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Micro finance in Palestine:
issues, performance, and trajectories

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Abstract - Despite the growing interest in the subject of micro finance very little, if any, academic research on the Palestinian case exists. This paper starts filling this gap by analysing the development of the micro credit industry in Palestine between 2000 and 2008.

This paper shows that at macro level the industry has a strong potential for growth, but its full development is frustrated by inefficiencies in credit allocation and high level of risk, whose most evident sign being the problem of late or no re-payment of loans.

By using data from one of the most important micro credit agencies, the *Arab Centre for Agricultural Development* (ACAD), we analyse the determinants of late payment. The most important results are that high interest rates increase the probability of late repayment, loan size, when above the “micro” threshold has no impact, while female customers and the one with banks guarantees are less likely to pay late. The policy implications are that while going towards a more “market-based” approach might provide some advantages in terms of risk reduction, it will not *per se* solve the problem while will certainly expose the most vulnerable sectors of the population to further credit rationing

Keywords - Palestine; micro finance; economic development

Jel Classification - G21; O17; O53

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Introduction

Over the last two decades the success of various micro credit programs, mainly although not exclusively in the Indian sub-continent, made micro finance a subject with growing popularity among economists and policy makers.¹ Although substantial disagreement still exists on most of the issues surrounding micro-lending, in particular on the key problem of whether it should be provided by non-profit organisations on a non-market basis or by commercial institutions charging market-level interests, consensus seems to have emerged on the strong potential that micro finance has as a device to foster economic growth and reduce vulnerability and disparity among populations.²

Despite the growing interest in the topic, still very little academic research, if anything at all, exists for the Palestinian case. Our preliminary survey of the literature has revealed that available studies do not go further than an MA dissertation published by the University of Uppsala in 2008 and some descriptive works, largely at micro level.³

This is surprisingly given that Palestine is a very interesting case study for at least two reasons. Firstly, the lack of academic attention for this subject stands at odds with the fact that Palestine's micro credit is in fact a vibrant and developing industry, characterized by the presence of a high number of very diverse institutions. Over the years, dedicated organizations have found their ways to address issues of relative lack of financial deepening and of widespread credit rationing from "high street" banks, in a context where endless military conflict and political and economic instability exacerbated these problems. On top of the natural interest that such a dynamic sector is supposed to stimulate, the study of micro credit in Palestine is interesting for another reason. Developing more direct participation in, and stronger responsibility

¹ See, among many others, Bounman (1989) and Yunus and Weber (2007)

² See Burritt (2003) and Hardy *et. al.* (2002) for international institutions perspective on the issue

³ Abuznaid (2005), Abukarsh (2005), and Fridell, (2008).

for the economy among less affluent and often cut-off members of the society is considered one of the main aim of micro finance. Such development of stake-holding is important in every developing country, but it is particularly relevant in economies where the availability of a disproportionate amount of external loans and donations risks to ingenerate passive if not parasite attitudes. In this regard Palestine is a very good case in point; as stressed for example by the *Israel/Palestine Centre for Research and Information*, empowerment and direct participation in the lending process characterising micro finance projects might help to break the vicious circle between dependence on foreign aid - lack of entrepreneurship and stake-holding - further dependence on external support. Thus the effectiveness of micro credit to develop stake-holding, for example by using peer pressure as a way to enforce collective loans contracts, is worth some investigation.

This chapter, which is largely based upon the statistical analysis of an original data set, is conceived as a first preliminary study of the issues above and it is structured as follows; section 1 provides an overview of the institutional characteristics of the credit market in Palestine, by looking at both the ordinary banking sector and at micro credit institutions. Section 2 covers some theoretical issues concerning the estimation of demand for micro credit. Using aggregate data, section 3 looks at the actual extent of the potential market for micro finance in Palestine and at the amount, directions, and characteristics of supply. Section 4 narrows the perspective on supply by looking at performance indicators, showing some of the problems characterizing micro credit delivery in Palestine. Using original data from one of the main micro credit agency, sections 5 and 6 investigate some possible reasons of such inefficiencies. More specifically, section 5 describes data and methodology, while section 6 discusses results. Section 7 concludes.

Section 1. The Palestinian credit market: institutional background

Before going deeper into the analysis of the aims, efficiency and effectiveness of Palestinian micro credit, a rapid overview of the main institutional characteristic of the credit market is in order.

The Palestinian banking system consists of the Palestine Monetary Authority (PMA) which performs some of the regulatory and monitoring functions of the central bank, twenty foreign and domestic licensed banks, plus various moneychangers and micro credit institutions. By August 2009 twenty different banks operated in Palestine, ten

of which foreign (eight Jordanian, one Egyptian, and HSBC bank). Their total equity amounted to about \$893.8 million, with a paid-up-capital of about 77.6%. Banks conduct business through a network of 205 branches, 159 located in West Bank and 46 in the Gaza Strip (Table 1).

Table 1: Number of banks and branches in Palestine

	Number of Banks	Number of bank branches		
		<i>West Bank</i>	<i>Gaza Strip</i>	<i>Total</i>
2001	21	89	35	124
2002	20	89	36	125
2003	20	94	37	131
2004	20	96	37	133
2005	20	101	38	139
2006	21	111	40	151
2007	21	119	41	160
2008	21	144	46	190
August 2009	20	159	46	205

Source: Palestinian Monetary Authority, 2009.

Notwithstanding the extraordinary risky conditions under which it operates, the Palestinian banking system still retains a high degree of confidence among its clients, as showed by the increasing volume of total deposits. Data show that between the end of 2007 and August 2009, deposits increased by 22.8% to reach the level of about \$6.3 billion. The increase in the supply of credit facilities paralleled the rise in deposits; by August 2009 total credit facility have reached the level of about \$2 Billion with an increase of more than 17% vis-à-vis the value at the end of 2008. However, as section 3 below shows, still Palestinian banks operate a very prudent ratio between deposit and supply of loans, as well as charging very high interest rates.

The micro finance industry in Palestine is dominated by ten major institutions grouped under the umbrella of *The Palestinian Network for Small and Microfinance institutions* (PNSMF). Within this group, four associations (Faten, Acad, Asala and Unrwa) had, in 2007, about half the total number of

active clients⁴ Below we provide a brief description of their main activities, policies, and institutional features.

Palestine for Credit and Development – FATEN

FATEN has been active since 1998, and begun to offer loans one year later, in March 1999. Faten is the biggest micro credit association in Palestine and operates with an explicit efficiency and self-sustainability target. Faten offers a wide range of loans, from individual to group, and of various sizes; although it mainly targets women, this is not the exclusive market.

Palestinian Business Women Association - ASALA

Asala has been active since 1997 and contrary to Faten, it specialises on women customers. This institutional feature means that the efficiency target is somehow constrained by other goals, in particular empower of Palestinian women. Asala has two types of lending programs: micro lending program (group and individual loans) and small lending program. Micro lending program is conceived as a device to allow a woman or a group of low-income women to start an economic activity; loan size varies from about \$100 to \$5000. Small lending are not only more conspicuous in size (\$5000 to \$20000) but also subject to more controls and guarantees. However, the aim is still to allow women entrepreneurs to start or expand a business.

3. Arab Centre for Agricultural Development – ACAD

ACAD is a non-profit, non-governmental organization that has been officially registered in Jerusalem since 1993, and registered by the Palestinian Authority since 2001. It offers services to established low-income-generating business or to entrepreneurs-in-the-making in order to promote self sustaining employment and income-generating projects. Like the other organisations, Acad provides differed kind (and size) of loans. Acad serves both male and female customers.

4. United Nations Relief and Works Agency – UNRWA

The micro finance program of UNRWA started credit operation in 1991. The original aim was to create employment through capital-investment loans in existing business and start ups. By 1994 the focus shifted from the support to small and medium scale enterprise to microfinance. This change was even more visible after the 2000-2001 *second intifada* when most resources were channelled towards the support of poor people in Palestine.

⁴ Source: The International Finance Corporation and The Palestinian Network for Small and Microfinance Institutions (2007).

Section 2. Estimating potential demand; theoretical issue

The first theoretical issue concerning the functioning of micro finance institutions in Palestine is the definition of their potential market. Although Burritt (2003) assumes that potential demand for microfinance services seems to be infinite if we take into consideration demand for a wide array of financial services beyond loans, including savings, insurance and remittances, still a more precise definition needs to be provided. In theory the potential market for micro credit institutions depends on two factors: on the one hand the amount of population able to express actual demand for financial services and, on the other, the share of such demand satisfied by ordinary commercial banks. In theory the clients of microfinance institutions are low-income self-employed entrepreneurs, both in cities and in the countryside. Rural clients are expected to be small farmers or other individual engaging in small-scale activities such as food processing and petty trade. Potential urban clients are a more diverse group including shopkeepers, service-providers, artisans, street vendors and others. Both classes of entrepreneurs demand financial services either to start or to enlarge their activity, but low level of income generation makes them very expensive clients for ordinary banks. Thus the scope for micro credit depends, in theory, on the number of such potential clients, but also on the extent to which ordinary banks are or are not interested in this market.

To determine the dimension of the potential market for micro credit, a mainstream approach consists in dividing the active population into groups depending on their income. Visually this approach can be represented by the pyramidal graph 1 below. Various segments of the market can be described as:

A: rich individual who are served by ordinary financial institutions and are not interested in microfinance loans.

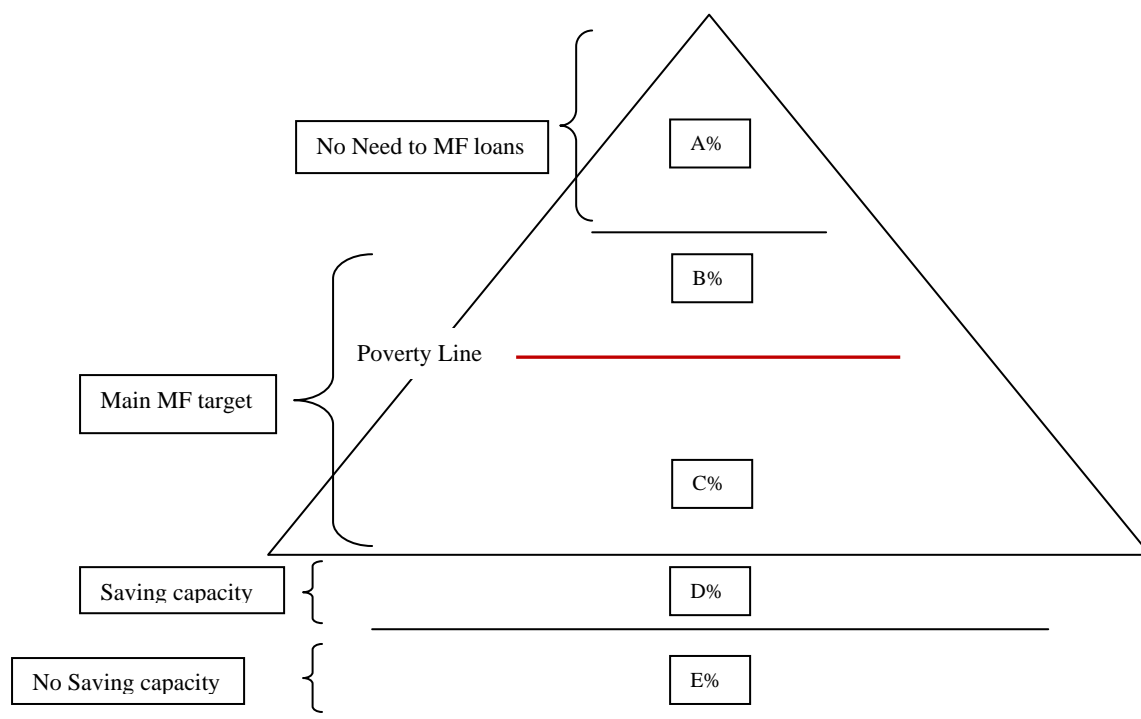
B: relatively affluent individuals (or at least above the poverty line) who might or might not have alternatives to microfinance institutions depending on banks' approach.

C: poor individuals who are classified below the poverty line but still having saving capacity; this is usually the main target for microfinance institutions.

D: individuals who are just above the classification of "poorest of the poor" and still have some level of saving capacity.

E: the poorest of the poor, with no saving capacity at all.

Figure 1: micro credit market segmentation



Source: Bedoya (2006)

Potential demand for micro credit can be thus defined as the sum of *B*, *C* and *D*, although *C* is the main target. However, exactly how low or high income is supposed to be in order for potential clients to be considered either by ordinary financial intermediaries or micro credit institutions varies according to many factors. For example how much of the *B* segment is going to be considered by ordinary credit institutions depends on their risk-taking attitude as well as on the availability of alternative investment opportunities. On the other hand, from the point of view of micro credit institutions serving or not the *E* segment depends on whether they want to engage only with self-sustained market-based investment, or whether for political/ideological reasons they also want to target the segment of population (the very poor with no saving capacity) that could never become part of the official credit market.

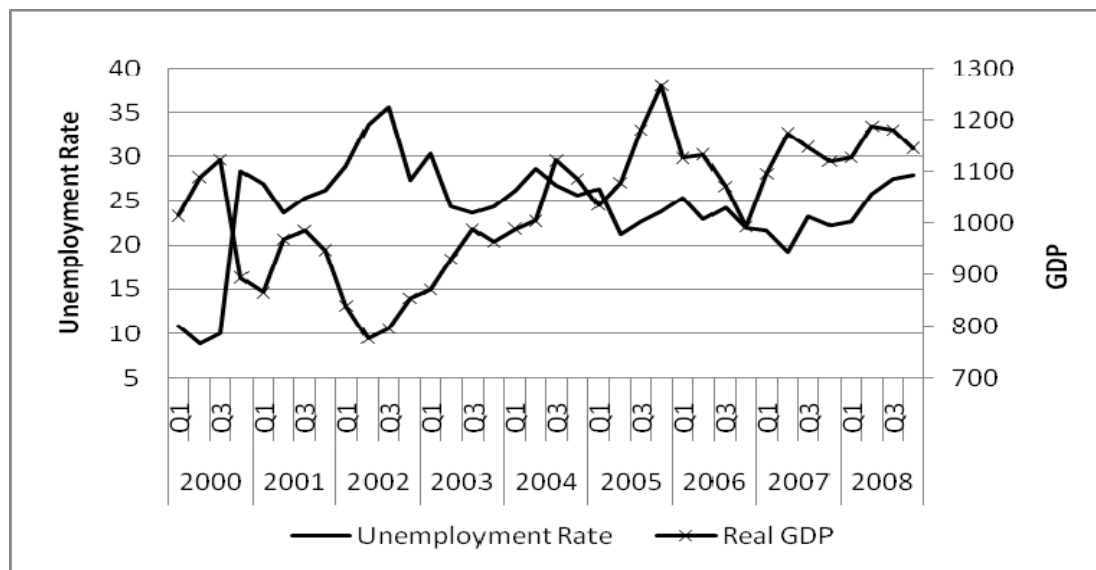
Section 3. Actual demand and available supply

Although a precise analysis of the attitudes and policies of various kinds of banking institutions is behind the scope of the paper, a brief analysis of aggregate statistics

suggests that the potential market for micro credit in Palestine is significant. This is because the amount of population that can be classified as being part of the *B* to *D* segments is large (if not increasing), but also because by general standards ordinary banks seem to have a rather conservative approach.

A rapid overview at general macroeconomic conditions in Palestine indicate that after substantial increase between 2002 and the end of 2005, from 2006 real GDP declined while the rate of unemployment stabilized around 20-25% (Fig.2).

Figure 2: Real GDP vs. Unemployment rate (2000Q1 – 2008Q3)

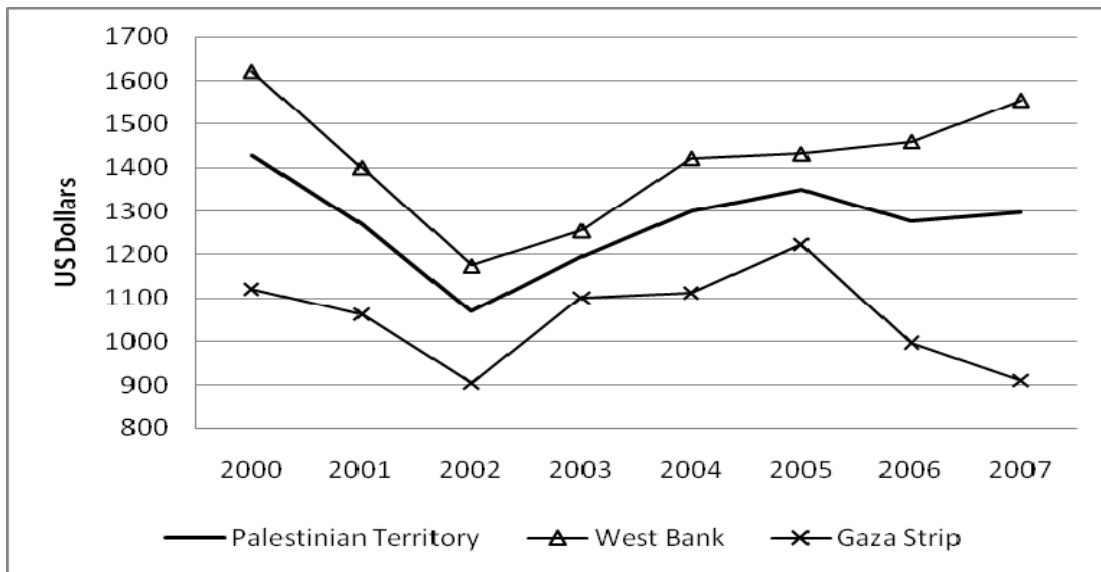


Source: Palestinian Central Bureau of Statistics (2009).⁵

A closer investigation, however, shows that increasing poverty at national level paralleled growing inequality between different geographic areas. In particular a large discrepancy is evident between West Bank and Gaza Strip. Figure 3, shows that after 2006 GDP per capita in the Gaza Strip declined sharply, while it increased in the West bank even if, by the end of 2007, it was still below the 2000 level.

⁵ 1997 is base year for real GDP during 2000-2003, and 2004 is the base year for 2004-2008.

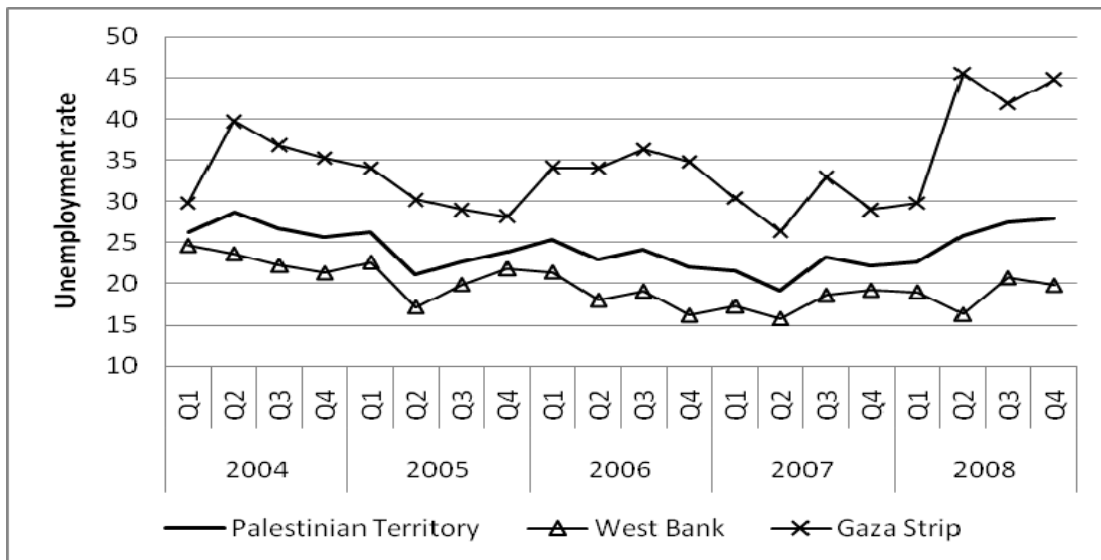
Figure 3: Real GDP per Capita



Source: Palestinian Central Bureau of Statistics (2009).

This picture finds its parallel in the different patten of the rate of unemployment in the two areas (Fig. 4).

Figure 4: Unemployment Rate in Palestinian Territory



Source: Palestinian Central Bureau of Statistics (2009).

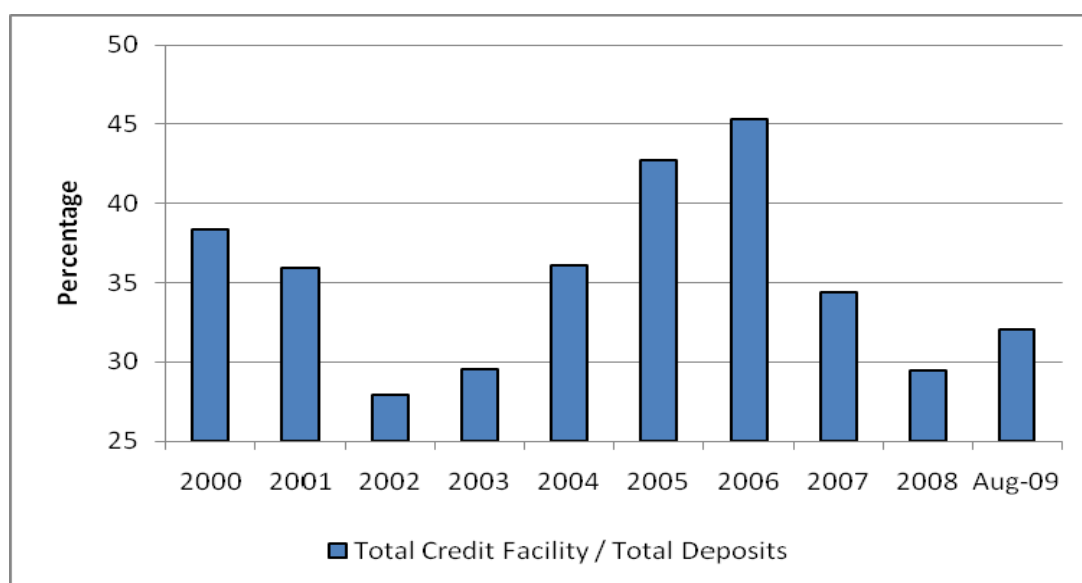
This process of growing inequality at geographic level went hand in hand with an increase in the unevenness of income distribution. By the first half of 2006 The Gini

coefficient indicated that inequality of income distribution was about 64%.⁶ Meanwhile by the end of 2006 the number of people considered as “poor” in Palestinian Territory increased by 13.6% as compared to the end of 2005, reaching the level of 2.1 millions⁷

Given that poorer people have less access, if any, to bank loans, changes in the macroeconomic conditions of Palestine seemed to have increased the potential market for micro finance.

On the other hand, by examining the ratio between the level of deposits and amount of total facilities offered by commercial banks in Palestinian Territory in the last few years we can see how prudent the approach was. During the mentioned period, the average ratio of total facilities to deposits was only 33.8%, and while a growing trend is noticeable up to 2006, the following years the tendency inverted. (figure5).

Figure 5: Ratio of total credit facilities to total deposits



Source: Authors’ elaboration from The Palestine Monetary Authority (PMA), 2009.

In general terms, this conservative lending policy is due to the unstable political environment and the weak legal system; as a matter of facts, it is certainly not a coincidence that the ratio of total facilities to deposits began to decrease after the mid of 2006, following the electoral victory of Hamas, the freeze of the international

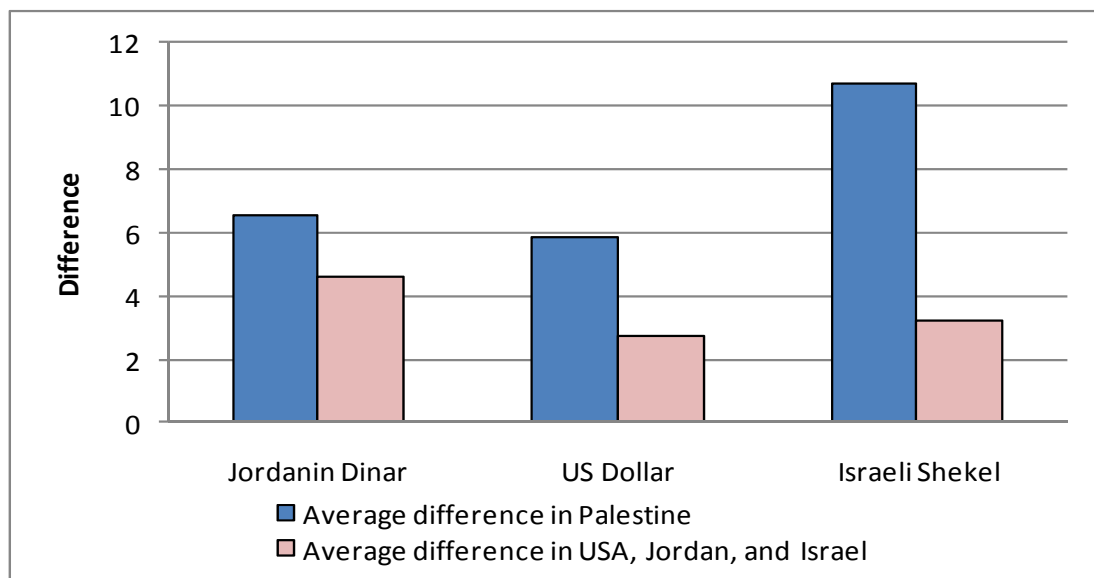
⁶ Source: Palestinian Central Bureau of Statistics (2006).

⁷ Source: PCBS (2007). The Palestinian Central Bureau of Statistics (PCBS) and the Institute Universitaire d’Etudes du Développement (IUED), define poverty line to be \$2.7 per day, and very poor line is \$1.35 per day.

donations, and the consequent salary crisis. However, on top of the generic political instability, the Palestinian credit market also suffers from a number of other structural problems. Firstly, given the absence of a proper national currency, Us Dollars, Israeli Shekels, and Jordanian Dinars are used in parallel. This means not only that neither the Palestinian government nor the Palestinian monetary authority can implement any meaningful monetary policy, but also that inter-banking lending is difficult if not impossible. In addition, the large dependence of the Palestinian government on foreign aids and custom clearances revenues collected on their behalf by the Israeli government creates further uncertain and an high-risky environment which force banks to adopt a conservative lending policies. Furthermore, the dominance of foreign banks over the domestic one implies that savings collected in Palestine are often invested elsewhere.

The same problems leading to a particularly conservative approach on the part of the Palestinian banks, also explain their relative inefficacy measured in terms of spread between passive and active interest rates. Figure 6 below shows how such difference, disaggregated by currency in which deposits are collected and loans offered, is much higher than in the countries where the same currencies are used.

Figure 6: spread between active and passive interest rates (2000 – 2009Q1)



Source: Authors' elaboration from The Palestine Monetary Authority (PMA), 2009.

If the spread vis-à-vis the US probably surprises nobody, and the one vis-à-vis Jordan is not that remarkable, on the other hand these data show how dramatic is the difference between operating in Israel and Palestine.

The declining economic conditions of vast sectors of the population, combined with limited amount of credit supply from ordinary banks (or credit supplied at very high interest rates), suggests that over the last few years the potential market for micro finance in Palestine grew. The idea that in Palestine a substantial potential for the expansion of the micro credit sector exists is also supported by results of various empirical surveys. According to a survey conducted in 2005, the number of potential clients, estimated in about 30,000 in 2005, was supposed to have increased up to 100,000 in the following 4-6 years.⁸ However a subsequent survey dating May 2007 showed how such a development had remained largely on paper, partly because of the unwillingness of small entrepreneurs to demand for funds, but also because of the inability of the credit market to respond to demand when it surfaced. Micro credit institutions, although less rigid in their attitude than ordinary banks, proved to be partially guilty as well.⁹

Data from a more recent survey (table 2) corroborate this idea. In particular while the feeling in 2005 was of a potential rapid increase in the number of clients data show that, in fact, the number declined, while other indicators confirm a pattern of stagnation if not decline.¹⁰

Table 2: Development of Microfinance institutions, borrowers, and clients

	2004	2005	2006	2007	2008Q1	2008Q2	2008Q3
Net Loan Portfolio (thousands US\$)		37,738	28,540	25,086	32,771	33,697	37,577
Nbr. of branches	38	46	50	53	53	53	56
Nbr. of staff	264	340	320	315	294	332	306
Nbr. of active borrowers	16,787	24,848	22,017	18,124	15,422	19,943	22,224
<i>Male</i>	6,774	12,065	10,668	9,016	6,674	10,398	11,696

⁸ Israel/Palestine Centre for Research and Information (2005).

⁹ The International Finance Corporation and The Palestinian Network for Small and Microfinance Institutions (2007).

¹⁰ These numbers represents the following seven micro finance institutions representing more than 80% of the market in terms of number of active clients, active borrowers and portfolios: ASALA, CHF/Ryada, FATEN, PARC/SLA, PDF/SLU, REEF and UNRWA/MMD.

<i>Female</i>	10,013	12,783	11,350	9,108	8,748	9,545	10,528
Nbr. of active clients	20,165	28,862	26,410	23,057	22,083	25,134	27,298
<i>Male</i>	6,774	12,059	10,656	8,994	8,568	10,376	11,677
<i>Female</i>	13,391	16,803	15,755	14,063	13,515	14,758	15,621

Source: The Palestinian Network for Small and Microfinance Institutions (2008).¹¹

Section 4. Supply: Goals and performance

On the basis of the evidence provided in the previous section it is clear that Palestine has a substantial potential for expansion of micro lending. However the impression is that such expansion might have been frustrated by relatively poor performance in credit allocation. In order to understand the extent of this problem it is worthwhile to analyse some key performance indicators provided by the same 2008 survey described above. The overall picture is that although some positive results can be noticed, still substantial problems persist, the main one being the decline in productivity which is indirectly reflected in the increase of the cost per individual loan (table 3).

Table 3: Aggregate measures of performance/efficiency of the main micro credit institutions

	2005	2006	2007	2008Q2	2008Q3
# of loans per Loan Officer	125	134	121	110	120
# of loans per Staff member	73	70	58	60	72
Cost per loan in US dollar	184	338	397	381	394
Average disbursed loan size US\$	1,352	1,486	1,569	2,257	2,090
Yield on portfolio	13.5%	11.5%	11.2%	16.2%	16.7%

Source: The Palestinian Network for Small and Microfinance Institutions (2008).

¹¹ Notes:

- Data for quarter one is estimated based on updated numbers for 6 MFIs and projected numbers for one MFI.
- Number of active borrowers: The numbers of individuals who currently have an outstanding loan balance with the MFI or are responsible for repaying any portion of the gross loan portfolio. This number is based on the individual borrowers rather than the number of groups.
- Number of active clients: the number of individuals who are active borrowers, depositors or both. Individuals who have multiple loans or accounts with the MFI are counted as a single client. Depositors apply only to deposits that are held by the MFI, not to those deposits held in other institutions by the MFI's clients (i.e. facilitated savings). In the Palestinian case, PARC is the only MFI among Sharakeh members that accept deposits (saving) by its member. The difference between the number of active clients and number of active borrowers is explained by PARC depositors.

Indicators of self-sustainability (table 4) show a positive trend but, overall, they reveal a similarly disappointing picture.

Table 4: Aggregate measures of sustainability of the main micro credit institutions

	2005	2006	2007	2008Q 2	2008Q 3	World Average 2001
ROE (donations excl.)	-1.6	-11.2	-4.5	4.4	4.6	15.5
ROA (donations excl.)	-1.5	-10.2	-4.1	4.0	4.0	5.1
OSS (Operational self - sufficiency)	88.2	63.7	81.5	100.9	101.4	

Sources: The Palestinian Network for Small and Microfinance Institutions (2008) for Palestine; Tucker and Miles (2004) for world average 2001.

ROE, for example, despite being positive for the first time in 2008 is still very distant from what the world average was in 2001. Furthermore it is unclear how much of this result comes from improvements in the macroeconomic scenario rather than from any increase in the quality of the managerial process. On top of this, it must be noticed that results drop once donations are taken into account. In other words Palestinian micro finance institutions are still far from self-sustainability.

On the other hand, over time loans became less risky although also in this case whether or not this should be seen as the consequence of improved managerial practices remains a matter of debate. Whatever the causes, according to data presented in table 5, the risk on the portfolio of the microfinance institutions included in the survey (and representing more than 80% of the market) dropped from 40.8% in 2006 to 12.0% in the third quarter of 2008.

Table 5: Aggregate measures of risk of the main micro credit institutions

(Par 30 international standards: 5% or below)

	2005	2006	2007	Q2 2008	Q3 2008
PAR >30 days	9.40%	40.80%	23.20%	14.80%	12.00%
PAR >180 days	3.90%	18.00%	15.60%	9.90%	7.90%
Write-off index	18.20%	5.20%	57.20%	2.90%	2.50%

Source: The Palestinian Network for Small and Microfinance Institutions (2008).

This drop, however, is far from putting Palestine in line with international standard, as about 12% of late repayment is more than double what international agencies consider

as a safe indication (5% or below). This means that even in this are according to general standards performance is not high.

Section 5: data and methodology

Results from sections 2 to 4 indicate that Palestine is an economy with a promising potential for the development of micro credit, but also that expansion of the industry is frustrated by high costs and under-performance in the process of credit allocation. Among other issues, it is evident that the problem of overdue loans and structural risk seems to be still acute. Although exogenous macroeconomic instability, in particular the 2006 events, can certainly explain a large part of the problem in the short-term, on the other hand the processes of selection and monitoring of clients, as well as of contracts enforcement, play a fundamental part in limiting the phenomenon in the longer run. In this section we examine this issue by looking at the performance of one of the main micro finance institutions operating in Palestine: the Arab Centre for Agricultural Development (ACAD). More specifically we are interested in determining which variables most impact on late repayment, and the extent to which it is possible to correct some of these problems.

For this study we use information on loans provided by ACAD between 1995 and 2008; specifically we selected a sample of about 2700 loans which were closed (or financed) by the end of 2008. For most contracts the data set provides information about the characteristics of both the loan itself and the borrower.¹² The former include geographic location (West Bank vs. Gaza Strip), economic sector, expected duration, size, interest rate, nature of guarantees (personal or bank-provided),¹³ destination (micro, small or woman-specific), type (“normal” or “Islamic”), and date of beginning of the loan. The latter include information on age, level of education, family income, and gender of the borrower, as well as the number of the people he/she financially supports. Information also includes the actual date of the final repayment of the loan which, by comparison with the expected date, allows generating statistics on late repayment. Data also report loans written-off and loans which received an extension (or period of “grace”).

¹² Available information varies from case to case and eventually only 1904 cases have been used in the regressions.

¹³ Bank guarantee means that bank guarantees the client by committing to transfer the employee’s benefits to the microfinance institution when its required.

In our model the dependent variable has been constructed by identifying 4 different outcomes of loans: paid on time, paid within 3 months from deadline, paid later than 3 months, and written-off. Although the amount of loans paid later than 3 months is the standard indicator of risk, we believe that a more nuanced variable can give us a better understanding of the process generating aggregate risk. By constructing the variable this way we are also assuming that late repayment and inability to pay are different degrees of severity of the same problem, not two different ones.

Before describing the econometric model and its results, it is worthwhile to analyse some descriptive statistics. Table 6 below provides a breakdown of outcomes of loans (closed, financed, written off) before December 2008.

Tab. 6: Outcome of closed and financed loans

	Number	%
Paid on time	561	20.34
Less than 3 months late	836	30.31
More than three months late	1,222	44.31
Written-off	139	5.04
Total	2,758	100.00

Source: Elaboration from ACAD

The picture shows an extremely high percentage (almost half) of loans paid very late or written-off, something that would put Acad outside the national average. However it is important to stress that the choice of limiting our attention to loans closed by 2008 overstates the impact of all loans that ended-up paid very late or even written-off as the result of the 2006 crisis. In fact, the latest data provided by ACAD itself indicate a much better picture for 2008, and one which is in line with national standards.¹⁴

The available data also allows looking at the breakdown of loans outcomes disaggregated by some of the most significant variables: location, gender of the borrower, and guarantees provided (table 7).

¹⁴ ACAD official statistics available on www.mixmarket.org/mfi/acad

Tab. 7: outcome of loans by variable

	Location			Gender			Guarantees		
	<i>West Bank</i>	<i>Gaza</i>	<i>Tot.</i>	<i>Male</i>	<i>Fem.</i>	<i>Tot.</i>	<i>Bank</i>	<i>Pers.</i>	<i>Tot.</i>
Paid on time	534	25	559	130	396	526	179	382	561
<3 months late	793	42	835	158	422	580	270	566	836
>3 months late	1,109	106	1,215	315	703	1,018	366	856	1,222
Written-off	125	14	139	130	2	132	14	125	139
Total	2,561	187	2,748	733	1,523	2,256	829	1,929	2,758

Source: Elaboration from ACAD

As table 7 shows, most of the loans are concentrated in the West Bank, they are given to female customers and, in general, to borrowers only able to provide personal guarantees.

Section 6. Model and results

The purpose of the model is to estimate which of the variables constructed on the basis of the available information impact most on late re-payment or lack of repayment at all.

Because of the nature of the dependent variable (**re-payment**) the model is an ordered logit regression which provides statistical probabilities to move from one status to another. Various statuses are ranked in terms of progressive length of late re-payment, the final status being the loan not be re-paid and consequently written-off. The explanatory variables are the following:

Variable regarding the features of the loan:

- **Type:** type of loan; “normal” loan (= 0) vs. Islamic loan (1)
- **Int:** interest rate, recoded as follows:

	Frequency	%
Zero interest rate	11	0.4
1 - 5 % interest rate	1	0.04
6 - 10 % interest rate	160	5.8
11 - 15 % interest rate	690	25.01
more than 16% interest rate	1897	68.76

- **Grace:** whether (= 1) or not (= 0) the borrower received an extension to the payment deadline.¹⁵
- **Dur:** duration of the loan (in months)
- **Amo:** amount of the loan (in dollars)
- **Sect:** sector to which the loan was disbursed, recoded as follows; Agriculture (reference group) = 0, Services = 1, Construction = 2, Industry = 3, Trade = 4, others = 5.
- **Guar:** this variable represents the type of guarantee; bank-provided (= 0) vs. personal (= 1)
- **Pur:** this represents the purpose of the loan, divided between micro (= 0), small (= 1) and women (= 2) loan.¹⁶

Variables regarding the features of the borrower:

- **Ndep:** number of people financially depending on the borrower; the variable is recoded as follows: No dependents (0), 1-6 dependents (1), 7-10 dependents (2), and more than 10 dependents (3). Reference group is no dependents.
- **Sex:** gender of the borrower recoded into male (0), female (1).
- **Inc:** yearly income of the family of the applicant expressed in dollars.
- **Edu:** Education level of the applicant where a potential borrower with no education is taken as the reference group; the variable is recoded as following: Preparatory = 1 Elementary = 2 Secondary = 3 Diploma = 4 University = 5.
- **Age:** age of the borrower (in years).

Other variables:

- **Gov:** the geographic location of the loan, differentiating between West Bank (= 0), and Gaza Strip (= 1).

Formally the results of the model appear as follows:

$$\begin{aligned}
 \text{Repayment} = & 0.13 \text{ Ndep} - 0.39 \text{ Sex}^* - 0.00 \text{ Inc} - 0.01 \text{ Edu} - 0.01 \text{ Age}^{**} - 1.2 \text{ Type}^{**} - \\
 & (.08) \quad (.22) \quad (.00) \quad (.03) \quad (.00) \quad (.48) \\
 & 0.25 \text{ Int}^{***} + 0.30 \text{ Grace}^{***} - 0.06 \text{ Dur}^{**} + 0.00 \text{ Amo} + 0.05 \text{ Sect}^* + 0.8 \text{ Guar}^{***} - \\
 & (.05) \quad (.06) \quad (.02) \quad (.00) \quad (.03) \quad (.19) \\
 & 0.26 \text{ Pur} + 0.47 \text{ Gov}^{**} \\
 & (.18) \quad (.18)
 \end{aligned}$$

*** = significant at 1%, ** = significant at 5%, * = significant at 10%

¹⁵ In fact such extension may vary in length but this kind of information is not available.

¹⁶ In fact, despite the label, “women” loans are allocated mainly to female customers, but exceptions exists.

As far as the features of clients are concerned, all the variables whose sign could have been predicted (i.e. all variables excluding gender) have the expected one, although only age proves to be significant; specifically, older clients tend to be less risky. This result opens the door to further questions, for example whether older clients are more conservative in their business practices or field or activity, or whether more experienced and capable because of a some sort of process of Darwinian selection. In the absence of further information, this remains a matter of speculation, but certainly an interesting avenue for research. Maybe surprisingly, education seems to play no role, although some of its effect can have been captured by the age variable. A particularly interesting result is that income (measure directly, or also adding the proxy of the number of people financially depending on the borrower) plays no role in determining the ability to repay. This result confirms for Palestine what is the general established view and one of the intellectual/ideological pillar of the micro credit approach; lending to poor customers, *per se*, is not riskier.

Gender is significant (although only at 10% confidence interval) and shows that female customers (the large majority in the sample) are less likely to pay with delay. This result is also indirectly confirmed by the negative sign and significance of the *type* variable which indicates a lower statistical probability of late payment moving from micro loan, to small, to “women” type. This is an interesting result as the empirical literature is still divided on the issue of whether or not female clients are by definition less risky than male ones, especially during specific phases of their life, such as when old.¹⁷

Regarding the nature and features of loans, all variables appear to be significant with exception of the one measuring loans size (*amo*). If we assume that poorer people also apply to smaller loans, the fact that the size of the loan does not impact on risk of late re-payment confirms the result of the neutrality of the borrower’s income. Things, however, can be slightly different; the already-mentioned result of the *type* variable, in fact, suggests the existence of a threshold effect in terms of reducing risk when passing from micro to small loans. Combined together then, *type* and *size* show that very small loans are riskier, but after a given threshold this effect disappears. The

¹⁷ See, for example, Bedoya (2006).

implication is that very poor customers are riskier but, in general, there is no gain in financing relatively more affluent people.

Length of loans has a significant impact, specifically longer-term loans are less risky than short-term ones, but overall this variable has a small impact. Similarly, the *sector* variable appears to be significant, showing that moving away from agriculture seems to increase the chance of loans being re-paid late or not re-paid at all. Also in this case, however, the coefficient is small, not to mention the fact that the variable is significant only at 10% confidence interval. In fact, the two variables which impact most on the ability (or lack of) to repay are the type of guarantee and the interest rate. Customers with bank guarantee, rather than simple personal ones, appear to be less risky. It is important to notice that as far as we know the meaning of this variable is that these customers are less likely to pay late, not that guarantees supplied by banks were actually used to pay the loans thus avoiding to be late. This means that clearly banks in their process of offering guarantees to be used to borrow from micro finance institutions operate a process of selection (or of mere signalling) which produces a cohort of borrowers which is less risky than the average. A process of selection which is performed by banks and somehow “exploited” for free by micro credit agencies. The problem is that, as results summarised in table 7 show, the vast majority of customers are unable to gain the support of banks, therefore this free process of virtuous selection only applies to a minority of customers, something that represents a structural and largely irreducible element of risk for micro credit institutions. This result is particularly relevant when associated to the positive sign (and significance) of the coefficient of the variable indicating the level of interest rate (*Int*) which shows that higher interest rates simply increase the chance of late payment or of no-payment. As a matter of fact, combined together these results are perfectly in line with the tenants of information economics: in the absence of a process of collection of information about clients and of effective monitoring of their behaviour on the part of the banks, higher interest rates only produce the classical adverse selection mechanism. This also means that in the scenario of increasing costs analysed in section 4, trying to counterbalance the problem by charging growing interest rates might simply end-up in rising the level of aggregate risk.

As far as the grace period is concerning, the model shows that loans whose repayment was statutorily procrastinated had a higher probability of being paid with further delay. This result, however, must be handled with care, as the practice of

allowing grace period was in many case a last resort device used in 2007 in the attempt of limiting the impact of the 2006 crisis on the ability of borrowers to repay.¹⁸ In other words it is unclear, theoretically, whether the relation grace/late payment is a matter of causation or simple correlation.

Still on the nature of loans, it is interesting to notice how Islamic loans are not necessarily less risky than “normal” ones. This result shows how, despite the complaints about the absence of a sufficient supply of faith-compatible loans coming from the potential borrowers, engaging with this market does not seem to attract, *per se*, more loyal customers.¹⁹

Finally, not surprisingly, the model shows that investment in Gaza is more risky than in the West Bank.

Section 7. Concluding remarks

The case of Palestine is a typical example of micro credit in a conflict zone and, as such, requires caution when using concepts such as risk (and costs) and efficiency.²⁰ This not only because war, by definition, increases the former and reduces the latter, but also because during conflicts micro credit can also be used with wider purposes, for example as a device to reduce social desegregation, or lack of any incentive to start economic activities. When this happens the concept of efficiency cannot be measured only in narrow economic terms. This said, an agreement seems to exist in the most recent literature that although operating in an area of conflict changes opportunity and constraints, nonetheless issues of structural financial viability should not be abandoned. In other words, micro credit institutions can still be self-sufficient and financially viable even when embracing a wider set of objectives and operate in a particularly difficult environment.

With these considerations in mind, Palestine thus appears to be a promising market for micro finance. This not only because of its potential size and opportunities for viable businesses, but also for the possible beneficial effects of micro credit in terms of stake-holding in a country whose economic development seems to suffer from passive overdependence on external aid. However micro finance institutions are still

¹⁸ See, The Palestinian Network for Small and Microfinance Institutions (2008).

¹⁹ According to The International Finance Corporation and The Palestinian Network for Small and Microfinance Institutions (2007), religious belief was indicated by the pool of entrepreneurs interviewed as the most important reason for not applying to loans.

²⁰ See, for example, Manalo (2003).

struggling to penetrate the full extent of the market, and they still show relatively disappointing performance in terms of managing aggregate risk. Clearly the two issues are linked together, but disentangling the cause from the effect is neither conceptually nor empirically easy.

By looking at the performance of one of the most important organisations at work, ACAD, this paper shows as some of the determinants of high risk are exogenous; for example, not surprisingly, the Gaza strip is structurally more risky than the West Bank. On the other hand, however, other institutional elements, for example over commitment to female customers, go in the direction of reducing risk. In this respect the fact that a predominantly male-fought conflict leaves more economic opportunities to women is not necessarily a disadvantage.

On top of structural constraints or benefits, other elements impacting on aggregate risk, however, depend on managerial choices. Some of them, for example allowing extensions over the deadline for repayment, might still have an exogenous nature, in the sense that this was a response to an emergency rather than an actual choice. The impact of other variables, however, also suggests that a deeper “market orientation” of the activity is capable *per se* of reducing risk: supplying longer loans (also, allegedly, more structural in nature) and/or loans above the micro dimension, as well as asking for bank guarantees have a positive impact on the problem of late or no repayment. Although this is a well-established result, still the literature is divided on whether more extreme “commercialisation” of micro credit is the only or even the best way forward.²¹ In the scenario of a being conflict area, this question applies to Palestine in a particularly urging way. Eventually selecting customers on the basis of market-based features and impact on risk comes at the cost of cutting-off the most vulnerable segment of the population, and this is a decision that cannot only emerge out of mere concerns for the health of balance-sheets, but must be motivated on ideological, moral and political ground too. On the other hand, maybe alternatives exist. For example, although at the moment Islamic loans do not prove to be less risky than the average, maybe pushing more energetically towards that direction and exploiting the combination of peer and religion-based pressure as enforcement mechanisms might

²¹ See, in particular, Campion (2002) and Olivares-Polanco (2005).

allow to reduce aggregate risk without impacting too much on the moral component of micro credit mission.

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