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### **Informality and Productivity in Bolivia: A Gender Differentiated Empirical Analysis**

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# **Informality and Productivity in Bolivia: A Gender Differentiated Empirical Analysis<sup>1</sup>**

By

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Final report

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<sup>1</sup> This study was made for the World Bank as an input to the study “Increasing Productivity: The Road to Formality.” Valuable inputs from Yaye Seynabou Sakho, Loli Arribas-Banos, Trine Lunde, Luis Alberto Quiroga, Ruth Llanos, David McKenzie, Wendy Cunningham, Maria Beatriz Orlando, Julio Loayza, Julio Velasco, Addy Suxo, Martha Gutierrez, Carmen Julia Ibáñez, Diana Urioste, Teresa Canaviri, Lourdes Montero, Carmen Velasco, Juana Mamani, Joaquin Morales, Carlos Gustavo Machicado, and Yesmina Andrade are greatly appreciated. The findings and recommendations are those of the authors and do not necessarily reflect the opinions of the World Bank and its Board of Directors.

## EXECUTIVE SUMMARY

This report analyzes gender differences in informality and productivity in urban Bolivia. Rural Bolivia is excluded from the analysis for three reasons: 1) informality in rural areas is close to 100% for both men and women<sup>2</sup>, 2) farming is a family business and it is impossible to tell if one family member is more productive than another, and 3) data on productivity and profitability is too unreliable in rural areas.

The urban labor market in Bolivia can be divided into 4 main sectors: 1) the public sector, 2) the formal private sector, 3) self-employed informals, and 4) informal workers. Although incomes are generally higher in the public sector and in the formal private sector, there is a strong preference in Bolivia for being informally self-employed. Two thirds of both men and women in urban areas respond that they would prefer to be self-employed rather than a salaried employee,<sup>3</sup> and few see any advantage of becoming formal under the current institutional set-up.<sup>4</sup>

Currently, half of all economically active women in urban areas are informally self-employed, while this is the case for only one third of men. This implies that women are actually closer to the desired state than men, according to their own preferences. The real problem for women is not that they are informally self-employed, but rather that the profitability of their informal enterprises is low. On average, monthly profits of female micro-entrepreneurs is about 40% lower than those of male micro-entrepreneurs.<sup>5</sup>

This report uses quantitative information from about 600 micro and small enterprises to break down and understand this gender gap in profitability, and the results show that almost the whole gap is due to the fact that women operate their businesses on a much smaller scale (with less productive capital and fewer employees) than men.

Why do female entrepreneurs operate on a smaller scale? One partial explanation is that they do not want to grow, because the business then would lose some of the features that make a micro-business particularly attractive for women (not to depend on others, to be able to care for children simultaneously, flexible working hours, and daily revenues). When asked about what they consider the ideal number of employees for their business five years into the future, the average for women is 6.9 compared to 9.2 for men. Single women are generally a bit more ambitious than married or cohabiting women (the first would on average like 5.3 additional employees, whereas the latter only wants 4.2 extra employees),<sup>6</sup> which suggests that family obligations may be one of the reasons why women prefer to keep their businesses at a relatively small scale.

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<sup>2</sup> As measured by NIT, 94.4% of men and 97.8% of women are informal. Neither men nor women in rural areas are affiliated with the pension funds (0.0% in both cases).

<sup>3</sup> MECOVI 2005.

<sup>4</sup> Encuestas & Estudios (2007).

<sup>5</sup> Micro and small business survey carried out by Encuestas & Estudios during March of 2007.

<sup>6</sup> 2007 Micro and small business survey.

More important, however, is the lack of access to capital. Micro and small businesses operated by women have only a third of the operating capital of male operated businesses.<sup>7</sup> There are two main reasons for this. First, women generally have fewer opportunities to accumulate capital, both because their household and reproductive work takes time away from paid work, and because they tend to earn less than men when they do work for money. Second, they do not have access to credit on reasonable terms. Access by itself is not the problem, as there is a very active micro-credit industry in Bolivia, but the terms are so unattractive that women try to avoid it if at all possible. The interest rates are high (20-40% per year); the group-lending practices increases the risk for the borrower, as they may end up paying other group members' debt also; and they are typically required to assist at compulsory training courses twice a month, which is demanding for busy women running both a business and a household. Banks offer loans at more reasonable terms, but the requirements are difficult for micro-entrepreneurs to comply with (especially proof of a monthly pay check) and the risk is large as an entire house is often put up as collateral for even a small loan.

The credit terms are the same for both men and women, but women find it more difficult to obtain loans because loans are granted not on the basis of an analysis of business prospects but rather on the basis of existing incomes and assets, both of which tend to be lower for women.

The two main policy initiatives that can help women overcome the capital constraint are the following:

1. **Free public child care.** This would give women more time for market work and thus more opportunities to accumulate capital.
2. **Subsidized credit for small businesses, based on business prospects.** The interest rate should be reasonable (6 - 8% per year), the borrowing period sufficiently long to be attractive for productive sectors (2-5 years), and the bureaucratic requirements minimal (a personal ID, a NIT, tax reports for the last 3 months, a simple business plan, and a realistic budget). The loans should be granted on the basis of business prospects and expected future earnings, rather than existing assets and incomes, as is currently the custom.

Capital and credit is not a binding constraint in all sectors, however. On average, returns to additional capital investments are estimated to be relatively high (internal rates of return of over 20%) in the food sales sector, the textile clothing sector, and the camelid clothing sector. In contrast, they are estimated to be negative for grocery stores and the transport sector, which have experienced overinvestment to the extent that the returns to both capital and labor in these two sectors have been severely depressed.

Even in the sectors where returns to capital are relatively high, a doubling of productive capital would not lead to a doubling of monthly profits. In fact, estimation results show strongly diminishing returns to scale, which means that micro-enterprises have little incentive to grow. Under the current institutional setup in Bolivia, it makes more economic

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<sup>7</sup> 2007 Micro and small business survey. Real estate excluded.

sense to have several identical micro-enterprises in the family rather than one larger enterprise, and this is indeed often observed in practice. This is partly due to the characteristics of the sectors (for example, several small stores can capture a larger market due to the geographical dispersion), but it is mostly due to the tax-system, which becomes very demanding, both in terms of bureaucratic procedures and in terms of tax burden, as soon as an enterprise grows past a certain threshold.

Under the current institutional set up, micro-entrepreneurs perceive no benefits from becoming formal, and indeed estimation results confirm that formality would lower the monthly profits of micro-enterprises (less than 3 workers and less than \$1000 in operating capital) by 30-40%. Slightly bigger firms (3-5 workers), however, may benefit from getting a NIT and thus be able to offer *facturas* to the clients.

In order to encourage more firms to become formal, there would have to be some benefits of becoming formal, and at the same time the bureaucratic procedures would have to be simplified. Among the most attractive benefits that could be offered are the following:

1. **Subsidized credit to firms with a NIT**, as suggested above.
2. **Free training courses for firms with a NIT**. Practical courses that take entrepreneurs through all the steps of making a business plan, of setting up an accounting system, or of becoming an exporter, for example.
3. **Free child care facilities for owners and employees of formal firms**.
4. **A public subsidy to maternity leave for firms with a NIT**. Currently women are underrepresented in the private formal sector, and the ones who do work there earn significantly less than men with the same qualifications. This is likely because formal firms are required to pay the full costs of maternity leave, which makes it more risky and more expensive to hire women. A public subsidy to maternity leave would help make women more attractive for the formal sector, and vice versa.

The above mentioned initiatives would have both a direct and an indirect effect on formality. Not only do they make formality immediately more attractive, but they also help firms grow, and thus more likely to want to become formal. The policies will be particularly beneficial for women, as they address constraints that are particularly binding for women.

The report finishes with a list of sector specific policy recommendations, of which the most important additional recommendations are the following:

1. **Industrialization of camelid wool within Bolivia**. Currently the raw material is exported to Peru for industrialization and the processed yarn then imported to Bolivia for the manufacturing of clothing.
2. **Development of the tourist industry**. This will allow micro-entrepreneurs in many different sectors to “export” without all the usual complications of exporting goods.
3. **Reduce harassment from police and municipal inspectors**. This is particularly relevant for women in the food sales sector.

## 1. Introduction and overview

During the last 30 years, the Bolivian economy underwent substantial restructuring from strong state-domination to liberalization of trade, privatization of state enterprises, and general integration into an increasingly globalized world. This implied that employment in the public sector fell from 26.0% of the urban labor force in 1985 to 12.1% in 1997 (Jemio 2000).

At the same time the country is undergoing the classic demographic transition, which implies that an increasing proportion of the population is of working age, and dependency burdens are falling systematically so that women do not anymore have to spend the major part of their adulthood caring for young children, but can instead participate in the income generating activities of the households.

The private sector has not been able to absorb both the workers expelled from the public sector and the general increase in work force, implying that salaried employment fell from 52.8% of the urban labor force in 1985 to 43.5% in 1996. White-collar employment fell even more rapidly, from 42.1% in 1985 to 29.9% in 1996. In contrast, self-employment increased from 47.2% in 1985 to 56.5% in 1996 (Jemio 2000).

Due to the later insertion of women in the labor market, and the marked differences in gender roles, men and women occupy different positions in the labor market. Table 1 shows that women are much more likely than men to be informally self-employed, whereas they are underrepresented in the formal private sector.

*Table 1: Distribution of the urban labor force across sectors, by gender (%)*

<b>Sector</b>	<b>Men</b>	<b>Women</b>
Informal worker	23.7	15.1
Informal self-employed	33.0	49.8
Formal Private	34.0	23.9
Public	9.4	11.3
Total	100.0	100.0

*Note:* Formality is defined as having a tax identification number (NIT).

*Source:* Authors' calculation based on the 2005 MECOVI.

This is not necessarily a problem.

Both men and women in Bolivia indicate a strong preference for being self-employed. Two-thirds of both men and women in urban areas respond that they would prefer to be self-employed rather than a salaried employee<sup>8</sup>, and very few think it is an advantage to be formal<sup>9</sup>. This means that women are actually closer to the desired state than men, according to their own preferences.

From the viewpoint of society, however, it may not be optimal for the economy to be dominated by tiny, informal businesses. For example, informality hampers the possibilities for reaping economies of scale, which may be important in some sectors (probably most important in export sectors, less important in local service sectors). Informal firms may also have difficult access to financing at reasonable conditions, which may imply a sub-optimal level of investment in productive capital. Finally, informality erodes the tax-base and limits

<sup>8</sup> According to the MECOVI 2005.

<sup>9</sup> According to focus group interviews carried out by Encuestas & Estudios (2007).

the government's options for creating a sustainable source of revenues for public spending and investment (World Bank 2007).

In this study we focus on identifying constraints to productivity growth among micro and small enterprises in urban Bolivia, with special attention to gender differences. The results will help us formulate policy recommendations on how to increase the incomes of the poorest segments of the urban population within the current institutional setup.

We also include an analysis of the constraints to becoming formal in order to formulate policy recommendations on how to change the institutional setup to encourage formality in the medium to long run.

The remainder of the paper is organized as follows: Section 2 is a descriptive section that puts the productivity of men and women in the urban informal sector into perspective, using information from the 2005 MECOVI household survey. This allows us to identify particularly disadvantaged groups, and by comparing their incomes to other population groups we will get an idea of how much room there is for improvement.

After describing the context of informal men and women in urban Bolivia, Section 3 proceeds with an analysis of constraints to productivity growth, with special attention to gender differences. The section relies on quantitative information from both the nationally representative 2005 MECOVI household survey and the 2007 micro and small enterprise survey carried out by Encuestas & Estudios, as well as on qualitative information from a review of the national and international literature, from stakeholder consultations, and from focus group meetings carried out in Bolivia during the first semester of 2007.

Section 4 analyzes gender differences in the profitability of micro and small enterprises using the 2007 micro and small enterprise survey. The results indicate that once controlling for business size (as measured by productive capital and number of employees) and sector of work, there are no significant difference in the profitability of male and female run businesses. It is therefore particularly important to understand which constraints women face in expanding their businesses.

Section 5 provides an in depth analysis of productivity constraints for small businessmen and women in four different sectors, using the 2007 micro and small enterprise survey as well as qualitative inputs from focus group meetings in El Alto, La Paz, Cochabamba and Santa Cruz.

Finally, section 6 summarizes the main conclusions and presents a list of policy recommendations arising from the quantitative and qualitative analysis carried out.

## **2. The context**

The urban labor market in Bolivia can be divided into 4 main sectors:

- 1) the public sector,

- 2) the formal private sector,
- 3) self-employed informals, and
- 4) informal workers.

Although there is quite a lot of variance within each sector, it is clear that the public sector attracts the most educated people and provides the best benefits. The formal private sector is competing with the public sector for skilled employees, but generally can not provide quite as generous benefits, so this sector ends up with somewhat less educated people.<sup>10</sup>

At the other end of the specter, and quite separate from the two formal sectors, we find self-employed informals and informal workers. People in these two sectors have much lower levels of education and receive much lower incomes. Figure 1 shows average incomes and average education levels for the four sectors, by gender and ethnicity. This results in 16 different groups, whose relative importance is reflected by the size of each bubble.

Public sector jobs are almost evenly split between men and women and between indigenous and non-indigenous people. Indigenous women in this sector on average earn less than the others, but that is likely explained by the large number of PLANE workers (emergency employment program that hire workers for three weeks on a lottery basis and pays very low salaries) that are registered as public sector employees.

The formal private sector is dominated by non-indigenous men, while women and indigenous men are underrepresented. The formal private sector is currently particularly unattractive for women due to a significant gender-based wage gap which is much less pronounced in the public sector and which does not exist in the informal sector (once controlling for education and other inputs – see subsequent sections). This wage gap is most likely explained by the large costs that pregnancies impose on formal firms, as these are required to pay three months of maternity leave, in addition to suffering interruptions in the work flow and incurring extra training costs.

While informal self-employed and informal workers have approximately the same levels of education, the self-employed earn systematically higher incomes. The advantage of being self-employed is particularly large for women. For example, the average indigenous female informal worker earns a wage of only Bs. 2.71/hour whereas the average indigenous self-employed female makes Bs. 4.23, despite the fact that the latter has 1.3 years less education. For non-indigenous females the difference is even larger, with the informal employee earning an average of Bs. 3.58/hour and the self-employed earning Bs. 7.08/hour, for identical education levels.

The fact that women are punished in the private formal sector (both in terms of wages and access) and earns much more as informally self-employed than as informal worker helps explain why women are over-represented in the group of self-employed informals (as shown in Table 1). For women who do not have the necessary education to work in the

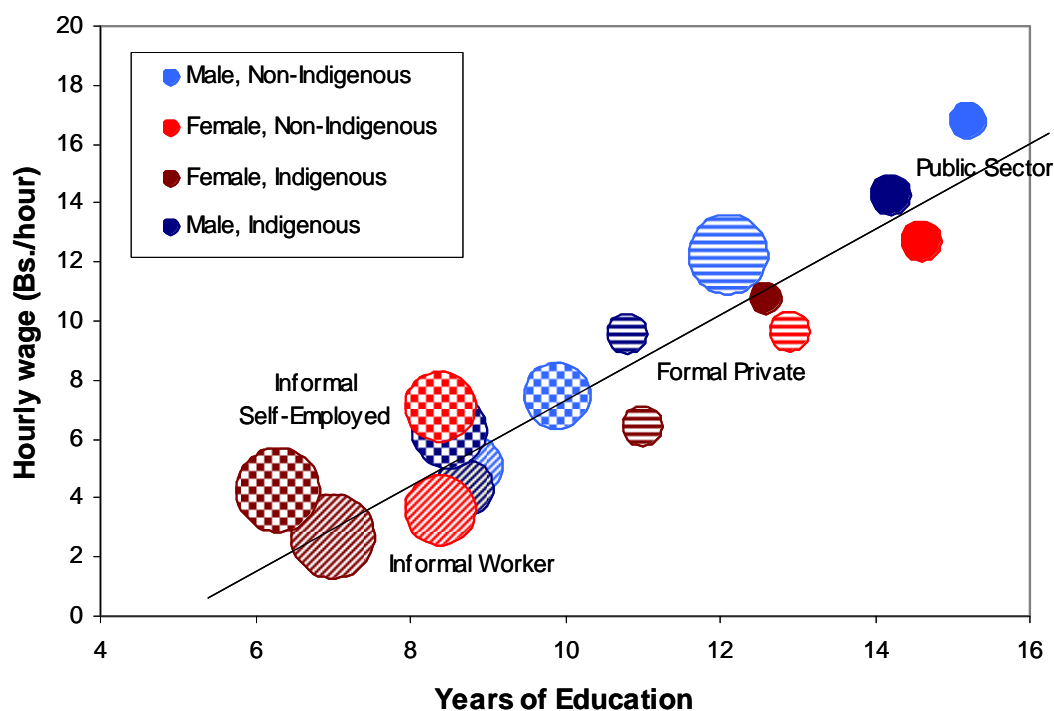
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<sup>10</sup> Advantages of working in the public sector include higher salaries, more stable jobs, health insurance, rights to paid maternity leave, shorter working hours, and in some cases power and access to additional income from bribes (Andersen & Christensen 2006).



public sector (typically as teachers, nurses, and secretaries), being informally self-employed appears to be the most attractive alternative.

Figure 1: Education and wages in urban Bolivia, by sector, gender and ethnicity, 2005



Source: Authors' estimation based on MECOVI 2005. Note: Self-employed and unpaid family members within each family are assumed to share the incomes from their micro-business, according to the hours worked, rather than all income being attributed to one of the family members (the head), as is often done.

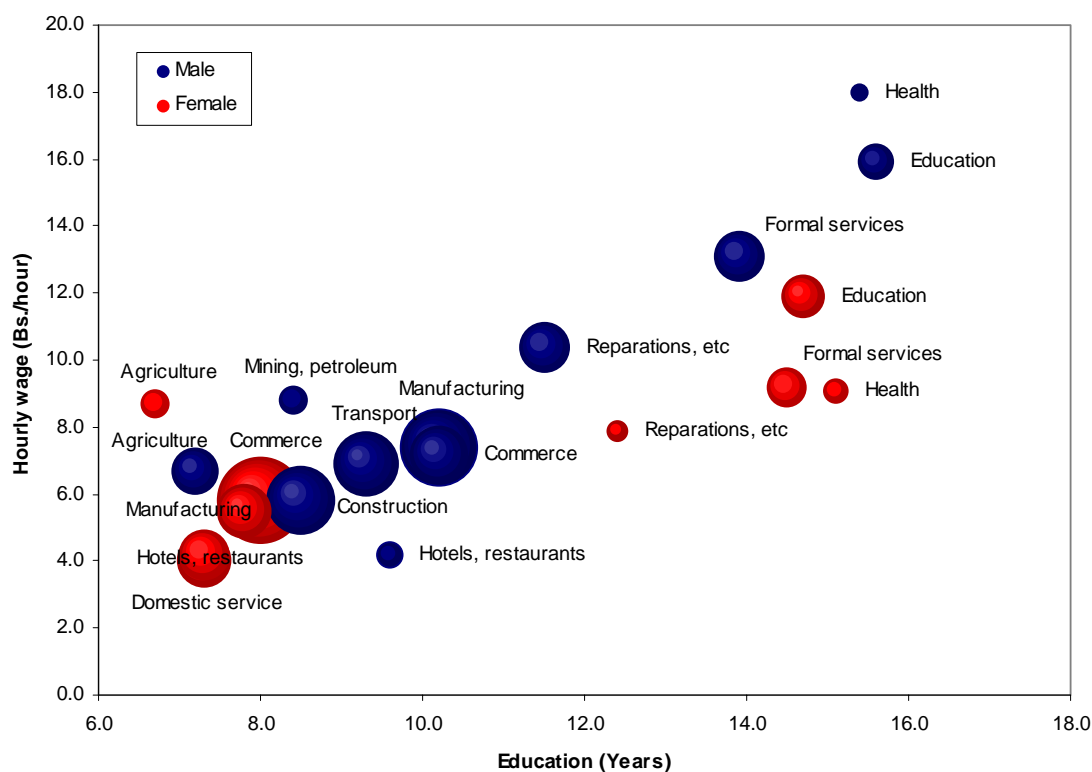
Another way to illustrate gender differences in the urban labor market is to classify the working population by activity. Figure 2 shows that women are concentrated in commerce and domestic service, whereas men are concentrated in manufacturing, construction and transport. Again it is clear that gender wage gaps are much larger for high levels of education, whereas there is no discernible gender wage gap for low levels of education. For example, in the health sector, both men and women on average have a bit more than 15 years of education, but women earn only half as much as men. In contrast, men and women in the hotel and restaurant sector earn the same level of incomes despite the fact that women have 2.3 years less education, on average.

For men there is a clear positive relationship between education and earnings. The occupations which require high levels of education also pay correspondingly high salaries. This relationship is much less clear in the case of women. For example, women working in health and formal services with around 15 years of education earn pretty much the same as women working in urban agriculture with half the level of education. This implies that the returns to education are smaller for women than for men.

Policies to promote gender equality in the labor market therefore principally have to tackle the problems in the formal sector, so that this sector can become more attractive for women. Policies designed to educate and formalize women in the informal sector will not be successful unless the formal sector becomes an attractive alternative for these women.

At the moment, becoming a teacher is an attractive option for women, as this occupation yields a decent return to education, and in addition requires relatively few hours of work, comes with life-time employment guarantee, and provides full benefits. But there is a limit to how many teachers the country can employ.

Figure 2: Education and wages in urban Bolivia, by activity and gender 2005.



Source: Authors' estimation based on MECOVI 2005. Note: Self-employed and unpaid family members within each family are assumed to share the incomes from their micro-business, according to the hours worked, rather than all income being attributed to one of the family members (the head), as is often done.

Conceptually, there are two different ways to increase the incomes of the population groups in the lower end of the income distribution. Either the average incomes of these groups can be increased, or the individuals can move to groups with higher average incomes.

The first option requires understanding and alleviating productivity constraints within each group. Constraints could be related to lack of customers/clients, lack of training, lack of credit, unreliable supply of inputs, unreliable workers, excessive bureaucracy, unfair



*Source:* Authors' estimation based on MECOVI 2005. *Note:* Self-employed and unpaid family members within each family are assumed to share the incomes from their micro-business, according to the hours worked, rather than all income being attributed to one of the family members (the head), as is often done.

It is important to ensure that there is room for new entrants in the destination groups, however. The transport sector, for example, is currently so saturated that fares are being discounted far below the official tariffs, with obvious implications for the incomes of the drivers. Seventeen percent of incumbents in the transport sector plan to abandon this activity in the near future, which is more than in any other of the informal sectors. Among hotel and restaurant owners, only seven percent wishes to abandon their business, despite the fact that incomes are low in this sector<sup>11</sup>.

In this paper we will identify both the constraints to improving productivity within each group, and the constraints to moving from a low productivity group to one with higher average productivity. The first type of constraints will be called *productivity constraints*, and the second type will be called *mobility constraints*. It should be kept in mind, though, that mobility constraints are not only limited to physical mobility, but also includes other types of changes (such as change of sector or change in legal status).

### **3. Productivity and mobility constraints**

This section analyses possible productivity and mobility constraints, focusing particularly on gender differences in these constraints. The analysis uses several different complementary sources: 1) a review of the local and international literature, 2) qualitative information from focus group interviews with micro and small business owners in La Paz, El Alto, Cochabamba and Santa Cruz, 3) quantitative information from the nationally representative 2005 MECOVI household survey, and 4) quantitative information from a 2007 survey of micro and small enterprises carried out by Encuestas & Estudios specifically for the study of informality and productivity.

#### ***A. Productivity constraints by gender***

##### *Lack of capital*

For labor to be productive, complementary inputs are absolutely essential. Some sectors are more capital intensive than others, but even the least capital intensive activity requires some initial investment. For example, to sell sweaters you would at the very least need a llama to cut wool from and a couple of knitting sticks. But you would be much more productive if you could buy the wool already spun and dyed, had one or more knitting machines to help you, and a distribution system for getting the sweaters to the buyers.

One of the main reasons for low labor productivity, and thus low incomes, is a lack of capital to invest in complementary inputs. And in this aspect women have a substantial

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<sup>11</sup> According to information in the MECOVI 2005.

disadvantage compared to men. As we will see later, female micro entrepreneurs in Bolivia have only a third of the productive assets than male entrepreneurs, and this is the main reason why they have lower earnings (see Section 4 below).

There are several reasons why women have fewer opportunities to accumulate capital than men. First of all, they spend a lot of time on non-remunerated activities related to reproduction and home-making (e.g. Bianchi 2000; Cunningham 2001; Winkler 2002). The more children they have, the less time they will have to earn money and accumulate capital. Even if men share their incomes completely with their wives, families with many children will typically not be able to earn as much income per capita as families with few children (Andersen 2007).

Second, even if women could work as much as men, they tend to earn significantly less per hour worked. Some of the difference in salaries is due to differences in education and experience, but even controlling for that, women tend to earn 20-30% less than men in Bolivia (Andersen & Muriel 2002).

Third, there is a tendency for women to spend more of their incomes on the education of their children (e.g. Handa 1994; Andersen, Christensen & Molina 2005), implying that less is left over for savings and investment in a business.

One counter-acting factor would be that women, at least in the past, tended to study much less than men, so they had more years to work.

#### *Lack of access to credit*

The lack of savings could potentially be alleviated by access to credit, but women in general make much less use of formal credit than men. The 2007 survey of micro- and small enterprises in Bolivia, for example, show that only 19% of female run businesses have made any use of bank loans, while this is the case for 29% of male run businesses. Even in the case of micro-credit, which often is specifically targeted at women, female entrepreneurs have made less use of it than men (5.9% versus 7.1%).

Experiences in the region with facilitating access to credit for women show that low female participation rates do not reflect a lack of demand or that women are disinclined to borrow. For instance, in Costa Rica, women's share among borrowers in the National Bank increased by 240% in the five-year period of 1999 to 2003, following initiatives to consolidate and adapt a credit system specifically for women (Zúñiga 2004).

Access to credit is particularly hindered by gender inequalities in the distribution of property rights and other practical obstacles such as lacking identification, and in the case of indigenous women, language and cultural barriers. In a set of Latin American countries, Deere & Leon (2003) found that roughly 70–90 percent of formal owners of farmland are men, and when women do own farmland, their holdings are typically smaller than men's<sup>12</sup>.

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<sup>12</sup> The sample includes Brazil, Chile, Colombia, Ecuador, Honduras, Mexico, Paraguay, and Peru.

Without formal property rights, women are excluded from the direct economic benefits of land; these include income from production, rental or sale as well as the use of land as collateral for credit. In cases where women's property rights are tenuous and/or hinge on their status as wives, mothers, and daughters, women's capacity to gain from the expansion of high value agricultural exports may also be limited (Dolan & Sorby 2003). The land titling practices in Bolivia are currently changing so that there are many more joint titles (58%), whereas titles exclusively for women are still rare (6%) compared to titles being awarded to men alone (24%)<sup>13</sup>.

Focus group interviews with female micro-entrepreneurs in Bolivia reveal that it is not difficult to obtain loans in Bolivia – indeed there are many microfinance institutions actively pushing credit on this group – but that the interest rates are much too high, the borrowing period too short, and the requirements concerning group guarantees and attendance at bi-weekly workshops very inconvenient. Many are scared of losing their assets if one month they cannot make their payments, and women who have not had to take a micro-finance loan consider themselves lucky<sup>14</sup>. A source inside Pro-Mujer (an NGO lending exclusively to women in Bolivia) admits that they prefer to work with women in El Alto as they are less educated, less aware of the laws, and thus easier to scare into paying<sup>15</sup>.

Formal bank loans are more attractive, but the requirements almost impossible to comply with for micro-entrepreneurs. Typically the bank demands monthly income statements, which own-account workers don't have, as well as real estate documents, which are often missing or incomplete even when people do own both land and buildings. In addition, the banks are rarely willing to give loans to single women, as these are considered more risky than loans to married couples who can jointly guarantee for the loan<sup>16</sup>.

#### *Lack of human capital and social capital*

There are important gender-based differences in human capital (education, training, experience) that could operate as potential constraint to the productivity of female entrepreneurs and self-employed. Nowhere are the gender and ethnicity gaps in education larger than among the informally self-employed (see Table 2). In this sector the average non-indigenous man has 9.9 years of education while the average indigenous woman only has 6.3 years of education. In contrast, in the private formal sector, the difference is substantially smaller (12.1 years for non-indigenous men versus 11.0 years for indigenous women). Most of the difference is explained by ethnicity rather than gender, however.

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<sup>13</sup> Bolivia (2005).

<sup>14</sup> Focus group meetings with female micro-entrepreneurs in El Alto, La Paz, Cochabamba and Santa Cruz carried out by Encuestas & Estudios during June 2007.

<sup>15</sup> Gibb (2007).

<sup>16</sup> Focus group meetings with female micro-entrepreneurs in El Alto, La Paz, Cochabamba and Santa Cruz carried out by Encuestas & Estudios during June 2007.

*Table 2: Education levels, by sector, gender, and ethnicity (years of schooling)*

<b>Sector</b>	<b>Men</b>		<b>Women</b>	
	Non-indigenous	Indigenous	Non-indigenous	Indigenous
Informal worker	8.8	8.7	8.4	7.0
Informal self-employed	9.9	8.5	8.4	6.3
Formal Private	12.1	10.8	12.9	11.0
Public	15.2	14.2	14.6	12.6

*Note:* Formality is defined as having a tax-payer identification number (NIT).

*Source:* Authors' calculation based on the 2005 MECOVI. Urban areas only.

Some researchers note that the usefulness to poor micro-entrepreneurs, even of participatory skills and business training, cannot be assumed. With or without the required business and management skills, the multiple constraints faced by many poor women entrepreneurs, especially very small producers and market vendors, means they are often unable to act upon these. Moreover, several studies of male entrepreneurs have found that the skill level of small producers is often not a primary constraint. Furthermore, focusing on training could divert attention from external constraints, and result in putting the blame for failure on women themselves (Mayoux 1995).

The results presented in Section 5 (Table 4) of the present report confirm that formal education is not a binding constraint among small entrepreneurs in Bolivia. Indeed the returns to an additional year of schooling are close to zero. The fact that formal schooling is un-important in this sector helps explain why indigenous women (the least educated group in Bolivia) find it particularly attractive.

For poor women entrepreneurs, systems of networking and information exchange may often be more valuable interventions than skills and business training on their own. Such programs could act as a focus for mobilization to change the wider constraints as well as assisting women to devise methods which are appropriate to their needs (Mayoux 1995).

As stated by Carr & Chen (2004), workers in the informal economy have until recently been considered as unorganized by definition. However, recent evidence suggests that the informal workforce has been and is being organized, both by formal trade unions, alternative trade unions and pro-labor NGOs. International alliances such as HomeNet and StreetNet are working to promote the visibility and voice of own-account workers (Brill, 2002).

With the exception of crafts, own account activities and micro-enterprises have tended to be linked to local and domestic markets. However, globalization is now opening up new opportunities for the self-employed to be directly involved in export markets if they have the ways and means to take advantage of these opportunities. Some of the self-employed have been able to link with global markets on their own terms through a range of strategies (including the formation of associations and cooperatives), often with the assistance of local and international NGOs, government departments and local social entrepreneurs (See Box 2 for a Bolivian example).

In Bolivia, 33% of all self-employed are members of some organization that is supposed to promote their interests. This is considerably more than the 19% of salaried employees who are members of some labor organization. However, female self-employed are less likely to be affiliated than male self-employed (23% for women versus 39% for men)<sup>17</sup>.

The difference between men and women is due to sectoral segregation, since within each sector there is no systematic difference between man and women. Men are concentrated in the transport sector, which is a highly organized sector with 63% belonging to some union. In this sector, the most important benefits from belonging to a union are a) the capacity to negotiate with the government and the various inspectors and b) the protection of their routes. In contrast, women are concentrated in the grocery store and food businesses, which have low levels of organization (8% and 17%, respectively) and most people see no benefits of belonging to a union, except sometimes to protect the physical space for food sales in the latter case<sup>18</sup>.

Unions and organizations are not particularly liked by the members, who frequently mention that the representatives are just trying to extract as much money as possible from the members without bringing any benefits. Indeed, distrust towards organizations and partnerships is almost universal among small micro-entrepreneurs. They generally feel that partners or associates cannot be trusted and that even in the best of cases there would be a lot of fighting about the distribution of work and profits. Focus group participants express a strong wish to expand, but they are not willing to form partnerships in order to create economies of scale. They express reluctance even to hire people, because as soon as the contracted worker has learned the trade, s/he is likely to quit and set up a competing business in the same area.<sup>19</sup> Such strong aversion against partnerships and the sharing of knowledge suggests an important lack of social capital in Bolivia.

We have little empirical evidence to analyze whether there are gender differences in the lack of trust and social capital. The focus group interviews indicated that it was almost universal among the participating women, but quantitative information from the 2007 micro and small business survey suggests that it may be no better for men. For example, it would require at least some social capital and trust to be able to borrow the physical space for the business and 11% of women were able to do that while only 5% of men operated from borrowed premises. The percentage was particularly high for indigenous women (17%), suggesting that this group may have more social capital than men and non-indigenous women.

### *Lack of markets*

Since most of the micro-entrepreneurs in Bolivia cater to the domestic market (less than 5% have any exports at all)<sup>20</sup>, the limited size of this market can be a serious constraint to

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<sup>17</sup> According to information from the MECOVI 2005.

<sup>18</sup> According to the 2007 micro and small business survey.

<sup>19</sup> Focus group meetings with female micro-entrepreneurs in El Alto, La Paz, Cochabamba and Santa Cruz carried out by Encuestas & Estudios during June 2007.

<sup>20</sup> According to the 2007 micro and small business survey.



raising profitability. Especially the transport sector and the grocery store sector are so saturated that profits have been driven down close to the level of unskilled informal employees.

However, as we will see in Section 5 below, exports under current conditions do not appear to be the solution for small entrepreneurs. In general it does not have a beneficial effect on business profitability (the coefficient on the export dummy in Table 4 is negative, but statistically insignificant), and exports also demand much larger and more risky investments. This would be particularly discouraging for women, who feel that they cannot gamble with their family's basic sustenance and future.<sup>21</sup> One key person interviewed stated that in Bolivia it is not "Export or die!" but rather "Export and die!"<sup>22</sup>.

Micro-entrepreneurs would need substantially improved government support in order to be able to export. Focus group participants highlight the Peruvian government's strategy for promoting the exports of products made from camelid wool, through industrialization, participation in international expositions, and improved design.<sup>23</sup>

Private sector initiatives can also facilitate exports from even very small and informal handicraft producers. BoliviaMall, for example, is a private enterprise which exploits information technology to sell Bolivian products through the Internet to customers all over the World (see Box 1).

*Box 1: Exporting handicrafts from Bolivia*

BoliviaMall.com is the leader in e-business in Bolivia exporting over 6000 Bolivian products from 750 small vendors and artisans to over 70 countries around the world. The company, which is 100% internet based, has grown 5000% over the last six years while generating an enormous, but unplanned, social impact. About 98% of the suppliers are informal. Most of the artisans are men, but often their wives manage the business, negotiate with the company, and handle the money.

In March 2007, BoliviaMall participated in the forum entitled "United Nations meets Silicon Valley" organized by INTEL and the Global Alliance for ITC, as a showcase of how technology can help the poor.

*Source:* BoliviaMall press-release, March 9, 2007, as well as personal communication with Executive Director, Percy Prieto on 19 June 2007.

<sup>21</sup> Personal interview with Lourdes Montero, Executive Director of the Gregorio Apaza Foundation in El Alto on the 4<sup>th</sup> of April 2007. She has 20 years of experience with female micro-entrepreneurs in El Alto, which should give some weight to her opinions.

<sup>22</sup> Personal interview with Lourdes Montero, Executive Director of the Gregorio Apaza Foundation in El Alto on the 4<sup>th</sup> of April 2007.

<sup>23</sup> Encuestas & Estudios (2007). This is not only a perception by focus group participants. The National Strategy for Peruvian Alpaca was launched in 2005 by the Minister of Agriculture and the Minister of Production.

The local market for clothes suffers from the importing of used clothes to Bolivia, with which it is difficult to compete<sup>24</sup>. This has prompted several protests from clothes manufacturers and the government has passed a couple of supreme decrees in order to regulate the importing of used clothes<sup>25</sup> (which was then met by protests from the tens of thousands who live from selling used clothes, however). A study by the Bolivian Institute of International Commerce (IBCE) sustains that the importation of used clothes costs Bolivia around 15.300 jobs annually, and 93% of imports are illegal, thus making no fiscal contributions either (Vidaurre 2005).

In the food sales sector, the local market is a limiting factor in some particular areas, but not in others. In El Alto, it is cut-throat price competition, with customers demanding quantity rather than quality<sup>26</sup>. But in other areas the same lunch plate can be sold at prices varying by a factor of 10 or more<sup>27</sup>, suggesting much less fierce price competition. Indeed both men and women in the food sales business maintain higher average profits per hour worked than any of the other sectors studied in the 2007 micro and small business survey (Table 3 further below).

### *Domestic responsibilities*

As argued above, the fact that women take on a disproportionate share of domestic chores implies that they have less time for remunerated work. This division of work within the family is to a large extent rational – it is the women who give birth and have to nurse the babies, and on top of that they tend to earn less in the labor market than men. Switching roles would imply a substantial loss in welfare for the typical family. However, the fact that more of domestic work falls on women – regardless of their own and their spouse's employment status is a problem not only in pure equity terms, but it also has efficiency implications. For instance, regardless of whether incomes are shared fairly, women's labor force participation and control over earnings affect the way households budgets are spent. Hoddinot & Haddad (1995), for example, find that an increase in the share of household income earned by women in Côte d'Ivoire raises the proportion of the household budget expended on food and reduces the budget shares of alcohol and cigarettes. Similarly, in Ghana, an increase in the share of women's assets raises household spending on food and children's schooling (Doss 1996).

Additional problems can arise if families break down and women are left with many responsibilities but few resources and little labor market experience. In Bolivia, 17.2% of all families contain a single parent, most of them (84%) single mothers. Some single parents deal with the difficulties by moving in with other family members, which reduce their vulnerability. For example, single mothers living alone with their children are 26% more likely to be poor than single mothers living in an extended family. Single fathers are

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<sup>24</sup> Focus group meeting carried out by Encuestas & Estudios during February 2007.

<sup>25</sup> Decreto Supremo No. 27340 of 31-01-2004, which was extended by Decreto Supremo No. 28614 of 01-02-2006.

<sup>26</sup> Focus group meeting carried out by Encuestas & Estudios during February 2007.

<sup>27</sup> According to the 2007 micro and small business survey.

uncommon, but they do quite well whether they live alone with their children or in an extended family.<sup>28</sup>

Clearly the most vulnerable of single parents are single mothers living alone with their children. Among this group 60.4% of households are poor, compared to only 44.5% of single fathers living alone with their kids, and compared to only 48.0% of single mothers living in an extended family. However, this should be compared to the 62.5% poverty level in classic nuclear households with a mother, a father, and one or more children, which is the most common type of households in Bolivia<sup>29</sup>. Thus, single mothers living alone with their children are doing marginally better than mothers living with a partner, and single mothers living in an extended household do substantially better<sup>30</sup>.

The important difference is not the number or sex of the parents but rather the number of children in the family. While urban households with no children have an average poverty rate of 25%, this increases to 44% for households with 1-3 children, although there is no difference in education levels between the two groups. In rural areas the impact of children is more moderate with a 6 percentage point difference in poverty rates between households with no children and households with 1-3 children<sup>31</sup>. This suggests that urban households have more difficulties coping with the presence of children than rural households, possibly because in urban areas the presence of children puts serious constraints on women's labor market options.

One option for alleviating such constraints would be to introduce free public childcare. This has proved to be a successful strategy in other Latin American countries, such as Peru, Colombia and Guatemala (Hallman *et al* 2003). Childcare alternatives and choices affect not only whether women work, but also the type of work they engage in and the amount of time they spend in paid work. As such, providing child care for the poor is one way making occupational segregation by gender more a question of preference than a result of juggling productive and reproductive roles (see Box 2).

*Box 2: Childcare in Guatemala City*

In poor urban neighborhoods of Guatemala City, affordable childcare is scarce and in high demand, especially since many poor mothers are migrants that live away from extended family and have less access to informal alternative caregiver. In response, the government-sponsored day-care program *Hogares Comunitarios* (HC) was developed to offer poor families a package of services to promote child nutrition, socialization, and development, under the condition that parents engage in income-generating activities outside the home. Launched in Guatemala city in the early 1990s, it HC has since expanded to all 22 departments of the country.

<sup>28</sup> According to information from the MECOVI 2005.

<sup>29</sup> According to information from the MECOVI 2005.

<sup>30</sup> This finding is confirmed by other measures of well-being, such as per capita household income, which is Bs. 552/month/person for single mother households but only Bs. 431/month/person for classic nuclear households.

<sup>31</sup> According to information from the MECOVI 2005.

HC is a community-based childcare program. A group of parents select a caretaker from the community to care for up to ten children, seven years old or younger, in her home, weekdays from 6am to 6pm. The caretaker receives a cash transfer to purchase food for the children, to purchase gas and educational supplies, and as compensation. Parents complement this with a small monthly contribution and provide monthly supplies of basic items (e.g. toothpaste, toilet paper etc.). The caretaker is also given furniture, equipment, educational materials, and supplies; initial training; and guidance on food preparation.

An evaluation of the program in one neighborhood of Guatemala City suggest that it contributed to poverty alleviation by reducing childcare constraints and facilitating poor parents' access to formal sector jobs. This was especially true for women who are sole income earner for their households. In general, the program benefit two groups of women

- Mothers of participating children, mostly young poorly-educated working mothers, many single were more likely to be engaged in formal stable employment after program participation. They also realized higher wages and a larger number of employment benefits than working mothers who use alternative childcare arrangements
- Care takers, generally older, less educated women with more limited possibilities to work outside the home, benefited through the generation of some (albeit low) income

The program was also found to significantly improve the diet and nutrition of participating children who consumed on average 20 percent more energy, protein, and iron, and 50 percent more vitamin A than non-participants.

While HC is one of the cheapest childcare programs available in the neighborhood, the evaluation found that only 3 percent of eligible households participated. A significant proportion of non-users preferred alternative caregivers such as extended family, however, nearly half of the working mothers expressed interest in the program but were precluded from participating due to lack of available space.

Source: Hallman *et al* 2003, Ruel and Quisumbing 2005

### *Good versus bad self-employment*

Recent research has made the distinction between 'good' and 'bad' self-employment. Good self-employment refers to entrepreneurs who hire and pay others to work for them, and 'bad' self-employment includes those who work for their own account or only employ unpaid family workers. According to Morrison (2007), women are typically concentrated in bad self-employment.

While this distinction between 'good' businesses (professionally run, with people hired according to qualifications) and 'bad' businesses (family businesses employing whoever is available for free) does make some sense, the 2007 micro and small enterprise survey does not support the conclusion regarding gender. Among the firms surveyed, the share of

unpaid family workers in female managed enterprises was only 14% compared to 18% among male managed enterprises.

The assumption that family members are working for free is also dubious. It may be that they are not paid a regular salary, but they will get a share of the earnings through the general increase in household consumption that the family business allows for. When faced with the choice of using unpaid family members or paid employees, the owners of micro-businesses often prefer family members because that implies that the earnings stay in the family instead of systematically escaping in the form of salaries to non-household members. Indeed, many micro-businesses are so precarious that the commitment to pay a regular salary appears impossible.<sup>32</sup>

In this paper, we have re-estimated all labor income variables taking into account that family members are not really working for free. In each family, whenever there is a self-employed person and one or more un-paid family members, the incomes are shared evenly between them according to the number of hours worked. This is much more reasonable than assuming that one family member gets all the income and the rest nothing.

## ***B. Mobility constraints by gender***

### *a. Lack of capital and know-how to start up own business*

One desirable move seems to be from informal worker to informal self-employed, but it requires both capital and know-how to start up a new business. Self-employed people, and especially self-employed women, are generally older than informal employees or formal sector employees, which suggests that setting up an own business is something that is usually done later in life, after some accumulation of human and physical capital has taken place. Evans & Jovanovic (1989) argue that the observed increasing probability of self-employment with age is consistent with the existence of credit constraints. Balán, Browning & Jelin (1973) also supports this view, arguing that young workers enter salaried work in order to accumulate knowledge, capital, and contacts, and then they quit to open their own informal businesses.

If this is the case, women may have particularly large obstacles to making a successful transition into self-employment, both because they tend to earn less during employment (e.g. Andersen & Muriel 2002) and because property, land ownership, productive capital and equity in general are not evenly distributed between men and women (Valenzuela 2005). For example, although recent reforms in land titling in Bolivia imply that most titles (58%) are now being awarded jointly to couples, four times as many titles are being awarded to men alone than to women alone (24% versus 6%) (Bolivia 2005).

On the other hand, given that becoming self-employed is always a risky proposition (Balán, Browning & Jelin 1973), women have less to lose than men by switching to self-

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<sup>32</sup> According to focus group interviews among women in the most precarious end of the textiles, food and camelid sectors.

employment, since their jobs as employees tend to be less secure and pay less, or the alternative may be not to be economically active at all.

*b. Occupational segregation due to perceived gender roles*

Perhaps the most striking example of occupational segregation can be seen in Figure 2 above, in the case of men and women in the health sector. Although both men and women in this sector have average education levels of approximately 15 years, men earn more than twice as much as women. This is mainly due to the fact that most women have chosen to become public sector nurses whereas most men are private sector doctors.

Such self-segregation of women into occupations that tend to pay less is widespread in Bolivia, and is one of the principal explanations why women generally earn less than men (Muriel 2005). And this is true throughout Latin America: In fact, LAC is the region with the highest level of occupational segregation by gender in the world (Deutsch et al. 2005). The authors also find that occupational segregation is more severe for the poorly educated.

In many cases this segregation is based on gender stereotypes, with no strong logic behind. There is no clear reason why women should not be doctors, especially since a large part of the health system is geared towards pregnant women, child-birth and the care of young children, and these clients might actually prefer to have a female rather than a male doctor.

Whenever occupational segregation is based on gender stereotypes only, this can be changed. The experience of PLANE (a Bolivian employment program offering three-week public construction jobs on a lottery basis, and which at its peak employed 75.000 persons) clearly shows this (RED, 2004). Although this program was not initially targeted at women it now overwhelmingly (85%) employs women. The jobs require no qualifications, but inevitably teach the workers some useful skills during those 3 weeks. In many cases, it is the first time that these women have a formal job with a salary, and as a valuable side-effect they learn from each other how to organize day-care for their children and solve other common problems of working women. After having worked one or two times in PLANE, they also qualify for small municipal construction or maintenance projects. Ex-PLANE workers have even organized themselves into a national union with significant political clout (Sierra & Calle 2006).

In other cases there is a clear logic behind women's occupational choices (Arias *et al* 2005). For example, women's preference for informal commerce may be partly explained by the flexibility it offers. A young child can be simultaneously cared for and a relative can take over the post for shorter or longer periods if need be – a situation that would be unthinkable for most formal employees. Also, the business can start out modestly and gradually expand as profits allow, reducing the risk to a minimum.

### *c. Lack of physical mobility*

Bolivia is experiencing massive migration from the highlands to the lowlands, which is consistent with the better economic opportunities in Santa Cruz (see Figure 3 above). Still, mobility is far from perfect. The differences in terms of culture, languages, climate and living costs between El Alto and Santa Cruz de la Sierra are as large, or bigger, than those between Santa Cruz and Miami. Highlanders are uncomfortable in the hot and humid climate of Santa Cruz, and, with good reason, they fear the tropical diseases that can be contracted in the lowlands (mainly malaria and dengue). There are also important cultural differences which divide the country and reduce the free flow of people.<sup>33</sup>

It is not clear whether physical mobility differs by gender, but women may have a small advantage due to the fact that they are typically disfavored when it comes to inheriting land. This is particularly evident in rural-urban migration, as women are over-represented in urban areas. However, they are not as over-represented in Santa Cruz de la Sierra as in the other Bolivian cities, except for Oruro<sup>34</sup>, so there may be some particular constraint to women moving to Santa Cruz.

Jiménez (2003) shows that, contrary to expectations, female rural-urban migrants in her sample had more human capital than their male counterparts (higher education levels, more likely to be bi-lingual), and their migration was more likely to be permanent rather than temporary (46% for women versus 32% for men). The fact that women are more likely to make a permanent move and that they are more likely to speak Castellano, improves their chances for successful integration in the urban labor market, whereas the temporary migration more typical of men makes it difficult for them to accumulate the information, connections, and human capital necessary to access better paid jobs.

### *d. Constraints to becoming formal*

The constraints to becoming formal are found principally in the formal sector itself, and have to do with all the red tape and high level of taxes that are associated with being formal in Bolivia; as one informant put it: “In Bolivia there are informals and there are idiots.”<sup>35</sup>

Currently, few firms benefit from becoming formal, and the benefit is usually in the form of access to formal sector clients (mainly the public sector and public sector employees), who demand *facturas* in order to avoid taxes (RC-IVA) being deducted from their pay checks. Formality is not a requirement for access to finance, and not even for exporting, as a large part, if not the main part, of both exports and imports are informal (*contrabando*). In the 2007 micro and small business survey, 59% of exporting firms were informal in the sense that they did not have a tax identification number (NIT).

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<sup>33</sup> Nación Camba, a movement for the independence of the lowland areas highlight the cultural differences between highland Bolivia and lowland Bolivia (<http://www.nacioncamba.net/quienesomos.htm>).

<sup>34</sup> According to information from the MECOVI 2005.

<sup>35</sup> Phrase cited by Luis Alberto Quiroga, who owns the formal enterprise Entuestas & Estudios and has interviewed thousands of both formal and informal entrepreneurs (personal interview on the 8th of June, 2007).

Since informality is the norm rather than the exception in Bolivia, the government does little to punish firms for being informal. In the food sales and the transport sector, where there are legitimate health concerns justifying public inspection, only 4% and 9% of firms had paid any fines for incompliance with required certification during 2006<sup>36</sup>.

Except for the high end of some sectors (fancy cafés, luxurious shawls and elaborately carved furniture, for example) firms usually compete on price and feel that the 15% increase in price that would follow from being formal and issuing *facturas* would drive their customers away. However, micro firms express a willingness to become formal and issue *facturas* if they grow to have several employees and if their customers demand it<sup>37</sup>.

The World Bank (2007) formally models the decision to become formal and finds that size of business (as measured by number of employees and size of capital) is one of the most important determinants on the probability of having a NIT. In addition, tax numbers are more common for older, more able entrepreneurs, who went into self-employment for the prospect of business growth, face high tax inspection rates in their city and industry, and live close to the SIN office where registration takes place. Tax numbers are less common for individuals going into self-employment in order to be able to also care for children or parents and for firms in El Alto and La Paz compared with firms in Santa Cruz and Cochabamba. The decision to become formal does not significantly vary by gender, marital status, language as a child, poverty level as a child, or education level, conditional on these other characteristics.

Women have a lower level of formality than men when we don't control for differences in characteristics: 22 percent of women have a tax number and 46 percent a municipal license, compared with 33 percent of men who have a tax number and 60 percent who have a municipal license. However, these differences can be explained by differences in the size of the business, the motivations for going into self-employment (women are more likely to value the ability to care for family), differences in self-efficacy (the women in the survey have lower entrepreneurial efficacy than men), and differences in the industries in which men and women are more concentrated. Likewise, while more educated individuals are more likely to be formal, the ability of the owner and reasons for being in business matter more than education alone for determining the choice to become formal (World Bank, 2007).

Firms with a NIT generally are more profitable than firms without a NIT, but this does not imply that obtaining a tax identification number (or complying with the other steps of becoming fully formal) causes profitability to increase. Considering the additional bureaucratic requirement and taxes levied on the firms, one would rather expect that formality causes a reduction in profitability. On the other hand, formality may change the customer base from very price conscientious informal customers, to more well-off customers who demand *facturas*, thus allowing an increase in profits. Formality may also

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<sup>36</sup> According to information from the 2007 micro and small business survey.

<sup>37</sup> Focus group interviews carried out by Encuestas & Estudios during February and June of 2007.



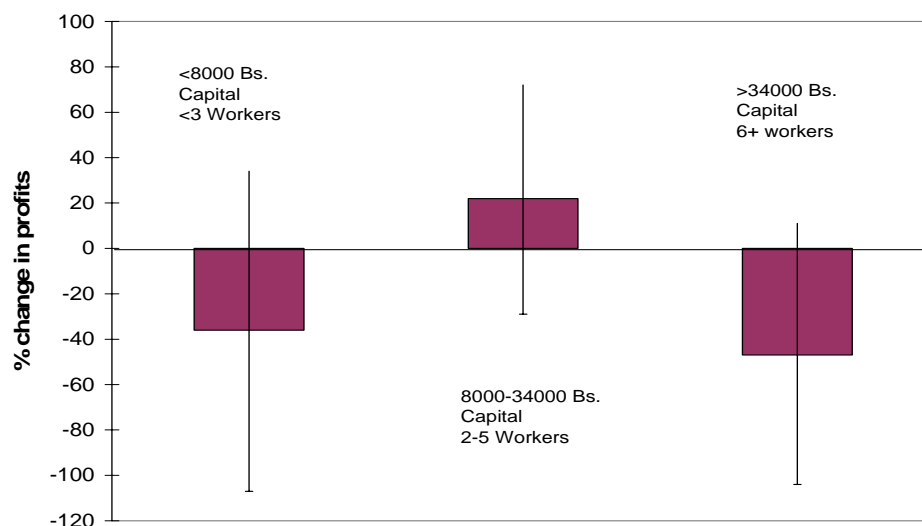
help gain access to credit on better terms (banks instead of microcredit institutions, for example).

Disentangling the real profitability impact of becoming formal from the effect that only the most profitable firms grow enough to justify becoming formal is difficult. The World Bank (2007) uses several different estimation methods in an attempt to do so, and the main conclusion is that the benefits depend on firms' size. For most micro firms (less than 3 employees and Bs. 8,000 in productive capital), the effect would be negative, as the firms are too small to get any benefits from formality, and are stuck only with the costs. For slightly larger firms (2-5 workers and Bs. 8,000-34,000 in capital stock) the study finds a positive effect, implying that the benefits from increased access to better-off customers and bank credit outweighs the costs of being formal. For the largest firms in the sample (6 or more workers, productive capital of more than Bs. 34,000), the benefits of formality turns negative again, suggesting that if these firms have managed to grow without being formal, the usual benefits of being formal have not been a constraint, and the switch to formality will impose only costs and provide no benefits (See Box 3).

*Box 3: Getting an NIT pays off for small firms, but not for the micro or medium-sized firms in our sample.*

Figure 4 shows that having a NIT increases profits for firms with 2 to 5 workers and capital stock of 8000-34000 Bolivianos, but decreases profits for firms who become formal at smaller sizes *and* for informal firms who become formal at larger sizes.

**Figure 4. Average impact of having a tax number on profitability, by firm size**



*Note:* Bars show point estimates from Propensity Score Matching. Lines show 95 percent confidence intervals.

What explains the nonlinear relationship seen in Figure 3.4? Firms of different sizes face different costs and benefits of becoming formal:

- The smallest firms don't immediately benefit from becoming formal. Formalizing immediately involves more costs, but these firms are too small to benefit from increased customer base or better access to credit. However, if these firms plan on growing over time, this current cost of formalizing can be justified in terms of the benefits awaiting them as they become slightly bigger. For this reason, we find that firm owners who formalize when small tend to have higher entrepreneurial ability and more plans for business growth.
- Firms who wait and formalize when they are in the middle size group (2 to 5 workers and 8000-34000 Bolivianos) are now big enough to enjoy some immediate benefits from formalizing. Section 6 shows the main benefit of getting a NIT appears to be the ability of a firm to expand its customer base by issuing tax receipts.
- Firms in our sample which have managed to get to a larger size - 6 or more workers and above 34000 Bolivianos in capital stock - face a fall in profits from formalizing. These larger informal firms tend to have owners with less formal education, but higher entrepreneurial ability than firms of the same size with a NIT. Only 28 percent of them report receiving a visit from a tax inspector in the last year, compared to 81 percent of formal firms their size. Although we find these larger informal firms are less likely to get trade credit than formal firms of their size, we find that they are just as likely to have received loans, and are more likely to have received working capital, from banks or other financial institutions, as formal firms their size. Thus for a firm which has managed to reach this size while staying informal, the main impact of getting an NIT is just higher taxes.

Source: *The World Bank (2007)*

The World Bank (2007) also tests for gender differences in the impact of becoming formal, and finds no difference between male and female owned businesses, once controlling for other characteristics. Thus, the main reason why female owned firms are more informal and less profitable than male owned businesses is not gender differences per se, but rather that:

- 1) Female run businesses are smaller, either by choice, due to lack of capital, or due to lack of markets in the sectors where they operate.
- 2) Women enter the business for different reasons - not so much to grow a business, but more to gain some economic independence and supplement family incomes while still having sufficient time and flexibility to simultaneously take care of family obligations.
- 3) Women choose different sectors than men. Women are more likely to be involved in food sales, camelid products, and groceries, and less likely to be in transport and wood. Female businesses are twice as likely to be operated out of the home as male businesses, which is associated with a lower likelihood of visits from tax inspectors. However, the greater tendency to work out of home is a function of the industry they work in – controlling for industry of work, females and males are equally likely to work at home.
- 4) Women have less education and possibly less entrepreneurial ability. Indicators of ability and self-confidence in the 2007 micro and small business survey suggest that women have lower self-efficacy than men.

#### **4. Explaining gender differences in profitability**

This section uses the 2007 micro and small enterprise survey carried out by the firm Encuestas & Estudios to analyze gender differences in the productivity of micro and small businesses (less than 25 employees). We only use firms that are fully owned by the owner-manager's family. There are about 446 firms for which we have adequate information to carry out a regression analysis. Half of these are managed by women. The firms are classified into 6 different sectors: 1) clothes manufacturing, 2) transportation, 3) grocery stores, 4) food sales, 5) wood products, 6) and products made from alpaca or other camelids. Except for 23 firms in the camelid product sector, all firms are located in urban areas (La Paz, El Alto, Cochabamba and Santa Cruz). Table 3 presents the most important summary statistics.

*Table 3: Summary statistics for micro and small enterprises in the 2007 micro and small enterprise survey, by sector and gender*

		<b>Clothes manufac- -turing</b>	<b>Trans- por- -tation</b>	<b>Grocery stores</b>	<b>Food sales</b>	<b>Wood products</b>	<b>Camelid products</b>	<b>Total</b>
Number of observations	Men	32	78	13	19	74	6	225
	Women	42	3	54	63	9	44	221
Monthly profit (Bs.)	Men	2,063	1,228	931	2,236	1,858	1,174	1,605
	Women	755	1,833	1,065	1,181	1,366	651	962
Hours per week	Men	66	63	86	60	57	42	62
	Women	47	79	84	54	54	44	58
Hourly wage (Bs.)	Men	10.3	6.4	2.5	13.8	9.2	10.8	8.3
	Women	7.5	7.0	5.2	8.6	5.2	4.1	6.5
Assets <sup>1</sup> (Bs.)	Men	46,642	113,702	13,099	16,715	48,114	24,194	64,690
	Women	7,267	258,800	47,050	7,661	30,277	5,810	20,969
Education (years)	Men	11.7	11.2	13.1	12.7	10.6	15.2	11.3
	Women	9.5	15.0	11.3	8.5	12.1	5.9	9.1
Number of employees	Men	5.4	1.2	3.5	4.9	4.6	6.2	3.5
	Women	2.0	6.7	2.8	2.6	6.2	2.3	2.7
Bank loan (%)	Men	28	41	23	16	22	33	29
	Women	19	33	17	24	44	14	19
Micro credit (%)	Men	3.1	3.8	0.0	10.5	13.5	0.0	7.1
	Women	4.8	0.0	0.0	7.9	11.1	6.8	5.9
Additional empl. wanted	Men	5.0	4.8	7.1	4.5	4.1	24.1	5.6
	Women	10.6	19.2	-0.1	2.2	7.8	5.7	4.3

*Source:* The 2007 micro and small enterprise survey.

*Notes:* Sample includes only businesses with less than 25 employees, entirely owned by the respondent and his/her family.

1. Assets exclude the value of real estate.

According to the data in the survey, the monthly profits of female micro-entrepreneurs are only about 60% the level of male micro-entrepreneurs. Some of the difference is due to the shorter working hours of women, but even after controlling for that, women earn 38% less than men.

Table 3 shows that female run businesses operate with only a third of the productive capital compared to male run businesses, and about 23% fewer employees. This means that each employee has substantially less operating capital to work with, which would be expected to affect labor productivity. The much lower level of capital of women could be due to financing constraints, and indeed women are less likely to make use of both bank loans and micro credit. Contrary to the perception one might get from reading about the very successful microfinance industry in Bolivia, micro finance have been used by less than 6% of the business women in our sample. This is in contrast to bank loans which have been used by 19% of all female run businesses.

Table 4 gradually decomposes the gender gap in hourly earnings in order to understand the underlying causes behind this gap. Column 1 shows the raw gap between men and women's hourly wages. The coefficient of -0.481 on the gender dummy implies that women on average earn 38% less than men ( $1 - \exp(-0.481)$ ).

Column 2 shows that when controlling for the level of education and experience the gender gap is reduced slightly, but women still earn 33% less than men. The reduction is small because education and experience are not very important for micro-entrepreneurs in Bolivia. The returns to an additional year of education are less than 3%, which is very small.

Column 3 shows that when adding productive capital<sup>38</sup> and the number of employees, the gender gap drops substantially, and becomes statistically insignificant. This means that the 33% gender gap calculated after controlling for education and experience can be entirely explained by differences in productive capital.

Column 4 adds sectoral dummies, which causes the gender discrimination coefficient to turn positive, in favor of women, but statistically indifferent from 0. The further drop implies that women tend to choose sectors with relatively low level of returns (grocery stores, camelid products and clothes manufacturing). They also dominate food sales, which is a relatively attractive sector, however.

Finally, Column 5 shows a full regression with additional variables that might be of interest. The gender gap has now turned even more in favor of women, although the coefficient is still not statistically significant. This means that the large gender gap observed in Column 1 is clearly not due to the sex of the owner per se, but can be explained principally by the lower scale of operation that are typical of female owned micro-enterprises (less capital and less employees) as well as their choice of sector. Female micro-entrepreneurs also have less education, but that does not appear to be a significant disadvantage for them.

Column 5 also shows that firms that have used bank loans tend to be significantly more profitable, but the result does not say anything about causality. Most likely the result is due to reverse causality since it is only the most profitable firms that consider applying for and are granted bank loans. Micro credit does not seem to be related with productivity, possibly because many of the micro credit institutions consciously target the most disadvantaged population groups rather than the most profitable businesses. For example, Pro-Mujer's target group is poor women, but they also sometimes lend to women who do not qualify as poor, and a comparison between the two groups show that the non-target group performs better than the target group (Gibb, 2007).

Having a NIT (or being formal) does not seem to affect profitability once other factors (especially number of employees) are controlled for. The coefficient on the export dummy

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<sup>38</sup> The log of productive capital, excluding buildings and land but including the replacement cost of inventory. The reasons for the exclusion of land and buildings are that i) many firms operate out of their home so the value of these assets are also capturing home use; ii) since land and buildings don't appreciate, but are a source of investment in of themselves, they typically earn lower returns to the business than equipment and inventories; and iii) financing for equipment and inventories tends to differ from financing of buildings and land.

suggests that exporting firms are less profitable than non-exporting firms, but the difference is not statistically significant, although the coefficient is large. There is also a tendency for female dominated firms to be less profitable, but again the result is not statistically significant.

Firms with an indigenous owner tend to be slightly more profitable than firms with a non-indigenous owner, but the difference is not statistically significant. Businesses run by single women also tend to be slightly more profitable than businesses run by married or cohabiting women, but again the difference is not statistically significant.

However, firms located in El Alto are substantially less profitable than firms located in La Paz, Santa Cruz or Cochabamba. This is likely because of the strong price competition in El Alto, with customers who, by necessity, worry more about price and quantity than quality and brands.

*Table 4: Earnings regressions for micro-entrepreneurs*

Explanatory variables	(1) ln(Hourly wage)	(2) ln(Hourly wage)	(3) ln(Hourly wage)	(4) ln(Hourly wage)	(5) ln(Hourly wage)
Woman (dummy)	-0.481 ***	-0.404 ***	-0.146 -	0.031 -	0.171 -
Education (years)		0.027 **	0.015 -	0.024 *	0.019 -
Experience (years)		0.011 *	0.006 -	0.009 -	0.006 -
ln(total assets)			0.084 ***	0.072 ***	0.054 **
Number of employees			0.100 ***	0.103 ***	0.101 ***
Sector dummies					
- Transport				-0.075 -	-0.089 -
- Grocery stores				-0.896 ***	-0.908 ***
- Food sales				0.211 -	0.233 -
- Wood products				0.001 -	-0.002 -
- Camelid products				-0.454 **	-0.020 -
Bank loans					0.272 **
Micro credit					0.066 -
NIT					0.046 -
Export					-0.473 -
Share female employees					-0.351 -
Indigenous owner					0.152 -
Single woman					0.205 -
Keeps accounts					0.103 -
Location dummies					
- Urban					0.705 **
- Santa Cruz					-0.077 -
- Cochabamba					-0.181 -
- El Alto					-0.459 ***
Constant	1.429 ***	0.999 ***	0.449 **	0.556 **	0.172 -
Number of obs.	450	444	444	444	440
R <sup>2</sup>	0.0353	0.0462	0.1416	0.2180	0.2607

*Notes:* Sample includes only businesses with less than 25 employees, entirely owned by the respondent from the World Bank 2007 survey.  
\*\*\* Significant at the 1% level, \*\* Significant at the 5% level, \* Significant at the 10% level, - Not significant.

Why do female entrepreneurs operate on a smaller scale? One explanation is that they do not have the capital to expand, but another possible explanation is that they do not want to grow, because the business then would lose some of the features that make a micro-business particularly attractive for women (not to depend on others, to be able to care for children simultaneously, flexible working hours, daily revenues). When asked about what they consider the ideal number of employees for their business five years into the future, the average for women is 6.9 compared to 9.2 for men. Single women are generally a bit more ambitious than married or cohabiting women (the first would on average like 5.3 additional employees, whereas the latter only wants 4.2 extra employees), which suggests that family obligations may be one of the reasons why women prefer to keep their businesses at a relatively small scale.

For grocery stores in particular, women have already reached what they consider the ideal size (2.8 employees, on average) and do not want additional employees. This is in contrast to men, who would like bigger stores with about 10 employees. Also, according to the micro-enterprise survey results, women have less confidence than men in their ability to hire and manage employees that are not family members.

The most important reason why they prefer to operate on a small scale, however, is that it makes economic sense. From simple regressions using the 2007 micro and small business survey we find that the increase in monthly profits that would arise from a doubling of productive capital is less than 25% for all sectors. This implies that it would be considerably more profitable to open an identical twin business (yielding a 100% increase in profits) instead of expanding an existing one.

This means that under current institutional arrangements, there are strongly diminishing returns to scale, and this applies to both men and women. Indeed, successful businesses often spawn additional small business run by spouses, children and other very close relatives<sup>39</sup>. This strategy has at least two important advantages compared to growing one larger business. First, the tax burden is considerably smaller for four small businesses than for one big business (if the small ones can be kept under the simplified tax regime, where they only have to pay a fixed monthly contribution). Second, the geographical dispersion of four small businesses allow them to capture a bigger market than one bigger store could.

Table 5 shows estimated internal rates of return to a doubling of capital in each sector, by gender. The sectors which show high potential returns to a doubling of capital are the ones

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<sup>39</sup> Examples are abundant, especially in commerce and food sales. People are not happy to admit it due to the fear of taxation, but many small stores are just one of several within the family. In some cases, a family has one formal business and several informal ones, thus capturing the benefits of formality while still avoiding excessive taxation. For example, a woman who started selling goods out of a truck on a market place 15 years ago, now has three informal shops at the Mercado Achumani and one formal supermarket in San Miguel (Andy's), all of them operated by family members. Unfortunately, the 2007 micro and small business survey do not contain information on other businesses in the family, and thus do not allow us to explore this topic more deeply.

where capital is currently a binding constraint (food sales for both men and women, and textile and camelid clothing for women). In contrast, the sectors with low or negative potential returns to additional capital do not experience capital constraints (transportation and grocery stores). Rather there seem to be an overinvestment in these sectors compared to what the market can bear. In each case, however, it would make more sense to invest in an additional business, rather than doubling the size of the existing business. Not even the productive sectors show increasing returns to scale.

*Table 5: Internal rates of return for a doubling of capital, by sector and gender*

	<b>Clothes manu- facturing</b>	<b>Transpor- tation</b>	<b>Grocery stores</b>	<b>Food sales</b>	<b>Wood products</b>	<b>Camelid products</b>
Men	9%	-10%	4%	32%	2%	4%
Women	27%	-13%	-7%	37%	4%	18%

*Source:* Author's estimation based on information in the 2007 micro and small enterprise survey.

Why do women segregate themselves into certain, typically low paying, sectors? In food sales they have an obvious advantage arising from their much larger experience with food preparation. This sector requires relatively little investment and education, but yields relatively high profits, so it would seem a good choice for women. Grocery stores are attractive to women despite the long working hours and low salary, because they like not to depend on others (neither bosses nor employees), because they can simultaneously care for children, and because the business can grow slowly with minimum risk. The camelid product sector pays lower monthly profits than the other sectors, but women also dedicate much less time and capital to it, and have much lower levels of education, so this activity is likely considered complementary to domestic and agricultural activities. The clothes manufacturing sector is almost equally divided between male and female entrepreneurs, but women earn much less than men. Again this is due to the much smaller scale of operations. Women, on average, work 19 hours less than men each week, have invested less than a sixths of the capital, and have less than half the number of employees, so it is not strange that their monthly profits are also less than half those of men in the sector. The hourly wage is relatively high, though: at Bs. 7.5/hour it is higher than for women in any other sector than food sales (see Table 2 above), so given the typical time constraints of women, it is not a bad choice.

Female entrepreneurs are more likely to hire women. In every single sector analyzed, female entrepreneurs tend to hire more women than their male counterparts. On average, for male entrepreneurs only 15% of employees are women, while for female entrepreneurs 82% are women. This means that female entrepreneurs create a lot of jobs for women.

## **5. Constraints to increased profitability**

The previous section indicated that scale of operation is the most important determinant of profitability. The more employees a business has the higher the profits of the owner. However, having many employees requires substantial investments of both money and time, and women have less of both than men. This particularly seems to be a constraint in



the clothes manufacturing sector, in food sales and in the camelid products sector, sectors in which women are concentrated. In contrast, there seems to have been an over-investment in the transport sector and in small grocery stores, to the extent that additional investments would yield negative returns.

The latter two sectors operate in markets with almost completely fixed demand, which means that actions to increase supply might drive profits even further down. The urban transport sector, for example, is already so saturated that fares are being discounted far below the official tariffs, which means that profits are being squeezed. Rather than investing more in this sector, the only way to improve profits would be to withdraw a significant number of vehicles from circulation.

The same problem exists among the small neighborhood grocery stores. If one more store opens up in a certain block, or if one existing store suddenly manages to sell twice as much, this is bound to have a negative effect on the other stores in the same block, as the demand for soft drinks, milk, bread, eggs, ice cream, and the like is very inelastic.

The binding constraint in these two sectors is clearly demand, and without the possibility of increasing demand, improvements on the supply side are likely to further suppress profits, unless firms manage to find niche markets that were previously unserved. Individuals in the grocery store sector may be able to increase their profits through special efforts (more store space, promotions to attract costumers, exceptional customer service, etc.), but it will likely be at the expense of the competing store on the opposite corner. With fixed demand, it is basically a zero sum game, which severely reduces the scope for government interventions. For that reason, this section focuses on productivity constraints in the remaining 4 sectors, where there appears to be more room for productivity increases and increased supply.

Constraints will be analyzed sector by sector, as each sector is fundamentally different from the others. The analysis is based on detailed information from the 2007 micro and small enterprise survey as well as on focus group meetings carried out by Encuestas & Estudios during February and June of 2007.

### ***A. The Clothes Manufacturing Sector***

The clothes manufacturing sector shows a bigger gender gap in profits than any of the other sectors. While female business owners obtain an average profit of Bs. 755 per months, men receive Bs. 2.063. As shown in Table 2, this is because women tend to operate on a much smaller scale than men. Women, on average, work 19 hours less than men each week, have invested less than a sixth of the capital, and have less than half the number of employees. More than 30% of female business owners in this sector do not own a single sewing machine, while this is the case for less than 5% of male owned enterprises.

This is important to keep in mind, because whereas men operate relatively professional firms in this sector, a significant share of the women is knitting baby clothes on a part time basis without any machinery whatsoever. Still, the desire to expand is big, even among the most informal baby-clothes-knitting segment.

### *Actions to improve sales*

In the micro and small enterprise survey, business managers were asked which specific action could improve their sales, what this action would cost, and how much it would improve sales. In general, the actions to improve sales were more expensive for women in the clothes manufacturing sector than for men (Bs. 40,000 versus Bs. 27,000), but the expected returns were lower. Whereas men expected to recover their investment in 44 months, on average, for women it was estimated to take 81 months<sup>40</sup>.

When asked about which action could improve sales, 30% of women answer “equipment” while this is the case for only 4% of men. This suggests that women are short of basic productive machinery. The average cost of the equipment they ask for is about Bs. 26,000 (more than 3 times the productive capital they already have, excluding real estate), and they estimate that this would increase their sales by an average of 63%. If we assume that profits increase in the same proportion as sales, the average monthly benefit from this investment would be around Bs. 587. It would thus take about 44 months to pay back the initial investment, assuming 0% interest, and only thereafter would the firm start making an extra profit on the equipment. If the equipment functions for 6 years, the internal rate of return on the investment would be about 16%.

Returns to the purchase of equipment are thus typically not high enough to warrant micro-credit loans nor financing from the equipment seller. Indeed, less than 5% of firms in this sector has made any use of micro-credit, and supplier financing is almost unheard of. Bank loans would be more feasible and are also more common: 19% of women and 28% of men have made use of them. But the majority of financing comes from the owner’s private savings.

The possibility exists that financing is not the real problem, but rather a lack of supply of industrial equipment. This has been mentioned in qualitative interviews, but it does not explain the differences between men and women. In addition, there is a specific street in La Paz (Isaac Tamayo) where all inputs into the production of clothes, including equipment, can be bought at very reasonable prices. According to focus group interviews carried out by Encuestas & Estudios (2007), participants did not feel that they could get better input prices by importing themselves or buying directly from producers. El Alto also has very good metal engineers capable of copying machinery, and fixing broken equipment. Supposedly, the supply of inputs represents much more of a problem in Cochabamba, but this does not seem to have an adverse effect on profits, since Cochabamba has by far the highest level of profits for this sector (more than twice as high as in La Paz).

### *Market opportunities*

This sector is very much focused on the domestic market and thus suffers from the competition from the big used clothes business. As one business woman in Cochabamba

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<sup>40</sup> Assuming that profits increase in the same proportion as sales.

answered when asked about her dreams for the future: “I wish we would return to how it was before all the used clothes arrived.”<sup>41</sup>

Data from the survey of micro- and small enterprises show a very large variation in sales prices. For example, a set of baby clothes is sold at prices anywhere between Bs. 10 and 100, with Bs. 25 being the most common. This suggests ample room for experimenting with variations in quality and design. Well designed clothes do not necessarily cost more to produce than bad designs, but they obviously sell much better, and could thus help increase profits. Several NGO’s have also figured this out, and thus offer design courses and assistance (mostly in El Alto and La Paz, though). Focus group interviews reveal a strong demand for training in design.

Design is pretty much a public good though - quickly copied by the competition - so any single producer is unlikely to invest a significant amount of money in design. Most producers, however, do pay close attention to what sells well among the competition, and organize production accordingly.

### ***B. The Food Sales Sector***

The food sales sector is very much dominated by women, but the few men found in the business do exceptionally well – better than in any other sector (average hourly wage of Bs. 13.8 versus an average of Bs. 8.3 for men), despite the low level of assets invested (about Bs. 17,000 compared to 65,000 for the average male owned business in the sample) (see Table 2).

Women do not do quite as well, but they still do better than in any other sector (average hourly wage of Bs. 8.6 versus an average of Bs. 6.5 for women).

The sector is very heterogeneous, ranging from the ones with almost no infrastructure who brings very cheap lunches to regular clients at their place of work (construction workers, police men, street sellers, etc) via specialized food stalls selling one specific plate (for example roasted chicken with rice) to full-fledged restaurants offering a variety of plates for both lunch and dinner. Among the sample in the 2007 survey, the number of clients on a normal day varies between 8 and 1050, and the prices charged for a typical lunch vary between Bs. 1 and Bs. 25. Monthly sales vary between Bs. 240 and Bs. 275,000.

Businesses run by women are generally quite efficient, serving an average of 126 customers per day with an average of 2.6 employees. Businesses run by men only serve an average of 108 clients, although they have 4.9 employees on average. But male run businesses charge their clients about 20% higher prices, and thus manage to get higher profits. The latter are also much more likely to be formal, with 58% having a NIT (compared to only 22% of women).

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<sup>41</sup> Focus group meeting carried out by Encuestas & Estudios in June 2007.

Salaries in this sector vary wildly. A paid cook could get anywhere between Bs. 100 and Bs. 2000 per month, while a sales person would be paid somewhere between Bs. 50 and Bs. 900 per month. Focus group interviews reveal that managing employees is a big problem in this sector. Once they have learned the trade, they quit and start up their own competing business<sup>42</sup>. The low wage jobs in this sector are thus often considered a kind of apprenticeship, which is the way most people learn the trade. Few people have used formal training or taken classes in cooking, although focus group participants express a strong demand for cooking classes. Especially women in this sector have very low levels of formal education (8.5 years on average compared to 12.7 years for men).

Women in this sector also noted how their husbands' jealousy makes it difficult to provide the service needed to build up a loyal client base. Some said they had ended up in hospital for being 'too nice' to clients.<sup>43</sup> This is an example of how gender-based violence affect earnings not only through its health impacts. According to INE (2005) nearly 10 percent of women in Bolivia report being beaten regularly, while more than 50 percent report occasional physical and sexual abuse.

Finally, the street vendors complain about harassment from police and municipal inspectors. Formality would help avoid such harassment, but the lowest end of this sector feels that their modest profits would be lost if they were to become formal.<sup>44</sup>

#### *Actions to improve sales*

For both men and women, the most important constraint for sales is their infrastructure. When asked about which action could improve their sales close to a third responded "better infrastructure". Women on average needed about Bs. 22,000 to make improvements, whereas men on average demanded Bs. 163,000. Both expected a resulting increase in sales of 58%. Assuming that profits would increase in the same proportion, women would on average expect to recover their desired investment in infrastructure in about 41 months, whereas it would take men an average of 140 months. We thus have the opposite situation than in clothes manufacturing, where men's investments appeared to carry higher returns.

If an infrastructure investment could pay itself back in 41 months, this would justify a bank loan. About 24% of women and 16% of men in this sector have made use of bank loans, which implies that women in this sector do not have more difficult access to bank financing than men, despite their much lower level of education.

Although qualitative interviews with people in the sector suggest that competition is ferocious, it is clearly less of a constraint than among grocery stores and in the transport sector. Profits are relatively high, especially considering the low level of investment and education required, and demand is much more elastic than in the other sectors. Investments

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<sup>42</sup> Encuestas & Estudios (2007).

<sup>43</sup> Focus group interviews carried out by Encuestas & Estudios in Cochabamba and Santa Cruz during June of 2007.

<sup>44</sup> According to focus group interviews carried out by Encuestas & Estudios in June of 2007.

appear to give a better return than in any of the other sectors (see Table 3), and investments are not very risky, given that they would be mainly in infrastructure, which is unlikely to lose its value even if the business fails to be profitable.

Women at the lowest end of this sector (mobile food sellers) are not very optimistic about the chances of improving their profits, and would be happy to accept a paid job in another sector, if they could find one. This is in contrast to women in the lower end of the textile and camelid clothing sectors who strongly prefer to continue doing what they are doing, but preferably on a slightly larger scale with a bit more help. The difference may be that the mobile food sellers spend a lot of time on the street, exposed to harsh weather, unpleasant customers, and harassing officials, while the seamstresses and knitters work in the comfort of their own home.<sup>45</sup>

### *C. The Wood Products Sector*

The wood products sector is very heterogeneous, including firms who make furniture, doors and windows as well as small artisans who make wooden toys, puzzles and souvenirs.

The sector is very much dominated by men with 90% of managers and 89% of all workers being male. Out of the 6 sectors investigated, it is the one that most heavily relies on unpaid family workers (18% of all workers compared to an average of 15% across all sectors). Only about 8% of all firms in the sector are engaged in exports, and only one out of 100 exports more than half of its production. Exporting firms are relatively big with an average of 17 employees, while the firms that cater only to the domestic market have an average of 5 employees. The difference in productive assets is even bigger with exporting firms having about 7 times more productive capital than non-exporting firms. Two thirds of exporting firms have a NIT, while this is only the case for one fourth of non-exporting firms.<sup>46</sup>

Not even the biggest firms produce furniture in series. Almost everything is custom made to the specifications of the client, which in the domestic market almost always is the final consumer.<sup>47</sup> The quality varies enormously with a dining table for six persons being sold at anywhere between Bs. 120 and Bs. 18,000.

#### *Actions to improve sales*

Since there are so few women in this sector, it is impossible to do a gender differentiated analysis of the constraints to growth in this sector. According to the surveyed managers, the main constraint is productive capital (mentioned by 39% of respondents) and lack of customers (21%)<sup>48</sup>. The returns to a doubling of capital is estimated to be very low,

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<sup>45</sup> According to focus group interviews carried out by Encuestas & Estudios during June 2007.

<sup>46</sup> According to the 2007 micro and small business survey.

<sup>47</sup> According to focus group interviews carried out by Encuestas & Estudios during February 2007.

<sup>48</sup> According to the 2007 micro and small business survey.

however (see Table 5 above), which means that capital is probably not the most binding constraint.

Focus group meetings put much more stress on the irregular and bad quality of the wood that is left for the domestic market after all the best wood has been extracted and prepared for exports. The low quality of workers is also a concern with managers complaining that “it is impossible to find a good carpenter these days.”<sup>49</sup>

#### ***D. The Camelid Products Sector***

This sector is by far the most informal of the sectors investigated. Among the micro and small firms surveyed only 9% of firms in the camelid products sector had a tax identification number (NIT) compared to 27% across all sectors. The firms in this sector are also generally smaller than in any of the other sectors, with an average number of employees of 3.2. Half of the businesses have no or only one employees. Many of the businesses are so informal that basic information about sales and monthly profits are missing, which means that only 56% of the surveyed firms in this sector could be included in the regression analysis in the previous section.<sup>50</sup>

The sector is very much dominated by women, with 80% of managers and 76% of all workers female. The managers in this sector have been in business for an average of 16 years, compared to 10 years across all sectors, which means that the businesses are extremely stable, despite the very low level of profits. Exports are more common than in any of the other sectors, but still only 16% are engaged in exports. This sector makes less use of bank loans than any other sector (only 13% have obtained a bank loan for their business compared to 23% across all sectors).<sup>51</sup>

The number of different products is quite limited, but the quality varies enormously. For a shawl (*manta*), the producers receive anywhere between Bs. 20 and Bs. 3500, and the price of a scarf can vary between Bs. 5 and Bs. 1600. The most expensive products are generally for the domestic market.<sup>52</sup>

#### *Actions to improve sales*

When asked about what action could improve sales, respondents in the 2007 micro and small business survey most frequently responded “more sales”, which is not a very helpful answer. The analysis in this sub-section will therefore rely mostly on inputs from focus group meetings<sup>53</sup>.

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<sup>49</sup> Focus group meetings carried out by Encuestas & Estudios during February 2007.

<sup>50</sup> According to the 2007 micro and small business survey.

<sup>51</sup> According to the 2007 micro and small business survey.

<sup>52</sup> According to the 2007 micro and small business survey.

<sup>53</sup> Carried out by Encuestas & Estudios in La Paz and El Alto during the months of February and June 2007.

Markets are considered a main problem and a problem which each individual person cannot do much about alone. Respondents highlight the competition from Peru, which has implemented a national policy of support to the sector, including industrialization and improvements of the quality and variety of the yarn, design, and the opening of export markets.

Bolivians complain that it is very difficult to compete with the Peruvians because the quality of the raw material is so low in Bolivia. In addition, Bolivian producers have very low capacity due to the lack of good quality industrial machines, which means that they cannot produce the large series of homogeneous quality that are demanded by international markets.

The lack of machines is not due to a lack of supply. Respondents state that it is easy enough to find adequate machinery, but that their very limited sales do not justify such an investment. They expressed a strong desire to receive training directly related to export.

In contrast, there was a strong criticism of existing training courses:

- a) Most courses are given by microcredit institutions, and “they are designed to respond to the needs of the finance industry rather than our businesses”. That is, the courses are oriented towards debt repayment rather than improving the productivity of the borrower.
- b) There are motivational problems: “We only assist because it is compulsory.”
- c) And problems with format and contents: “Most courses are theoretical.” “One learns very little.”
- d) Also, there is no continuity: “We have been taught, but nobody has helped us put the lessons into practice.”
- e) And lessons have not been applied: “I did pass an accounting course, but I still prefer just to use my notebook.”

In contrast to other sectors, this sector demands political interventions rather than just economic support. In particular:

- a) A ban on the importing of used clothes and thus a strengthening of the local market.
- b) An active export policy and the opening of international markets.
- c) Support to the yarn industry, in order to secure a steady supply of high quality inputs.
- d) Training in design, business management and how to start exporting.

Rather than banning the import of used clothes, which would hurt the large number of people operating in the used clothes sector, as well as the consumers, it would be preferable to initiate more pro-active policies to support this sector. The Fashion District Initiative in Johannesburg could serve as inspiration (see Box 4).

#### ***Box 4: The Fashion District Initiative in Johannesburg***

The Johannesburg “Fashion District Initiative” is the city’s strategy for integrating a cluster of informal garment enterprises into the formal economy based around the provision of storage and office space to informal firms in a specially designated ‘fashion district’. The district covers 20 city blocks and the initiative has involved some 1,000 clothing micro-manufacturers. In addition to offices and storage space, the city also gave the firms training and advice on marketing and business development. Interventions took the form of a partnership between the city, provincial and national government, the private sector and a tertiary training institution. Activities included training, the development of a training centre, the formation of a production network and an operators association.

Evaluations based on a controlled comparison found that the interventions led to higher levels of output and employment, as well as product diversification and competitive upgrading. The supported firms have developed a focus on niche markets, penetrating new markets both locally and even internationally. The output of firms involved in the initiative increased significantly and employment opportunities were also increased. Some estimates say more than 1,000 jobs have been created. Networking between firms also increased while out-sourcing and integration of migrant workers has been encouraged

The main lessons for policymakers from the Johannesburg experience are that:

- Local government need to provide explicit policy and strategy support
- Identification and entry into niche markets is key for small entrepreneurs to survive in a competitive market environment
- Training is also key for small firms to compete efficiently in new markets
- Collective efficiencies are worth tapping into

*Source: Rogerson (2004).*

## **6. Conclusions and policy recommendations**

Most Bolivians live on a very tight budget of just a few dollars per day, which means that they have to buy food, clothes, furniture, transportation and other basic items as cheaply as possible. This means that the suppliers of these goods and services have to compete on prices. A complete lunch can be served for as little as Bs. 1,- (13 cents), and you can ride in a minibus for hours for Bs. 2.30. Clothes are extremely cheap due to the flood of used clothes, and a dining table can be found for as little as Bs. 120,- (\$15).

With such fierce price competition, profits are driven down to a bare minimum, and the only way to increase profits is to target another market. There are basically three options: the richest quintile within Bolivia, exports, or tourists. The richest quintile within Bolivia generally demands *facturas* and thus encourages formalization, but tourists do not, and large parts of exports are also done informally (*contrabando*).

Several of the sectors studied do not have the option of exporting (transportation, grocery stores and food sales), so their only option for increasing profits is to move up the ladder



and target a richer segment of the domestic market. This, in general, will require investments in real estate and equipment as well as formalization.

The remaining sectors (clothing from textiles or camelid wool and wood products) all have the potential for and desire to export, but find it extremely complicated under current conditions. Exports are complicated by Bolivia's landlockedness, high transport costs, and frequent blocking of main roads (Andersen & Nina 2007). Apart from the geographical constraints, entrepreneurs are also hindered by a lack of knowledge about how to export and a perception that the bureaucratic requirements to obtain a license to export are insurmountable.

There is one additional market, namely tourists, which in reality is an export market, but which does not suffer the same complications as goods exports. Entrepreneurs that target this market do not have to worry about export permits and high transportation costs, as the tourists come to them instead. At the moment, however, the country does not fully benefit from its enormous potential in this sector. This is a pity as it is a very labor intensive sector with strong linkages to almost all other sectors in the economy. Not only does this sector create many opportunities for micro and small businesses, it also offers many opportunities for salaried employment for both skilled and unskilled workers.

#### *Policy recommendations*

Three main policy recommendations arise from this study, all of which cut across all sectors and apply universally:

1) *Increase the benefits and reduce the costs of becoming formal.*

The most useful benefit seems to be the provision of subsidized credit to firms that have a NIT, possibly limited to productive sectors. The interest rate should be reasonable (6 - 8% per year), the borrowing period sufficiently long to be attractive for productive sectors (2-5 years), and the bureaucratic requirements minimal (a personal ID, a NIT, tax reports for the last 3 months, a simple business plan, and a realistic budget). According to the Supreme Decree No. 28421 of October 2005, sub-national governments can use part of the resources from the IDH (Direct Tax on Hydrocarbons) to stimulate productive activities, and subsidised credit could be one such stimulus. The Federation of Municipal Associations (FAM) in Bolivia is planning the development of a fund for productive development which could be used as a point of departure for a policy of subsidized credit at the municipal level.

Another attractive option is to provide free training courses for firms with a NIT. Practical courses that take entrepreneurs through all the steps of making a business plan, of setting up an accounting system, or of becoming an exporter, would be much in demand, for example.

These benefits should be independent, as the people who need credit are not necessarily the same as the ones who need training.

Such initiatives would encourage firms to become formal, and the benefits would be particularly valuable for women, who are more credit constrained than men and more in need of training that can compensate for the schooling they didn't receive when they were younger.

At the same time as the benefits of becoming formal are increased, the bureaucratic costs should be reduced. There are already many initiatives under way with that purpose, but they are struggling and uncoordinated<sup>54</sup>. The aim should be broaden the tax-base at the same time as the tax- and administrative burdens of formal firms are reduced.

Once a better balance between benefits and costs of formality have been created, a formalization campaign can be launched. In Peru, for example, the Ministry of Work and Employment Promotion has a program called "MI EMPRESA", which helps micro- and small enterprises become formal and get access to training, technical assistance, market information, and financing<sup>55</sup>.

## 2) *Make tourism a national priority.*

This involves a very wide range of initiatives, from tourist infrastructure (roads, airports, public toilets, parks, hiking trails, maps and markings of attractions, etc.) to teaching foreign languages in school. Efforts to crack down on the things that scare off tourists (crime, road blocks, trash and uncleanliness) would also be important.

Almost all the initiatives that stimulate tourism are also beneficial for the local population by themselves, but if they succeed in attracting substantially more, and richer, tourists, it could have a very beneficial effect on employment and incomes for both skilled and unskilled people in a wide variety of sectors.

Adventure tourism and eco-tourism are particularly fast-growing niches, where Bolivia has a strong comparative advantage, due to the impressive number and diversity of natural and cultural attractions. When it comes to adventure tourism, a difficult geography suddenly becomes an advantage rather than a problem.

The stimulation of the tourist industry would be expected to benefit men and women almost equally, perhaps with a slight advantage to women, who are overrepresented in the hotel, restaurant, and handicraft sectors. On the other hand, men are overrepresented in the transportation and construction sectors which will

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<sup>54</sup> For example, in 2002 the Inter-American Development Bank financed a project at FUNDEMPRESA with the purpose of simplifying the steps to set up and shut down an enterprise (<http://www.fundempresa.org.bo/simplifica.htm>). The Superintendency of Enterprises has recently signed a contract with CAF with the same objective (personal communication with Addy Suxo, Economic Advisor at the Superintendency of Enterprises, 20 June 2007).

<sup>55</sup> Folder published in 2007 by the Ministerio de Trabajo y Promoción del Empleo: "MI EMPRESA: Formalización y Desarrollo de Micro y Pequeñas Empresas: ¡Pon a caminar tu propia empresa!"

also benefit greatly from an increase in tourism.

### 3) *Modernize labor laws*

The current labor laws in Bolivia date back to 1942 and are particularly outdated in the treatment of women, who are classified together with children under the age of 18 in Chapter 6 of the General Labor Law. Women are thus extra protected compared to men. For example, women (and children) are not allowed to work more than 40 hours per week, are not allowed to work at night (in industry), cannot do strenuous, dangerous, unhealthy or immoral work.<sup>56</sup> More importantly, firms are required to pay for 90 days of maternity leave (more in case of complications) with full salary and at least one hour of breast feeding every day as long as the child is breast feeding. A woman cannot be fired while pregnant or during the first year after child birth<sup>57</sup>. Enterprises with more than 50 female workers are required to maintain baby care facilities with qualified personnel approved by the Labor Ministry.<sup>58</sup> Such laws are obviously meant to help and protect women, but they have the unfortunate side effect of making female workers less attractive for formal firms, which helps explain both why there are fewer women in the formal private sector, and why they tend to earn less than men.

One way to correct this imbalance is if the government assumes the cost of maternity leave instead of the firm, or alternatively, the cost could be shared between the firm, the government, and the employee.

Often women themselves are discouraged from working in the formal sector because the work is too inflexible to be compatible with child rearing and other family obligations. This problem could be helped by offering free public child care to formal sector employees and owners of formal enterprises. This would also create an additional incentive to becoming formal.

Apart from those three general recommendations, the study proposes the following sector specific recommendations:

#### 1) *Products made from camelid wool*

This sector has a comparative advantage and considerable export potential due to privileged access to the raw material. However, the processing of the wool into yarn is currently too artesanal, leading to a low quality of inputs for manufacturing. Indeed, much wool is currently exported to Peru, where it is industrialized in a professional manner leading to a good quality of yarn in a large variety of colors. Bolivian manufacturers who need good quality raw materials have to import the Peruvian yarn<sup>59</sup>.

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<sup>56</sup> Ley General de Trabajo (8 December 1942)

<sup>57</sup> Decreto Ley No. 13214 of 24 December 1988.

<sup>58</sup> Decreto Supremo No. 224 of 23 August 1943.

<sup>59</sup> According to focus group interviews carried out by Encuestas & Estudios in February and June of 2007.

It would make sense for Bolivia to develop its own wool processing industry, instead of having to export the raw material and import the processed yarn. Incidentally, the development of the camelid sector would also have beneficial effects for the production of Quinoa Real, which is a particularly nutritious cereal which grows only in Bolivia, and which depends on fertilization from camelids.<sup>60</sup>

Apart from exports, the camelid products sector also extensively targets tourists, and would thus benefit from a general boost to the tourist industry. Indeed, it was this sector that complained most that tourists are being scared away by the filthiness and political unrest in Bolivia.<sup>61</sup>

As women dominate this sector, women would benefit disproportionately from initiatives to advance this sector.

## 2) *Textile clothing*

This sector does not appear to have much export potential. It is an extremely competitive sector worldwide, and Bolivia does not have privileged access to neither raw materials nor large numbers of workers willing to work long hours in textile factories.<sup>62</sup>

Indeed, in Bolivia this sector mainly operates out of private homes, and women like the sector exactly because of that, because it allows them to take care of domestic responsibilities at the same time.<sup>63</sup>

The sector has been somewhat depressed by the inflow of used clothes with which it is difficult to compete. A ban on used clothes would thus help the sector, but that would be at the expense of the used clothes sector and the consumers, and it is not clear that a ban would be socially beneficial.

Access to credit at reasonable terms would be beneficial for many micro entrepreneurs in this sector, as expected returns to additional investments are high. This would likely make some firms substantially more productive, possibly driving the least productive out of business, and thus increasing overall productivity in the sector.

## 3) *Food sales*

This sector by definition has no export potential, but there is still a lot of room for improving profitability simply by targeting richer customers, including tourists. The

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<sup>60</sup> According to a study being carried out by Juan Christobal Birbuet for the Camara de Comercio. No document available yet.

<sup>61</sup> According to focus group interviews carried out by Encuestas & Estudios in June of 2007.

<sup>62</sup> Despite this there are of course examples of successful textile firms, which have found lucrative niches in both the domestic and international markets.

<sup>63</sup> According to focus group interviews carried out by Encuestas & Estudios in June of 2007.

binding constraint is capital, and expected returns are very high, indeed higher than in any of the other sectors studied. Access to credit at reasonably terms would thus be very beneficial for this sector. If micro entrepreneurs obtain the credit they need to grow and target richer market segments, they will not object to formalization.<sup>64</sup>

Two additional ways of helping this sector would be free cooking classes and the organization of food festivals.

Finally, the street vendors complain about harassment from police and municipal inspectors. Formality would help avoid such harassment, but the lowest end of this sector feels that their modest profits would be lost if they were to become formal.<sup>65</sup> Instead of being harassed, this sector should receive help to sign up under the simplified tax-regime and to obtain their municipal license.

Women would benefit much more than men from initiatives to help this sector, both because the sector is dominated by women and because women would expect higher returns to additional capital.

#### 4) *Grocery stores*

This sector is constrained by an almost fixed domestic demand, which means that there is very limited growth potential for the sector as a whole. There has already been an overinvestment in this sector to the extent that returns to both labor and capital are extremely low and further investments would have negative returns.

Despite the very low incomes, especially women like this sector. For some it is an alternative to staying isolated at home all day, a chance to socialize with neighbors, while for others it provides welcome daily incomes to cover daily expenses, which are considered necessary as a complement to the husband's income that arrives only once a month. This sector is much richer than the other sectors and has certain financial flexibility as they can run inventories up and down according to the fluctuating needs of the family.<sup>66</sup>

This sector does not expect any help from the government<sup>67</sup>, and this report recommends no interventions in this sector.

#### 5) *The transport sector*

This sector is similar to the grocery store sector in the sense that demand is fixed and there has been an overinvestment in the sector causing returns to capital and labor to drop to very low levels.

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<sup>64</sup> According to focus group interviews carried out by Encuestas & Estudios in June of 2007.

<sup>65</sup> According to focus group interviews carried out by Encuestas & Estudios in June of 2007.

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<sup>67</sup> According to focus group interviews carried out by Encuestas & Estudios in June of 2007.

In contrast to the grocery store business, this sector has many clashes with the government. The sector is vital for the economy, and often uses its strategic position to make demands on the government. It has, for example, managed to secure subsidized fuel prices, and it violently resists the government's attempts to introduce some much needed regulations. The quality of the fleet is extremely low, there is a pragmatic disregard for ordinary traffic rules, cars are overfilled (five adult passengers and just as many kids can be squeezed into an ordinary car besides the driver) and drivers work so many hours without breaks that safety is compromised.

But apart from that it is a blessing for customers. It would be difficult to find a more efficient public transportation system anywhere in the world, in the sense that rides pass by with very high frequency (every few seconds) and fares are very low. There is a variety of price/speed/comfort combinations, so that customers can choose according to personal preferences and money/time constraints.

Theoretically, some minimum technical requirements could be implemented and enforced in order to weed out the worst offenders and thus improve safety and air quality. But such measures would be met with strong resistance causing many strikes, blockades and lost working days for the general population.

General infrastructure investments, both in urban and rural areas, would help this sector by reducing congestion and making long-distance buses a feasible alternative to expensive flights.

#### 6) *The wood products sector*

This sector has tremendous export potential due to Bolivia's large tropical forest reserves, which create a clear comparative advantage. It has been estimated that Bolivia currently exploits less than 3% of the wood volume that could be sustainably harvested in Bolivia.<sup>68</sup> The diversity of wood species is often considered a disadvantage, however, as production processes are unique to each species.

The wood manufacturing sector suffers from problems similar to the camelid sector, as most of the raw material is exported leaving only leftovers for the domestic industry. Furniture manufacturers complain about the low and inconsistent quality of their inputs, often resorting to imported compressed wood instead.<sup>69</sup>

Like in the camelid products sector, this sector would benefit from a professional industry that processes the raw material efficiently, creating standardized and certified units that can be used in serial production, and using leftovers to produce compressed wood units that are even easier to use in serial production.

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<sup>68</sup> According to BOLFOR ([http://www.bolfor.org/contenido\\_ing/perfil\\_forestal.asp](http://www.bolfor.org/contenido_ing/perfil_forestal.asp)), Bolivia's sustained timber production potential exceeds 20 million m<sup>3</sup> yearly, while actual timber extraction only amounts to about 0.5 million m<sup>3</sup> annually (Superintendencia Forestal 2002).

<sup>69</sup> Encuestas & Estudios (2007).

Since men dominate this sector, initiatives to advance this sector would likely benefit men disproportionately.

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