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Micro-insurance and the New Middle Class: Income risk, social insurance and the demand for private insurance by low-income population

Abstract

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The Demand for Micro-insurance in Brazil

"Micro-insurance holds the promise to be, in the next decade, what microcredit has been in the last two decades."

"The recent Brazilian boom gave the poor to the insurance market, now markets should be given to the poor through an adequate institutional framework."

"Income that matters to the private demand for insurance is not the individual's, but the household's, as used in the concept of micro-insurance."

"Inequality in insurance expenses is a Gini index of 0,94, close to one, when only one person would have all insurance in society."

Insuring against uncertainties is present in the many dimensions of people's lives, such as those related to accidents, robbery, fire, diseases, disabilities, unemployment, and death, among others. We speak of insurance bought in the private market and not social insurance, including protection mechanisms offered by the State and relationship networks in society, which we frequently approach in our studies. Micro-insurance, private that is, improves low-income people's ability to deal with the frequent fluctuations in their incomes, among other risks. The probability of becoming

poor between these two consecutive months is 8.3%. When the consumption level of the household is low, the consequences of adverse shocks are worse than the gains from positive innovations. Insurance should not be a luxury service! Poor people ideally could brace themselves for adverse shocks by demanding insurance in the market, self-insurance through savings, or by being covered by public insurance. The problem with placing all eggs into one single public basket is that the State, contrary to George Orwell's Big Brother, does not have eyes everywhere, and as such, it cannot react to the specific situation or preferences of each person. As the saying goes "the devil is in the detail". Private micro-insurance holds the promise of offering protection when this seems more necessary to whom it may interest.

The social role and the demand for micro-insurance depend on the dynamics of the individual income process, of the social insurance provision and it thus requires an assessment of the complementary institutions that may cushion adverse shocks.

Brazil displays a developed financial system, but little focused on low-income markets, in particular, in the insurance area. On the other hand, there is an abundant offer of social insurance on the part of the Brazilian State in comparison with other countries with similar income levels. This forces the private micro-insurance industry to be well-tuned both with its public sector competitors, as well as with the new business opportunities from people ascending to higher social classes in need of protection to keep their recently acquired living standards. Insurance supply can still use the data records and the frequency of new social programs to reach the bottom level of income where it has never been before. This juxtaposition of effects and changes in opposite directions demands an empirical work to guide companies who aim to explore the Brazilian micro-insurance market.

Last year, Carlos Ivan Simonsen Leal, FGV president, welcomed key members of insurance sector to a celebratory lunch to mark the 65th anniversary of its relationship with FGV. Both Funenseg and the associated private insurers suggested that a talk on the perspectives of micro-insurance in Brazil be on the menu. This was a first demand by potential insurance suppliers. Micro-insurance will be in the next decade what microcredit has been in the previous two, culminating with the Nobel Peace Prize awarded to Muhammad Yunus and his Grameen Bank in 2006. This project is part of a larger research effort under the auspices of Funenseg in an attempt to create a micro-insurance infant industry in Brazil.

Access – the average rate of access to insurance in the population is 16,79%. That is, the population who has at least one type of private insurance as pointed out in the research questionnaire. We estimated the inequality in insurance-related expenses – whose Gini index is 0,935 close to the unit value – to be the upper limit of the perfect inequity, that is, when only one person has all the insurance in society. The Gini ratio of a specific expense to an income is equivalent to the income elasticity of a specific expense in question, which corresponds to 1,62.

Our focus here is the so-called micro-insurance defined not by the value of insurance policies, but by the income of its potential client base that here we define as Classes CDE. Class CDE, which is central to this study, presents an access rate of 10,78% and an average monthly expense of R$ 8,56 per person. Despite the fact that classes CDE are 85% of the population, there is a substantive difference in the access rate of the total population of 55,75% (16,79% versus 10,78%) and of an average expense per person of 169,5% (R$ 23,96 versus R$ 8,89). This reflects the fact that class AB has a higher demand level than the remaining classes with an Access rate of 46,17% and average expenses of R$ 99,29.

Determinants – We explore the wealth of microdata from the Household Budget Surveys (POF/IBGE) based on a model of selection of variables according to a level of statistical significance related to the demand for insurance, applying a procedure of a sequential choice of variables. It is worth noting the relative importance of economic variables vis-à-vis socio-demographic and spatial variables in explaining the demand for insurance. The income class variable was the first to be applied in the model, before completed years of education, which came in 5th place, but which has the higher explanatory power in empirical researches on inequality. When we look at the magnitude of coefficients for each variable, keeping the remaining features constant, the chances of a person from class AB using insurances is 690% higher than that of a class E person, while a person with a graduate level has 248% more chances of accessing insurance than a functional illiterate person. Having a credit card is the second most relevant variable to explain the use of private insurance. An indicative variable is the payment of social security tax as those who pay it have a 50,5% higher chance than those who do not. This indicates a complementary rather than detrimental relationship between insurances and other public and private financial instruments.

Next, we observe two socio-demographic variables in fourth place referring to the position in the household. The coefficient of spouse is, in the case of insurance, 40,6% lower than the reference person. This indicates the importance of the main income provider as the key demander of insurance in the family. The fifth variable already mentioned was education, followed by the state (location), as detailed ahead.

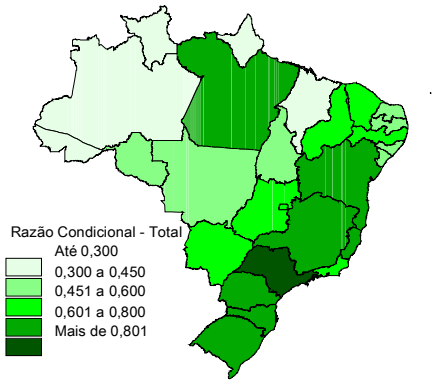
Age appears as the seventh variable in explanatory terms. There is an ascending route of access to private insurance up to 50 years of age, when it stabilizes itself in its highest level. That is, from middle-age onwards there is a plateau of demand for insurance. Lastly, it is worth acknowledging the importance of indicative variables of car ownership and financing and type of (job) occupation. As important as its presence is the absence of significance of the remaining variables tested, such as the perception of violence in the interviewee's neighbourhood, perception of income insufficiency and other of default in the payment of durable goods, the recent acquisition of real estate or socio-demographic variables related to sex (once controlled by the position in the household), race and religion. At face value, there is no sense for insurers to act according to these segments' niches.

In short, selecting variables in the demand for insurance reveals the importance of role in the family and education, but does not give room to other demographic targeting variables, although it enables a geographical targeting. Selected economic variables perform a crucial role in the demand for insurance with a special emphasis on the economic class. On the other hand, the individual income is not considered in any of the estimated models. This point has fundamental importance not only for the aggregate demand for insurance, given the relevant change in the income classes' composition in the last years in Brazil. In short, the demand for various types of insurance and micro-insurance are highly related to income. Income that matters to the private demand for insurance is the household's and not the individual's. Incidentally, the economic class based household per capita income is used in the definition of micro-insurance.

As we saw, the fifth variable in terms of explaining access to micro-insurance is the Unit of Federation (states). We present a map of the rate of access to insurance by unit of federation controlled for the remaining observable characteristics. The Southern and Southeastern states stand out, with the exception of Rio de Janeiro.

Map of the Repressed Demand for Insurance

Conditional Odds Ratio



This map locates the repressed demand for insurance. By comparing people with the same observable attributes in Sao Paulo and Rio de Janeiro, the latter has 46% less chances of having access to insurance than the latter, pointing out a promising market, for example, as a result of the combination of high income or education and low access in Rio de Janeiro.

POF's problem is that it is only available for 2002-03. We developed a methodology based on the more recent evolution of the income classes; and some counter-factual exercises enabled us to obtain a more updated scenario about the size of the insurance market in Brazil. Between 2003 and 2009, 27 million people, or the equivalent to half of France, entered classes, A, B or C and 24 million have left poverty. The magnitude of the income effect in the period was a 15,6% growth in the rate of access to insurance, not considering the 9% of population growth in the same period. In order to have a clearer idea, this magnitude is superior to the 14,6% increase that would have been observed if each Brazilian, keeping his respective income, began having access to insurance as observed in Sao Paulo metropolitan area, the most developed in terms of insurance in Brazil. If we add up all effects, the accumulated increase from 2003 to 2009 in the rate of access to private insurance in Brazil would be 44,3%. This would correspond to a second stabilization in the life of Brazilians, comparable to the launch of the Real Plan, when instability of individual income fell 40%. The growth in the income cake, more strongly in the lower income groups, gave the poor to the insurance market, now it is necessary to give the market to the poor. This is the

Brazilian agenda for the next decade, where the challenge of developing micro-insurance is situated.

Motives for Micro-insurance

People have many defense mechanisms against adverse shocks, including insurance bought in the private market and social insurance, such as public programs and society's solidarity networks. In the case of public social insurance, it is important to distinguish among contributory and non-contributory schmes. The former are somewhat close to private sector insurance in the sense that they require a systematic payment that entitles to a premium in case an adverse events occurs. A difference to the private insurance system including health, life and car, etc is that there is not actuarial control in individual contracts of contributory public insurance, or even the provision of incentives for that matter, such as clauses bound to the insured performance (experience-rated insurance). We may mention here the social security insurance clauses for work accidents and maternity leave. In the remaining non-contributory forms of public insurance – to name the main examples such as the National Health System (SUS), Bolsa Familia and unemployment benefits – the benefit does not require a previous contributory payment of any sort.

Beside private and public insurance, contributory or not, there are solidarity mechanisms in society that would complement social insurance, reducing people's risks. In this sense, the basic cell for sharing and diversifying risks is the household, complemented by friendships and non-relative's help. Roughly, these solidarity relationships in society would be for non-contributory public insurance, what the contributory public insurance is for private insurance.

Gamble – The main variable to define micro-insurance in the markets is the individual income, and not the type of product on offer. That is, the prefix micro is more an adjective of the target group rather than the noun referring to the financial service provided. Micro-insurance fits within the microfinance field, whose key to success is to develop technologies that allow the provision of financial services to poor and informal clients sustainably. The gamble is to discover channel of insurance distribution to reduce fixed and transaction costs linked to small policies. The relationship between insurers and insured is marked by information asymmetry. One secret to unlock the success of microcredit are the repeated interactions between insurers and insured: the

former have more advantageous insurance contracts as times passes, conditioned to the non-occurrence of adverse events in the previous periods, and do not renew the insurance policy in case an extreme situation occurs. It is necessary to know the clients and seeks products that meet their needs through the direct contact of the insurer with its customers. It is important to pay attention to the costs of monitoring the insured. There the creation of solidary groups, just as in the case of microcredit, may help to lower these costs. Outsourcing insurance agents who are paid according to their performance aligns incentives with the initiative's success. Another point is to access records concerning the low-income population included in *Bolsa Familia* or non-contributory pensions such as BPC. The secure and stable cash flow of a public origin associated with these programs reinforces the complementarities between these programs. Another complementary possibility is to discount the insurance policy-related expenses from public cash and benefit transfers (*consignação*) which would lower transactions costs.

Theory – What are the reasons behind the demand for private insurance by the low-income population? In the light of the economics literature, we did a brief conceptual description of the motivations behind the demand behaviour for different types of insurance. The demand for savings/insurance is associated in the savings literature (self-insurance) to specific motivations, and in terms of understanding the insurance demand, it results in policies with specific features; namely: i) health insurance, unemployment benefit, loan insurance derive from precautionary motivations, resulting from the future uncertainty regarding income or expenses; ii) car, house and productive asset insurance related to businesses are related to indivisible and highly valuable goods, mainly for low-income groups with a credit restriction; iii) complementary pension acts as an important protection against the reduction of income from work and health shocks that frequently affect the financial situation of the elderly; iv) life insurance finances the consumption of the spouse and descendants in face of the death risk of the policy holder.

These motivations are magnified for low-income individuals given the combination of a greater need to protect their precarious income levels with the larger imperfections of financial markets. Without considering that low-income groups in Brazil tend to present a higher volatility of their income from work (Neri et all 1999). Nonetheless, low-income individuals are restricted in the insurance market, be for their lack of knowledge about insurance companies' services, be for the companies' lack of knowledge about informal-sector clients; and besides, low values involved hinder the

reduction of record and operational fixed costs of supply. These elements support the case for developing a micro-insurance infant industry in Brazil.

We also measured the effective demand for insurance and micro-insurance, through the Household budget Survey microdata (POF/IBGE). The average rate of access to insurance in the population in question is 16,8%. That is, the population that has at least one type of private insurance as pointed in the survey questionnaire, be it health insurance,life insurance, car insurance, private pensions or other types of insurance. Health insurance is the most common covering 12,9% of the population over 15 years old, followed by life insurance 4,31% car insurance 3%, private pensions 0,45% and the portfolio of the remaining types of insurance, 1,41%. The controlled chances of any kind of insurance are higher when the person already has one policy, indicating complementarities (and not insurance's replacements). In practice, it is easier for an insurance company to sell a new insurance to a person already with access to some type of private or social insurance, than for another person with the same characteristics who does not have this access. On the other hand, this result indicates that the lack of protection against risks revolve around the same people, showing the strategic importance of the agenda of micro-insurance provision.

Micro-insurance markets are not defined by the value in the insurance policies sold, but for their potential target group. Income, or its equivalent in terms of economic classes, is the most determining factor for access to insurance, health plans and private pension, and not by coincidence is the variable used to define micro-insurance, i.e. people in classes CDE defined with a household income up to 1200 reais in Sao Paulo. In class E, access to insurance is 1,45%, of which 52% have health insurance. In class , insured people are 4,19% of the population, and the proportion of health insurance is 63%. In class C, these values are 15,69% of access and 77% of health insurance among them. Class AB presents the highest rates both in terms of access to insurance in general (46,71%) and health insurance (80%). Looking at the portfolio for individual insurance through the extremes of the economic classes. In the case of health plans, the most common, rates vary from 0,76% in Class E to 36,65% in AB. Next, we find car insurance (varying from 0,05% to 13,84% among classes) and life insurance (0,29% to 12,88%). Private pension and other kinds of insurance are less present, even in the upper classes (access rates are, respectively, 1,91% and 2,43% in class AB). In a controlled comparison, to isolate the force of the income variable, a person from class AB has 16,9 times more chances of having an insurance when compared to someone

from class E with all the same observable characteristics. In this inequality of access between classes, we highlight car insurance, with 165 times more chances, followed by pensions, with 34 times more chances of access.

Income, Causality, Family Altruism and Health Insurance

More income creates more access to health services, but the inverse can also be true because people with access to better services would be more productive and would generate more income. We use multivariate exercises with difference-in-difference estimators in order to study the income impacts on the demand of the elderly Brazilians for health insurance. The central issue is to use the growing income transfers to the low-income elderly as a lab to identify the income effects on health, separating it from the operating effects in the opposite direction. The data bases were the 1998 and 2003 PNAD Health Supplements that were made during the expansion of programs such as the Beneficio de Prestação Continuada (BPC) and non-cotnributory rural pension programs. The results reveal that the elderly eligible to income transfer programs present a distinct improvement in their access to health service in the five years in question, which is consistent with the idea that more income generates more access to health plans. The gain in the chances of accessing health insurance is relatively 37,8% higher in the target group of income transfers in relation to the control group. Secondly, confirming the existence of some kind of family altruism, but lower than in the first treatment group, there was a gain of 27,4% in the chances of accessing health insurance among the non-elderly, but who live with some elderly person who is entitled to the income transfer program.

The research website www.fgv.br/cps/ms/ offers a wide databank with interactive and user-friendly tools to search data that has details on the determinants of the demand for insurance. For instance, the disaggregate analysis per gender shows that men have a higher rate of access to women, 19,35% versus 14,24%. Using the basic model of access per gender, controlled for other variables - that is, we compare people who have exactly the same attributes with the exception of gender – the differences between men and women disappear, in other words, the chances of access to insurance are not statistically different between them. This result derives from the combination of advantages for men or women depending on different items of insurance (micro-insurance) as analyzed: health more females, 18% higher (16%) as a counter-point to the car insurance 62% higher (2,2 times), life insurance 52% (46%) and complementary pension 61% (85%) which are clearly more masculine, as in the bivariate analysis. By opening the data regarding women for the current reproductive condition, we see that on average pregnant and breastfeeding women – those in more need of protection – present the lowest rate of access to insurance (and micro-insurance) in general, and health insurance in particular.

Micro-insurance and the New Middle Class in Brazil

The Center for Social Policies at the Getulio Vargas Foundations (CPS/IBRE/FGV) has shown in successive studies the emergence of a new middle class in Brazil: from 2003 to 2008, 27 million people have ascended to classes ABC. After the external crisis hit Brazil in September 2008, our studies chronicled the crisis, asking how evolved the recently acquired living standards during this critical period. The new Brazilian middle class became a macroeconomic asset to make up for a decrease in exports as a result of the global economic retraction. With data that goes up to July 2009, we continue monitoring the evolution in the population composition in its various economic strata (ie., classes E, D, C and AB) as well as its close determinants such as income inequality and mobility and its respective labor-related components.

A Social Draw – Nine months after the crisis began, there is a clearer vision of its effects on Brazilians in the six largest metropolises. Income inequality - that had undergone a serious deterioration when part of the previous years' gains were lost in January alone – has come back to the same pre-crisis' levels. Even class AB that earns more than 4800 reais per month and had lost more with the crisis (-2,7% in January), today is only 0,5% below the level one year ago (14,97% of the population is in class AB, with almost 55% of the income). Class C has a positive result with a gain of 2,5% in 12 months (the prevalent class in terms of population size: 53,2%). If this draw may be considered a good results in times of crisis, it also hides a sudden halt in the previous improvement in indicators: from July 2003 to July 2008, Class AB grew 35,7%, class C increased 23,1% and income inequality decreased as never before in the Brazilian statistical series.

New Agenda – In the same way as we updated our traditional series, we have introduced some innovations. Our strategy has that we shall strive to introduce a new dimension to the analysis of the middle-class at each research update: access to consumer goods, entrepreneurship and microcredit, quality education, among others; exploring a new perspective with each research. In the present research, following the impacts from the financial bubble burst, we explore the demand for insurance by the low-income population and by the groups that recently emerged to new economic classes. Micro-insurance as an agenda only now emerges in the world, just as microcredit had done in the last two decades. They are natural sequences of the same

process; as microcredit enables an improvement in people's lives, micro-insurance helps decrease people's vulnerability to adverse shocks such as unemployment, disease, accident, theft, death, among others. During last years' improved income distribution, we have handed out the poor population to consumer markets. Now we aim to hand the market out to poor producers as we explore the entrepreneurship and productive credit agendas as in previous researches, as the quality education agenda in the next researches, and in the current demand for micro-insurance. Placing low-income people as agents of change in their lives, integrating social and economic aspects and exploring public-private interactions form the new generation of social policies for the next decade.

Economic Classes and the Demand for Protection

Traditionally, sociological studies and more recently Thomas Friedman's work have alleged that being middle-class does not depend to a certain extent on the person's current situation but relies more on his hoping for a future social rise. More than being in a certain situation, the essential characteristic of a new middle class would be to have a plan of upward mobility. This perspective mirrors the entrepreneurship rationale, whereby a person rises in life on account of his efforts and productive potential. In this sense, in order to identify emerging producers among the population it would be necessary to separate the subsistence production at any level from activities with a capital accumulation and growth potential. We argue here that this kind of approach is relatively less present in Brazil than in other countries such as the United States, or even India. In India, establishing an IT shop in Bangalore permeates people's plans (at least of those people who say that they want to be a millionaire). In the current view in Brazil, the new middle-class also relates to the future, but Brazilians not only basically plan their rise, they also focus on avoiding a social downward movement. That is, new emergent classes wish above all not to recede to their previous status in the future. Brazilians aim for greater security by being formally employed with the employment registration booklet (*carteira de trabalho*) or preferably through public service or even under the protection of state-sponsored social programs. Brazilians demand and receive State protection in larger proportions than Indian or Chinese people.

Furthermore, doesn't the Brazilian State already meet the demand for protection through social insurance? The problem of the State, contrary to George Orwell's Big Brother, is that it does not have eyes everywhere, and there are risks that only someone

at risk may notice. The present study finds itself in the arena of the supply and demand for protection in this public-private interaction that has characterized the Brazilian situation in the last years. Brazil has reconciled a respect to market rules with an active social policy. For over a decade, the Brasília Consensus has not been the same as that of Washington or Caracas. We tread a sort of Middle Path, not so much to the State nor to the market. A true social economy of the market.

There are many possible perspectives to help define the middle-class, including supply and demand elements. The first aspect looks at the individual as an income generator, particularly through income from his work. This type of concern leads to class criteria such as inclusion in the labor market and education, as applied in England, Portugal and India. We have used this approach given the large data availability in frequent surveys such as PNAD (household survey) on an annual basis or the PME on a monthly basis. Besides measuring the evolution of the new middle class in Brazil from the producer's point of view, we may define E, D, C, B and A economic classes for their consumption potential. The so-called Brazil Criterion uses access to and number of durable goods (TV sets, radio, washing machines, fridges and freezer, VCR or DVD player), bathroom, as well as hiring a housekeeper and the level of education of the household head. This criterion estimates the weights based on a Mincerian income equation. Since Robert Hall's 1977 seminal work, we have known that current consumption levels ideally contain all the relevant information about future consumption patterns.

A more general methodology could also combine both above mentioned aspects including other symbols of middle-class, such as the employment registration booklet (*carteira de trabalho*), entering university or entering the digital age through the internet. Social status aspects related to the private demand for goods, that were previously a monopoly of the State, such as social security, education, health and housing credit could also be included here. The composition of these expenses is also important, thus the need to separate hedonism from productive capacity to a certain level of people's expenses. According to La Fontaine's fable, one has to distinguish between the productive ants and the consumer grasshoppers. In other words, we approach the demand for insurance by different economic classes – which, at the base of the income distribution pyramid, gives origin to the micro-insurance industry that begins to flourish in some parts of Brazil. Another objective of the present work is to

update the economic classes series based on income (E, D, C and AB) and its close determinants including income inequality and its labor-related components.

Conclusions

Micro-insurance – In the present study based on a Household Budget Survey (POF/IBGE) we analyze the determinants of the private demand for insurance at the base of the income distribution pyramid with a view to establishing an incipient micro-insurance industry in the country. Assessing the effect of micro-insurance on well-being requires an analysis of the income process of individuals through PME/IBGE (monthly employment survey) and an assessment of public and private institutions that condition people's financial behaviour. An interesting aspect of micro-insurance is the creation of well-being gains without fiscal implications. Nonetheless, current Brazilian inequality in terms of insurance expenses is close to the scenario where only one person holds all the insurance in society.

Results – Initially, we reviewed the economics literature on the financial motivation of individuals in order to provide a conceptual reference that would help us interpret the demand for different types of insurance by the low-income population – to discuss then its practical application in the light of microfinance literature. Next, we measured the main determinants of the total and sector-specific micro-insurance demand (health, life, pension, etc.) where economic class, instead of individual income, plays a vital role in our results. In the next step, we included changes in economic classes and financial innovation to set a scenario of private insurance market in Brazil. Finally, we analyze the post-crisis evolution of the income distribution, economic classes and the individual risk of mobility between these classes, as determinants of the demand for insurance and the well-being of the population.