



Performance Management of Double Bottom Line Institutions: Evidence from Banco Compartamos's Productivity Distribution

Marek Hudon and Anaïs Périlleux

We use an innovative methodology to analyze social responsibility in double bottom line institutions such as microfinance institutions. We provide empirical evidence on the distribution of the generated surplus between the key stakeholders of one of the most famous MFIs worldwide: Banco Compartamos. Our results suggest that productivity gains generated by the institution have been primarily kept as gross self-financing margin for future investments or dividends for investors.

JEL Classifications: O16, O50, G21

Keywords: microfinance, governance, Compartamos, productivity

CEB Working Paper N° 11/056
2011

Performance Management of Double Bottom Line Institutions: Evidence from Banco
Compartamos's Productivity Distribution

Marek Hudon
CEB, Université Libre de Bruxelles (ULB) ; CERMi

Anaïs Périlleux
BAEF Fellow, UMONS ; CERMi

Abstract: We use an innovative methodology to analyze social responsibility in double bottom line institutions such as microfinance institutions. We provide empirical evidence on the distribution of the generated surplus between the key stakeholders of one of the most famous MFIs worldwide: Banco Compartamos. Our results suggest that productivity gains generated by the institution have been primarily kept as gross self-financing margin for future investments or dividends for investors.

Acknowledgment : A later version of this article will be published in « Cost Management »

Keywords : microfinance, governance, Compartamos, productivity

Codes JEL : O16, O50, G21

1. Introduction

The microfinance sector is in crisis. Although microfinance has been praised by many donors and governments, it has recently been accused of causing over-indebtedness. In some extreme cases, it has even been linked to the suicides of farmers, for example in South India. Many observers also report that the financial crisis has disproportionately affected the poor and financially excluded people, who are the main clients of microfinance institutions (MFIs).

Over the last decade, some major MFIs have proven that it is possible to provide financial services to the unbanked and to make profits at the same time. In some countries, MFIs are even much more profitable than traditional banks. The lucrative initial public offerings (IPOs) of Banco Compartamos (Mexico) and SKS (India) have also shown that MFIs could attract the attention of global market players. These very profitable institutions are still a minority compared to the vast number of subsidy-dependent MFIs. Nevertheless, most of them are large institutions and leaders in their local markets. They pave the way for the commercialization of MFIs and definitely influence the whole microfinance sector.

Many of these large institutions have increased their efficiency in the last few years (Caudill *et al.*, 2009). There is thus a clear contrast between the profits and increasing efficiency of some of the leader MFIs and the perceived difficulties that their clienteles face. Hence, social performance has never been so praised by donors, regulators, and most investors.

In this paper, we shed light on an innovative methodology to analyze social responsibility in double bottom line institutions such as MFIs and more particularly one key dimension of microfinance services: the distribution of the generated surplus between the key stakeholders of the institutions. We will use the global productivity surplus (GPS) method which provides empirical evidence on the capacity of MFIs to generate a high combination of outputs /inputs, that is, a productivity surplus. This method has been developed in France in the 60s. It allows to analyze how the surplus generated in an institution is distributed between its various stakeholders. In the case of microfinance, productivity gains or surplus can be distributed to the borrowers (through a lowering of interest rates), staff (through salary increase), depositors, providers, or can be kept inside the institution and sometime later be distributed to shareholders.

In the next sections, we will provide theoretical arguments on the GPS methodology, its relevance, and why it could be interesting for the appraisal of social responsibility in

microfinance. Next, we will apply this methodology to a case study of one of the most famous MFIs worldwide: Banco Compartamos. We will provide some historical background and will then detail the analysis of the distribution of Compartamos's generated surplus over the last ten years. We will also compare their figures with international benchmarks. Finally, we will draw conclusions and provide policy recommendations.

2. The GPS methodology: a new dimension of social responsibility in times of microfinance discontent

Microfinance has continuously been criticized since the Compartamos IPO in 2007, but the sector has started to respond to this criticism. Some may consider that the appraisal of the social impact of microfinance – part of the original double bottom line of financial and social performances – has become more realistic. Hence, the initial focus on poverty reduction has progressively been replaced by a more prudent objective of 'financial inclusion' (Servet, 2011). This less ambitious objective is backed in some way by the results of some recent impact studies suggesting a limited or moderate impact of microcredit on poverty or welfare improvement.

Others object that it is more than ever time to focus on social performance in microfinance. Tools such as those developed by CERISE provide useful information for microfinance practitioners to assess their achievements compared to their missions. They provide a long list of indicators of social performance that shed light on the performance of the institution. The primary goal of these indicators is to help MFIs understand their social performance and compare it to their mission. Such frameworks already existed before this crisis, but their relevance has been strongly reinforced by the recent events. MFIs do not perform all similarly in terms of social performance, and, very frequently, managers of MFIs end up being surprised by the result of the social performance analysis. Lately, ratings agencies have also added a social rating to the financial one. Finally, subsidies related to microfinance ratings have shifted from the original focus on financial ratings with the Rating Fund to a specific grant covering 100% of the cost of the social rating, financed by the Rating Initiative.

While these tools or financing are clearly instrumental to help managers understand and monitor the social dimension of microfinance, many experts still question who benefits from the financial performance or productivity increase of MFIs. Do clients end up benefiting directly from these gains, or do managers favor their staff or prefer to grow more rapidly? The

GPS methodology is a relevant tool to respond to this last question of the distribution of these benefits.

The GPS methodology and its application to microfinance

We will use the GPS methodology to analyze the surplus distribution of a microfinance institution such as Compartamos. This methodology was first developed by the Centre d'Etude des Revenus et des Coûts in France to evaluate surplus distribution in public companies. It has been little studied in recent years, with the exception of some studies on public or socially-oriented companies (Mbangala, 2000; Grifell-Tatjé, 2011, ; Périlleux *et al.*, forthcoming). According to the GPS methodology, the productivity gain, which is the variations in output quantities at constant price minus the input variations at constant cost, is equal to the surplus distribution. If we apply this equality to a microfinance institution such as Compartamos (which do not yet collect savings), we obtain:

$$GPS_t = \underbrace{[\Delta OL_t \times i'_{t-1} - \Delta OL_t \times lr_{t-1}]}_{\Delta \text{Output (O)}} - \underbrace{[\Delta D_t \times i'_{t-1} + \Delta N_t \times s_{t-1}]}_{\Delta \text{Input (I)}} = \mathfrak{S}^1 + \mathfrak{S}^2 + \mathfrak{S}^3 \quad (1)$$

The first term is the productivity gain (GPS_t), where the output variation (O) represents, for the MFI, its outstanding loan portfolio variation ΔOL_t at the previous year's interest rate that it charged to its clients (i'_{t-1}). We must also take into account the bad debt and, therefore, reduce the output. This is done by subtracting $\Delta OL_t \times lr_{t-1}$ from O, where lr_{t-1} is the loan loss rate for clients who do not repay their loan.

The input (I) is composed of the suppliers of the MFI (the different parties bringing some input): funds providers, workforce providers (staff), and funds providers: lending institutions (LIs). For MFIs that collect savings, savers represent another type of funds provider. Nevertheless, many MFIs are not allowed to collect deposits because of their regulatory status. Since they did not collect deposits during the time of analysis, Compartamos's funding expenses are defined as follows: $\Delta D_t \times i'_{t-1}$, the variation of the funding amount from LIs, at the previous year's external lending interest rate (i'_{t-1}). As for workforce providers, the expenses induced by employees can be noted as follows: $\Delta N_t \times s_{t-1}$,

the variation in the number of employees multiplied by the previous year's average salary. Finally, concerning other suppliers of goods and services (the providers according to the accounting definition), it is impossible to make a distinction between price and quantity variations. Due to this impossibility, these suppliers are not integrated in the calculation of surplus formation but are only considered in terms of value variation in the surplus distribution analysis.

The second term shows the allocation of the surplus generated by productivity gains between Compartamos's different stakeholders. The three different surpluses (S_t^1, S_t^2, S_t^3) can be broken into more subcategories.

S_t^1 is the surplus allocated to Compartamos's clients (borrowers):

$$S_t^1 = - [\Delta i_t \times (OL_{t-1} + \Delta OL_t) - \Delta lr_t \times (OL_{t-1} + \Delta OL_t)] \quad (2)$$

This surplus is estimated by the interest rate variation multiplied by the portfolio. The presence of a negative sign means that an interest rate decrease ($\Delta i < 0$) generates a gain for the clients. This surplus must be corrected by the surplus gained or lost by bad debts: $\Delta lr_t \times (OL_{t-1} + \Delta OL_t)$, where Δlr represents the loan loss rate variation. The result is that an increase in the loan loss rate generates a gain for borrowers, in the sense that they have the possibility to reimburse less.

S_t^2 is the surplus allocated to suppliers. Compartamos has three categories of suppliers: the employees, the LIs, and the providers. Thus, S^2 can be deconstructed in:

$$S_t^2 = \underbrace{\Delta s_t \times (N_{t-1} + \Delta N_t)}_{\text{Employees}} + \underbrace{\Delta i_t' \times (D_{t-1} + \Delta D_t)}_{\text{Lending institutions}} + \underbrace{\Delta (f_t \times F_t)}_{\text{Providers}} \quad (3)$$

The surplus allocated to employees or staff is related to the number of employees (N) and the salary variation (Δs): a salary increase generates a surplus gain for the employees. The surplus of LIs is related to external funds (D) and their interest rate variations: an increase in interest rate on external funding (i') improves the funding institutions' positions.

The last category of suppliers is the providers. As explained, in this case, we cannot make any distinction between price and quantity variations. We thus take into account the

total variation in value of operating expenses: $\Delta f_t \times (F_{t-1} + \Delta F_t) + \Delta F_t \times f_{t-1} = \Delta(f_t \times F_t)$.

Finally, there is the part of the surplus (S_t^3) going to the organization itself, the gross self-financing margin (GSFM) variation. It represents the “value gained by the MFI itself” that accounts for the dividends for investors and the reserve for future investments:

$$S_t^3 = \Delta GSFM_t \quad (4)$$

Appendix 1 presents additional information on the surplus formation and distribution. Thanks to this analysis, we can conclude that it is possible to identify the structure profile of productivity gains (sources and uses) of an MFI. The GPS methodology provides evidence on how surplus is shared between its stakeholders – some crucial information that other methodologies cannot provide. However, GPS offers no explanation on surplus performances, whether internal (for instance, due to the mission of the institution), or external (for instance, due to the environment or the donors). It only gives empirical evidence on the distribution of this surplus between the various actors.

3. Case Study of Banco Compartamos

A brief history of Compartamos

In this section, we will first briefly provide an historical background of Compartamos, based on a few documents and sources (Rosenberg, 2007; Rhyne and Guimon, 2007; Ashta and Hudon, 2009; and Compartamos’s website). We will then analyze the evolution of Compartamos’s basic figures or initial situations before distribution, and the distribution of its surplus, and discuss the results.

Banco Compartamos’s story starts in 1982 with the creation of a youth organization, *Gente Nueva*, founded to improve the quality of life of marginalized communities. Compartamos AC has been established an NGO in 1990 as a not-for-profit institution to provide microcredit to poor people. As most NGOs starting microfinance activities, it has benefited from donor funds, amounting to a total of 6.3 millions USD until 2000. In 1995, the microfinance component of the NGO, which was using the village banking methodology (Generadoras), separated from the rest of the institution. Two years later, it became financially

self-sufficient and could therefore potentially survive without donors' support. At this time, it had a gross loan portfolio of 1.7 million USD and it was serving 32,000 clients.

Three years later, in 2000, Compartamos became a SOFOL (*Sociedad Financiera de Objeto Limitado*), a specialized financial institution that grants working capital, mortgage, agriculture, and other types of loans in Mexico (but it was not allowed to collect savings). It therefore created a for-profit finance company named *Financiera Compartamos*. This institution was held by the founders and managers of the NGO, some individuals or donors such as the IFC and ACCION, an international NGO. Compartamos wanted to demonstrate that it is possible to attract money outside the traditional donors of microfinance. Hence, it later issued bonds on the stock markets, got its banking license, and went to the stock exchanges through an initial public offering (IPO) in 2007. During this IPO, 30% of existing stocks were sold for 470 millions USD (12 times the book value!). This was followed by a heated debate related to the finalities of microfinance. Investors and shareholders were accused of benefitting from the sacrifices of poor people paying very high interest rates.

Donors which have supported Compartamos such as the World Bank have been criticized from all sides. They were accused of not putting enough pressure on the institution to decrease interest rates and thus share the benefits with their clients. Moreover, they were also accused of letting managers favor growth of the portfolio what ultimately ended up in the pockets of shareholders. While the IPO has attracted a lot of attention from new actors in the microfinance sector and the financial markets and was obviously perfectly executed, Compartamos managers ironically found themselves being criticized for having generated too much growth and profits (Ashta and Hudon, 2009)!

Compartamos compared with national and international benchmarks

The data we will use come from the MIX Market website. We can compare Compartamos's figures with an international benchmark such as the MicroBanking Bulletin [MBB]. Table 1 provides basic indicators for this comparison. For instance the 1,084 MFIs in the 19th MicroBanking Bulletin [MBB] (MicroBanking Bulletin, 2009) yield an average Operational Self-Sufficiency (OSS) of 111% compared to 168% for Compartamos, also in 2008. The OSS provides information on the ability of MFIs to cover their expenses with their revenues.

The average number of borrowers is 9,013 for the MBB compared to 1,155,850 for Compartamos in 2008. Compartamos is today the largest Mexican MFI and a regional leader.

The average nominal interest yield is 31% in the MBB and 83% for Compartamos in 2008, and the average staff productivity is 103 in the MBB while it is 194 borrowers per staff for Compartamos in 2008. Finally, Compartamos has a relatively low portfolio at risk (30 days) of 1.71%

Empirical analysis of the surplus

In this section, we apply to the Compartamos case the analyses enabled by the GPS method. First, we examine the initial situation of the different stakeholders inside the MFI. Second, we calculate the productivity improvement of Compartamos through the productivity surplus that it generates from one year to another. Third, we analyze the distribution of this surplus and figure out the gains and losses of the different stakeholders in the distribution process.

The initial situation of Compartamos's different stakeholders

Table 2 shows the stakeholders' initial situations by computing their remunerations in absolute value. We will put these results in perspective thanks to a comparison with the results obtained by Périlleux *et al.* (forthcoming) in a previous analysis, which applies the GPS method to an international database of 230 MFIs¹.

As we have seen in the comparison with the MBB benchmark, Compartamos charges a particularly high interest rate (IR) to its **borrowers** (71.2% per year on average between 2003 and 2010²). Périlleux *et al.* (forthcoming) obtain an IR of 39.3% on average for non-profit organizations (NPOs) and 33.8% for shareholder firms (SHFs), the ownership structure of Compartamos.

In Mexico, most MFIs charge relatively high interest rates, but the range of interest

¹ Hence, we will refer to Périlleux *et al.* (forthcoming) results when comparing Compartamos to the global or international benchmark of MFIs.

² Total cost of borrowing is very often not equal to the portfolio yield, the figures exhibited here as "interest rates". There might be some fees and other requirements, for instance in terms of mandatory savings, on top of the yield which may give us the annual effective rate. Nevertheless, because of data constraints, we will restrict our analysis of interest rates to portfolio yield, calculated as the ratio of financial revenues divided by outstanding loan portfolio. It will thus be an average interest rate since we do not make any distinction between products or types of loan (e.g., women credits or merchant credits). These approximations have generated some differences with other figures frequently reported on Compartamos's interest rates. Nevertheless, we believe it does not affect our general results.

rates is also very large. Hence, Compartamos's interest rates for microloans are particularly high, even for Mexican standards. For instance, the interest rates of Mexican MFIs reporting to the Microfinance Information Exchange (MiX) for 2006 vary from 19% to 105% per year. Interest rates of other large Mexican institutions were also often above 50% per year. Mexican MFIs have historically increased high interest rates because of the heavy devaluation and inflation in 1995, which followed the 1976 and 1982 economic crises.

Compartamos's interest rate has decreased since 1995, but quite slowly compared to what many practitioners or donors expected. For instance, Rosenberg (2007) explains that CGAP never thought in 1996 that "Compartamos would be charging such interest rates, and generating such profits, 10 years later". One reason why Compartamos charges high rates is that it provides very small loans. Its average loan size (ALS) varied between 294 and 440 USD between 2003 and 2010. It is well known in microfinance that small loans generate higher costs (small loans are more costly to manage) since a lot of administrative costs cannot be compressed with lower loan sizes. In order to take the national standards of living into account (a loan of 200 USD may be small in one country but big in another), we can divide Compartamos's average ALS by the GNI per capita. We obtain only 2.5%, which is much lower than the benchmarks used in the microfinance sector. The MBB categorizes an MFI's outreach as "low end" when its ALS is under 20%. In the global benchmark of MFIs, ALS of NPOs reaches on average 19% of the GDP per capita and 29% in the case of SHFs. Average loan size is often used as a proxy for the clients' poverty level, even if it has some clear drawbacks. This would mean that Compartamos serves relatively poorer clients than other MFIs, contrary to most other SHFs that tend to offer larger loans. At the very least, these small loans do not exclude poor clients and can potentially target poorer people than many microfinance and consumer finance institutions do.

Compartamos's financial revenues enabled it to be very profitable, exhibiting return on equity (ROE) higher than 50%. *Financiera Compartamos's* ROE of 55% p.a. is indeed higher than that of most MFIs in the rest of the world and higher than those of most MFIs and consumer lenders in Mexico. Compartamos's **net income** has thus been constantly very high. It has almost been multiplied by ten between 2003 and 2010. This increase is much higher than for other accounts such as staff or other administrative expenses. The company has proven to be continuously profitable, which has provided financial means to support the impressive growth of its clientele. The growth rate of its number of clients has doubled from

24% per year in the 1996-2000 period to 46% in the 2000-2006 period. Outreach extended to 1,961,995 clients in 2010.

We cannot compare the interest rates offered for **savings** products since Compartamos did not collect deposit. Nevertheless, the institution got its banking license in 2006, which enabled them to start offering savings services.

The interest rate paid by Compartamos to external lending institutions has been quite high, even if it has tended to decrease especially since the IPO (2007). Interest rates to **lenders** were around 10% in 2010 but have frequently been over 10%. The average interest rates paid to lenders by NPOs and SHFs were respectively 8.21% and 7.11% for the global benchmark of 230 MFIs. Compartamos paid a lot to its lenders. It was mainly willing to borrow at commercial rate and even refused some free training or grant offered by local political bodies, such as in Pronafim, to remain independent.

Concerning the **employees**, Compartamos paid higher salaries in absolute value (an average of 12,509 USD between 2003 and 2010). This is clearly higher compared to international benchmarks (6,512 USD on average for NPOs and 7,526 USD for SHFs), but Compartamos is not an exception on this in Mexico. Mexican practitioners frequently report some competition to get the best staff and staff turn-over, which may also drive the staff and administrative expenses. Staff costs are less impressive if we take the national standard of living into account: average salary/GNI per capita reaches 0.94 on average for Compartamos, whereas it reaches 2.04 on average for NPOs in microfinance and 2.36 for SHFs in the global benchmark.

Compartamos's operating expense ratios have been relatively high for microfinance standards, particularly when operating expenses are divided by outstanding loan. Their high administrative costs have been highlighted a few times and they have been accused of being inefficient (Armendáriz and Morduch 2005). High operating expense ratios might be due to the very low size of their loans, as suggested by Rosenberg (2007), who argues that operating expenses per borrower show no indication of inefficiency.

Compartamos's surplus formation

Using the GPS method, we calculate Compartamos's productivity surplus gains (St) in U.S. dollars (last column in Table 2). St is always positive, except in 2008, which is the year following the IPO. Indeed, from 2007 to 2008, Compartamos registered a smaller increase of

its outstanding loan portfolio than the other years, which has led to a low “output variation at constant prices”. However, they had already invested and increased their inputs: indeed, from 2007 to 2008, they hired 1,569 new employees (which was high compared to the previous years) and highly increased their external debt. Consequently the “input variation at constant costs” was high and not compensated by an important output variation, which led to a negative productivity surplus.

However, on average over the eight years of analysis, Compartamos has managed to generate an impressive yearly average surplus of 42 millions USD, which is extremely high compared to the international benchmark of 322 thousands USD for SHFs and only 143 thousands USD for NPOs. Of course, this comparison does not take into account the various sizes of MFIs. Still, Compartamos’s average number of clients in the period of analysis (881,771 borrowers) represents 85 times the average size of MFIs in the global benchmark (10,363 borrowers), while the institution’s surplus is 130 higher than the average surplus of SHFs.

Surplus distribution in Compartamos: from the initial situation to the distribution to all stakeholders

After having analyzed the initial situations of Compartamos’s stakeholders, we now consider the dynamic perspective analyzing the surplus gains distribution between these stakeholders (Table 3).

The main and most striking result is the very high part (49%) of the surplus allocated to the GSFM, the “value gained by **the MFI itself**”, which can be later kept as reserve or distributed as dividends. This figure shows that Compartamos mainly kept its productivity gains inside the organizations in order to increase its self-financial margin, which includes reserves, further investment, and **shareholders’** remunerations. These results are in line with the global benchmark of MFIs suggesting that shareholder firms tend to favor GSFM (Périlleux *et al.*, forthcoming).

Nevertheless, the difference of distribution outcome is much more striking for Compartamos than the average figures for all SHFs. The rapid scaling-up objective could provide a potential explanation since most of it was reinvested. In Compartamos’s case, GSFM also benefited shareholders since 30% of Compartamos shares were sold at 12 times their book value to new investors, offering existing shareholders a net profit of about 460

millions USD. This rapid growth of the company coupled with extreme profitability has attracted commercial investors during the IPO and thus ultimately increased the shareholders' benefits.

Growth objectives were a major argument used by Compartamos to legitimate high interest rates. The profits the MFI obtained from its existing borrowers would enable it to reach potential borrowers faster and to offer them cheaper credits than moneylenders (Ashta and Hudon, 2009). This growth objective could explain why Compartamos similarly used to allocate, even before the IPO, a large part of its productivity surplus to its self-financing margin (S3). The surplus would then, in some way, go to future clients rather than existing clients. Next to the reserve for future investment, the self-financing margin also includes the remuneration to capital. If it keeps favoring GSFM, Compartamos could easily decide to favor its shareholders to the detriment of reserve for growth or investments. For instance, some of Compartamos's new shareholders that have entered the capital of the company in 2007 might ask for more dividends since they may have been attracted by Compartamos's profitability.

When analysing Compartamos's financial statements, Rosenberg (2007) pinpoints that 80% of the profit has been retained within the company to fund growth in the number and size of its loans, rather than paid out in dividends to shareholders. While he focused on the use of profits rather than the productivity surplus, both figures suggest similar trends of allocation.

On average, **borrowers** benefited very little from the productivity gains realized by Compartamos. Indeed, their surplus part reached only 3% on average for the eight years. Furthermore, they strongly suffered from the productivity loss in 2008 with a strong increase in interest rates on credits, which was compensated the next year.

The **lending institutions** registered a loss on average for the eight years. This means that the lending conditions for Compartamos are improving. This was especially the case for 2006-2007 and 2007-2008, the years before and after the IPO. After 2006, Compartamos strongly increased its financial debt. It benefited from a high reduction of the interest rate it had to pay for its debt.

Regarding **staff**, Compartamos's employees benefit, although to a low extent, from the productivity gains of the MFIs having generally a positive, though small, surplus (4% on average). This figure is similar to the surplus granted to borrowers.

Finally, **providers** (or other non-personnel expenses) register mainly high and positive surpluses. We could expect that this effect is due to important investments in material acquisitions made by Compartamos to support its growth. It could also be due to investments related to the transformation process after it became a SOFOL in 2000 or after it got its

banking license in 2006. Institutional transformation often requests huge investment. Nevertheless, we cannot draw any firm conclusion about this stakeholder category because it is impossible to identify whether it is due to a price increase of material acquisitions, and thus to some market variations, or whether it is because MFIs have decided to acquire higher quantities.

4. Conclusion

The measures of performance have been increasingly debated in the microfinance sector over the last few years. While recent empirical evidence suggests that many MFIs have become more efficient over time, it is not clear who benefits from these efficiency gains.

Moreover, evaluating MFIs requires finding a composite indicator that takes their double bottom line of financial and social performances into account. The global productivity surplus (GPS) method can play such a role, as it provides empirical evidence on the capacity of MFIs to generate a high combination of outputs /inputs, the productivity surplus, and then enables to analyze how the surplus generated is distributed between the stakeholders.

We have used the case of Banco Compartamos as an example of how the methodology could be applied to microfinance. Our results suggest that the productivity gains generated by the institution have been primarily kept as gross self-financing margin for future investments or dividends for investors. This has certainly increased the interest for the company for potential investors as testified by the success of the 2007 IPO. Moreover, borrowers and staff have not benefited much from these productivity gains through either a strong decrease of interest rates or better salary.

Our results are in line with what has been widely acknowledged or commented on Compartamos case. Similarly to what is suggested by a few analyses of the profits generated by Compartamos (Ashta and Hudon, 2009), managers of the company may have decided to allocate more of the surplus or the profits to their clients and finance themselves through financial debt (or other financial instruments such as its bond issues) rather than reserve accounts from high interest rates.

Hence, the GPS methodology provides a clear and structured way of calculating the distribution of the productivity surplus and could therefore be used as an additional and complementary indicator of social performance. While the microfinance sector has grown rapidly since the start of the commercialization phase, MFIs have made different decisions and favored different stakeholders. We believe the GPS methodology may be a relevant

management tool for double bottom line actors to shed light on how efficiency gains are allocated overtime.

Bibliography

- Armendáriz, B. and J. Morduch (2005). *The Economics of Microfinance*. Cambridge, MA: MIT Press.
- Ashta, A., and M. Hudon (2009). *To whom should we be fair? Ethical issues in Balancing Stakeholder Interests from Banco Compartamos Case Study*, Working Paper. Centre Emile Bernheim.
- Caudill S., D. Gropper, and V. Hartarska (2009) Which Microfinance Institutions Are Becoming More Cost-Effective With Time? Evidence from a Mixture Model, *Journal of Money, Credit, and Banking*, 41(4), pp. 651-672.
- Grifell-Tatjé, E. (2011), Profit, productivity and distribution: Differences across organizational forms - The case of Spanish banks, *Socio-Economic Planning Sciences*, 45, pp. 72-83
- Mbangala, M. (2001). L'évaluation de la performance économique des entreprises publiques Africaines par la méthode des comptes des surplus [Assessing the economic performance of African public enterprises by the method of surplus accounts]. *Annals of Public and Cooperatives Economics*, 72, 183-207.
- Périlleux, A., Hudon, M. and E. Bloy (Forthcoming). Surplus Distribution in Microfinance: Differences Among Cooperative, Nonprofit, and Shareholder Forms of Ownership, *Non Profit and Voluntary Sector Quarterly*.
- Rhyne, E. and A. Guimon (2007). The banco compartamos initial public offering. *Accion Insight Accion*.
- Rosenberg, R. (2007). "CGAP Reflections on the Compartamos Initial Public Offering: A Case Study on Microfinance Interest Rates and Profits." CGAP Focus Note 42. Washington, DC: Consultative Group to Assist the Poor.
- Servet, J.-M. (2011), Corporate Responsibility Versus Social Performances and Financial Inclusion in Armendáriz, B. and M.Labie (Eds.), *The Handbook of Microfinance*, Singapore, World Scientific Publishing, p. 301-322.

Tables

Table 1: Compartamos's Performances

Year	Number of active borrowers	Number of staff	Staff productivity	ALS (USD)	ALS /GNIppp*	Operating expense ratio**	ROA	ROE	OSS***	PAR 30
2010	1,961,995	9,773	201	398	0.023	0.28	0.16	0.39	1.72	2.00%
2009	1,503,006	7,364	204	384	0.025	0.29	0.18	0.43	1.68	2.32%
2008	1,155,850	5,946	194	349	0.023	0.40	0.19	0.55	1.68	1.71%
2007	838,754	4,377	192	432	0.024	0.31	0.20	0.54	1.76	2.72%
2006	616,528	3,203	192	440	0.025	0.28	0.22	0.55	1.81	1.13%
2005	453,131	2,295	197	399	0.024	0.28	0.21	0.54	1.70	1.24%
2004	309,637	1,561	198	326	0.022	0.31	0.18	0.48	1.68	0.56%
2003	215,267	1,012	213	294	0.021	0.29	0.19	0.55	1.82	0.70%
Average	881,771	4,441	199	378	0.025	0.30	0.19	0.50	1.73	1.55%

* ALS is the Average Loan Size expressed in USD. It is calculated by dividing the “outstanding loan portfolio” by the “total number of borrowers”.

** Operating expense ratio is calculated by dividing the “operating expenses” by the “outstanding loan portfolio”.

***OSS, the Operating Self-Sufficiency, is calculated by dividing the “total financial revenues” by the sum of the “financial expenses”, “loan loss expenses” and “operational expenses”.

Table 2: Initial Situation

Year	IR on credit	Loan loss rate	IR on external funds	Average salary/employee (USD)	Average salary/GNI PPP	Other operating expenses (USD)	Operating expenses (USD) / Borrowers	Net operating income (USD)	ALS (USD)	ALS /GNIppp	SURPLUS
2010	63.5%	0.030	9.9%	13,351	0.89	89,311,164	112	206,809,185	398	0.023	85,825,557
2009	64.2%	0.036	8.6%	13,288	0.94	67,825,443	110	150,369,823	384	0.025	120,237,553
2008	83.0%	0.019	8.3%	14,181	0.94	68,996,416	138	135,840,144	349	0.023	-6,674,628
2007	72.1%	0.018	12.3%	12,681	0.88	51,783,349	132	112,442,817	432	0.024	34,756,808
2006	69.5%	0.016	14.6%	12,416	0.92	32,572,019	121	84,456,972	440	0.025	43,416,552
2005	68.4%	0.026	12.9%	12,308	0.99	21,130,303	112	50,741,322	399	0.024	40,311,769
2004	72.4%	0.017	13.6%	11,227	0.98	13,993,174	102	29,557,003	326	0.022	19,809,673
2003	76.6%	0.015	13.5%	10,622	0.99	7,434,257	84	21,774,977	294	0.021	
Average	71.2%	0.022	11.7%	12,509	0.94	44,130,766	114	98,999,030	378	0.025	42,210,411

Note: Interest rate on credit (*i*) is the division of the “financial revenue from loan portfolio” by the “outstanding loan portfolio.” Loan loss rate (*lr*) is the “net loan loss expenses” divided by the “outstanding loan portfolio.” Interest rate on external funds or financial debts from lending institutions (*i'*) is defined by the sum of the “interest paid on borrowings” and the “other financial expenses” divided by the “financial debts.” Average salary/employee (*w*) is calculated by dividing the “personnel expenses” by the “number of employees.” Other operating expenses are the “operating expenses” minus the “personnel expenses.” Net operating income is the “net financial income” (total financial revenues minus total financial expenses) minus the “net loan loss expenses” and the “operating expenses.”

Table 3: Surplus Allocation process

Year	Percentage GPS	Percentage Borrowers	Percentage Doubtful clients (bad debts)	Percentage Lending institutions	Percentage Employees	Percentage Providers	Percentage GSFM
2009-2010	95.2%	6.1%	-4.8%	6.7%	0.7%	23.8%	62.6%
2008-2009	93.9%	84.8%	7.5%	0.9%	-5.1%	-0.9%	6.8%
2007-2008	-12.7%	-83.5%	0.9%	-29.2%	17.0%	32.7%	49.4%
2006-2007	69.8%	-18.6%	1.5%	-11.6%	2.3%	38.6%	57.6%
2005-2006	88.0%	-6.4%	-5.6%	5.7%	0.7%	23.2%	70.4%
2004-2005	98.0%	17.5%	3.9%	-2.0%	6.0%	17.3%	55.3%
2003-2004	100.0%	21.6%	0.8%	0.4%	4.8%	33.1%	39.3%
Average	76.0%	3.1%	0.6%	-4.2%	3.8%	24.0%	48.8%

Appendix 1

The surplus formation and distribution can be presented under a “surplus accounts analysis”. This accounts analysis shows the sources and the uses of the surplus and thus its distribution. It enables to identify easily which stakeholders contribute to the value creation and which benefit from it.

Sources	Uses
GPS > 0	GPS < 0
Surplus lost by stakeholder x	Surplus received by stakeholder a
Surplus lost by stakeholder y	Surplus received by stakeholder b
Surplus lost by stakeholder z	Surplus received by stakeholder c
...	...
$\sum = \text{losses} + \text{GPS}$	$\sum = \text{TGS} + \text{GPS}$

< Insert Figure 1 >

The Total Gained Surplus (TGS) is the sum of all positive surpluses, received by the stakeholders who register a gain in the surplus distribution process. This surplus equals to the sum of the losses (Total Lost Surplus) supported by the stakeholders who register a loss in the surplus distribution process and the Global Productivity Surplus. If the GPS is positive, the TGS is higher than just the sum of the losses supported by the losing stakeholders; if the GPS is negative, it absorbs a part of the losses, and the TGS is smaller than the sum of the losses. To have the surpluses in percentage (expressed in Table 3), we divide each of them by the total gained surplus (TGS) and we obtain:

$$\begin{aligned} \text{GPS} / \text{TGS} &= S^1 / \text{TGS} + S^2 / \text{TGS} + S^3 / \text{TGS} \\ &\text{or} \\ S^1 / \text{TGS} + S^2 / \text{TGS} + S^3 / \text{TGS} - \text{GPS} / \text{TGS} &= 0 \end{aligned}$$