing views about informality, with different welfare implications and policy prescriptions. Instead, they refer to different phenomena in the labor market. The productive definition is concerned with the type of job (*e.g.* salaried vs. self-employed, large vs. small firms), while the legalistic definition is concern with the compliance of the labor relationship with some rules, mainly labor protection. We follow the tradition of using the same term *informality* to refer to these two different aspects of the labor market.

The “productive” view classifies as informal those workers in low-productivity jobs in marginal small-scale and often family-based activities. ILO (1991) defines the informal sector as economic units “with scarce or even no capital, using primitive technologies and unskilled labor, and then with low productivity”. Maloney (2004) includes in the informal sector the “small-scale, semi-legal, often low-productivity, frequently family-based, perhaps pre-capitalistic enterprises”.

Naturally, it is very difficult to empirically implement this notion, since things like “productivity” are unobservable, others like “capital endowment” are not usually reported in surveys, while others like “marginal”, “pre-capitalistic activities” or “primitive technologies” are difficult to define. In practice researchers have tried to adjust this notion of informality to the information usually contained in surveys. Hence, the empirical implementation of informality has been linked to (i) the type of job (salaried, self-employment), (ii) the type of economic unit (small, large, public sector), (iii) and the worker’s skills. Following

² See Fields (1990), Guha-Khasnobis, Kanbur and Ostrom (2006), Maloney (1999), Perry *et al.* (2007) Portes and Schaufli (1993), Pradhan and van Soest (1995), Saavedra and Chong (1999), for surveys and discussions.

³ In recent volume, Guha-Khasnobis *et al.* (2006) also link informality to the degree of structuring of the organization.

this practice we divide the working population into seven groups: (1) Entrepreneurs (*patrones*), (2) Salaried workers in large private firms, (3) Salaried workers in the public sector, (4) Salaried workers in small private firms, (5) Skilled self-employed, (6) Unskilled self-employed and (7) Zero-income workers.

To implement this classification we include as *unskilled* all individuals without a tertiary or superior education degree, and we define as *small* all firms with 5 or fewer employees⁴. Given that an individual could have more than one job, we apply the classification only to his/her main occupation. We implement the following definition of labor informality:

Definition 1 (productive definition): *An individual is considered an informal worker if (s)he belongs to any of the following categories: (i) unskilled self-employed, (ii) salaried worker in a small private firm, (iii) zero-income worker.*

Labor informality is closely related to self-employment. However, we exclude the self-employed with a tertiary degree from the group of informal workers. The group of skilled self-employed is mainly comprised by professionals and technicians usually with high productivity and fully incorporated into the modern economy. In fact, the professional self-employed is the group with the highest earnings in most countries in the region (see section III). Following a standard practice, we include salaried workers in small firms into the definition of informality. The assumption, which of course is debatable, is that most salaried workers in those firms operate using primitive technologies and with low productivity. In fact, many of these small firms are run by individuals who declare themselves being self-employed. Finally, we also add the group of zero-income workers into the informal sector. Household surveys in the region have this category to include mostly family workers, *i.e.* individuals who perform some activity in a family-based enterprise but who are not formally paid for that job.

The inclusion of *patrones* (entrepreneurs/employers) into the formal sector is debatable, since in practice some of them are just self-em-

⁴ Given differences in surveys, the cut-off point is not 5 employees in all countries. See our companion paper (Gasparini and Tornarolli, 2006) for details.

ployed in a low-productivity activity using scarce capital and some few unskilled workers. There are two practical problems regarding this group: (i) it is difficult (probably impossible) in theory to set a line separating out the entrepreneurs from just the self-employed employing some workers, and (ii) even when we attempt to do it, there are some data limitations. For instance, most surveys do not report the number of employees working for a *patrón*. We have decided to include the *patrones* into the formal sector following a usual practice, and because earnings in that group are much higher than for the self-employed in all LAC countries⁵.

This discussion confirms that the productive definition of labor informality is theoretically weak and empirically difficult to implement. However, it has lasted for decades and it is extensively used in the academic and policy debate, because it refers, although in an ambiguous way, to a relevant characteristic of the labor markets in Latin America.

Although having statistics (and hence a definition of) labor informality is sometimes useful, in many of the following sections we work with the seven categories defined above separately. For many uses the binary formal/informal definition implies too much aggregation. Also, in some cases we find useful to stress the distinction self-employed-salaried workers, instead of the formal-informal grouping discussed above. A second strand of the literature has stressed the “legalistic” or “social protection” notion of informality. Informal firms are those not complying with the norms in terms of labor contracts, labor taxes, and labor regulations, and then their workers have no rights to labor protection or social benefits linked to employment. ILO (2002) defines an informal worker as one “whose labor relationship is not subject to labor legislation and tax rules, and has no access to social protection or right to certain labor benefits”⁶.

This second notion is also difficult to implement. There are at least two severe problems. The first one arises from the fact that the number of

⁵ Gasparini and Tornarolli (2006) show that most results are robust to the change in the classification of *patrones*.

⁶ See also Merrick (1976), Portes, Blitzner and Curtis (1986) and Saavedra and Chong (1999).

dimensions to be included under labor protection and social security is large and varies across countries. Labor protection includes contracts, severance payments, advance notice, right to be unionized, workplace safety, vacations, working hours and many more. Social security includes pensions, health insurance, unemployment insurance and other insurances and benefits. Countries differ in the extent of their labor protection and social security systems. Moreover, even in a given country regulations and social security rights differ by sector, by tenure, or other work characteristics, and change over time. Therefore, it is difficult in theory to come up with a legalistic definition of a formal worker that is suitable for all countries and situations.

The second problem is practical. Even if we agree to a simple definition of an informal worker (*e.g.* signed contract and right to pensions when retired), household surveys widely differ in terms of coverage of labor protection and social security issues. Some surveys ask about contracts and some do not. The type of questions aimed at capturing the right to health insurance is very different across countries, and in some cases it is impossible to know whether health insurance is linked to employment. The coverage on severance payments and unemployment insurance is very low, while the questions on insurance for accidents in the workplace are almost inexistent. In fact many LAC countries do not have comprehensive systems of insurances on many risks (including unemployment), so the National Statistical Offices do not include questions on these issues.

The right to receive a pension when retired is the social security benefit most asked in LAC household surveys. However, not all countries have questions on this item, and in those that have, questions are different. Moreover, in most countries the questions apply only to salaried workers, leaving all the self-employed as missing. In this paper we implement the following legalistic/social-protection definition of informality:

Definition 2 (legalistic or social protection definition): A salaried worker is informal if s(he) does not have the right to a pension linked to employment when retired.

Table 1 shows the specific social-protection definition of labor informality adopted in each country with relevant information in its household survey.

Table 1. Social protection (legalistic) definition of labor formality.

Country	A worker is formal if she ..
Argentina	has the right to a pension when retired
Bolivia (since 2000)	is affiliated with a AFP (Administradora de Fondos de Pensiones)
Brazil	contributes to the Social Security system
Chile	is affiliated with any social security system
Colombia (ENH)	has the right to a pension when retired
Ecuador (ECV)	has the right to a pension when retired
El Salvador	is affiliated with any social security system (no information for domestic servants)
Guatemala	contributes to the IGSS (Instituto Guatemalteco de Seguridad Social)
Mexico (since 2000)	has the right to a pension when retired
Nicaragua	contributes to the INSS (Instituto Nicaragüense de Seguridad Social)
Paraguay	is affiliated with any social security system
Peru (since 1999)	is affiliated with any social security system
Uruguay (since 2001)	has the right to a pension when retired
Venezuela 1995-1998	has the right to social benefits or social insurance IVSS
2000-2003	has the right to social benefits

The productive and social protection definitions of informality are surely highly correlated. However, as mentioned above, we do not keep one and discard the other in this study, since we are interested in the two definitions for different conceptual reasons. The next section shows statistics on both definitions and discusses the possible overlapping.

II. Labor informality: patterns and trends

In this section we document the structure and patterns of informality under the two definitions discussed above. But first we introduce the source of information for our study.

A. The data

All the statistics in this paper are obtained by processing microdata from household surveys, and are part of the *Socioeconomic Database for Latin America and the Caribbean* (SEDLAC), jointly developed by CEDLAS at the Universidad Nacional de La Plata and the World Bank's LAC poverty group (LCSP). The SEDLAC contains information on more than 100 household surveys in 21 LAC countries. Table 2 lists the surveys used in the study. The sample covers all countries in mainland Latin America, and four of the largest countries in the Caribbean (Dominican Republic, Haiti, Jamaica and Suriname). In each period the sample represents around 93% of LAC total population. Most household surveys included in the sample are nationally representative. The three exceptions are Argentina and Uruguay, where surveys cover only urban population which nonetheless represents more than 85% of the total population in both countries, and Suriname, where the survey is restricted to the city of Paramaribo (around 50% of the population of the country).

Household surveys are not uniform across LAC countries. The issue of comparability is of a great concern. We have made all possible efforts to make statistics comparable across countries and over time by using similar definitions of variables in each country/year, and by applying consistent methods of processing the data. However, perfect comparability is far from being assured. A trade-off between accuracy and coverage arises. The particular solution adopted contains an unavoidable degree of arbitrariness. We tried to be ambitious enough to include all countries in the analysis, and accurate enough so not to push the comparisons too much. In any case, we provide the reader with relevant information to assess the trade-offs⁷.

B. Informality I (“productive” definition)

Table 3 reports information on the share of workers in each of the seven categories defined above according to the type of work. Although the employment structures are roughly similar across countries, there are some relevant differences. Several countries have around 30% of their

⁷ Information is provided throughout this paper and in the SEDLAC webpage.

Table 2. Household surveys in LAC. Characteristics.

Country	Name of survey	Acronym	Years	Coverage
Argentina	Encuesta Permanente de Hogares	EPH	1992-2003	Urban
	Encuesta Permanente de Hogares- Continua	EPH-C	2003-2004	Urban
Bolivia	Encuesta Integrada de Hogares	EIH	1993	Urban
	Encuesta Nacional de Empleo	ENE	1997	National
	Encuesta Continua de Hogares- MECOVI	ECH	2000-2002	National
Brazil	Pesquisa Nacional por Amostra de Domicilios	PNAD	1990-2003	National
Chile	Encuesta de Caracterización Socioeconó- mica Nacional	CASEN	1990-2003	National
Colombia	Encuesta Nacional de Hogares - Fuerza de Trabajo	ENH-FT	1992	Urban
	Encuesta Nacional de Hogares - Fuerza de Trabajo	ENH-FT	1996-2000	National
	Encuesta Continua de Hogares	ECH	2000-2004	National
	Encuesta de Calidad de Vida	ECV	2003	National
Costa Rica	Encuesta de Hogares de Propósitos Múltiples	EHPM	1992-2003	National
Dominican R.	Encuesta Nacional de Fuerza de Trabajo	ENFT	1996-2004	National
Ecuador	Encuesta de Condiciones de Vida	ECV	1994-1998	National
	Encuesta de Empleo, Desemple y Subempleo	ENEMDU	2003	National
El Salvador	Encuesta de Hogares de Propósitos Múltiples	EHPM	1991-2003	National
Guatemala	Encuesta Nacional sobre Condiciones de Vida	ENCOVI	2000	National
	Encuesta Nacional de Empleo e Ingresos	ENEI - 2	2002	National
Haiti	Enquête sur les Conditions de Vie en Haïti	ECVH	2001	National
Honduras	Encuesta Permanente de Hogares de Propósitos Múltiples	EHPM	1992-2003	National
Jamaica	Jamaica Survey of Living Conditions	JSLC	1990-2002	National
Mexico	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	1992-2002	National
Nicaragua	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida	EMNV	1993-2001	National
Panama	Encuesta de Hogares	EH	1995-2003	National
Paraguay	Encuesta Integrada de Hogares	EIH	1997	National
	Encuesta Permanente de Hogares	EPH	1999-2003	National
	Encuesta Integrada de Hogares	EIH	2001	National
Peru	Encuesta Nacional de Hogares	ENAHO	1997-2003	National
Suriname	Expenditure Household Survey	EHS	1999	Urban/ Paramaribo
Uruguay	Encuesta Continua de Hogares	ECH	1989-2004	Urban
Venezuela	Encuesta de Hogares Por Muestreo	EHM	1989-2003	National

Source: SEDLAC (CEDLAS and the World Bank).



Table 3. Workers by labor category.

	Formal										Informal				
	Entrepreneurs	Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	Entrepreneurs	Salaried workers		Self-employed Unskilled	Workers with zero income		
		Large firms	Public sector	Public sector											
Argentina															
EPH-15 cities															
1995	5,2	34,1	15,3	3,3	20,3	20,5	1,5	5,6	21,2	6,9	1,1	20,9	24,7	19,8	
1996	4,6	33,4	15,2	3,2	22,6	19,2	1,7	5,0	21,1	6,3	0,9	17,7	27,1	21,9	
1997	5,0	35,4	15,0	3,0	21,9	18,4	1,4	ENEMDU							
1998	4,8	35,4	15,2	3,1	22,2	18,1	1,3	4,6	19,5	8,4	1,1	21,2	30,1	15,2	
EPH-28 cities															
1998	4,7	33,5	16,0	3,0	22,3	19,2	1,4	7,5	27,7	9,9	0,2	16,6	26,5	11,8	
1999	4,6	33,2	16,1	2,9	22,4	19,3	1,5	5,4	28,0	9,3	0,6	19,2	29,3	8,3	
2000	4,8	31,6	16,5	2,9	22,9	20,1	1,3	4,6	27,4	8,5	0,5	19,6	29,9	9,4	
2001	4,5	30,5	17,3	3,1	22,6	21,0	1,0	4,6	29,7	8,2	0,5	20,3	27,6	9,1	
2003	4,3	29,8	17,2	3,9	22,0	21,6	1,3	Guatemala							
EPH-C															
2003-II	4,3	29,5	16,5	3,3	24,5	20,0	1,9	7,8	22,9	4,5	0,6	19,3	25,0	20,0	
2004-I	4,3	31,7	15,4	3,3	24,6	19,0	1,7	ENCOVI							
2004-II	4,6	31,5	15,8	3,6	24,2	18,9	1,5	5,1	21,1	3,9	0,5	15,4	30,1	24,1	
2005-I	4,3	32,4	15,5	3,8	24,4	18,5	1,2	Haiti							
Bolivia															
Urban															
1993	6,4	18,9	14,6	1,7	21,8	28,8	7,8	0,5		2,8	0,9		77,1	5,0	
1997	6,9	23,0	11,4	1,5	16,6	33,2	7,4	8,5	24,1	10,2	0,3	15,6	30,3	11,1	
2002	4,5	17,7	10,6	1,8	18,2	36,4	11,0	9,9	23,4	6,5	0,1	16,9	31,3	11,9	
								10,1	22,4	6,6	0,2	17,2	30,5	13,0	
								10,0	20,3	5,8	0,2	18,3	33,2	12,2	

Table 3. Workers by labor category (continued).

	Formal							Informal					
	Entre-preneurs	Salaried workers		Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	Entre-preneurs	Salaried workers		Self-employed professionals	Self-employed Unskilled	Workers with zero income
		Large firms	Public sector						Large firms	Public sector			
National													
1997	5,2	11,8	6,7	0,8	10,0	35,1	30,4						
2000	1,9	13,7	7,2	0,6	10,0	40,5	26,0						
2002	4,3	10,9	6,8	1,0	11,8	35,1	30,0						
Brazil								Jamaica					
1992	3,7	25,8	11,6	0,6	21,6	21,1	15,6	1996	4,8	31,5	11,6	0,5	20,1
1993	3,6	25,6	12,2	0,7	21,5	21,0	15,5	2000	4,7	33,9	11,0	0,8	20,7
1995	3,9	25,1	11,4	0,8	22,1	21,8	14,9	2002	3,9	30,0	11,2	0,8	23,9
1996	3,7	26,1	11,7	0,9	22,6	21,4	13,7	Mexico					
1997	4,0	26,0	11,3	0,9	22,4	21,8	13,6	1996	5,0	23,2	6,7	0,4	19,8
1998	4,1	26,4	11,5	0,9	21,8	22,1	13,3	2001					
1999	4,1	25,7	11,2	1,0	22,0	22,2	14,0	Nicaragua					
2001	4,2	28,1	11,2	1,1	22,8	21,2	11,4	1995					
2002	4,2	28,4	11,1	1,1	22,4	21,2	11,5	1997	3,1	33,4	18,4	0,4	15,1
2003	4,2	28,6	11,1	1,1	22,4	21,3	11,4	2001	2,9	34,1	17,7	0,0	14,0
								1997	2,5	31,5	17,0	0,4	14,3
								2002	2,9	30,2	16,1	0,6	15,8
								2003	2,9	29,9	16,2	0,9	15,4
								Paraguay					
Chile								1997	5,6	16,4	7,6	0,6	21,7
1990	2,6	43,2	10,6	1,4	18,2	22,1	1,9	1999	5,2	17,5	8,0	0,7	20,7
1994	3,4			1,6	17,6	21,4	1,4	2001	5,8	15,7	7,2	0,9	21,8
1996	3,8	46,7	10,2	1,3	17,0	19,6	1,4	2002	3,7	13,5	8,2	0,9	20,5
1998	4,2			1,8	18,0	18,9	1,5	2003	4,3	14,1	8,3	1,0	21,6
2000	4,3	44,5	12,6	1,8	16,1	19,2	1,6						
2003	4,1	45,9	11,2	1,8	15,7	19,7	1,6						

Table 3. Workers by labor category (continued).

	Formal						Informal			Formal			Informal	
	Entrepreneurs	Salaried workers		Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	Entrepreneurs	Large firms	Public sector	Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income
		Large firms	Public sector											
Colombia														
ENH-Urban														
1992	3,8	34,9	9,3	2,9	23,3	24,2	1,5	5,6	18,6	8,5	2,4	14,7	34,8	15,4
2000	4,3	32,0	6,7	3,7	21,4	30,0	1,8	5,9	16,1	7,9	2,7	16,8	35,4	15,3
ENH-National														
1996	4,5	30,3	7,5	1,5	20,2	31,3	4,8	5,1	17,0	7,9	2,5	16,1	35,2	16,4
1999	4,0	28,0	6,8	2,1	18,7	35,4	5,0	4,7	16,4	6,6	2,8	14,1	35,0	20,4
ECH-Urban														
2000	5,8	29,9	6,8	3,3	20,0	31,5	2,7	4,8	40,8	29,0	0,5	4,9	18,6	1,4
2004	4,8	26,2	8,2	3,7	17,5	35,1	4,5							
ECH-National														
2004	4,4	25,4	6,5	2,8	16,9	38,2	5,9							
Costa Rica														
1992	4,9	36,7	16,4	0,2	18,5	19,7	3,6	4,5	40,1	18,7	1,4	13,7	19,4	2,3
1997	7,5	33,5	14,4	0,3	21,5	19,7	3,1	4,6	39,2	18,9	1,8	13,9	19,5	2,2
2000	5,8	34,8	14,2	0,3	21,2	21,1	2,6	4,5	39,7	16,2	1,9	16,5	19,4	1,8
2001	8,1	34,5	14,5	0,3	19,2	20,4	3,0	3,7	38,6	17,1	1,9	17,1	20,1	1,5
2003	8,7	35,6	14,0	0,3	19,5	19,3	2,7	3,4	35,7	16,6	2,1	18,7	21,6	1,4
								3,4	33,4	17,9	2,2	18,7	22,6	1,5
								3,4	32,8	18,0	2,2	19,4	22,9	1,4
								3,5	34,3	17,7	2,2	18,3	22,5	1,6
Dominican Rep.														
ENFT 1														
1996	4,1	36,5	9,9	1,3	13,6	30,4	4,1	7,5	37,2	19,1	0,7	10,4	21,8	3,3
1997	3,6	31,3	11,2	0,9	12,8	36,2	3,9	5,6	29,9	17,5	1,7	13,8	30,0	1,5
ENFT 2														
2000	2,6	32,1	12,0	1,7	12,5	37,3	1,8	5,0	30,1	15,7	2,1	13,2	32,3	1,6
2003	3,5	30,9	12,1	1,9	11,6	38,4	1,8	5,0	28,0	14,6	1,8	13,7	34,6	2,2
2004	4,6	32,0	10,8	1,3	12,2	37,1	2,0	5,0	24,8	13,8	2,3	14,7	35,9	3,5

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Note: The division of salaried workers between large and small private firms is estimated in Colombia, Haiti, and El Salvador, 1991.

workers in large firms. That share is lower in less developed and more rural countries. Public sector employees are more than 10% of the labor force in the most developed countries of the region: Argentina, Brazil, Chile, Costa Rica, Dominican Republic, Mexico, Panama, Uruguay and Venezuela⁸. Self-employed professionals are a minority in LAC. Only in Argentina, they represent more than 3% of total employment. In contrast, the unskilled self-employed are a sizeable group in all countries. In fact, it is the largest group in Bolivia, Colombia, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, Peru and Venezuela. More rural countries have a large size of their population as zero-income workers. That is the case of Bolivia, Ecuador, Guatemala, Honduras, Jamaica, Nicaragua, Paraguay and Peru⁹.

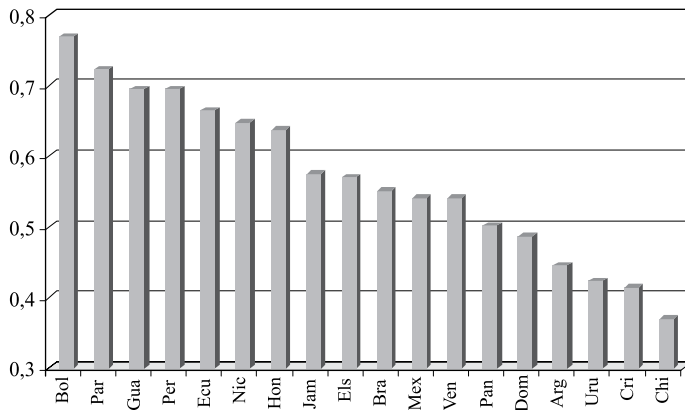
Figure 1 shows a substantial dispersion in informality rates across countries. While the share of informal workers according to the productive definition is above 70% in Bolivia and Paraguay, the corresponding share is below 40% in Chile. Labor informality seems negatively related to per capita GDP (at PPP) and positively related to the share of rural population in the survey (figure 2). However, when including both variables in a simple OLS regression, the latter becomes non-significant.

Labor informality has not changed much in the region (see figure 3 and table 4). Only Brazil and Chile have experienced drops in the share of informal workers. In the rest of the countries, informality either increased or did not significantly change. Colombia, Honduras, Panama, Paraguay, Peru, Uruguay and Venezuela seem to have experienced a sizeable increase in the share of informal workers, according to the productive definition. That has occurred mainly in correspondence with a fall in the share of workers in large firms. The share of informal workers has not changed much in Argentina, Bolivia, Costa Rica, Dominican Republic, Ecuador and El Salvador.

⁸ That happens also in the city of Paramaribo (the only city included in the household survey of Suriname).

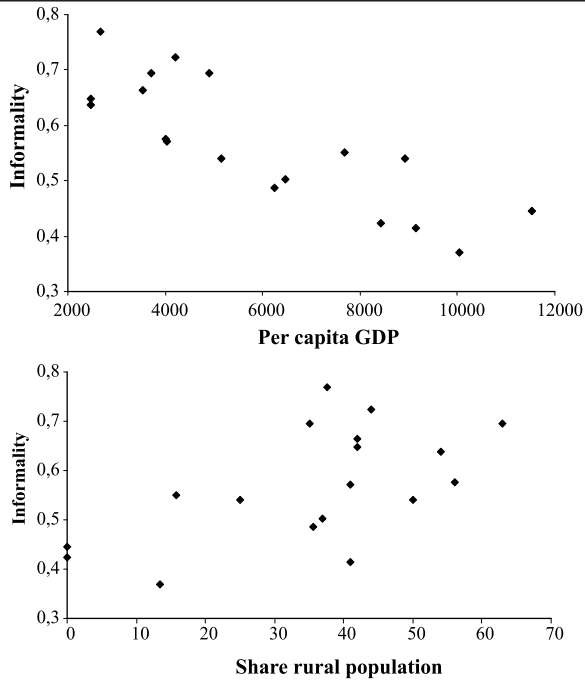
⁹ The employment structure does not dramatically change when restricting the analysis to only urban areas. The main differences are the higher share of workers in large firms and the public sector in urban areas, and the higher share of unskilled self-employed and, in particular, zero-income workers in rural areas.

Figure 1. Share of informal workers (productive definition). Last available survey.



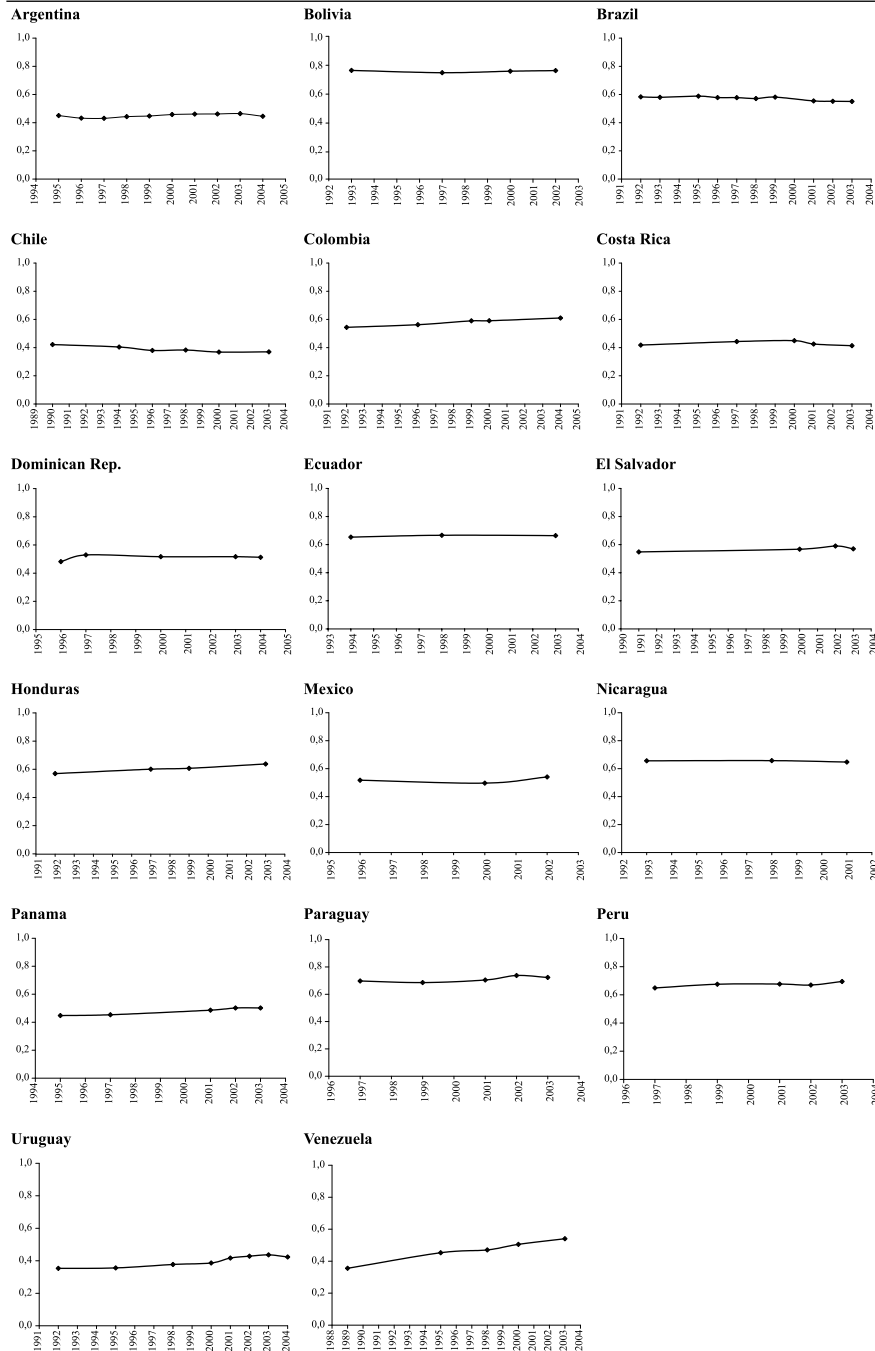
Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Figure 2. Scatterplot informality – per capita GDP and share of rural population in household survey. Last available survey.



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Figure 3. Share of informal workers (productive definition).



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Table 4. Share of informal workers (productive definition).

	Adults (25-64)												Youths (15-24)	
	Total	Age			Gender		Education			Area		Gender		
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male	
Argentina														
EPH-15 cities														
1995	0,422	0,496	0,397	0,634	0,440	0,370	0,546	0,410	0,123		0,397	0,506	0,489	
1996	0,435	0,517	0,408	0,654	0,440	0,388	0,584	0,422	0,139		0,408	0,518	0,516	
1997	0,417	0,480	0,395	0,593	0,423	0,377	0,566	0,399	0,140		0,395	0,478	0,481	
1998	0,416	0,481	0,393	0,586	0,424	0,371	0,567	0,409	0,134		0,393	0,491	0,475	
EPH-28 cities														
1998	0,428	0,504	0,402	0,613	0,432	0,383	0,571	0,420	0,141		0,402	0,523	0,492	
1999	0,432	0,510	0,405	0,643	0,438	0,383	0,587	0,424	0,143		0,405	0,499	0,518	
2000	0,442	0,515	0,419	0,650	0,439	0,405	0,592	0,450	0,154		0,419	0,512	0,517	
2001	0,446	0,542	0,420	0,626	0,431	0,413	0,606	0,449	0,162		0,420	0,563	0,528	
2003	0,448	0,581	0,419	0,580	0,408	0,427	0,634	0,467	0,155		0,419	0,572	0,587	
EPH-C														
2003-II	0,464	0,578	0,433	0,614	0,455	0,418	0,646	0,507	0,170		0,433	0,588	0,572	
2004-I	0,453	0,582	0,416	0,645	0,440	0,400	0,615	0,482	0,168		0,416	0,616	0,561	
2004-II	0,445	0,547	0,414	0,647	0,438	0,397	0,616	0,463	0,147		0,414	0,608	0,510	
2005-I	0,441	0,520	0,415	0,635	0,450	0,390	0,616	0,462	0,155		0,413	0,556	0,499	
Bolivia														
Urban														
1993	0,584	0,690	0,532	0,677	0,664	0,433	0,735	0,560	0,158		0,532	0,814	0,579	
1997	0,572	0,642	0,535	0,705	0,658	0,442	0,766	0,578	0,183		0,535	0,772	0,539	
2002	0,655	0,712	0,613	0,797	0,715	0,529	0,797	0,643	0,209		0,613	0,807	0,631	
National														
1997	0,755	0,798	0,693	0,876	0,800	0,611	0,858	0,594	0,177	0,875	0,563	0,878	0,734	
2000	0,765	0,792	0,715	0,944	0,787	0,658	0,895	0,632	0,196	0,923	0,592	0,838	0,756	
2002	0,769	0,816	0,708	0,883	0,796	0,638	0,848	0,660	0,208	0,863	0,613	0,871	0,775	
Brazil														
1992	0,583	0,615	0,531	0,834	0,590	0,492	0,646	0,275	0,049	0,861	0,435	0,640	0,599	
1993	0,580	0,611	0,530	0,834	0,589	0,490	0,646	0,286	0,053	0,844	0,440	0,633	0,597	
1995	0,588	0,617	0,542	0,831	0,598	0,504	0,665	0,302	0,056	0,857	0,455	0,643	0,601	
1996	0,577	0,604	0,537	0,833	0,577	0,510	0,662	0,317	0,061	0,842	0,456	0,617	0,597	
1997	0,578	0,603	0,539	0,827	0,586	0,507	0,669	0,319	0,066	0,848	0,456	0,626	0,589	
1998	0,571	0,595	0,532	0,824	0,571	0,506	0,666	0,326	0,064	0,827	0,454	0,603	0,590	
1999	0,581	0,610	0,542	0,825	0,582	0,513	0,679	0,333	0,067	0,831	0,464	0,627	0,600	
2001	0,554	0,567	0,525	0,807	0,566	0,495	0,675	0,330	0,066	0,858	0,458	0,574	0,562	
2002	0,552	0,570	0,521	0,818	0,560	0,492	0,678	0,332	0,066	0,862	0,454	0,578	0,565	
2003	0,550	0,566	0,522	0,807	0,561	0,493	0,684	0,345	0,064	0,859	0,456	0,571	0,563	
Chile														
1990	0,422	0,423	0,413	0,658	0,471	0,385	0,583	0,383	0,106	0,569	0,383	0,471	0,398	
1994	0,404	0,372	0,400	0,658	0,465	0,367	0,572	0,379	0,093	0,568	0,373	0,413	0,349	
1996	0,380	0,343	0,376	0,606	0,438	0,344	0,557	0,365	0,084	0,545	0,350	0,386	0,320	
1998	0,383	0,341	0,380	0,611	0,449	0,342	0,578	0,375	0,101	0,584	0,352	0,358	0,331	
2000	0,369	0,337	0,362	0,602	0,434	0,321	0,554	0,374	0,084	0,550	0,337	0,385	0,308	
2003	0,370	0,329	0,364	0,634	0,429	0,324	0,571	0,381	0,088	0,540	0,341	0,367	0,305	

**Labor Informality in Latin America and the Caribbean:
Patterns and Trends from Household Survey Microdata**
Leonardo Gasparini and Leopoldo Tornarolli

Table 4. Share of informal workers (productive definition) (continued).

	Adults (25-64)												Youths (15-24)	
	Total	Age			Gender		Education			Area		Gender		
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male	
Colombia														
ENH-Urban														
1992	0,490	0,527	0,476	0,718	0,503	0,472	0,678	0,519	0,189		0,476	0,458	0,497	
2000	0,532	0,565	0,517	0,740	0,532	0,523	0,739	0,586	0,224		0,517	0,505	0,538	
ENH-National														
1996	0,562	0,578	0,545	0,762	0,564	0,544	0,719	0,541	0,182	0,638	0,503	0,497	0,557	
1999	0,590	0,614	0,571	0,777	0,588	0,571	0,747	0,595	0,182	0,661	0,531	0,539	0,597	
2000	0,591	0,617	0,568	0,778	0,593	0,561	0,731	0,598	0,205	0,635	0,537	0,550	0,603	
ECH-Urban														
2000	0,542	0,584	0,524	0,732	0,554	0,514	0,735	0,584	0,221		0,524	0,526	0,556	
2004	0,571	0,616	0,548	0,774	0,584	0,532	0,777	0,626	0,185		0,548	0,565	0,589	
ECH-National														
2004	0,610	0,642	0,584	0,789	0,623	0,567	0,779	0,629	0,184	0,714	0,548	0,609	0,604	
Costa Rica														
1992	0,418	0,402	0,405	0,773	0,429	0,396	0,509	0,317	0,113	0,487	0,318	0,383	0,411	
1997	0,443	0,445	0,421	0,718	0,454	0,405	0,543	0,317	0,120	0,500	0,334	0,444	0,445	
2000	0,449	0,449	0,435	0,715	0,468	0,419	0,547	0,350	0,135	0,511	0,363	0,458	0,444	
2001	0,426	0,439	0,404	0,721	0,457	0,374	0,534	0,340	0,107	0,503	0,348	0,453	0,431	
2003	0,414	0,448	0,390	0,697	0,457	0,352	0,523	0,333	0,118	0,475	0,341	0,458	0,443	
Dominican Rep.														
ENFT 1														
1996	0,482	0,465	0,471	0,671	0,441	0,482	0,616	0,403	0,119	0,533	0,419	0,424	0,482	
1997	0,529	0,506	0,518	0,750	0,503	0,524	0,635	0,409	0,157	0,612	0,457	0,419	0,544	
ENFT 2														
2000	0,517	0,476	0,509	0,771	0,466	0,532	0,667	0,440	0,091	0,682	0,428	0,381	0,522	
2003	0,517	0,501	0,505	0,736	0,470	0,523	0,662	0,472	0,101	0,646	0,433	0,387	0,554	
2004	0,512	0,511	0,491	0,774	0,460	0,508	0,657	0,424	0,113	0,626	0,424	0,457	0,534	
Ecuador														
ECV														
1994	0,653	0,677	0,595	0,843	0,711	0,521	0,731	0,501	0,157	0,739	0,485	0,738	0,640	
1998	0,667	0,697	0,601	0,874	0,704	0,528	0,760	0,514	0,168	0,790	0,473	0,768	0,654	
ENEMDU														
2003	0,664	0,680	0,619	0,822	0,689	0,575	0,759	0,576	0,190	0,748	0,520	0,747	0,642	
El Salvador														
1991	0,548	0,581	0,497	0,666	0,602	0,436	0,592	0,335	0,096	0,566	0,447	0,562	0,588	
2000	0,567	0,580	0,532	0,767	0,616	0,468	0,704	0,370	0,089	0,682	0,462	0,589	0,575	
2002	0,590	0,614	0,552	0,802	0,623	0,495	0,741	0,397	0,108	0,710	0,476	0,611	0,616	
2003	0,570	0,587	0,534	0,805	0,615	0,470	0,718	0,401	0,081	0,685	0,464	0,597	0,580	
Guatemala														
ENCOVI														
2000	0,643	0,636	0,584	0,742	0,697	0,518	0,669	0,341	0,070	0,673	0,479	0,669	0,617	
ENEI														
2002	0,695	0,698	0,625	0,835	0,740	0,558	0,721	0,338	0,120	0,735	0,484	0,722	0,685	

Table 4. Share of informal workers (productive definition) (continued).

	Age			Adults (25-64)		Education			Area		Youths (15-24)		
	Total	(15-24)	(25-64)	(65+)	Gender		Low	Medium	High	Rural	Urban	Gender	
					Female	Male						Female	Male
Haiti													
2001	0,889	0,885	0,878	0,981	0,909	0,852	0,964	0,809	0,348	0,950	0,771	0,876	0,890
Honduras													
1992	0,570	0,609	0,519	0,728	0,580	0,488	0,631	0,185	0,052	0,636	0,391	0,563	0,628
1997	0,601	0,627	0,553	0,723	0,620	0,514	0,650	0,297	0,072	0,676	0,436	0,568	0,654
1999	0,607	0,645	0,549	0,728	0,613	0,507	0,653	0,267	0,073	0,665	0,438	0,591	0,671
2003	0,638	0,688	0,584	0,734	0,645	0,548	0,690	0,325	0,056	0,722	0,459	0,616	0,718
Jamaica													
1996	0,541	0,408	0,547	0,780	0,567	0,532	0,695	0,555	0,019	0,687	0,415	0,361	0,431
1999	0,562	0,505	0,548	0,826	0,527	0,565	0,673	0,573	0,080	0,666	0,442	0,393	0,569
2002	0,575	0,465	0,572	0,813	0,558	0,584	0,738	0,606	0,050	0,700	0,425	0,407	0,496
Mexico													
1996	0,517	0,525	0,487	0,767	0,572	0,440	0,651	0,343	0,121	0,693	0,424	0,536	0,520
2000	0,496	0,488	0,471	0,788	0,533	0,437	0,654	0,385	0,084	0,718	0,405	0,476	0,495
2002	0,541	0,556	0,512	0,759	0,582	0,469	0,689	0,424	0,148	0,731	0,453	0,567	0,550
Nicaragua													
1993	0,656	0,650	0,621	0,860	0,629	0,616	0,716	0,413	0,154	0,757	0,537	0,589	0,669
1998	0,657	0,664	0,614	0,828	0,678	0,575	0,711	0,434	0,153	0,708	0,552	0,700	0,651
2001	0,647	0,658	0,595	0,835	0,673	0,545	0,691	0,428	0,132	0,705	0,533	0,653	0,660
Panama													
1995	0,448	0,543	0,398	0,804	0,359	0,418	0,623	0,316	0,077	0,622	0,279	0,546	0,541
1997	0,453	0,526	0,412	0,812	0,373	0,432	0,633	0,337	0,120	0,632	0,300	0,521	0,529
2001	0,486	0,597	0,439	0,833	0,395	0,463	0,669	0,363	0,102	0,697	0,314	0,566	0,610
2002	0,502	0,603	0,458	0,840	0,426	0,475	0,687	0,400	0,107	0,697	0,340	0,601	0,604
2003	0,502	0,612	0,456	0,827	0,436	0,468	0,692	0,398	0,124	0,694	0,341	0,600	0,617
Paraguay													
1997	0,697	0,743	0,652	0,859	0,706	0,621	0,798	0,471	0,121	0,849	0,519	0,783	0,721
1999	0,686	0,734	0,642	0,858	0,727	0,591	0,798	0,444	0,107	0,830	0,506	0,772	0,714
2001	0,704	0,754	0,660	0,807	0,734	0,610	0,817	0,496	0,108	0,844	0,522	0,788	0,736
2002	0,737	0,799	0,684	0,872	0,743	0,648	0,827	0,531	0,105	0,854	0,561	0,810	0,793
2003	0,723	0,776	0,680	0,837	0,736	0,643	0,837	0,587	0,136	0,839	0,566	0,822	0,751
Peru													
ENAH0 1													
1997	0,649	0,721	0,606	0,797	0,718	0,519	0,836	0,567	0,114	0,821	0,503	0,764	0,688
1999	0,675	0,752	0,627	0,846	0,736	0,539	0,841	0,609	0,140	0,816	0,531	0,802	0,712
ENAH0 2													
2001	0,676	0,736	0,640	0,812	0,738	0,563	0,834	0,636	0,141	0,824	0,544	0,798	0,689
2002	0,670	0,743	0,628	0,824	0,726	0,552	0,838	0,626	0,150	0,826	0,524	0,786	0,710
2003	0,695	0,772	0,650	0,854	0,740	0,576	0,842	0,654	0,149	0,845	0,544	0,829	0,729
Suriname													
1999	0,250	0,290	0,238	0,667	0,267	0,214	0,412	0,274	0,173		0,238	0,276	0,300
Uruguay													
1992	0,353	0,352	0,341	0,567	0,437	0,271	0,452	0,305	0,124		0,341	0,446	0,292
1995	0,356	0,353	0,343	0,593	0,420	0,287	0,461	0,321	0,105		0,343	0,428	0,303
1998	0,377	0,389	0,362	0,628	0,419	0,319	0,502	0,345	0,113		0,362	0,428	0,364

Table 4. Share of informal workers (productive definition) (continued).

	Adults (25-64)											Youths (15-24)	
	Total	Age			Gender		Education			Area		Gender	
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male
2000	0,387	0,415	0,371	0,585	0,418	0,336	0,513	0,356	0,110		0,371	0,445	0,395
2001	0,417	0,458	0,396	0,676	0,439	0,361	0,552	0,378	0,130		0,396	0,482	0,444
2002	0,428	0,488	0,409	0,632	0,441	0,384	0,573	0,402	0,129		0,409	0,491	0,486
2003	0,436	0,504	0,416	0,652	0,450	0,389	0,588	0,407	0,129		0,416	0,506	0,503
2004	0,424	0,485	0,402	0,638	0,440	0,372	0,565	0,408	0,132		0,402	0,493	0,480
Venezuela													
1989	0,356	0,406	0,324	0,638	0,318	0,326	0,431	0,217	0,066		0,230	0,404	0,407
1995	0,453	0,509	0,423	0,722	0,396	0,436	0,562	0,342	0,081		0,317	0,452	0,530
1998	0,471	0,531	0,439	0,724	0,457	0,429	0,587	0,388	0,084		0,334	0,508	0,542
2000	0,505	0,578	0,473	0,705	0,484	0,467	0,619	0,439	0,105		0,350	0,566	0,583
2003	0,540	0,630	0,500	0,754	0,521	0,486	0,660	0,486	0,097		0,384	0,634	0,627

Informality

Share of adults in informal jobs

Definition 1: Informal = salaried workers in small firms, non-professional self-employed and zero-income workers

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Note: The division of salaried workers between large and small private firms is estimated in Colombia, El Salvador, 1991, and Haiti.

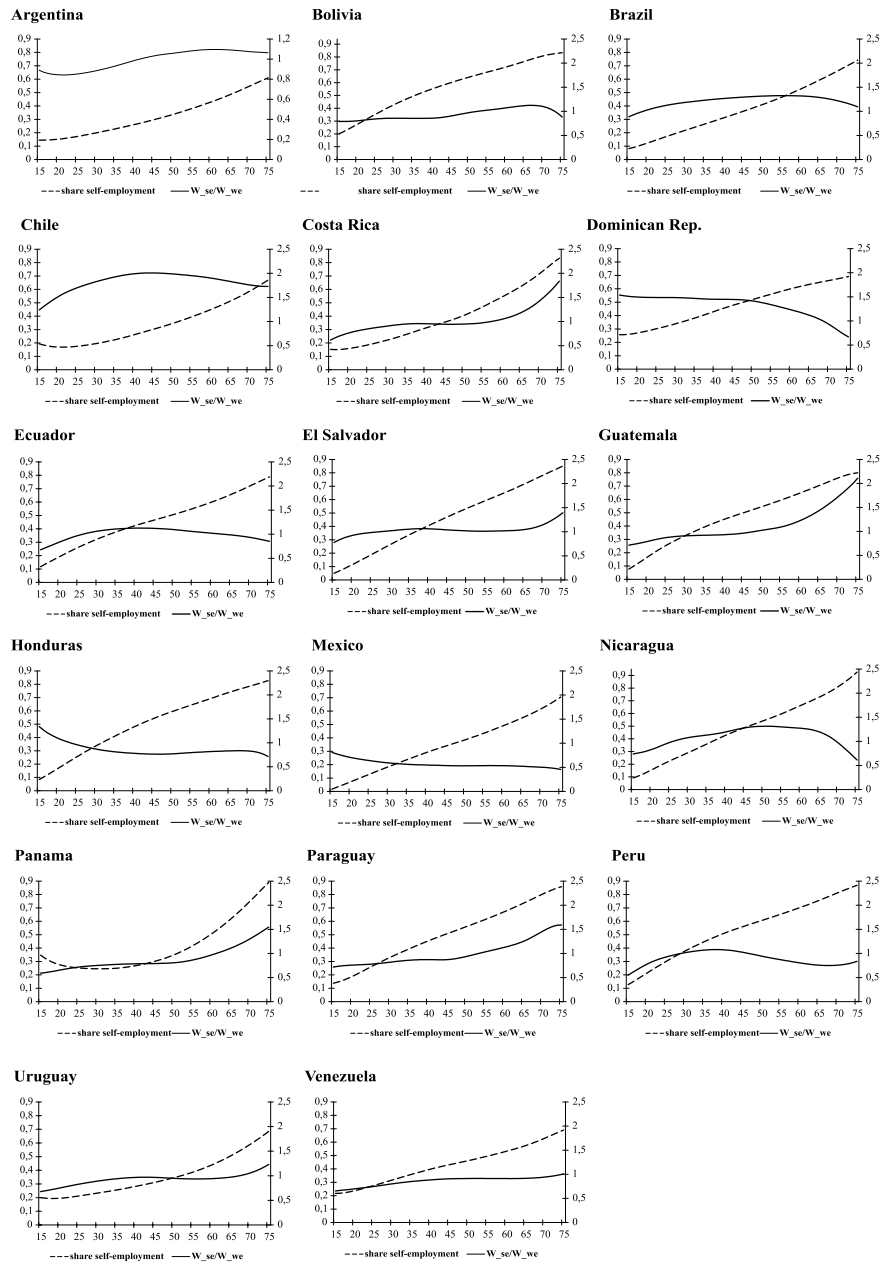
The conclusions are similar when restricting the analysis to urban areas. In fact, in most countries the performance of the rural areas in terms of labor informality changes was not worse than that of urban areas, while in some countries rural areas did better (e.g. Brazil, Costa Rica, Nicaragua and Paraguay).

The probability of being informal is decreasing in the worker's education (table 4). Instead, the profile for age has a U shape.

Figure 4 shows relative employment and wages of the self-employed compared to the wage earners for the sample of those workers without a tertiary degree living in urban areas. The figures may be consistent with the idea of voluntary self-employment (Maloney, 2004). Unskilled young people enter the labor market as wage earners, accumulate knowledge, capital and contacts, and then set up their own informal businesses.

Informality differs by sector of activity. In table 5 we divide the working population of each country into 10 sectors and record the

Figure 4. Share of self-employed in employment by age. Wage ratio self-employed/wage earners by age. Sample of unskilled workers from urban areas.



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

share of informal workers¹⁰. Workers in primary activities are mostly informal (either unskilled self-employed, salaried workers in small farms, or family workers). On average, about half of the workers in the food and cloth industries in LAC are informal, most of them being self-employed. Informality is lower in the rest of the manufacturing industry: on average (LAC unweighted) around 40% of workers are either self-employed or wage earners in small firms (only a small fraction declare themselves being family workers). Construction workers are mainly informal: around 60% are either self-employed or salaried workers in small establishments (in roughly the same proportion). Informality is even higher in the commerce sector (on average 65%). Differences across countries are considerable: while 56% of Bolivian workers in the commerce sector are unskilled self-employed, 50% of Panama's workers in that sector are employed by large firms. Informality is substantially lower in the skilled-services sectors (banking, business services, professionals). On average, informality is around 25%. Most workers in that sector are employees of large firms. In theory all public administration employees should be registered as public sector salaried workers, and hence be classified as formal. This occurs for the vast majority of workers, but there are exceptions that could be due to measurement errors, or situations where people work for the public administration through small private firms (*e.g.* consulting jobs). In any case the registered informality rate in the public administration is around 1%. On average, around 30% of workers in the education and health sector are informal, being most of them unskilled-self employed. The relative low level of informality in the sector is mainly driven by the large share of the public sector in the provision of education and health. Finally, almost all domestic servants are informal. In most countries they are classified as salaried workers in small "firms" (houses).

Informal workers are poorer than formal workers. This means that household income adjusted for demographic is lower for informal workers, not that they earn less than formal workers controlling for observable characteristics (next section has data on this). Table 6 provides details about the position of formal and informal workers (and of each of the labor categories) in the household income distribution

¹⁰ To save space we show results for only seven countries. See Gasparini and Tornarolli (2006) for the complete analysis for all 21 countries.

Table 5. Informality by sector.

	Share informal workers	Labor category							Total
		Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	
		Entrepreneurs	Large firms	Public sector					
Argentina, 2004									
Food and clothes	46,4	5,0	45,5	0,8	2,3	18,1	25,4	2,9	100,0
Rest of industry	25,0	5,9	65,3	2,6	1,3	11,0	13,1	0,9	100,0
Construction	72,6	4,6	19,2	2,8	0,9	30,9	41,5	0,2	100,0
Commerce	62,0	7,3	28,1	0,4	2,2	25,8	32,0	4,1	100,0
Utilities & transportation	38,6	3,9	53,6	3,1	0,8	23,4	14,9	0,3	100,0
Skilled services	29,6	7,4	41,9	5,9	15,3	16,2	12,5	0,9	100,0
Public administration	0,5	0,0	4,7	94,8	0,0	0,5	0,0	0,0	100,0
Education and Health	20,1	2,9	32,6	38,3	6,1	10,4	9,4	0,3	100,0
Domestic servants	99,9	0,0	0,0	0,1	0,0	94,1	5,8	0,0	100,0
Total	44,6	4,6	31,5	15,7	3,5	24,2	18,9	1,5	100,0
Bolivia, 2002									
Primary activities	91,3	4,9	3,4	0,2	0,2	4,0	32,6	54,6	100,0
Industry	68,4	5,0	24,9	1,0	0,7	14,6	40,5	13,3	100,0
Construction	60,4	4,4	25,7	9,2	0,3	24,9	34,2	1,4	100,0
Commerce	85,6	3,9	8,7	0,6	1,3	10,1	55,7	19,8	100,0
Utilities & transportation	66,1	5,0	24,9	3,5	0,6	26,4	38,0	1,8	100,0
Skilled services	35,3	9,1	39,0	2,8	13,8	18,9	14,8	1,6	100,0
Public administration	3,0	0,0	2,8	91,0	3,2	2,5	0,5	0,0	100,0
Education and Health	27,8	2,5	19,1	48,3	2,3	7,8	18,0	2,1	100,0
Domestic servants	97,1	0,0	1,9	1,0	0,0	88,6	6,8	1,6	100,0
Total	77,0	4,4	10,9	6,8	1,0	11,8	35,1	30,1	100,0
Brazil, 2003									
Primary activities	95,3	2,9	1,5	0,2	0,1	26,8	25,6	42,9	100,0
Food and clothes	38,7	3,9	56,4	0,4	0,6	8,1	26,9	3,7	100,0
Rest of industry	21,7	5,2	72,0	0,7	0,3	9,0	10,9	1,9	100,0
Construction	68,3	4,2	26,1	1,1	0,3	19,9	45,2	3,2	100,0
Commerce	55,2	8,2	35,5	0,3	0,9	18,3	30,2	6,7	100,0
Utilities & transportation	39,3	3,0	49,3	8,0	0,5	10,6	27,8	0,9	100,0
Skilled services	26,4	6,0	53,9	6,5	7,2	16,0	9,4	0,9	100,0
Public administration	0,5	0,0	1,9	97,6	0,0	0,3	0,0	0,2	100,0
Education and Health	23,4	3,0	30,7	40,5	2,4	8,3	13,4	1,7	100,0
Domestic servants	99,9	0,0	0,0	0,1	0,0	99,9	0,0	0,0	100,0
Total	55,0	4,2	28,6	11,1	1,1	22,4	21,1	11,4	100,0

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Table 5. Informality by sector (continued).

	Share informal workers	Labor category							Total
		Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	
		Entrepreneurs	Large firms	Public sector					
Chile, 2003									
Primary activities	40,2	3,3	52,3	3,6	0,7	12,8	25,0	2,4	100,0
Food and clothes	32,0	3,8	62,7	0,2	1,3	7,9	22,7	1,4	100,0
Rest of industry	25,8	5,4	65,2	2,4	1,2	9,1	16,1	0,6	100,0
Construction	36,1	4,9	55,3	1,9	1,7	8,4	27,4	0,4	100,0
Commerce	47,7	6,0	44,0	0,4	1,9	12,0	31,1	4,6	100,0
Utilities & transportation	34,7	4,2	55,5	4,3	1,4	11,6	22,9	0,3	100,0
Skilled services	17,7	7,4	64,3	3,9	6,7	11,3	6,2	0,2	100,0
Public administration	0,1	0,0	1,2	98,7	0,0	0,1	0,0	0,0	100,0
Education and Health	13,4	2,6	43,1	38,4	2,6	6,2	7,0	0,2	100,0
Domestic servants	97,9	0,0	1,5	0,0	0,6	85,4	12,3	0,2	100,0
Total	37,0	4,1	45,9	11,2	1,8	15,8	19,6	1,6	100,0
Mexico, 2002									
Primary activities	80,8	4,8	13,1	1,2	0,1	24,8	37,7	18,3	100,0
Food and clothes	39,2	3,4	55,9	1,3	0,2	15,9	17,7	5,7	100,0
Rest of industry	22,1	1,0	76,4	0,1	0,3	8,2	11,4	2,6	100,0
Construction	56,8	4,7	36,3	2,2	0,0	43,6	12,3	0,9	100,0
Commerce	67,5	4,6	26,6	0,5	0,8	21,6	32,3	13,5	100,0
Utilities & transportation	45,5	6,1	39,7	8,5	0,2	28,1	17,0	0,4	100,0
Public administration	0,6	0,0	1,6	97,8	0,0	0,3	0,0	0,3	100,0
Education and Health	7,4	1,9	18,6	70,4	1,7	4,0	1,8	1,7	100,0
Total	54,1	3,9	30,0	11,2	0,8	23,9	22,1	8,1	100,0
Nicaragua, 2001									
Primary activities	76,9	7,0	15,9	0,1	0,1	17,5	26,8	32,7	100,0
Food and clothes	40,2	3,1	55,1	1,4	0,3	6,1	25,2	8,8	100,0
Rest of industry	47,0	13,6	37,9	1,5	0,0	22,5	18,1	6,4	100,0
Construction	46,6	7,8	42,3	3,4	0,0	28,6	15,9	2,1	100,0
Commerce	79,4	4,2	15,6	0,2	0,7	14,4	44,9	20,1	100,0
Utilities & transportation	53,6	4,2	28,9	13,1	0,2	27,6	23,7	2,3	100,0
Skilled services	30,8	6,5	48,6	8,4	5,6	16,4	11,8	2,7	100,0
Public administration	0,0	0,0	0,5	99,6	0,0	0,0	0,0	0,0	100,0
Education and Health	37,0	1,2	33,4	28,0	0,4	8,2	27,0	1,8	100,0
Domestic servants	96,1	0,0	3,9	0,0	0,0	93,0	2,4	0,8	100,0
Total	64,8	5,0	23,0	6,8	0,4	19,8	27,5	17,6	100,0

Table 5. Informality by sector (continued).

	Share informal workers	Labor category							Total
		Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	
		Entrepreneurs	Large firms	Public sector					
Panama, 2003									
Primary activities	82,3	3,2	14,1	0,1	0,2	13,8	49,3	19,2	100,0
Food and clothes	43,0	1,6	55,3	0,0	0,2	5,4	35,9	1,7	100,0
Rest of industry	45,8	4,9	48,0	0,1	1,1	14,6	29,3	2,0	100,0
Construction	50,7	2,5	41,5	4,2	1,2	17,1	33,4	0,2	100,0
Commerce	43,3	5,7	50,2	0,0	0,8	13,2	26,8	3,4	100,0
Utilities & transportation	48,3	1,5	30,8	18,5	1,0	6,4	41,5	0,3	100,0
Skilled services	21,4	3,9	58,3	10,4	6,1	11,5	9,6	0,4	100,0
Public administration	0,0	0,0	0,0	100,0	0,0	0,0	0,0	0,0	100,0
Education and Health	29,2	1,1	19,8	49,1	0,8	4,9	23,8	0,5	100,0
Domestic servants	99,8	0,0	0,2	0,0	0,0	99,9	0,0	0,0	100,0
Total	49,7	2,9	30,2	16,3	0,9	15,4	29,2	5,2	100,0

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Table 6. Informality by income quintile and poverty status.

	Distribution of workers		Labor category							Total
	Formal	Informal	Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	
			Entrepreneurs	Large firms	Public sector					
Argentina, 2005										
Quintile 1	5,2	25,3	6,1	6,3	3,3	3,0	19,5	21,7	30,0	12,1
Quintile 2	11,2	24,0	8,9	12,6	10,4	4,1	22,3	22,8	25,6	16,3
Quintile 3	18,0	20,1	10,9	20,0	17,2	8,9	22,1	20,8	13,3	19,5
Quintile 4	25,6	17,9	19,7	25,9	27,5	18,4	21,6	18,7	20,5	23,3
Quintile 5	40,0	12,7	54,4	35,3	41,7	65,6	14,6	16,1	10,6	28,9
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	3,1	16,6	4,6	3,6	1,8	2,1	12,7	13,4	22,5	7,6
Non-poor	96,9	83,4	95,4	96,4	98,2	97,9	87,4	86,7	77,5	92,4
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Bolivia, 2002										
Quintile 1	4,7	30,0	18,8	1,4	1,6	2,6	2,5	22,2	49,4	23,9
Quintile 2	8,4	21,2	14,9	7,7	6,3	4,6	16,6	21,3	22,7	18,1
Quintile 3	17,1	17,8	12,9	20,8	15,7	2,8	24,5	20,0	12,6	17,6
Quintile 4	26,4	17,2	14,2	33,3	25,2	10,5	31,9	20,2	8,2	19,4
Quintile 5	43,4	13,9	39,2	36,8	51,3	79,5	24,4	16,3	7,1	21,0
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	15,2	51,8	34,6	12,4	8,7	7,2	20,8	45,0	72,8	43,1
Non-poor	84,8	48,2	65,4	87,6	91,3	92,8	79,2	55,0	27,2	56,9
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

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Table 6. Informality by income quintile and poverty status
(continued).

	Distribution of workers		Labor category							Total
	Formal	Informal	Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	
			Entrepreneurs	Large firms	Public sector					
Brazil, 2003										
Quintile 1	3,5	20,3	1,2	4,0	3,5	0,6	17,1	17,0	32,6	12,7
Quintile 2	11,2	22,5	4,0	13,2	9,8	1,0	25,0	19,2	23,9	17,4
Quintile 3	18,0	22,6	7,5	21,2	15,2	2,3	26,6	20,9	17,8	20,5
Quintile 4	27,8	21,3	17,5	30,9	25,7	7,9	21,7	23,8	15,7	24,2
Quintile 5	39,5	13,4	69,8	30,7	45,9	88,3	9,7	19,2	10,1	25,2
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	3,7	19,8	1,3	4,3	3,4	0,6	16,7	16,7	31,7	12,6
Non-poor	96,3	80,2	98,8	95,7	96,6	99,4	83,3	83,3	68,3	87,5
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Chile, 2003										
Quintile 1	8,9	13,8	0,6	10,8	5,2	0,3	19,2	9,9	10,9	10,6
Quintile 2	15,2	19,3	2,2	18,4	8,7	2,9	23,7	16,1	18,2	16,7
Quintile 3	19,8	22,3	5,3	22,1	18,0	5,2	24,8	20,8	16,8	20,7
Quintile 4	23,8	25,1	12,9	24,2	27,4	15,4	21,3	27,8	28,1	24,2
Quintile 5	32,4	19,5	79,0	24,5	40,7	76,2	11,0	25,5	26,0	27,8
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	1,1	2,7	0,1	1,4	0,7	0,0	3,2	2,1	3,3	1,7
Non-poor	98,9	97,3	100,0	98,6	99,3	100,0	96,8	97,9	96,7	98,3
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Mexico, 2002										
Quintile 1	5,6	25,0	34,2	2,7	1,9	29,8	13,0	32,1	41,9	16,0
Quintile 2	11,0	23,1	9,8	13,0	6,2	6,4	24,9	21,6	21,7	17,5
Quintile 3	17,9	20,0	10,6	21,5	11,5	9,2	23,2	18,3	14,9	19,0
Quintile 4	26,5	19,2	15,4	28,5	26,1	11,1	23,5	16,8	12,4	22,6
Quintile 5	39,0	12,7	30,1	34,3	54,3	43,5	15,4	11,2	9,1	24,9
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	9,0	33,8	38,2	6,8	3,4	32,2	22,4	40,4	50,9	22,4
Non-poor	91,0	66,2	61,8	93,3	96,6	67,9	77,6	59,6	49,1	77,6
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Nicaragua, 2001										
Quintile 1	5,0	19,2	6,2	5,7	2,2	0,0	12,1	18,3	28,4	14,2
Quintile 2	12,5	20,1	11,6	13,6	9,9	0,0	22,8	17,2	21,7	17,4
Quintile 3	19,3	20,8	15,7	21,4	15,8	2,5	22,2	19,8	20,8	20,3
Quintile 4	26,2	20,3	18,2	27,8	27,5	14,5	24,7	20,7	14,6	22,4
Quintile 5	37,1	19,7	48,4	31,6	44,6	83,0	18,3	23,9	14,5	25,8
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	24,0	46,9	22,1	26,4	18,3	2,5	41,5	42,4	59,9	38,8
Non-poor	76,0	53,1	77,9	73,6	81,7	97,5	58,5	57,6	40,1	61,2
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Table 6. Informality by income quintile and poverty status.
(continued).

	Distribution of workers		Labor category							Total
			Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled	Workers with zero income	
	Formal	Informal	Entrepreneurs	Large firms	Public sector					
Panama, 2003										
Quintile 1	1,9	27,8	3,1	2,4	0,8	2,4	13,1	29,2	60,1	14,7
Quintile 2	9,6	22,0	8,2	12,4	5,1	4,5	25,3	21,4	16,9	15,8
Quintile 3	17,6	20,8	15,5	21,2	11,9	7,4	25,9	20,1	11,0	19,2
Quintile 4	28,7	17,7	20,8	30,5	27,4	14,9	23,9	16,9	5,5	23,2
Quintile 5	42,2	11,7	52,4	33,5	54,8	70,8	11,8	12,5	6,6	27,1
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	1,3	21,9	1,2	1,6	0,6	1,4	8,4	23,4	53,8	11,6
Non-poor	98,7	78,1	98,8	98,4	99,4	98,6	91,6	76,6	46,2	88,4
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

of each country. On average, while 5% of formal workers belong to the poorest quintile of the household per capita income distribution, that share climbs to 22% for informal workers. In the other extreme, whereas more than 40% of formal workers are in the top quintile of the household income distribution, 15% of informal workers manage to get there.

The last panel for each country in table 6 divides the formal and informal working population into poor and non poor according to the international standard of USD 2 a day per person (at PPP). A worker is poor if her household per capita income is lower than USD 2 a day. In Argentina 2005, while 3.1% of formal workers are poor according to that measure, the proportion of the informal workers that are poor climbs to 16.6%. In all countries the difference in the poverty headcount ratio between informal and formal workers is sizeable (around 4 times on average).

Although most entrepreneurs are not poor, in some countries a non-negligible proportion of *patrones* is located in the low-income quintiles. Several measurement errors may cause this allocation. Surveys record current, not permanent income. Specifically, they report incomes in the month previous to the survey. Entrepreneurs' incomes are usually volatile, and hence some of them may report low earnings in a given

month¹¹. The second measurement error was already mentioned. Some *patrones* may be just self-employed workers with low-productivity and hence low earnings.

In Brazil while 30.7% of workers in large firms belong to the top quintile of the household income distribution, that proportion rises to 45.9% for the public sector employees and to 88.3% for the skilled self-employed. That pattern is valid for nearly all LAC countries, although with different intensities. A relatively robust ranking also holds for the three informal categories: the poverty headcount ratio for the zero-income workers is higher than for the self-employed, which in turn is higher than for salaried workers in small firms.

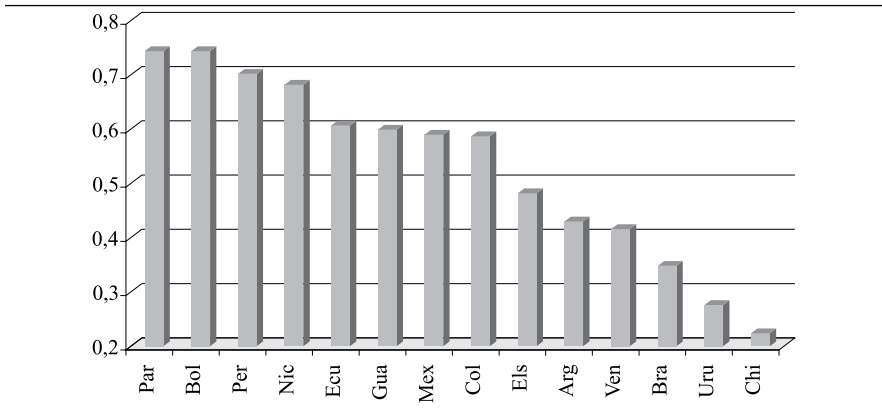
C. Informality II (“legalistic/social protection” definition)

As commented above, the Latin American household surveys have a weak coverage of labor and social protection issues. We could implement the social protection definition of labor informality in only 14 countries of the sample. Moreover, several of them have questions only in some years, and the type of question differs across countries (see table 1).

Table 7 displays the share of salaried workers without the right to receive pensions when retired. That informality rate is presented for several socioeconomic groups. Informality is relatively low in Chile and Uruguay (around 25%) and somewhat higher in Argentina, Brazil and Venezuela (around 40%). The share of unprotected salaried workers is around 60% and higher in Bolivia, Colombia, Ecuador, Guatemala, Mexico, Nicaragua, Paraguay and Peru (see figure 5). As with the productive definition, labor informality in the social protection sense seems negatively correlated to per capita GDP and positively correlated to the share of rural population in the survey (figure 6). Again, when including both variables in a simple OLS regression, the latter becomes non-significant.

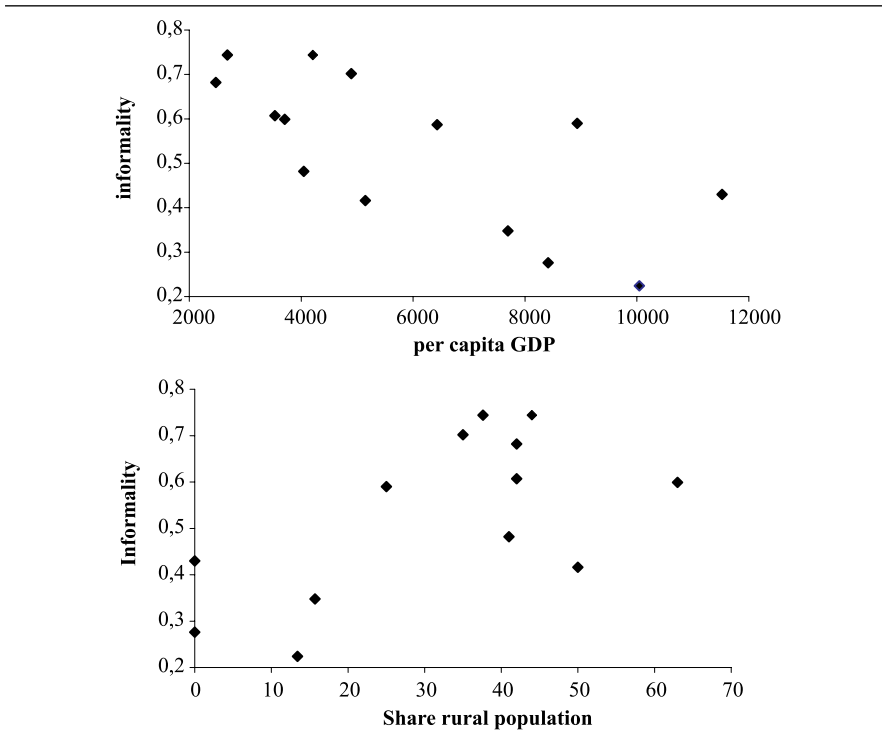
¹¹ The problem is not symmetric, since we expect most entrepreneurs to be non-poor when “permanent” (e.g. yearly) income is measured.

Figure 5. Share of informal workers (social-protection definition). Salaried workers. Last available survey.



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Figure 6. Scatterplot informality (social-protection definition). – per capita GDP and share of rural population in household survey. Last available survey.



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

**Labor Informality in Latin America and the Caribbean:
Patterns and Trends from Household Survey Microdata**
Leonardo Gasparini and Leopoldo Tornarolli

Table 7. Share of informal workers (social protection definition).

	Total	Adults (25-64)									Youths (15-24)		
		Age			Gender		Education			Area		Gender	
		(15-24)	(25-64)	(65+)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male
Argentina													
EPH-15 cities													
1992	0,312	0,507	0,241	0,548	0,290	0,210	0,347	0,211	0,111		0,241	0,504	0,509
1993	0,319	0,487	0,259	0,554	0,320	0,219	0,361	0,234	0,141		0,259	0,454	0,508
1994	0,291	0,475	0,231	0,404	0,282	0,198	0,339	0,209	0,098		0,231	0,436	0,499
1995	0,331	0,532	0,269	0,517	0,325	0,230	0,372	0,237	0,141		0,269	0,531	0,533
1996	0,351	0,530	0,295	0,624	0,343	0,264	0,440	0,253	0,154		0,295	0,546	0,519
1997	0,364	0,537	0,309	0,570	0,358	0,277	0,433	0,295	0,158		0,309	0,519	0,547
1998	0,371	0,562	0,311	0,582	0,353	0,281	0,465	0,269	0,168		0,311	0,553	0,568
EPH-28 cities													
1998	0,379	0,590	0,315	0,573	0,359	0,284	0,469	0,272	0,169		0,315	0,590	0,591
1999	0,383	0,583	0,325	0,565	0,367	0,294	0,474	0,300	0,179		0,325	0,585	0,582
2000	0,385	0,598	0,331	0,446	0,383	0,292	0,478	0,318	0,176		0,331	0,581	0,609
2001	0,387	0,604	0,333	0,490	0,375	0,301	0,516	0,306	0,174		0,333	0,638	0,580
2003	0,388	0,656	0,330	0,531	0,340	0,323	0,503	0,332	0,184		0,330	0,656	0,656
EPH-C													
2003-II	0,437	0,708	0,374	0,621	0,420	0,338	0,566	0,390	0,205		0,374	0,703	0,711
2004-I	0,433	0,676	0,371	0,594	0,408	0,343	0,540	0,388	0,212		0,371	0,698	0,663
2004-II	0,435	0,690	0,374	0,592	0,408	0,348	0,571	0,353	0,203		0,374	0,712	0,676
2005-I	0,430	0,657	0,376	0,535	0,429	0,336	0,551	0,359	0,221		0,376	0,659	0,655
Bolivia													
Urban													
2002	0,730	0,934	0,643	0,804	0,631	0,650	0,890	0,727	0,316		0,643	0,951	0,923
National													
2000	0,663	0,907	0,561	0,779	0,537	0,574	0,835	0,589	0,313	0,629	0,552	0,905	0,909
2002	0,744	0,934	0,660	0,859	0,633	0,673	0,902	0,722	0,306	0,765	0,643	0,942	0,929
Brazil													
1990	0,357	0,473	0,261	0,652	0,252	0,266	0,346	0,093	0,055	0,585	0,195	0,467	0,477
1992	0,378	0,511	0,290	0,627	0,312	0,275	0,372	0,129	0,080	0,586	0,245	0,523	0,504
1993	0,388	0,531	0,299	0,620	0,325	0,282	0,386	0,138	0,086	0,589	0,253	0,542	0,524
1995	0,383	0,516	0,302	0,633	0,331	0,283	0,390	0,152	0,088	0,554	0,266	0,525	0,510
1996	0,391	0,528	0,314	0,605	0,339	0,298	0,399	0,181	0,105	0,535	0,282	0,531	0,526
1997	0,380	0,518	0,307	0,598	0,328	0,293	0,401	0,161	0,095	0,547	0,272	0,520	0,516
1998	0,364	0,504	0,292	0,613	0,307	0,282	0,390	0,150	0,082	0,527	0,256	0,495	0,511
1999	0,367	0,504	0,300	0,561	0,317	0,288	0,404	0,161	0,074	0,512	0,267	0,494	0,512
2001	0,359	0,494	0,295	0,567	0,312	0,282	0,404	0,163	0,088	0,536	0,269	0,485	0,501
2002	0,361	0,507	0,296	0,591	0,312	0,283	0,409	0,172	0,085	0,533	0,271	0,504	0,510
2003	0,348	0,490	0,288	0,556	0,305	0,274	0,407	0,167	0,081	0,517	0,264	0,486	0,493
Chile													
1990	0,214	0,353	0,174	0,268	0,214	0,154	0,279	0,135	0,061	0,319	0,149	0,364	0,347
1996	0,220	0,327	0,190	0,428	0,226	0,170	0,315	0,156	0,080	0,356	0,168	0,339	0,319
1998	0,229	0,350	0,198	0,475	0,237	0,175	0,339	0,172	0,074	0,367	0,178	0,343	0,354
2000	0,237	0,377	0,207	0,452	0,248	0,183	0,346	0,186	0,092	0,354	0,190	0,391	0,367
2003	0,224	0,354	0,198	0,396	0,241	0,170	0,323	0,183	0,100	0,327	0,183	0,390	0,331

Table 7. Share of informal workers (social protection definition)
(continued).

	Adults (25-64)													Youths (15-24)			
	Total	Age			Gender		Education			Area		Gender					
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male				
Colombia																	
1996	0,611	0,765	0,542	0,816	0,471	0,586	0,783	0,461	0,215	0,773	0,439	0,703	0,804				
1999	0,587	0,777	0,516	0,753	0,445	0,563	0,789	0,452	0,173	0,749	0,408	0,722	0,814				
Ecuador																	
ECV																	
1994	0,614	0,823	0,502	0,429	0,437	0,532	0,702	0,469	0,262	0,738	0,439	0,755	0,856				
1998	0,607	0,822	0,491	0,566	0,439	0,517	0,745	0,439	0,234	0,664	0,448	0,754	0,849				
El Salvador																	
1991	0,602	0,744	0,512	0,752	0,424	0,549	0,713	0,263	0,113	0,813	0,340	0,654	0,780				
2000	0,470	0,613	0,391	0,811	0,252	0,464	0,649	0,238	0,107	0,693	0,289	0,441	0,685				
2002	0,454	0,603	0,386	0,711	0,240	0,465	0,666	0,250	0,112	0,657	0,293	0,406	0,689				
2003	0,482	0,618	0,414	0,778	0,279	0,485	0,692	0,285	0,085	0,686	0,316	0,440	0,700				
Guatemala																	
ENCOVI																	
2000	0,656	0,717	0,586	0,806	0,591	0,583	0,694	0,351	0,277	0,716	0,481	0,685	0,733				
ENEI																	
2002	0,599	0,667	0,535	0,666	0,495	0,550	0,648	0,298	0,350	0,673	0,428	0,665	0,669				
Mexico																	
2000	0,550	0,664	0,494	0,887	0,436	0,520	0,696	0,387	0,254	0,809	0,439	0,614	0,691				
2002	0,590	0,699	0,539	0,743	0,518	0,551	0,745	0,445	0,275	0,812	0,488	0,628	0,737				
Nicaragua																	
1993	0,623	0,749	0,553	0,817	0,506	0,580	0,688	0,321	0,155	0,767	0,468	0,684	0,781				
1998	0,715	0,859	0,619	0,981	0,573	0,646	0,760	0,402	0,273	0,784	0,533	0,837	0,867				
2001	0,682	0,782	0,613	0,936	0,537	0,655	0,760	0,403	0,282	0,789	0,548	0,683	0,824				
Paraguay																	
1997	0,753	0,869	0,676	0,780	0,646	0,692	0,832	0,551	0,372	0,790	0,635	0,882	0,861				
1999	0,738	0,885	0,662	0,643	0,655	0,666	0,833	0,566	0,328	0,806	0,616	0,893	0,880				
2001	0,726	0,898	0,625	0,714	0,594	0,644	0,826	0,538	0,255	0,775	0,570	0,897	0,898				
2002	0,738	0,892	0,652	0,688	0,624	0,668	0,845	0,575	0,253	0,745	0,625	0,888	0,894				
2003	0,744	0,899	0,664	0,667	0,634	0,683	0,866	0,627	0,321	0,756	0,633	0,925	0,881				
Peru																	
ENAH0 1																	
1999	0,772	0,925	0,686	0,993	0,657	0,703	0,928	0,730	0,460	0,870	0,656	0,935	0,917				
ENAH0 2																	
2001	0,732	0,921	0,649	0,729	0,648	0,649	0,896	0,687	0,399	0,853	0,609	0,911	0,927				
2002	0,719	0,915	0,638	0,778	0,638	0,638	0,878	0,698	0,413	0,787	0,613	0,931	0,904				
2003	0,702	0,915	0,618	0,552	0,650	0,598	0,868	0,694	0,347	0,809	0,590	0,916	0,914				
Uruguay																	
2001	0,232	0,417	0,183	0,429	0,226	0,145	0,295	0,148	0,056		0,183	0,420	0,416				
2002	0,237	0,440	0,193	0,419	0,238	0,153	0,324	0,156	0,053		0,193	0,436	0,443				
2003	0,258	0,490	0,213	0,437	0,252	0,177	0,357	0,177	0,054		0,213	0,488	0,492				
2004	0,276	0,528	0,223	0,437	0,263	0,188	0,376	0,185	0,070		0,223	0,532	0,526				

Table 7. Share of informal workers (social protection definition)
 (continued).

	Adults (25-64)													Youths (15-24)	
	Total	Age			Gender		Education			Area		Gender			
		(15-24)	(25-64)	(65+)	Female	Male	Low	Medium	High	Rural	Urban	Female	Male		
Venezuela															
1995	0,338	0,521	0,267	0,424	0,219	0,297	0,401	0,177	0,099		0,118	0,449	0,551		
1998	0,354	0,553	0,279	0,416	0,240	0,302	0,414	0,204	0,128		0,175	0,490	0,582		
2000	0,319	0,509	0,254	0,328	0,216	0,279	0,375	0,199	0,105		0,112	0,417	0,551		
2003	0,416	0,650	0,342	0,438	0,302	0,370	0,510	0,291	0,137		0,221	0,622	0,664		

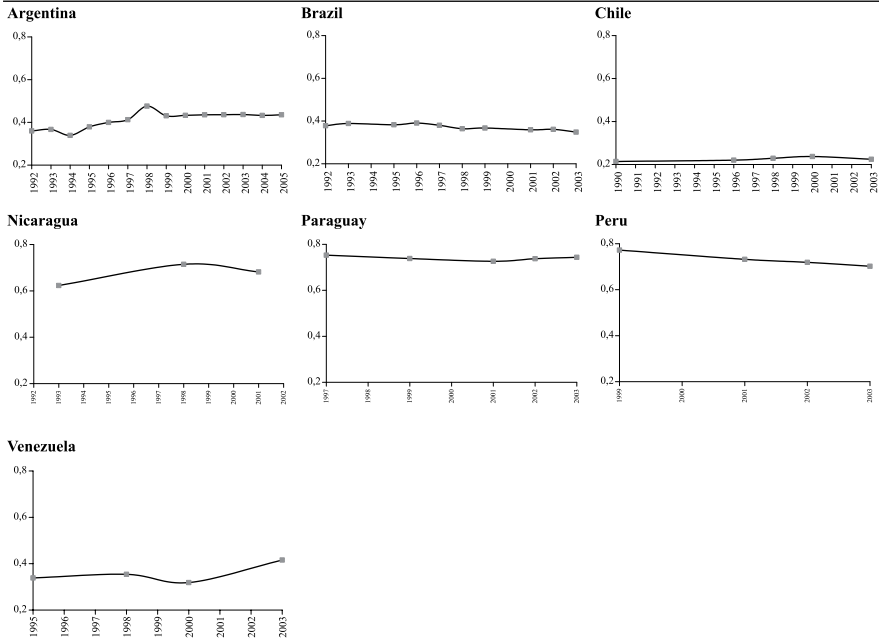
Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

The likelihood of having the right to pensions when retired is decreasing in education and has a U-shaped pattern with respect to age. The youth and the elderly are less covered by the social security system linked to employment than the adult population. While in some countries women are more likely to be informal than men, that situation is not generalized in the region. In contrast, labor informality is always higher in rural areas than in the cities.

We cannot provide a complete picture of what has happened with the social protection dimension of labor informality over the last decade in LAC with household survey data, since there are few countries with enough observations. Labor informality has increased in Argentina, Nicaragua and Venezuela, has remained roughly unchanged in Chile and Paraguay, and has slightly decreased in Brazil and Peru (figure 7). Probably the main conclusion from the evidence is that there are no signs of a pattern toward less labor informality in the region. Most results hold when restricting the analysis to urban areas.

Social protection is low among salaried domestic servants, construction workers and rural workers (table 8). Informality is in general lower in the manufacturing industry, the skilled services, and in particular in the education, health and public administration sectors. However, notice that while in principle we expect all public sector workers to be covered by basic social protection, on average 20% of them report not having access to pensions.

Figure 7. Share of informal workers (social protection definition).



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Table 8. Informality by sector (legalistic definition).

	Argentina	Bolivia	Brazil	Chile	El Salvador	Guatemala	Mexico	Nicaragua	Paraguay	Peru	Uruguay	Venezuela
	2004	2002	2003	2003	2003	2002	2002	2001	2003	2002	2004	2003
Primary activities	37,6	89,2	66,8	30,0	95,5	69,6	93,4	92,9	94,6	88,3	45,7	68,7
Industry low tech	50,4	79,7	25,2	17,3	28,8	46,1	44,5	48,1	79,2	74,4	28,7	36,0
Industry high tech	28,1		18,7	17,8	45,5	57,8	21,8	66,8	79,6	74,4	27,3	34,9
Construction	76,8	96,5	54,7	23,9	74,2	80,8	83,5	83,4	95,9	85,4	40,2	64,2
Commerce	53,5	88,9	34,2	21,4	54,7	63,7	59,7	67,5	85,6	79,1	33,0	49,0
Utilities & transportation	45,9	87,4	22,2	20,8	60,6	60,7	60,5	56,5	60,1	74,9	15,0	46,5
Skilled services	36,8	74,3	19,0	14,5	22,0	26,9	70,5	36,3	69,9	54,9	19,7	24,5
Public administration	10,0	31,9	15,1	9,9	7,1	36,1	43,7	27,2	27,1	48,5	1,5	8,2
Education and Health	21,5	37,6	18,8	14,1	25,0	40,8	27,8	40,8	41,7	49,2	13,3	33,2
Domestic servants	95,4	99,4	70,6	50,7		98,0		97,8	97,6	98,3	72,8	74,6
Total	43,6	74,4	34,8	22,5	48,2	59,9	59,0	68,3	74,4	71,9	27,6	43,9

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Household income for the formal employees is substantially higher than for informal salaried workers (table 9). The poverty headcount ratio for the USD-2-a-day line is on average 6 times higher for the latter group.

The presence of a formal contract is a key feature of a labor relationship. Signing a contract makes the relationship more visible, and then increases the likelihood for the compliance with the labor legislation. Unfortunately, only few surveys include questions on labor contracts. Table 10 reports the share of salaried workers having signed a contract. That share is above 75% in Chile, above 50% on Mexico and Panama, and below 45% in the rest of the countries in the sample. As with pensions, signed contracts are more common among prime-age adults, the skilled and urban workers. From the scarce information of the table there are no signs of a fall in informality. In fact, the share of salaried workers with contracts has fallen in Chile and Mexico, the only two countries for which data goes back to the early 1990s.

D. Comparing the two definitions

To what extent the two definitions of labor informality overlap? In table 11 we compute the share of workers without the right to pensions when retired (*i.e.* our definition of social-protection informality) by labor category (*i.e.* the basis for our definition of productive informality). An initial observation is that a sizeable share of workers classified as formal by the productive definition are informal in the social-protection sense. Even in the public sector, pensions seem not to be a universal right. In 10 out of the 14 countries in the sample the share of uncovered public sector workers is above 10%. That share climbs for the other two formal labor categories. In particular, the share of uncovered self-employed professionals is high (around 90% in many countries). As it will be shown in the next section this group enjoys the highest earnings of all groups. The typical Latin American self-employed professional has high relative earnings, but (s)he is out of the social security system. The share of large-firms employees without right to pensions is also high on average, although with large variations across countries: while around 20% of those workers are uncovered in the Southern Cone, the share goes up to more than 60% in Ecuador, Bolivia, Paraguay and Peru.



Table 9. Informality by income quintile and poverty status (legalistic definition).

	Argentina, 2004		Bolivia, 2002		Brazil, 2003		Chile, 2003		El Salvador, 2003		Guatemala, 2002	
	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal
Quintile 1	2,3	25,6	0,6	2,2	3,5	18,2	9,2	21,7	4,6	13,0	0,6	8,9
Quintile 2	10,0	24,3	3,9	13,3	12,5	24,9	16,3	23,9	8,4	22,6	6,8	18,0
Quintile 3	19,1	20,4	12,2	24,0	20,7	24,6	22,0	22,5	17,7	25,0	13,2	22,4
Quintile 4	28,4	17,1	22,2	34,1	30,2	20,0	25,6	18,5	26,5	23,3	26,9	23,8
Quintile 5	40,2	12,6	61,1	26,4	33,2	12,2	26,8	13,5	42,9	16,2	52,6	26,9
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	1,1	12,8	5,3	18,2	3,6	17,9	0,9	4,8	12,0	33,8	5,6	22,2
Non-poor	98,9	87,2	94,7	81,8	96,4	82,1	99,1	95,2	88,0	66,2	94,4	77,8
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

	Mexico, 2002		Nicaragua, 2001		Paraguay, 2003		Peru, 2002		Uruguay, 2004		Venezuela, 2003	
	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal
Quintile 1	0,6	10,3	2,1	10,4	0,5	5,6	0,4	6,3	7,1	27,6	3,8	15,1
Quintile 2	6,4	23,1	8,0	20,9	2,5	16,0	3,7	17,5	14,9	27,2	10,4	20,9
Quintile 3	14,7	24,4	16,2	23,2	10,6	24,8	13,1	24,1	21,4	22,2	17,2	23,1
Quintile 4	28,5	24,7	28,0	25,8	28,5	28,6	27,2	27,5	27,7	14,8	26,0	23,5
Quintile 5	49,9	17,5	45,7	19,8	57,9	25,1	55,6	24,7	28,9	8,3	42,6	17,5
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Poor	2,1	18,8	16,5	38,3	1,0	11,0	1,9	14,8	1,1	8,0	17,2	39,8
Non-poor	98,0	81,2	83,5	61,7	99,0	89,0	98,1	85,2	98,9	92,0	82,8	60,2
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Table 10. Labor contracts. Salaried workers.

	Total	Adults (25-64)										
		Age			Gender		Education			Area		
		(15-24)	(25-64)	(65 +)	Female	Male	Low	Medium	High	Rural	Urban	
Bolivia												
2002	0,394	0,191	0,467	0,250	0,556	0,427	0,226	0,404	0,793	0,354	0,485	
Chile												
1990	0,828	0,736	0,854	0,735	0,840	0,862	0,772	0,884	0,946	0,725	0,877	
1994	0,795	0,702	0,821	0,649	0,784	0,840	0,711	0,849	0,944	0,713	0,835	
1996	0,775	0,671	0,801	0,630	0,773	0,818	0,670	0,833	0,924	0,645	0,822	
1998	0,763	0,657	0,789	0,558	0,752	0,812	0,642	0,815	0,922	0,625	0,809	
2000	0,764	0,646	0,788	0,604	0,755	0,809	0,648	0,805	0,915	0,653	0,805	
2003	0,774	0,664	0,796	0,657	0,766	0,816	0,672	0,808	0,900	0,674	0,810	
Dominican Rep.												
2003	0,431	0,347	0,458	0,368	0,454	0,461	0,371	0,454	0,573	0,391	0,482	
2004	0,411	0,326	0,438	0,383	0,452	0,429	0,368	0,436	0,528	0,394	0,453	
Ecuador												
2003	0,367	0,220	0,432	0,256	0,532	0,384	0,185	0,523	0,853	0,206	0,560	
El Salvador												
2000	0,283	0,222	0,314	0,103	0,394	0,272	0,173	0,384	0,491	0,140	0,373	
2002	0,252	0,213	0,271	0,116	0,339	0,233	0,129	0,334	0,418	0,147	0,313	
2003	0,259	0,217	0,279	0,070	0,344	0,246	0,158	0,338	0,420	0,143	0,329	
Guatemala												
ENCOVI												
2000	0,372	0,269	0,436	0,260	0,492	0,414	0,289	0,589	0,775	0,316	0,493	
ENEI												
2002	0,331	0,266	0,374	0,205	0,439	0,350	0,232	0,619	0,724	0,232	0,485	
Mexico												
1992	0,553	0,462	0,598	0,416	0,667	0,573	0,407	0,787	0,921	0,224	0,671	
1996	0,526	0,408	0,579	0,324	0,629	0,556	0,357	0,717	0,898	0,252	0,643	
2000	0,512	0,404	0,559	0,226	0,649	0,518	0,312	0,671	0,887	0,232	0,615	
2002	0,533	0,419	0,578	0,411	0,617	0,557	0,336	0,689	0,888	0,262	0,637	
Nicaragua												
1998	0,255	0,178	0,300	0,068	0,313	0,292	0,203	0,414	0,613	0,166	0,369	
Panama												
2001	0,570	0,626	0,560	0,375	0,514	0,591	0,561	0,598	0,505	0,473	0,584	
2002	0,542	0,556	0,544	0,203	0,478	0,589	0,508	0,578	0,536	0,446	0,571	
2003	0,541	0,535	0,547	0,234	0,480	0,595	0,504	0,588	0,536	0,427	0,580	
Suriname												
1999	0,874	0,787	0,888		0,924	0,859	0,767	0,859	0,937		0,888	

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

The great majority of informal workers in the productive sense are also informal in the legalistic sense. The mapping is not perfect, particularly for the salaried workers in small firms. In some countries a significant fraction of these workers has rights to pensions (around

Table 11. Share of workers without right to pensions by labor category.

		Formal			Informal	
		Salaried workers		Self-employed professionals	Salaried Small firms	Self-employed Unskilled
		Large firms	Public sector			
Argentina	2004	29,9	10,8		82,1	
Bolivia	2002	75,9	32,1	86,5	97,3	98,8
Brazil	2003	18,4	11,8	46,1	67,2	87,2
Chile	2003	16,2	8,8	61,8	50,1	83,2
Colombia	1999		14,0	73,7		95,7
Ecuador	1998	60,1	8,8		91,6	
El Salvador	2003	35,5	7,0	88,4	93,6	98,5
Guatemala	2002	42,0	22,2	95,7	93,9	99,7
Mexico	2002	44,2	31,0		90,7	
Nicaragua	2001	59,3	22,2	90,6	94,1	99,3
Paraguay	2003	74,2	19,0	90,9	95,8	99,0
Peru	2002	65,8	40,4	89,4	96,2	98,0
Uruguay	2004	19,5	1,4	32,8	68,0	82,6
Venezuela	2003	33,3	14,0		81,8	

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

20% in Argentina and Venezuela, 30% in Brazil and Uruguay and 50% in Chile).

Table 12 classifies workers in each country according to the two definitions of informality. The last column records the share of workers which are consistently classified as formal or informal by the two definitions. On average, more than 75% are in that group. That share is higher when considering all workers (instead of just salaried workers).¹² There are few workers who are informal in the productive sense but have access to social security (column (iii)). The relatively large social security systems in the Southern Cone account for most of these cases. Instead, there are more formal workers in the productive sense which are informal in the legalistic sense: the low social-security coverage of the self-employed professionals, and to a lesser extent the employees of large firms are behind the figures in column (ii).

¹² Presumably, the share would be even higher if we increased the cut-off point for firm size to define formality in the productive sense.

Table 12. Share of workers without right to pensions by labor category.

		Sample	Formal P		Informal P		Total (v)	(i)+(iv) (vi)
			Formal L (i)	Informal L (ii)	Formal L (iii)	Informal L (iv)		
Argentina	2004	Only salaried workers	50,6	15,6	6,1	27,8	100,0	78,4
Bolivia	2002	Only salaried workers	24,6	35,5	1,1	38,9	100,0	63,5
		All workers	7,6	15,5	0,8	76,1	100,0	83,7
Brazil	2003	Only salaried workers	53,3	10,6	11,8	24,2	100,0	77,6
		All workers	36,2	8,8	10,2	44,8	100,0	81,0
Chile	2003	Only salaried workers	67,0	11,6	10,7	10,8	100,0	77,7
		All workers	51,8	11,4	11,2	25,6	100,0	77,4
Colombia	1999	Only salaried workers	86,0	14,0			100,0	86,0
		All workers	13,6	10,6	2,8	73,0	100,0	86,6
Ecuador	1998	Only salaried workers	36,9	32,4	2,6	28,1	100,0	65,0
El Salvador	2003	Only salaried workers	49,9	20,8	1,9	27,4	100,0	77,3
		All workers	28,8	16,2	1,5	53,4	100,0	82,2
Guatemala	2002	Only salaried workers	37,8	24,1	2,3	35,7	100,0	73,5
		All workers	15,4	15,1	1,0	68,5	100,0	83,9
Mexico	2002	Only salaried workers	37,6	25,7	3,4	33,2	100,0	70,9
Nicaragua	2001	Only salaried workers	29,5	30,7	2,3	37,5	100,0	67,0
		All workers	14,9	20,4	1,5	63,3	100,0	78,1
Paraguay	2003	Only salaried workers	23,6	27,4	2,1	47,0	100,0	70,6
		All workers	10,5	17,1	1,4	71,0	100,0	81,5
Peru	2002	Only salaried workers	26,6	36,1	1,4	35,9	100,0	62,5
		All workers	11,4	21,6	1,4	65,5	100,0	77,0
Uruguay	2004	Only salaried workers	64,1	9,9	8,3	17,7	100,0	81,8
		All workers	49,3	8,4	10,0	32,3	100,0	81,6
Venezuela	2003	Only salaried workers	53,4	19,2	5,0	22,4	100,0	75,9

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Note: (In)formal P= (in)formal in the productive sense (definition 1).
 (In)formal L= (in)formal in the legalistic sense (definition 2).

III. Wages and hours of work

In this section we document relative wages and hours of work of different labor categories. We start by showing unconditional statistics and then turn to a multivariate regression analysis.

Table 13 shows relative hourly wages by type of work. In the first panel the base group is wage earners, while in the second panel wages of public sector employees are set at 100. In our companion paper we also show statistics for hours of work. On average for the region, entrepreneurs work 10% more hours than salaried workers and earn per

hour 2.5 times more. Compared to the wage earners, the self-employed work 10% fewer hours and earn 10% less per hour. However, this average hides a variety of situations across countries. In Chile and some Central American countries, for instance, hourly wages are higher for the group of self-employed.

The second panel breaks down the working population into more labor categories. In general, the ranking of hourly wages is led by the self-employed professionals followed by the entrepreneurs, the salaried workers in the public sector, the salaried workers in large firms, the unskilled self-employed, and the salaried workers in small firms. On average, the skilled self-employed earn around 60% more than public sector employees. Large firm's employees earn 30% less than in the public sector. That percentage climbs to 50% for the case of the unskilled self-employed and to 60% for the wage earners in small firms.

Hours of work do not differ much across groups. Entrepreneurs and large-firms employees work in general more hours than in the public sector, while hours of work are approximately the same for the rest of the groups. The exception is the group of zero income workers for whom hours of work are 20% lower than in the public sector.

To further analyze wage differentials across groups we run regressions of the log of hourly wages against several controls and dummies for informal workers. The conditional measures of the earnings gap of being informal arising from these regressions should be interpreted with much care¹³. In particular, welfare comparisons drawn from these results may be misleading. An informal job differs from a formal one in many dimensions, not only in the hourly wage paid. If we find that hourly wages are the same in both sectors, the informal job may still be inferior since it precludes the access to social protection¹⁴, but it could be also superior, at least for some workers, since informality usually implies more flexibility: "being your own boss" is certainly a work amenity for many people.

¹³ See Maloney (2004).

¹⁴ Under the legalistic view, that is true by definition. Under the productive view social protection is not precluded for informal workers but it is rarer.

Table 13. Relative wages by type of work.

	Type of work			Formal workers				Informal workers	
	Entrepreneurs	Wage earners	Self-employed	Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled
				Entrepreneurs	Large firms	Public sector			
Argentina									
EPH-15 cities									
1992		100	124		100	100	231	76	97
1993		100	117		93	100	200	66	89
1994		100	116		86	100	189	59	77
1995	226	100	109	185	87	100	197	61	74
1996	224	100	114	175	82	100	197	59	71
1997	200	100	112	154	79	100	201	58	68
1998	215	100	115	162	81	100	231	51	63
EPH - 28 cities									
1998	218	100	110	164	81	100	224	51	62
1999	200	100	105	149	80	100	196	51	63
2000	184	100	102	139	82	100	165	50	65
2001	202	100	95	155	83	100	170	53	60
2003	212	100	100	158	80	100	164	49	60
EPH-C									
2003-II	212	100	98	157	81	100	152	48	61
2004-I	172	100	94	128	86	100	139	47	60
2004-II	173	100	97	132	87	100	145	49	61
2005-I	197	100	99	142	79	100	133	49	59
Bolivia									
Urban									
1993	252	100	87	162	75	100	171	31	49
1997	245	100	82	176	86	100	168	33	54
2002	176	100	80	114	73	100	139	36	47
National									
1997	247	100	73	180	87	100	175	38	51
2000	144	100	46	108	89	100	99	38	34
2002	121	100	64	79	73	100	143	38	39
Brazil									
1990	340	100	97	199	65	100	313	22	50
1992	217	100	92	133	72	100	202	28	53
1993	329	100	99	199	72	100	283	25	53
1995	370	100	105	222	70	100	303	27	54
1996	397	100	111	240	70	100	293	29	58
1997	360	100	105	212	68	100	296	27	52
1998	348	100	98	215	72	100	268	29	52
1999	334	100	96	196	68	100	255	28	48
2001	334	100	96	194	66	100	236	28	47
2002	324	100	96	186	65	100	247	28	46
2003	325	100	93	190	65	100	224	30	46

Table 13. Relative wages by type of work (continued).

	Type of work			Formal workers				Informal workers	
				Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled
	Entrepreneurs	Wage earners	Self-employed	Entrepreneurs	Large firms	Public sector			
Chile									
1990	692	100	164	498	79	100	297	41	106
1994	806	100	151	555	78	100	268	41	92
1996	586	100	165	414	76	100	377	40	98
1998	617	100	185	536	99	100	421	51	136
2000	581	100	151	427	79	100	274	42	95
2003	591	100	165	401	71	100	319	38	92
Colombia									
ENH-Urban									
1992	271	100	104	179		100	172		57
2000	237	100	84	123		100	135		33
ENH-National									
1996	238	100	82	135		100	169		41
1999	186	100	64	98		100	118		29
2000	223	100	76	132		100	177		38
ECH-Urban									
2000	229	100	66	124		100	122		29
2004	168	100	64	93		100	111		28
ECH-National									
2004	166	100	58	84		100	113		25
Costa Rica									
1992	144	100	93	92	60	100	169	41	58
1997	169	100	109	101	58	100	138	37	64
2000	178	100	107	114	61	100	162	46	67
2001	191	100	101	120	61	100	187	41	62
2003	171	100	102	104	59	100	168	38	61
Dominican Rep.									
ENFT 1									
1996	338	100	135	340	113	100	370	68	126
1997	223	100	103	170	79	100	170	49	76
ENFT 2									
2000	363	100	115	290	83	100	234	52	85
2003	307	100	107	237	79	100	216	48	76
2004	264	100	107	216	88	100	205	49	83
Ecuador									
ECV									
1994	200	100	104		137	73	100	208	54
1998	263	100	85		145	60	100	123	33
ENEMDU									
2003	202	100	106		116	58	100	245	40
El Salvador									
1991	189	100	94		117	64	100	244	48
2000	272	100	83		141	51	100	104	29

Table 13. Relative wages by type of work (continued).

	Type of work			Formal workers				Informal workers	
				Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled
	Entrepreneurs	Wage earners	Self-employed	Entrepreneurs	Large firms	Public sector			
2002	238	100	84		129	58	100	107	31
2003	293	100	83		167	54	100	103	45
Guatemala									
ENCOVI									
2000	190	100	90		91	54	100	196	29
ENEI									
2002	197	100	70		107	62	100	142	33
Haiti									
2001	61	100	36		31		100	118	
Honduras									
1992	197	100	71		115	61	100	354	28
1997	343	100	128		206	65	100	183	37
1999	264	100	118		147	59	100	159	34
2003	185	100	100		87	52	100	133	27
Jamaica									
1990	853	100	46						
1996	250	100	63		133	51	100		34
1999	95	100	89		66	76	100		46
2002	168	100	139		117	78	100		46
Mexico									
1992									
1996	251	100	83		147	60	100	142	32
2000	331	100	75		205	67	100	145	34
2002	174	100	61		106	65	100	154	38
Nicaragua									
1993	181	100	135		157	93	100	243	73
1998	287	100	96						
2001	322	100	105		202	69	100	185	43
Panama									
1995	238	100	82		176	79	100	240	31
1997	207	100	73		157	82	100		31
2001	180	100	63		118	63	100	133	30
2002	248	100	64		161	65	100	113	30
2003	191	100	61		122	62	100	131	29
Paraguay									
1997	267	100	90		150	65	100	259	35
1999	248	100	77		146	68	100	185	36
2001	283	100	62		150	59	100	121	32
2002	303	100	68		179	66	100	108	38
2003	293	100	80		171	70	100	126	35
Peru									
ENAH0 1									
1997	180	100	68		180	111	100	122	86
1999	155	100	74		122	95	100	100	51

Table 13. Relative wages by type of work (continued).

	Type of work			Formal workers				Informal workers	
				Salaried workers			Self-employed professionals	Salaried Small firms	Self-employed Unskilled
	Entrepreneurs	Wage earners	Self-employed	Entrepreneurs	Large firms	Public sector			
ENAH0 2									
2001	190	100	77		149	92	100	145	53
2002	162	100	68		144	117	100	143	51
2003	212	100	72		145	76	100	99	44
Suriname									
1999	214	100	90		193	93	100		54
Uruguay									
1989	217	100	101		194	99	100	107	56
1992	306	100	113		273	96	100	285	53
1995	220	100	109		185	89	100	252	49
1998	263	100	104		211	85	100	206	50
2000	245	100	106		191	82	100	217	48
2001	248	100	97		191	81	100	211	49
2002	254	100	93		202	86	100	214	48
2003	259	100	92		201	82	100	188	48
2004	298	100	98		209	71	100	194	40
Venezuela									
1989	200	100	92		159	81	100	185	42
1995	216	100	106		185	95	100	236	51
1998	210	100	105		170	85	100	176	49
2000	159	100	100		124	80	100	144	53
2003	154	100	90		108	72	100	123	44

First panel: wage earners=100

Second panel= public sector employees=100

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

There is a second reason why regressions should be interpreted with care. The informality coefficients may be biased if unobserved worker characteristics that affect productivity influence the sector an individual chooses to work. It could be that only people with entrepreneurial ability choose to be self-employed, and then become successful. Or on the other hand, it could be that people with low work attachment and without ability to tolerate authority, responsibilities and punctuality choose to be self-employed, and then probably get low earnings, in part precisely because the lack of these characteristics.

Table 14 shows the results of estimating log hourly wage regressions using Heckman maximum likelihood for a sample of urban workers aged 15 to 70. We exclude skilled workers (*i.e.* with a tertiary degree) and the group of *patrones* from the analysis, and run the regressions

for men and women separately. In addition to the usual set of controls (education, age, regional dummies) we include interactions between education and informality. In particular, we construct interaction variables by multiplying the informal binary variable with two educational dummies: one for those without any secondary education, and one for those with some high-school education. We also include interactions with dummies variables for the youth (15-24) and the elderly (56-70). Table 14 is divided into three panels according to the definition of informality. Panel A considers the productive definition. Since as said above we exclude skilled workers and employers, the regressions report the wage gaps between the (i) unskilled-self employed + small-firms salaried workers, and (ii) salaried workers in large firms and the public sector. In panel B we compare unskilled self-employed with unskilled salaried workers. Finally, in panel C we restrict the analysis to unskilled salaried workers and divide them according to the social protection definition of informality. In each panel the table shows the coefficients of the interaction variables.

Table 14. Hourly wage regressions.

A. Informal 1 (productive)

Country	Year	Males				Females			
		Primary	Secondary	Young	Old	Primary	Secondary	Young	Old
Argentina	2004	-0.352***	-0,254	-0,018	0,017	-0,194	-0,348	-0,066	-0,165
Bolivia	2002	-0.229***	-0,086	-0,032	0,056	-0,047	-0,157	-0,057	-0,216
Brazil	2003	-0.269***	-0.210***	0.080***	-0.098***	-0.214***	-0.292***	-0,025	-0.088***
Chile	2003	0.332***	0.308***	0,121	0,024	0.081***	0,035	-0,091	-0.124**
Costa Rica	2003	-0,044	-0.205***	-0,019	-0,161	-0.232***	-0.131**	0,147	0,119
Ecuador	2003	-0.152***	-0.159***	0,055	-0,040	-0.222***	-0.208***	0,062	-0,070
El Salvador	2003	-0,053	-0,089	0,024	0,011	-0,082	-0.427***	-0,006	-0.181*
Guatemala	2002	-0.157**	-0.179*	-0,099	-0.380**	-0.282***	-0.318**	0,210	-0.358**
Haiti	2001	-1.603***	-0.991***	0,180	-0,088	-1.008***	-1.634***	0,359	0,107
Honduras	2003	-0.311***	-0.260***	0.370***	0,137	-0.307***	-0.575***	0,181	-0,106
Jamaica	2002	-0,244	-0,089	-0,106	-0.736**	-0,269	-0.362***	-0,089	0,197
Mexico	2002	-0.219***	-0.255***	0.185**	-0.177**	-0.100*	-0.411***	0,180	-0,102
Nicaragua	2001	-0,091	-0,168	0,118	-0.308*	-0.226**	-0,041	0.420**	0,194
Panama	2003	-0.288***	-0.316***	0,015	-0,114	-0.577***	-0.478***	-0,163	-0,133
Paraguay	2003	-0.522***	-0.422***	0,112	-0,133	-0.603***	-0.601***	-0,042	-0,120
Peru	2002	-0.196***	-0.203***	-0,049	-0.199*	-0,066	-0.134**	-0,038	-0,013
Suriname	1999	-0.306*	0,047	0,371	-0,682	0,284	-0,124	-0.659*	-1.202*
Uruguay	2004	-0.401***	-0.271***	0,030	-0.120***	-0.206***	-0.348***	-0,019	-0.145***
Venezuela	2003	-0.140***	-0,062	-0,024	-0,132	-0.274***	-0.313***	-0,271	-0.174*

B. Self-employed

Country	Year	Males				Females			
		Primary	Secondary	Young	Old	Primary	Secondary	Young	Old
Argentina	2004	-0.251***	-0,079	-0,252	0,063	-0,572	-0,353	0,281	-0,110
Bolivia	2002	-0.241***	0,023	-0,111	-0,033	-0,041	0,038	0,097	-0,128
Brazil	2003	-0.064***	-0.056***	0.108***	-0.050*	-0.070***	-0.049**	0,018	-0.175***
Chile	2003	0.582***	0.560***	0,098	-0,019	0.493***	0.467***	-0.342***	-0,032
Costa Rica	2003	0,070	-0.158**	-0,047	-0.355***	0,122	0.151*	0,384	0,041
Ecuador	2003	-0,050	-0,038	-0,025	-0,010	0,001	0,014	0,055	0,003
El Salvador	2003	0,060	0,053	0,180	0,013	0.094**	-0.285***	0,037	-0.217**
Guatemala	2002	-0,041	-0,154	-0,146	-0.462**	-0,011	-0,189	0,126	-0,238
Haiti	2001	-0,233	-0.393*	0,165	-0,112	-0.412**	-1.449***	0,366	0,161
Honduras	2003	-0.211***	-0.219**	0.437***	0,198	-0,012	-0.394***	0,131	-0,100
Jamaica	2002	0,890	0,354		-1.075**	-0.708***	-0.622**		0.451***
Mexico	2002	-0.110*	-0.175***	0,250	-0.237*	-0.232***	-0.348***	0,315	-0,075
Nicaragua	2001	0,105	-0,024	-0,064	-0,266	0,055	0,070	0,190	0,190
Panama	2003	-0.199***	-0.254***	-0,031	-0,102	-0.268***	-0.168**	-0,148	0,096
Paraguay	2003	-0.457***	-0.295***	0,126	-0,101	-0.463***	-0.395***	0,046	-0,110
Peru	2002	-0,098	-0.117**	0,160	-0.274***	-0,083	-0,091	0,084	0,014
Suriname	1999	-0.360*	0,201	0,702	-0,661	0,217	-0.751***	-0.733**	-0,561
Uruguay	2004	-0.313***	-0.159***	-0,015	-0,073	-0.294***	-0.257***	-0,198	-0,064
Venezuela	2003	-0.109**	-0,027	0,041	-0,119	-0.237***	-0.338***	-0,276	-0.236**

C. Informal 2 (social protection)

Country	Year	Males				Females			
		Primary	Secondary	Young	Old	Primary	Secondary	Young	Old
Argentina	2004	-0.469***	-0.487***	0,012	-0,031	-0.177***	-0,434	-0,084	-0.124***
Bolivia	2002	-0,051	-0.286***	0,104	-0,111	-0,315	-0.669***	-0,166	-0,120
Brazil	2003	-0.391***	-0.353***	0.110***	-0.086***	-0.278***	-0.359***	-0.034**	-0,04
Chile	2003	-0.234***	-0.256***	0.137***	0.080**	-0.120***	-0.164***	0,015	-0.114***
El Salvador	2003	-0.173***	-0.231***	0,065	-0,071	-0.241***	-0.412***	0,131**	0,082
Guatemala	2002	-0.138**	-0.248***	-0.184***	0,039	-0.480***	-0.376***	0,105	0,326
Mexico	2002	-0.300***	-0.329***	0.092***	0,031	-0.277***	-0.420***	0.106***	-0.196***
Nicaragua	2001	-0.234***	-0.300***	0.181**	-0.304**	-0.265***	-0.337***	0,133	-0,030
Paraguay	2003	-0.533***	-0.475***	0,080	-0,075	-0.452***	-0.477***	-0,067	-0,127
Peru	2002	-0.326***	-0.230***	-0,044	0,030	-0.233**	-0.366***	0,068	0,031
Uruguay	2004	-0.406***	-0.453***	0.217***	-0.197***	-0.142***	-0.328***	0.135***	-0.214***
Venezuela	2003	-0.075**	-0,063	-0.156***	-0,111	-0.232***	-0.135**	0,011	0,089

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

In most countries being informal in the productive sense implies lower wages, even when controlling for observable factors. On average, informal male workers without a secondary education earn 30% less than their formal counterparts. The wage gap for those with secondary education is also significant, although somewhat smaller in most countries. Wage gaps of roughly the same magnitude are also present

in the case of female workers. The coefficients of the interaction variables with age groups are mostly non-significant. In some few countries being informal is associated to higher wages for the youth and lower wages for the elderly.

Panel B indicates that while in half of the countries in the sample being an unskilled self-employed implies lower wages than being an unskilled salaried worker, in the other half there are no significant differences in wages. In panel C the results are more conclusive: in nearly all countries salaried workers with social protection also earn substantially more than informal salaried workers. That seems to be true for males and females and for both educational groups.

IV. Informality over the cycle

In this section we take a look at the behavior of informality over the business cycle. Do informal employment and relative wages across sectors move pro or anti-cyclically with the economy? It has been argued that the co-movements of these variables over the cycle can provide some preliminary evidence over the relevance of the dualistic view of informality.¹⁵ According to this hypothesis when the economy enters a recession, sticky wages in formal firms force them to fire workers, who find in the informal sector a way to survive waiting for better times. The informal sector serves as disguised unemployment by absorbing displaced workers during downturns. The flow of entrants into the “flex-wage” informal sector drives wages down relative to the formal sector which remains downwardly rigid. Hence, relative (informal/formal) sector size and wages should move oppositely.

In contrast, under other assumptions and shocks, the two variables may go in the same direction. For instance, if informality is perceived as a close substitute for a formal job, an autonomous increase of the informal sector relative wage (*e.g.* after an autonomous increase in the relative price of non-tradables) should attract workers and hence increase the size of that sector.

¹⁵ See Fiess, Fugazza and Maloney (2002) and Maloney (2004).

We do not have enough data to carry out a rigorous test of the co-movements between the size of the informal sector, relative wages and the cycle.¹⁶ Instead, we present a preliminary analysis of these variables for the countries in the sample. Table 15 shows the ratio informal/formal for the number of workers and median hourly wages.¹⁷ As in the previous section, these ratios are shown for men and women separately, and for three alternative definitions of informality: (i) self-employed+salaried workers in small firms, (ii) self-employed, and (iii) salaried workers without right to pensions. In each country we also show an index of real per capita GDP based on purchasing-power-parity (PPP).

Table 15. Ratio informal/formal in number of workers and wages.
Unskilled urban workers

	Percapita GDP	Informal = self-employed + salaried workers in small firms				Informal = self - employed				Informal = salaried workers without right to pensions				
		Males		Females		Males		Females		Males		Females		
		I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	
Argentina														
1992	100										0,39	0,75	0,52	0,85
1993	105										0,40	0,80	0,55	0,77
1994	110										0,37	0,71	0,46	0,74
1995	105	0,92	0,80	1,53	0,83	0,53	0,86	0,59	0,83	0,43	0,65	0,59	0,74	
1996	109	1,00	0,84	1,60	0,91	0,50	0,86	0,58	0,99	0,47	0,73	0,64	0,72	
1997	117	0,93	0,84	1,55	0,88	0,45	0,87	0,62	0,88	0,51	0,65	0,65	0,67	
1998	120	0,94	0,80	1,52	0,90	0,47	0,87	0,60	0,91	0,53	0,64	0,66	0,63	
1999	114	0,98	0,79	1,61	0,86	0,50	0,87	0,60	0,90	0,55	0,65	0,70	0,64	
2000	112	1,06	0,77	1,68	0,86	0,56	0,87	0,62	0,92	0,55	0,60	0,72	0,57	
2001	106	1,09	0,78	1,67	0,77	0,59	0,88	0,68	0,73	0,54	0,61	0,71	0,61	
2003	100	1,28	0,77	1,68	0,84	0,74	0,84	0,67	0,92	0,59	0,58	0,64	0,56	
Bolivia														
1993	100	1,66	0,88	7,70	0,56	0,80	1,04	3,91	0,71					
1997	109	1,85	0,88	7,84	0,69	1,11	0,98	4,88	0,87					
2000	110	1,98	0,88	6,19	0,72	1,27	0,85	4,15	0,69	1,83	0,52	1,84	0,34	
2002	110	2,13	0,84	6,77	0,77	1,20	0,83	4,21	0,77	2,59	0,45	2,61	0,30	
Brazil														
1992	100	0,91	0,62	1,55	0,59	0,48	0,83	0,48	0,78	0,41	0,44	0,55	0,44	
1993	103	0,93	0,66	1,57	0,58	0,49	0,88	0,48	0,83	0,42	0,42	0,58	0,44	
1995	110	1,00	0,71	1,68	0,67	0,53	0,94	0,54	1,00	0,44	0,47	0,58	0,45	
1996	118	1,03	0,73	1,58	0,69	0,54	0,98	0,48	1,04	0,48	0,51	0,61	0,50	

¹⁶ Using multivariate co-integration techniques Fiess *et al.* (2002) find periods of co movements of relative earnings and sector size in Mexico and Brazil.

¹⁷ The analysis is carried out for the sample of urban workers aged 15 to 70 without tertiary education who are not in the *patrones* group.

Table 15. Ratio informal/formal in number of workers and wages.
 Unskilled urban workers (continued).

	Per capita	Informal = self-employed + salaried workers in small firms				Informal = self - employed				Informal = salaried workers without right to pensions			
		Males		Females		Males		Females		Males		Females	
		I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf
	GDP												
1997	120	1,03	0,68	1,64	0,65	0,55	0,92	0,50	0,94	0,46	0,49	0,57	0,50
1998	119	1,05	0,70	1,57	0,65	0,57	0,90	0,49	0,90	0,43	0,48	0,51	0,47
1999	118	1,09	0,70	1,67	0,66	0,60	0,88	0,51	0,88	0,45	0,48	0,53	0,47
2001	121	1,03	0,69	1,64	0,67	0,55	0,86	0,50	0,83	0,44	0,49	0,53	0,51
2002	122	1,03	0,68	1,64	0,69	0,55	0,85	0,51	0,83	0,45	0,51	0,54	0,50
2003	120	1,04	0,71	1,68	0,70	0,55	0,85	0,52	0,80	0,43	0,52	0,51	0,57
Chile													
1990	100	0,66	1,16	1,49	0,81	0,44	1,47	0,53	1,37	0,17	0,65	0,31	0,67
1994	128	0,63	1,08	1,35	0,79	0,42	1,40	0,50	1,22	0,13	0,65	0,22	0,63
1996	148	0,59	1,25	1,23	0,88	0,38	1,73	0,45	1,60	0,20	0,60	0,31	0,67
1998	158	0,60	1,30	1,31	0,90	0,38	1,78	0,45	1,57	0,21	0,63	0,33	0,66
2000	160	0,56	1,19	1,27	0,90	0,38	1,57	0,47	1,37	0,23	0,58	0,35	0,62
2003	168	0,59	1,39	1,28	0,99	0,41	1,86	0,47	1,58	0,21	0,70	0,35	0,67
Costa Rica													
1992	100	0,51	0,91	0,88	0,78	0,31	0,95	0,35	0,96				
1997	109	0,69	0,83	1,17	0,77	0,37	0,99	0,51	0,96				
2000	122	0,75	0,91	1,23	0,76	0,43	1,08	0,45	0,86				
2001	121	0,74	0,87	1,27	0,79	0,42	1,03	0,59	0,89				
2003	127	0,66	0,84	1,36	0,77	0,35	0,96	0,64	0,99				
Dominican Rep.													
1996	100	1,08	1,22	1,30	0,77	0,76	1,42	0,64	1,31				
1997	106	1,11	1,03	1,26	0,75	0,84	1,14	0,68	1,06				
2000	127	1,11	1,26	1,25	0,96	0,88	1,40	0,64	1,20				
2003	131	1,24	1,16	1,30	0,90	1,04	1,27	0,68	1,26				
2004	128	1,18	1,27	1,37	0,90	0,95	1,40	0,66	1,25				
El Salvador													
1991	100	0,95	0,73	2,08	0,65	0,38	0,82	1,43	0,65	0,79	0,53	0,54	0,47
2000	119	0,89	0,75	1,86	0,75	0,40	0,88	1,12	0,79	0,70	0,51	0,34	0,50
2002	119	0,97	0,79	1,88	0,75	0,44	0,94	1,13	0,78	0,72	0,53	0,33	0,52
2003	118	0,94	0,85	1,83	0,87	0,41	1,00	1,03	0,94	0,76	0,56	0,37	0,55
Honduras													
1992	100	0,73	0,69	1,30	0,34	0,38	0,83	0,63	0,51				
1997	103	0,98	0,91	1,48	0,70	0,46	1,11	0,85	0,81				
1999	98	1,00	0,84	1,50	0,75	0,46	1,05	0,84	0,88				
2003	102	1,22	0,67	1,88	0,61	0,62	0,77	1,15	0,68				
Mexico													
1996	98	0,89	0,70	1,40	0,59	0,37	0,84	0,61	0,59				
2000	115	0,92	0,72	1,20	0,56	0,33	0,89	0,53	0,54	1,01	0,56	0,84	0,50
2002	112	1,05	0,75	1,51	0,67	0,41	0,88	0,59	0,64	1,15	0,55	1,08	0,56

Table 15. Ratio informal/formal in number of workers and wages. Unskilled urban workers (continued).

	Per capita	Informal = self-employed + salaried workers in small firms				Informal = self - employed				Informal = salaried workers without right to pensions			
		Males		Females		Males		Females		Males		Females	
		I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf	I/F	Wi/Wf
Panama	GDP												
1995	100	0,57	0,80	0,88	0,41	0,42	0,87	0,25	0,73				
1997	110	0,59	0,78	0,98	0,43	0,42	0,78	0,36	0,64				
2001	122	0,69	0,77	1,01	0,53	0,50	0,77	0,35	0,73				
2002	122	0,78	0,75	1,25	0,53	0,53	0,75	0,49	0,72				
2003	125	0,80	0,80	1,22	0,53	0,56	0,86	0,47	0,67				
Paraguay													
1997	100	1,44	0,77	3,87	0,63	0,76	0,84	1,80	0,63	2,43	0,59	2,63	0,44
1999	95	1,16	0,72	4,04	0,63	0,58	0,74	1,89	0,63	2,02	0,64	2,46	0,47
2001	93	1,48	0,69	4,38	0,55	0,74	0,70	2,05	0,49	2,01	0,53	2,18	0,42
2002	89	1,78	0,60	4,42	0,46	0,93	0,53	2,20	0,40	2,37	0,53	2,56	0,38
2003	88	2,04	0,62	7,64	0,49	1,10	0,60	3,51	0,41	2,33	0,50	2,59	0,40
Peru													
1997	100	1,63	0,92	4,78	0,81	0,88	0,90	2,87	0,74				
1999	97	1,95	0,78	6,28	0,73	1,10	0,78	3,43	0,67	2,74	0,62	2,82	0,46
2001	97	1,88	0,78	5,60	0,73	1,02	0,74	3,13	0,68	2,11	0,60	2,42	0,49
2002	100	1,79	0,79	5,36	0,81	0,97	0,81	2,86	0,76	2,09	0,57	2,46	0,51
2003	102	1,99	0,78	6,78	0,77	1,10	0,78	3,57	0,74	1,78	0,56	2,51	0,48
Uruguay													
1989	100	0,55	0,73	1,32	0,57	0,35	0,79	0,52	0,55				
1992	110	0,48	0,76	1,16	0,68	0,34	0,82	0,45	0,73				
1995	117	0,53	0,82	1,22	0,70	0,37	0,89	0,47	0,73				
1998	132	0,64	0,76	1,23	0,73	0,42	0,82	0,41	0,76				
2000	125	0,68	0,73	1,26	0,75	0,46	0,80	0,43	0,73				
2001	120	0,80	0,72	1,33	0,75	0,51	0,79	0,47	0,68	0,25	0,50	0,36	0,56
2002	107	0,89	0,66	1,41	0,73	0,58	0,69	0,49	0,64	0,26	0,49	0,36	0,53
2003	109	0,92	0,64	1,46	0,71	0,59	0,67	0,51	0,58	0,30	0,44	0,40	0,52
2004	119	0,84	0,65	1,45	0,66	0,55	0,70	0,54	0,61	0,33	0,50	0,44	0,51
Venezuela													
1995	100	0,75	1,03	0,55	0,75	0,63	1,10	0,36	0,83	0,14	0,90	0,17	0,60
1998	100	0,81	1,17	0,85	0,79	0,67	1,25	0,62	0,81	0,29	0,80	0,26	0,67
2000	94	0,87	1,12	1,00	0,91	0,68	1,21	0,75	0,89	0,17	0,75	0,13	0,83
2003	78	1,01	0,85	1,28	0,74	0,68	0,92	0,85	0,73	0,40	0,77	0,27	0,74

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Some cases are consistent with the dualistic view of informality, while some others fit better into the voluntary view of informality. In Argentina, and according to the prediction of the labor-market-segmentation hypothesis, the share of informal workers greatly raised during the

crisis that started around 1998. There is also some fall in the relative wage of informal workers, although that result does not hold when considering only the self-employed as informal. In Chile, the relative number of informal workers went down during the expansion 1990-1998, while relative wages for that sector increased. From 1998 to 2003 changes have been erratic.

The case of Brazil seems more consistent with the voluntary view of informality. During the economic expansion in the first half of the 1990s both the relative size and wages of the informal sector grew. When the economy came to a halt in the late 1990s the share of workers in informal jobs remained roughly constant, along with relative wages.

Most LAC countries have experienced an economic expansion in the early and mid 1990s, followed by stagnation and even recessions in the late 1990s and early 2000s¹⁸. Table 16 summarizes the direction of the changes in relative size and wages between urban unskilled self-employed and their formal salaried counterparts. The patterns are similar across countries during recessions: the relative size of the informal sector increases, while relative wages fall. There are few exceptions to this behavior. Instead, during expansions the patterns have been different. Some few countries experienced similar changes as those commented above for Chile. That is the case of Mexico. The rest, instead, has shared the experience of Brazil with higher informality, although in half of the countries the increase in the informal sector size was not accompanied by a raise in relative wages.

Summarizing, during the recent recessions informality has increased along with a fall in relative wages, in accordance with the dualistic view of the labor market. However, the symmetric story for the economic expansions did not take place in most LAC countries. In several economies informality increased during periods of strong GDP growth. That fact may respond to a voluntary view of the labor market: in good times people take advantage of the larger set of opportunities and decide to be self-employed. Of course, the evidence of increasing informality both in expansions and downturns is also consistent with

¹⁸ The recovery that started around 2003 is not well captured in our sample.

some structural changes that induced an increase in self-employment and that operated regardless of the economic cycle.

Table 16. Direction of changes in the ratio informal/formal in number of workers and wages.

	Expansion		Stagnation/contraction	
	I/F	Wi/Wf	I/F	Wi/Wf
Argentina	↓	=	↑	↓
Bolivia	↑	↓	↑	↓
Brazil	↑	↑	=	↓
Chile	↓	↑		
Costa Rica	↑	↑	↓	↓
El Salvador	↑	↑	=	↑
Honduras			↑	=
Mexico	↓	↑	↑	=
Panama	↑	↓		
Paraguay			↑	↓
Peru			↑	↓
Uruguay	↑	=	↑	↓
Venezuela			↑	↓

Informal = self-employed
Unskilled urban workers

V. Changes in employment and informality

A given surge in the level of informality in an economy could be the consequence of either an increase in the propensity to informality within groups, or to a change in the structure of employment toward groups with high propensity to informal arrangements. In this section we examine this issue for the case of salaried workers and the social protection definition of informality.

Informality varies across groups. As discussed above, the access to social protection linked to the job is not uniform across age, gender and education groups. The heterogeneity is significant also across economic sectors, type of firms and jobs. Due to the need for more labor flexibility, high monitoring costs for the government, and other reasons some sectors have high propensity to informality. Construction workers and domestic servants are more likely to be informal than public sector employees. Also, part-timer workers, small-firm employees

and newly-recruited staff tend to have, *ceteris paribus*, lower access to social protection in their jobs. If for some reason the structure of employment changes toward one of these groups, the average rate of informality in the economy will probably increase. On the other hand, the propensity to informality may increase within each group, making the overall rate to grow.

We carry out a decomposition in order to assess the extent to which observed changes in the overall rate of informality in a country are the consequence of changes in the structure of employment or in the propensity to informality within groups. To that aim we follow the microeconomic decomposition methodology of Gasparini (2002). The main inputs are the estimated coefficients of models for the informality status of a worker. The actual change in the informality rate between time t_1 and t_2 in a country is the consequence of changes in the characteristics of the population (the matrix of the independent variables in the regression) and changes in the estimated coefficients of the informality regression. We label these effects as *characteristics* and *parameters* effects.

Table 17 shows changes in the structure of employment of urban salaried workers, while table 18 documents changes in the share of informal workers (social protection definition) by group. The main results of the informality regressions are presented in table 19. We estimate *probit* models for the informality variable (social protection definition) for the sample of urban salaried workers. As regressors we include gender, age, age squared, educational dummies, equivalent household income, categorical variables for the type of firm, seniority, a dummy for part-time worker, and dummies for regions and economic sectors. All regressions are similar across countries, except for the definitions of the regional dummies.

Table 17. Structure of employment. Urban salaried workers

	Argentina			Brazil		Chile		El Salvador		Paraguay		Uruguay		Venezuela	
	1995	2003	2004	1993	2003	1990	2003	1991	2003	1997	2003	2001	2004	1995	2003
Gender															
Female	40,5	45,4	42,3	41,0	44,9	37,1	40,5	40,2	41,9	40,4	43,1	46,1	46,1	43,6	43,9
Male	59,5	54,6	57,7	59,0	55,1	62,9	59,5	59,8	58,1	59,6	56,9	53,9	53,9	56,4	56,1

Table 17. Structure of employment. Urban salaried workers (continued).

	Argentina			Brazil		Chile		El Salvador		Paraguay		Uruguay		Venezuela	
	1995	2003	2004	1993	2003	1990	2003	1991	2003	1997	2003	2001	2004	1995	2003
Age															
0-24	21,6	16,6	17,4	29,8	25,9	20,3	14,7	27,5	24,2	35,1	30,7	17,9	15,4	21,9	18,4
25-40	43,3	43,6	44,0	45,9	45,1	51,3	47,4	48,0	51,2	43,2	42,5	39,4	39,0	51,0	48,0
41-55	27,3	29,8	27,9	19,9	24,2	22,6	30,0	18,9	20,2	18,0	21,7	31,8	34,0	22,7	26,8
56-65	7,1	8,7	9,4	3,9	4,2	5,3	7,1	4,5	3,7	3,0	4,5	9,7	10,1	3,8	6,1
66+	0,8	1,3	1,3	0,5	0,5	0,5	0,8	1,1	0,6	0,7	0,7	1,3	1,5	0,5	0,8
Education (years)															
Low (0-8)	39,6	25,9	29,8	65,8	48,9	30,0	19,4	46,7	33,7	47,8	39,2	37,5	34,7	36,4	33,8
Middle (9-13)	39,3	40,0	41,2	24,6	39,1	49,0	54,3	37,1	44,9	36,9	38,5	43,3	43,3	40,8	36,4
High (14+)	21,1	34,1	29,0	9,6	12,0	21,0	26,3	16,2	21,4	15,3	22,3	19,2	22,0	22,9	29,8
Sector															
Primary activities	0,7	1,1	1,1	6,2	5,0	8,9	8,6	7,9	3,4	2,3	1,8	3,7	4,3	0,8	0,7
Industry 1	8,2	7,1	7,3	8,5	7,0	10,2	5,9	13,2	14,9	8,5	6,4	8,6	7,8	9,9	6,4
Industry 2	12,3	8,2	8,7	11,5	9,9	10,9	8,6	9,0	7,2	6,4	6,0	5,4	5,6	8,6	7,3
Construction	4,5	2,8	5,7	6,3	5,1	7,8	8,3	7,0	8,3	6,3	5,1	5,3	4,5	3,5	5,0
Commerce	16,9	17,2	19,7	17,1	19,9	16,6	18,3	15,6	20,6	23,7	21,6	18,0	16,7	18,0	21,3
Utilities & transportation	9,7	9,4	9,1	7,2	5,9	8,3	8,7	7,6	6,7	8,4	8,2	8,0	7,6	6,6	7,3
Skilled services	9,4	10,7	8,9	5,0	9,2	5,9	8,3	4,4	7,5	6,5	6,2	8,1	7,5	17,7	11,6
Public administration	9,9	9,9	9,6	8,6	8,6	4,4	5,6	11,0	8,7	8,1	9,9	11,3	12,2	7,9	9,0
Education & Health	20,7	26,3	20,4	15,6	17,1	17,5	18,6	15,6	16,3	13,6	16,5	19,4	21,8	24,2	25,9
Domestic servants	7,8	7,4	9,4	14,1	12,3	9,5	9,2	8,7	6,4	16,1	18,4	12,2	12,1	2,8	5,4
Type of firm															
Large	49,1	45,2	46,0	48,3	49,3	61,3	63,3	47,3	54,5	41,3	34,5	50,4	48,9	60,9	56,9
Small	28,8	31,0	32,8	29,8	32,0	22,8	20,3	26,3	27,7	39,6	44,2	26,1	25,9	10,4	18,9
Public	22,0	23,8	21,2	21,8	18,7	16,0	16,4	26,3	17,8	19,0	21,3	23,4	25,2	28,7	24,2
Seniority (years)															
Less than 1	29,3	27,5		28,1	27,7					41,4	34,1				
1 to 5	35,3	32,2		38,9	39,8					34,1	32,7				
5 to 10	14,5	16,8		16,3	15,1					12,7	17,8				
10+	20,9	23,4		16,7	17,4					11,8	15,4				
Hours of work															
1-25	17,5	23,1	21,8	8,2	10,0	5,1	9,4	7,2	6,6	10,1	12,6	16,0	16,5	1,7	4,8
26-45	47,9	42,7	43,5	56,9	56,9	20,8	32,1	46,4	46,8	37,5	35,7	43,3	45,2	75,3	65,6
45+	34,6	34,2	34,7	34,9	33,1	74,1	58,4	46,4	46,6	52,4	51,7	40,7	38,3	23,0	29,6

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

The results of the decomposition exercises are shown in table 20. Given data availability we carried out the microsimulations only for seven countries. The results can be read as follows. Labor informality increased 6 points among urban salaried workers in Argentina between 1995 and 2003. If only the parameters linking observable characteristics to informality (*i.e.* the estimated coefficients in the first two columns of table 19) had changed in that period, and all observable characteristics had remained fixed, informality would have increased by 7 points. On the other hand if only the observable characteristics of workers (including those of their jobs) had changed, informality would have fallen 1 percentual point. In fact, although the employment structure changed in some informality-increasing directions as the fall in the share of large firms, and the sizeable growth in part-time jobs, other changes were informality-decreasing, as the raise in the share of education, health and skilled services in total employment, and the reduction in the share of workers with low seniority (see table 17). On average, these changes between 1992 and 2003 were slightly informality-decreasing¹⁹. The large growth in informality seems to have been associated to a sizeable increase in the propensity to informality in most groups (the parameters effect) (see table 18). A similar story applies to the rest of the Southern Cone countries: Chile, Paraguay and Uruguay. In Brazil the characteristics effects was similar to that of their neighbors, but the parameters effect was smaller, averaging out a negligible change in overall informality. In contrast, Venezuela has large values of both effects, leading to a large increase in informality. El Salvador is the only country in the sample with a significant fall in informality driven entirely by a change in the employment structure in favor of prime-age adults, the skilled, and those employed in large firms.

¹⁹ Notice that when using the EPH Continua 2004 some results change. In particular, the characteristic effect becomes positive. Unfortunately it is difficult to trace the causes of that change, since the survey was modified in various dimensions.

Table 18. Share of informal workers (social protection definition). Urban salaried workers.

	Argentina			Brazil		Chile		El Salvador		Paraguay		Uruguay		Venezuela	
	1995	2003	2004	1993	2003	1990	2003	1991	2003	1997	2003	2001	2004	1995	2003
Total	0,328	0,380	0,427	0,327	0,318	0,181	0,208	0,409	0,371	0,715	0,709	0,229	0,273	0,130	0,255
Gender															
Female	0,369	0,390	0,455	0,369	0,339	0,237	0,257	0,349	0,272	0,725	0,722	0,262	0,303	0,143	0,213
Male	0,299	0,372	0,406	0,298	0,300	0,148	0,175	0,442	0,432	0,708	0,700	0,201	0,247	0,120	0,287
Age															
0-24	0,532	0,633	0,675	0,493	0,464	0,305	0,342	0,594	0,536	0,858	0,884	0,417	0,528	0,172	0,456
25-40	0,283	0,347	0,377	0,255	0,269	0,148	0,178	0,334	0,311	0,640	0,650	0,184	0,243	0,123	0,231
41-55	0,247	0,305	0,356	0,237	0,247	0,142	0,183	0,325	0,315	0,623	0,600	0,182	0,200	0,103	0,170
56-65	0,276	0,294	0,381	0,334	0,323	0,195	0,225	0,496	0,400	0,641	0,641	0,192	0,228	0,151	0,213
66 +	0,422	0,582	0,616	0,545	0,514	0,218	0,396	0,521	0,538	0,854	0,471	0,449	0,402	0,147	0,195
Education (years)															
Low (0-8)	0,429	0,530	0,601	0,410	0,436	0,278	0,321	0,603	0,642	0,863	0,874	0,347	0,425	0,200	0,368
Middle (9-13)	0,306	0,399	0,435	0,192	0,236	0,166	0,209	0,323	0,322	0,645	0,731	0,197	0,246	0,102	0,257
High (14 +)	0,178	0,245	0,234	0,097	0,101	0,078	0,122	0,132	0,100	0,422	0,382	0,071	0,089	0,069	0,119
Sector															
Primary activities	0,450	0,594	0,369	0,655	0,604	0,207	0,216	0,900	0,840	0,905	0,937	0,396	0,452	0,094	0,225
Industry 1	0,332	0,488	0,493	0,218	0,239	0,160	0,169	0,416	0,268	0,694	0,786	0,202	0,287	0,084	0,300
Industry 2	0,255	0,285	0,275	0,154	0,179	0,142	0,171	0,368	0,417	0,700	0,747	0,191	0,271	0,131	0,283
Construction	0,555	0,766	0,769	0,464	0,541	0,160	0,233	0,595	0,674	0,966	0,949	0,315	0,401	0,210	0,692
Commerce	0,438	0,520	0,527	0,354	0,331	0,222	0,210	0,496	0,495	0,796	0,834	0,240	0,329	0,205	0,320
Utilities & transportation	0,351	0,400	0,453	0,146	0,210	0,157	0,208	0,462	0,546	0,559	0,587	0,143	0,147	0,099	0,366
Skilled services	0,240	0,270	0,356	0,166	0,186	0,089	0,145	0,183	0,202	0,672	0,698	0,145	0,194	0,093	0,129
Public administration	0,049	0,139	0,107	0,214	0,148	0,052	0,096	0,133	0,048	0,332	0,268	0,017	0,014	0,018	0,034
Education & Health	0,176	0,214	0,208	0,172	0,185	0,097	0,141	0,243	0,211	0,398	0,441	0,116	0,132	0,101	0,228
Domestic servants	0,899	0,953	0,951	0,684	0,698	0,469	0,503			0,977	0,971	0,651	0,726	0,763	0,343

Table 18. Share of informal workers (social protection definition). Urban salaried workers (continued).

	Argentina			Brazil		Chile		El Salvador		Paraguay		Uruguay		Venezuela	
	1995	2003	2004	1993	2003	1990	2003	1991	2003	1997	2003	2001	2004	1995	2003
Type of firm															
Large	0,225	0,265	0,289	0,163	0,178	0,124	0,147	0,328	0,268	0,680	0,716	0,143	0,193	0,103	0,204
Small	0,720	0,737	0,816	0,718	0,652	0,417	0,494	0,840	0,899	0,960	0,951	0,587	0,677	0,553	0,668
Public	0,054	0,141	0,114	0,154	0,114	0,050	0,087	0,123	0,053	0,279	0,200	0,015	0,014	0,036	0,054
Seniority (years)															
Less than 1	0,622	0,733		0,519	0,514					0,912	0,929				
1 to 5	0,295	0,343		0,310	0,294					0,689	0,725				
5 to 10	0,183	0,231		0,209	0,217					0,523	0,564				
10 +	0,080	0,131		0,158	0,145					0,312	0,356				
Hours of work															
1-25	0,555	0,599	0,719	0,531	0,592	0,504	0,554	0,542	0,592	0,743	0,674	0,540	0,562	0,288	0,608
26-45	0,239	0,277	0,321	0,255	0,257	0,166	0,182	0,307	0,286	0,617	0,575	0,157	0,193	0,111	0,223
45+	0,342	0,366	0,392	0,395	0,339	0,164	0,152	0,506	0,431	0,758	0,810	0,184	0,244	0,181	0,265

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).



Table 19. Models of informality (social protection definition).
Urban salaried workers

	Argentina		Brazil		Chile		El Salvador		Paraguay		Uruguay		Venezuela	
	1995	2003	1993	2003	1990	2003	1991	2003	1997	2003	2001	2004	1995	2003
male	0,092	0,009	0,003	0,061***	-0,179***	-0,157***	0,088**	0,193***	0,033	-0,110	0,108***	0,082**	-0,059	0,086
age	-0,095***	-0,075	-0,103***	-0,107***	-0,098***	-0,096***	-0,095***	-0,067***	-0,088***	-0,068***	-0,111***	-0,119***	-0,040**	-0,092***
age ²	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,001***	0,000**	0,001***
educational dummies														
primary complete	-0,237**	-0,181	-0,242***	-0,151***	-0,100**	-0,137***	-0,232***	-0,331***	-0,140	-0,433***	-0,187***	-0,247***	-0,120	-0,048
secondary incomplete	-0,181*	-0,164	-0,226***	-0,121***	-0,256***	-0,129***	-0,518***	-0,404***	-0,337*	-0,385***	-0,311***	-0,462***	-0,269	0,124
secondary complete	-0,448***	-0,521***	-0,425***	-0,461***	-0,483***	-0,432***	-0,948***	-0,822***	-0,669***	-0,784***	-0,400***	-0,641***	-0,279***	-0,180**
superior incomplete	-0,401***	-0,504***	-0,322***	-0,329***	-0,399***	-0,283***	-0,722***	-1,000***	-0,812***	-0,722***	-0,403***	-0,728***	-0,359*	0,009
superior complete	-0,426***	-0,655***	-0,386***	-0,529***	-0,622***	-0,511***	-0,508***	-1,156***	-0,579**	-0,998***	-0,712***	-0,843***	-0,202	-0,240***
equivalent household income	0,007	-0,020	-0,017**	-0,014**	-0,007	-0,043***	-0,036**	-0,018	0,018	0,003	-0,288***	-0,175***	-0,009	-0,062**
type of firm														
large	-1,029***	-0,858***	-1,331***	-1,069***	-0,807***	-0,977***	-1,448***	-1,654***	-0,985***	-0,883***	-0,937***	-1,015***	-1,098***	-1,417***
public	-1,597***	-1,100***	-1,369***	-1,475***	-1,200***	-1,216***	-1,912***	-2,375***	-2,267***	-1,987***	-2,004***	-2,149***	-1,726***	-2,112***
seniority	-0,058***	-0,064***	-0,027***	-0,032					-0,049***	-0,059***				
part-time worker	0,708***	0,707***	0,723***	0,819***	0,771***	0,929***	0,652***	0,911***	0,456***	0,078	0,915***	0,848***	0,746***	0,884***
constant	2,606***	2,583***	2,826***	2,423***	1,461***	1,708***	3,019***	2,561***	3,368***	3,695***	2,773***	3,314***	0,499	2,715***
regions	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no
sectors	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	14822	7335	70780	95117	16251	36450	9386	7360	2057	4376	15505	14766	2578	3334
Pseudo R2	0,3688	0,3846	0,3249	0,2982	0,2042	0,2161	0,3834	0,4256	0,4009	0,4173	0,3696	0,3902	0,2036	0,2983

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Table 20. Decompositions of changes in informality (social protection definition) Urban salaried workers.

	Actual change (i)	Effects	
		characteristics (ii)	parameters (iii)
Argentina			
1995-2003	0,06	-0,01	0,07
1995-2004	0,11	0,03	0,08
Brazil			
1993-2003	0,00	-0,01	0,01
Chile			
1990-2003	0,02	-0,02	0,04
El Salvador			
1991-2003	-0,05	-0,09	0,04
Paraguay			
1997-2003	0,01	-0,03	0,04
Uruguay			
2001-2004	0,04	-0,01	0,05
Venezuela			
1995-2003	0,14	0,06	0,09

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

IV. Characterizing differences in informality across countries

Recorded informality rates considerably vary across countries. Differences are in part due to noise in the information, since household surveys are not uniform in the region. But there are genuine differences rooted in the variety of productive and employment structures across the region. One of the main relevant differences is the rural-urban mix of the population. In more rural countries informality is expected to be higher. Table 21 shows rates for national, urban and rural areas. The standard deviation for the urban observations is 2 points lower than for the national observations.

But even ignoring rural areas differences in informality across countries remain large (see figure 8). In this section we characterize these differences using microsimulation techniques similar to those applied in section V (also based in Gasparini, 2002). In particular, we compare the actual informality rate in a country *A* to the counterfactual rate that would arise if that country “imported” only the observable

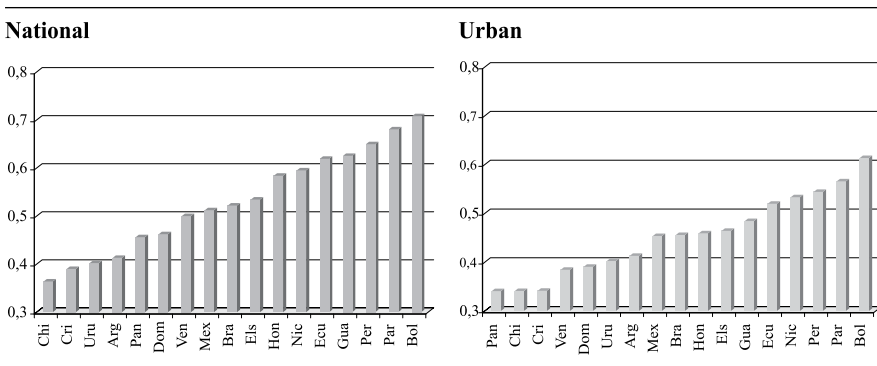
Table 21. Informality rate. National, rural and urban areas.

	Productive definition			Social protection definition		
	National	Rural	Urban	National	Rural	Urban
Argentina			0,413			0,376
Bolivia	0,708	0,863	0,613	0,660	0,765	0,643
Brazil	0,522	0,859	0,456	0,288	0,517	0,264
Chile	0,364	0,540	0,341	0,198	0,327	0,183
Colombia	0,584	0,714	0,548	0,516	0,749	0,408
Costa Rica	0,390	0,475	0,341			
Dominican Rep.	0,491	0,626	0,424			
Ecuador	0,619	0,748	0,520	0,491	0,664	0,448
El Salvador	0,534	0,685	0,464	0,414	0,686	0,316
Guatemala	0,625	0,735	0,484	0,535	0,673	0,428
Honduras	0,584	0,722	0,459			
Jamaica	0,572	0,700	0,425			
Mexico	0,512	0,731	0,453	0,539	0,812	0,488
Nicaragua	0,595	0,705	0,533	0,613	0,789	0,548
Panama	0,456	0,694	0,341			
Paraguay	0,680	0,839	0,566	0,664	0,756	0,633
Peru	0,650	0,845	0,544	0,618	0,809	0,590
Suriname			0,238			
Uruguay			0,402			0,223
Venezuela	0,500		0,384	0,342		0,221

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

characteristics of some other country *B*. That exercise implies keeping the parameters that govern the relationship between observable characteristics and informality fixed at the country *A*'s values.

Figure 8. Informality rate (productive definition). National and urban areas.



Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Country *A* may have a higher informality rate, measured as lack of social protection, than country *B* due to a different employment structure, even when within each group informality is the same as in the other economy. For instance, country *A* may have a larger construction sector or a larger fraction of its labor force as part-time workers. But it could also be the case that for each particular group for some reason informality is higher in *A*. For instance, it could be that construction is carried out mainly by big urban development firms in country *B* which tend to be more formal, and that the government in *B* has more effective instruments to audit labor regulation for part-time workers. The decompositions allow us to have an idea of the relative magnitude of these two channels. Of course this is not a general equilibrium exercise. When we import the characteristics of country *B* into country *A* the parameters would probably change. A larger part-time labor force may induce the government to increase the efforts to auditing the compliance with labor regulations (or to give up, given the size of the task...). In this sense, the microsimulations are partial-equilibrium exercises that illustrate the size of the direct channels through which each change operates.

The results of the decompositions can be used to assess scenarios under which a country may reduce informality. A larger characteristics effect implies that by transforming the employment structure country *A* may reduce informality to the country *B*'s level. That may require progress in education, demographic transitions or sectoral changes in production, all phenomena related to economic development. Instead, a large parameters effect suggests that for some reason informality is larger in *A* for each group (or most groups), and that may be more related to specific policy issues, as high tax pressure, low auditing efforts, or insufficient legislation.

The decompositions are carried out for both definitions of informality. In the social protection case we restrict the analysis to urban salaried adult workers, while in the productive definition the sample includes urban adult workers. The regressions that estimate the parameters of the informality models are similar to the ones explained in section V and shown in table 19.

The results of the decompositions are shown in table 22 for the productive definition of informality, and in table 23 for the social protection

definition. The first panel in table 22 shows that if Argentina imported the parameters of Chile, informality would fall from 44% to 35%, that is, a parameter effect of -9 points (see third panel). If Argentina kept its parameters but took the observable employment characteristics of Nicaragua, informality would increase from 44% to 53%, *i.e.* a characteristic effect of +9 points (see second panel).

Table 22. Decomposition of informality rates. Productive definition.

Simulated rates																
	Parameters of country...															
	Arg	Bra	Chi	Cos	Dom	Els	Gua	Jam	Hon	Mex	Nic	Pan	Par	Per	Uru	Ven
Characteristics of																
Arg	0,44	0,37	0,35	0,33	0,40	0,33	0,38	0,38	0,35	0,40	0,44	0,38	0,47	0,51	0,39	0,41
Bra	0,50	0,47	0,39	0,42	0,49	0,43	0,49	0,41	0,47	0,49	0,53	0,46	0,59	0,60	0,49	0,48
Chi	0,44	0,41	0,34	0,34	0,42	0,34	0,39	0,43	0,36	0,42	0,43	0,38	0,49	0,51	0,40	0,43
Cos	0,47	0,39	0,36	0,35	0,43	0,38	0,41	0,34	0,38	0,43	0,48	0,39	0,55	0,58	0,42	0,44
Dom	0,47	0,41	0,37	0,38	0,44	0,41	0,45	0,39	0,43	0,45	0,49	0,42	0,55	0,57	0,43	0,44
Els	0,49	0,42	0,38	0,39	0,43	0,43	0,47	0,37	0,45	0,47	0,51	0,41	0,58	0,60	0,46	0,44
Gua	0,51	0,46	0,38	0,41	0,45	0,45	0,50	0,40	0,48	0,50	0,53	0,44	0,61	0,63	0,47	0,47
Jam	0,43	0,38	0,31	0,32	0,40	0,32	0,34	0,41	0,32	0,38	0,41	0,36	0,45	0,49	0,38	0,41
Hon	0,52	0,47	0,40	0,42	0,47	0,46	0,50	0,40	0,49	0,50	0,54	0,46	0,63	0,64	0,48	0,49
Mex	0,49	0,43	0,39	0,39	0,45	0,44	0,46	0,40	0,45	0,47	0,52	0,44	0,57	0,60	0,46	0,47
Nic	0,53	0,51	0,41	0,44	0,51	0,48	0,53	0,44	0,52	0,53	0,56	0,48	0,63	0,64	0,50	0,51
Pan	0,44	0,37	0,34	0,33	0,42	0,34	0,37	0,38	0,34	0,40	0,44	0,38	0,48	0,52	0,38	0,42
Par	0,50	0,45	0,41	0,40	0,47	0,40	0,47	0,39	0,45	0,49	0,53	0,44	0,56	0,58	0,46	0,47
Per	0,44	0,42	0,33	0,34	0,42	0,37	0,41	0,43	0,38	0,43	0,46	0,37	0,51	0,54	0,40	0,43
Uru	0,46	0,41	0,37	0,37	0,44	0,37	0,42	0,39	0,39	0,43	0,48	0,42	0,52	0,53	0,41	0,44
Ven	0,45	0,39	0,36	0,38	0,43	0,39	0,44	0,39	0,42	0,44	0,48	0,40	0,52	0,54	0,43	0,41
Characteristics effect																
	Characteristics of country...															
	Arg	Bra	Chi	Cos	Dom	Els	Gua	Jam	Hon	Mex	Nic	Pan	Par	Per	Uru	Ven
Arg	0,00	0,06	0,00	0,03	0,03	0,05	0,07	-0,01	0,08	0,05	0,09	0,00	0,06	0,00	0,02	0,01
Bra	-0,10	0,00	-0,06	-0,07	-0,05	-0,04	-0,01	-0,08	0,01	-0,03	0,04	-0,09	-0,02	-0,05	-0,05	-0,08
Chi	0,01	0,05	0,00	0,02	0,03	0,04	0,04	-0,03	0,06	0,05	0,07	0,00	0,07	-0,01	0,03	0,02
Cos	-0,02	0,07	-0,01	0,00	0,03	0,04	0,06	-0,03	0,07	0,04	0,09	-0,03	0,05	-0,01	0,02	0,03
Dom	-0,04	0,05	-0,01	-0,01	0,00	-0,01	0,01	-0,04	0,03	0,02	0,07	-0,02	0,03	-0,02	0,00	-0,01
Els	-0,10	0,00	-0,09	-0,05	-0,02	0,00	0,02	-0,11	0,03	0,01	0,05	-0,09	-0,03	-0,06	-0,06	-0,04
Gua	-0,12	0,00	-0,11	-0,09	-0,05	-0,03	0,00	-0,15	0,01	-0,04	0,03	-0,13	-0,03	-0,08	-0,08	-0,06
Jam	-0,03	0,00	0,02	-0,07	-0,02	-0,04	-0,01	0,00	-0,01	0,00	0,03	-0,03	-0,02	0,02	-0,01	-0,02
Hon	-0,14	-0,01	-0,13	-0,11	-0,06	-0,04	-0,01	-0,17	0,00	-0,04	0,03	-0,15	-0,04	-0,11	-0,10	-0,07
Mex	-0,06	0,03	-0,05	-0,04	-0,02	0,01	0,03	-0,09	0,04	0,00	0,06	-0,07	0,02	-0,03	-0,04	-0,03
Nic	-0,12	-0,03	-0,13	-0,08	-0,07	-0,05	-0,03	-0,15	-0,02	-0,05	0,00	-0,12	-0,04	-0,10	-0,08	-0,08
Pan	0,00	0,08	0,00	0,02	0,04	0,03	0,06	-0,02	0,08	0,06	0,10	0,00	0,06	-0,01	0,04	0,02
Par	-0,08	0,03	-0,07	-0,01	-0,01	0,02	0,06	-0,11	0,07	0,02	0,08	-0,08	0,00	-0,05	-0,04	-0,03
Per	-0,03	0,06	-0,03	0,04	0,03	0,06	0,09	-0,05	0,10	0,06	0,10	-0,02	0,04	0,00	-0,01	0,00
Uru	-0,02	0,07	-0,01	0,01	0,02	0,04	0,06	-0,04	0,07	0,04	0,09	-0,03	0,05	-0,01	0,00	0,01
Ven	-0,01	0,07	0,02	0,03	0,03	0,03	0,05	0,00	0,07	0,06	0,10	0,01	0,06	0,01	0,03	0,00

Table 22. Decomposition of informality rates. Productive definition
 (continued).

	Parameters effect															
	Parameters of country...															
	Arg	Bra	Chi	Cos	Dom	Els	Gua	Jam	Hon	Mex	Nic	Pan	Par	Per	Uru	Ven
Arg	0,00	-0,07	-0,09	-0,11	-0,04	-0,11	-0,06	-0,06	-0,09	-0,04	0,00	-0,06	0,03	0,07	-0,05	-0,03
Bra	0,04	0,00	-0,07	-0,04	0,02	-0,03	0,03	-0,06	0,01	0,03	0,07	-0,01	0,13	0,13	0,02	0,01
Chi	0,10	0,07	0,00	0,00	0,08	0,00	0,05	0,09	0,02	0,08	0,09	0,04	0,15	0,17	0,06	0,09
Cos	0,12	0,04	0,01	0,00	0,08	0,03	0,06	-0,01	0,03	0,08	0,13	0,04	0,20	0,23	0,07	0,09
Dom	0,03	-0,03	-0,07	-0,06	0,00	-0,03	0,01	-0,05	-0,01	0,02	0,05	-0,02	0,11	0,14	0,00	0,00
Els	0,06	-0,01	-0,05	-0,04	0,00	0,00	0,04	-0,06	0,02	0,04	0,08	-0,02	0,15	0,17	0,03	0,01
Gua	0,01	-0,04	-0,12	-0,09	-0,05	-0,05	0,00	-0,10	-0,02	0,00	0,03	-0,06	0,12	0,13	-0,03	-0,03
Jam	0,02	-0,03	-0,10	-0,09	-0,01	-0,09	-0,06	0,00	-0,09	-0,03	0,00	-0,05	0,04	0,08	-0,03	0,01
Hon	0,03	-0,01	-0,09	-0,07	-0,02	-0,03	0,01	-0,09	0,00	0,02	0,05	-0,03	0,14	0,15	-0,01	0,00
Mex	0,02	-0,03	-0,08	-0,08	-0,01	-0,03	-0,01	-0,06	-0,02	0,00	0,05	-0,03	0,11	0,14	-0,01	0,00
Nic	-0,03	-0,05	-0,15	-0,12	-0,05	-0,09	-0,03	-0,13	-0,04	-0,03	0,00	-0,08	0,07	0,08	-0,06	-0,05
Pan	0,06	0,00	-0,04	-0,05	0,04	-0,04	-0,01	0,00	-0,03	0,02	0,07	0,00	0,10	0,15	0,01	0,04
Par	-0,06	-0,11	-0,15	-0,16	-0,09	-0,16	-0,09	-0,17	-0,11	-0,07	-0,03	-0,12	0,00	0,02	-0,10	-0,08
Per	-0,10	-0,12	-0,21	-0,20	-0,12	-0,17	-0,13	-0,11	-0,16	-0,11	-0,08	-0,17	-0,03	0,00	-0,14	-0,11
Uru	0,05	0,00	-0,05	-0,04	0,02	-0,05	0,01	-0,02	-0,02	0,02	0,07	0,01	0,10	0,12	0,00	0,03
Ven	0,04	-0,02	-0,05	-0,04	0,02	-0,02	0,02	-0,02	0,01	0,02	0,07	-0,01	0,11	0,13	0,01	0,00

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

Take the case of Paraguay to illustrate the results in table 23. That South American economy has the highest levels of informality under both definitions in the sample. If Paraguay manages to change its employment structure to mimic a more developed economy like Argentina, Chile or Uruguay, informality in the labor protection sense would fall by around six points. The effect would be much larger if Paraguay manages to “copy” the parameters of other countries. For instance, informality would fall 33 points by taking the parameters of Chile or Uruguay while keeping the same structure of observable characteristics. In general, the parameter effects are substantially higher than the characteristic effects under the social protection definition of informality. The difference in general is not large under the productive definition.

Table 23. Decomposition of informality rates. Social protection definition.

Simulated rates											
	Parameters of country...										
	Arg	Bra	Chi	Els	Gua	Mex	Nic	Par	Per	Uru	Ven
Characteristics of											
Arg	0,44	0,32	0,29	0,40	0,48	0,52	0,53	0,66	0,71	0,31	0,38
Bra	0,46	0,32	0,28	0,43	0,48	0,57	0,56	0,71	0,76	0,36	0,35
Chi	0,36	0,22	0,20	0,32	0,38	0,45	0,47	0,64	0,65	0,23	0,28
Els	0,43	0,28	0,25	0,38	0,43	0,52	0,51	0,69	0,73	0,32	0,34
Gua	0,48	0,33	0,29	0,44	0,48	0,56	0,56	0,74	0,79	0,37	0,39
Mex	0,46	0,32	0,28	0,43	0,49	0,53	0,55	0,71	0,76	0,34	0,39
Nic	0,51	0,36	0,31	0,49	0,53	0,61	0,61	0,75	0,80	0,40	0,41
Par	0,52	0,37	0,33	0,47	0,56	0,60	0,59	0,71	0,76	0,38	0,41
Per	0,45	0,31	0,28	0,41	0,48	0,53	0,53	0,67	0,70	0,32	0,38
Uru	0,39	0,28	0,25	0,35	0,44	0,49	0,49	0,63	0,69	0,27	0,32
Ven	0,36	0,24	0,21	0,34	0,39	0,49	0,47	0,65	0,68	0,27	0,28
Characteristics effect											
	Parameters of country...										
	Arg	Bra	Chi	Els	Gua	Mex	Nic	Par	Per	Uru	Ven
Arg	0,00	0,02	-0,08	-0,01	0,04	0,02	0,07	0,07	0,01	-0,05	-0,08
Bra	0,00	0,00	-0,10	-0,04	0,01	0,00	0,04	0,06	-0,01	-0,04	-0,08
Chi	0,09	0,08	0,00	0,05	0,09	0,08	0,11	0,13	0,08	0,06	0,01
Els	0,03	0,05	-0,06	0,00	0,06	0,06	0,11	0,09	0,03	-0,03	-0,04
Gua	0,00	0,00	-0,09	-0,05	0,00	0,01	0,05	0,09	0,00	-0,04	-0,08
Mex	-0,01	0,04	-0,08	-0,01	0,03	0,00	0,08	0,07	-0,01	-0,04	-0,04
Nic	-0,08	-0,05	-0,13	-0,09	-0,04	-0,06	0,00	-0,01	-0,07	-0,11	-0,14
Par	-0,05	0,00	-0,06	-0,02	0,03	0,00	0,05	0,00	-0,04	-0,08	-0,06
Per	0,01	0,06	-0,05	0,03	0,09	0,06	0,10	0,06	0,00	-0,01	-0,02
Uru	0,04	0,09	-0,04	0,05	0,10	0,07	0,13	0,11	0,05	0,00	0,00
Ven	0,10	0,07	0,00	0,06	0,12	0,12	0,13	0,13	0,10	0,04	0,00
Parameters effect											
	Parameters of country...										
	Arg	Bra	Chi	Els	Gua	Mex	Nic	Par	Per	Uru	Ven
Arg	0,00	-0,13	-0,15	-0,04	0,04	0,08	0,09	0,22	0,27	-0,13	-0,06
Bra	0,14	0,00	-0,03	0,11	0,16	0,25	0,24	0,39	0,45	0,04	0,03
Chi	0,16	0,02	0,00	0,12	0,19	0,25	0,27	0,44	0,45	0,04	0,08
Els	0,05	-0,10	-0,13	0,00	0,05	0,14	0,13	0,31	0,35	-0,06	-0,04
Gua	0,01	-0,15	-0,19	-0,04	0,00	0,08	0,09	0,27	0,31	-0,11	-0,08
Mex	-0,07	-0,21	-0,25	-0,10	-0,04	0,00	0,02	0,18	0,23	-0,19	-0,14
Nic	-0,09	-0,25	-0,29	-0,11	-0,08	0,00	0,00	0,15	0,19	-0,20	-0,19
Par	-0,19	-0,33	-0,38	-0,24	-0,15	-0,11	-0,12	0,00	0,05	-0,33	-0,30
Per	-0,25	-0,39	-0,42	-0,29	-0,22	-0,17	-0,17	-0,03	0,00	-0,38	-0,32
Uru	0,12	0,01	-0,02	0,08	0,16	0,22	0,22	0,36	0,42	0,00	0,05
Ven	0,08	-0,04	-0,07	0,06	0,12	0,21	0,19	0,37	0,41	-0,01	0,00

Source: own calculations based on SEDLAC (CEDLAS and The World Bank).

VII. Concluding remarks

We have presented a general picture of labor informality in Latin America and the Caribbean by showing a wide set of statistics for a sample of 21 countries. The evidence suggests that there are no signs of a consistent pattern of reduction in labor informality in the region in the last two decades. Regardless of the definition used, labor informality remains a pervasive characteristic of labor markets in LAC. The evidence of increasing informality both in expansions and downturns in several countries is challenging as it calls for explanations that go beyond the economic cycle.

The cross-section evidence seems to be consistent with the idea of voluntary self-employment. Unskilled young people enter the labor market as wage earners, accumulate knowledge, capital and contacts, and then set up their own informal businesses. However, on average, being informal implies lower wages, even when controlling for observable factors. Informal male workers without a secondary education on average earn 30% less than their formal counterparts. Accordingly, in all countries the difference in the poverty headcount ratio between informal and formal workers is sizeable. In most countries informal workers have lost ground against their formal counterparts in terms of hours of work, but not in terms of hourly wages.

In several countries the increase in labor informality, as defined by the lack of social protection, seems to have been associated to a sizeable increase in the propensity to informality in most groups. The same conclusion arises when comparing labor informality across countries. Understanding differences in informality over time and across countries seems to be much more complicated than accounting for different labor structures.

The legalistic or social protection definition of informality is probably the most interesting to study, and the most relevant for many policy issues. One way to learn about labor informality in this sense is by comparing country experiences on social protection. Although certainly subject to many caveats, the country comparisons are often in practice the most compelling pieces of evidence over economic policy arguments. Unfortunately, the information on social protection

contained in the LAC household surveys is still scarce, heterogeneous and volatile. A generalized effort toward a better and more homogeneous coverage of social protection issues in household surveys would surely be socially very productive.

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