



Double Difference (DD) Fixed Effects Method in Micro Loans on Household Income in Indonesia

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ABSTRACT

Micro-loans are loans aimed at helping poor or low-income communities to increase their income through increasing productivity so as to reduce poverty. The purpose of this study is to determine the relationship of micro-loans to the increase in household income per capita in Indonesia and to determine the impact of micro-loans that actually result in an increase in household income per capita in Indonesia. The method used is Double Difference (DD) Fixed Effects with data from the Indonesia Family Life Survey (IFLS) in 2000 and 2007. The estimation results show that it is proven that the impact of micro loans on income changes is not visible and even looks negative 0.446. There was an increase in total income in 2007 compared to 2000 with a coefficient value of 0.279 using the nominal value. However, in real terms, the coefficient value is not significant, namely negative 0.063.

Keywords: Microloans, IFLS, Double Difference.

JEL Classification Code: B23, D10, H81

INTRODUCTION

Micro-loans are loans aimed at helping poor or low-income communities to increase their income through increasing productivity so as to reduce poverty. This objective is in accordance with Law no. 1 of 2013 concerning microfinance institutions as institutions that provide micro-scale savings and financing services to the community, expand work, and can play a role as an instrument of equity and increase people's income and improve the welfare of the poor and/or low-income.

According to the Asian Development Bank (2000), the characteristics of the demand for micro-loans include the poorest households, poor households, micro-agriculture, agriculture and animal husbandry, and non-agricultural micro-entrepreneurs. Meanwhile, the supply side of microloans in Indonesia originating from microfinance institutions consists of formal micro institutions, namely banks and non-banks, semi-formal microfinance institutions, and informal microfinance institutions. Based on Law Number 10 of 1998 and Act Number 23 of 1999 concerning Indonesian Banking, it is explained that Bank Indonesia classifies microfinance institutions into two types, namely bank microfinance institutions and non-bank microfinance institutions. The groups of banks that disburse microloans are state-owned banks, regional development banks, national private banks, and foreign & joint-venture banks as well as people's lending banks. The non-bank microfinance institutions consist of savings and loan cooperatives, savings and loan units, rural loan fund institutions, *baitul mal wattanwil*, non-governmental organizations, as well as government programs such as people's business loans, urban poverty reduction projects, and others.

Graphically, the description of the number of microloans based on the type of use through bank financial institutions appears to be starting to shift. From 2003

to 2005 the largest number of Microloans was for consumer loans. Only in 2006, the largest loan by type of use was for working capital loans. However, in 2009 the growth of loans for investment experienced the highest increase, even though if viewed in terms of numbers it was much larger for consumption loans.

The factors that influence micro-loans have been widely studied by researchers. Cospetake (2002), shows that micro-loans can simultaneously reduce absolute poverty in Zambia, Khandker (2005) proves that micro-loans can continuously reduce poverty for poor borrowers, Weele and Weele (2007), prove the formation of loans for small-scale enterprises and micro-enterprises can increase income, Tadeschi and Karlan (2010), Leikem (2012), and Clement and Terande (2012) who prove that micro-loans can effectively increase income.

The problem is, that there are external factors, namely imperfect information between borrowers and lenders which can lead to adverse selection risks and moral hazard problems. This risk is difficult to measure the increase in household income that is really caused by the micro-loans that households receive. With the emergence of these problems, this study focuses on the effect of micro-loans on household income in Indonesia by including external factors so that differences in household income before and after receiving micro-loans can be known. Theoretically, the impact of micro-lending on increasing household income can be evaluated by comparing the condition of households before and after receiving micro-loans. However, the theoretical basis gives rise to a selection bias because the conditions of each household may not be the same before, so the difference in conditions means that it is not entirely due to the micro-loans received by households.

A microfinance institution is an intermediary institution that is trusted

to serve all the needs of and for the community, as well as an intermediary institution that can encourage development progress through finance or as social intermediation so that it has now become the approach used to see the success of microfinance institutions. in the economy because it is believed to be able to reduce poverty levels and achieve institutional strengthening and capacity of the local financial system by providing loans to poor households effectively according to Ledgerwood (1999) and Morduch (2002).

According to the Asian Development Bank (2000), microfinance institutions (microfinance) are defined as providers of deposit services, loans, payments for various service transactions (payment services), and money transfers aimed at the poor and small entrepreneurs (insurance). to poor and low-income households and their microenterprises).

According to (Arsyad 2008: 23) the core definition of microfinance institutions is as a provider of financial services, especially deposits and loans and other financial services intended for poor and low-income families who do not have access to commercial banks. In addition, it is also a social intermediary service institution such as group formation, self-confidence development, and training in financial knowledge and management skills that are beneficial for low-income women and men.

According to the Banking Law No. 14 of 1967, the definition of a bank is an institution whose main business is providing loans and services in payment traffic and money circulation. Then Law no. 14 of 1967 was refined into Law no. 7 of 1992 and later became Banking Law No. 10 of 1998 concerning Banking which states that banking is everything related to banks, including institutions, business activities as well as methods and processes in carrying out their business activities. According to the law, the definition of a loan is the provision

of money or equivalent claims, based on an agreement or loan agreement between a bank and another party that requires the borrower to repay his debt after a certain period of time with interest. Loans aimed at developing small businesses are grouped into several categories, namely micro loans, small loans, and medium loans. The distribution is based on the amount of the loan granted. According to Bank Indonesia (BI), micro loans are loans with a ceiling of IDR 0 to a maximum of IDR 50 million, small loans have a ceiling of IDR 50 million to IDR 500 million, while medium loans are loans with a ceiling of IDR 500 million to IDR 5 billion.

Imperfection of information in micro-lending can at least cause problems in micro-lending. According to Basley (1994) in Bhinadi (2009), imperfection of information refers to a situation where one party to the transaction has more information than the other party. This situation can cause the market to deviate from the general behavior, will encourage moral hazard and wrong choice. The moral hazard occurs when one party called the agent carries out activities that can harm the principal. Meanwhile, on the one hand, the principal has limitations in monitoring the deviations committed by the agent. The solution to the emergence of the moral hazard problem is to provide incentives, namely arranging transactions in such a way that the party taking the action is willing to take action that will make the second party better off.

The moral hazard coupled with the lack of collateral by the poor are the key reasons why credit markets fail for them (Simtowe et.al., 2006). This occurs in the relationship between the principal and the agent when the actions taken by the agent are not Pareto optimal. The moral hazard in this research is that the people who are given the loan are not used as promised. An example is those who are given loans for productive businesses but are used

for consumption purposes. The impact of this moral hazard is that micro-loans are not effective in increasing borrower productivity.

METHODOLOGY

The research method used is using quantitative method. The data used is data from the Indonesia Family Life Survey (IFLS) in 2000 and 2007. The analysis model uses a time lag model. The reason for the formation of the time lag model is because it assumes that the impact of a loan does not directly affect household poverty but requires time or lag.

The lag variable referred to in this model is to test that year t income (in 2007)

is not influenced by micro-loans in 2007 but is influenced by micro-loans in year t-1 (2000). The population used is data from all households in 2000 and 2007. From the total population, the number of samples that will be used for research is determined by cleaning the data, namely household data that exists in 2000 but does not exist in 2007 so it is not used in the study, thus, On the other hand, household data that existed in 2007 but did not exist in 2000 were not used in the study.

After cleaning the household data, the next stage of data processing is to divide the cleaned data into 4 groups. The matrix can be made into a table as follows:

Table 1
Household Group Distribution Matrix

2000	2007	
	K	TK
K	K-K (I)	K-TK (II)
TK	TK-K (III)	TK-TK (IV)

Source: Modification of Khandker et al. (2010)

Group 1 is data on households that in 2000 received micro-loans and in 2007 also received micro-loans. Group 2 is data on households that in 2000 received micro-loans and in 2007 did not receive micro-loans. Group 3 is the data on households that in 2000 did not receive micro-loans and in 2007 received micro-loans. Group 4 is the data on households that in 2000 did not receive micro-loans and in 2007 did not receive micro-loans.

In this study, the dependent variable income (IC) is used which describes the amount of total household income expressed in rupiah per year. Income is calculated from all income earned by household members from working in both farming and non-farming businesses as well as from work in other sectors.

The model was built to analyze the effect of microcredit on household income:

$$\begin{aligned}
 IC_{it} = & \beta_0 + \beta_1 UT_{it-1} + \beta_2 POVi_{it} + \beta_3 POVi_{it-1} + \beta_4 KD_{it} + \beta_5 KD_{it-1} + \beta_6 PP_{it} + \beta_7 PP_{it-1} + \beta_8 LED_{it} + \beta_9 LED_{it-1} + \beta_{10} JM_{it} + \beta_{11} JM_{it-1} + \beta_{12} JW_{it} + \beta_{13} JW_{it-1} + \beta_{14} Bank_{it} + \beta_{15} Bank_{it-1} + \beta_{16} Pit_{it} + \beta_{17} Pit_{it-1} + \beta_{18} Hit_{it} + \beta_{19} Hit_{it-1} + \beta_{20} WFi_{it} + \beta_{21} WFi_{it-1} + \beta_{22} MHi_{it} + \beta_{23} MHi_{it-1} + \beta_{24} IF_{it} + \beta_{25} IF_{it-1} + \beta_{26} SOS_{it} + \beta_{27} SOS_{it-1} + \beta_{28} SOSKEL_{it} + \beta_{29} SOSKEL_{it-1} + \beta_{30} UM_{it} + \beta_{31} UM_{it-1} + \beta_{32} ED_{it} + \beta_{33} ED_{it-1} + \beta_{34} JK_{it} + \beta_{35} JK_{it-1} + \beta_{36} KE_{it} + \beta_{37} KE_{it-1} + \beta_{38} Region_{it} + \beta_{39} Region_{it-1} + \beta_{40} PCE_{it} + \beta_{41} PCE_{it-1} + e_{it}
 \end{aligned}$$

The method used to determine the impact of microcredit in 2000 on household income in 2007 uses the Double Difference (DD) fixed effect. The reason for using this method is because in the 2000 loan process there was an unobserved heterogeneity factor that was time-invariant which was impossible to obtain in the independent variables. To estimate with this method, previously carried out the Hausman test (test results are attached) which shows that $\text{prob} > \chi^2$ is 0.000 so < 0.05 . With this result, fixed effects are more appropriate to use than random effects. The group that received treatment ($T=1$) in this study were households in type 1 and type 2, namely households that received credit in 2000. While the control group ($T=0$) were households that did not receive credit in 2000, namely households types 3 and 4. This study uses the year 2000 as a start because the impact of lending will be felt in the previous few years. For this reason, 2000 is the initial year (T_0 or $2000=0$) and 2007 is the final year (T_1 or $2007=1$).

RESULT AND DISCUSSION

The regression results show that the loan in 2000 had a positive effect on the value of household income in 2007 but was not significant. The magnitude of the coefficient of 0.016 indicates that households that borrowed in 2000 had a household income of 1.6 percent higher in 2007 than households that did not take loans in 2000. According to Khanker (2005), access to microcredit programs can significantly help poor people in increasing income through independence in purchasing input capital that is productive. This is reinforced by research from Welee (2007) with the multiple linear regression method which concludes that the use of microcredit in Honduras can increase income if it is used for investment activities. Furthermore, Waheed (2009) found that microcredit for long-term investment activities such as livestock and

agricultural equipment can significantly increase household income in Pakistan.

Several variables provide a significant relationship or influence. From several variables that show a significant influence, among others, poverty in 2007 with a negative value of 0.258. This means that the poor category of households in 2007 had an income of 25.8 percent lower than other groups. Urban areas in 2007 had a value of 23.7 percent higher than rural areas. In terms of region, regions other than Sumatra and Java have a score of 21.7 percent higher than Java. The increase in the age of the head of the household and the number of household members in 2000 was negatively related to household income in 2007 with a negative value of 1.2 percent.

The head of the household who was still working in 2007, the number of families in 2007, and family social activities had a very significant positive relationship with household income in 2007 with a value of more than 40 percent. Overall, the variation in total household income can be explained by the variables used in the model of 42.8 percent.

The characteristics of the household which include the education of the head of the household, the number of families in 2000, the social activities of the family, and the economic activities of the head of the household show a significant impact on the total household income. This means that household income in 2007 is closely related to the characteristics of the household.

On the other hand, the number of families in 2000 had a negative effect with a total household income at the level of 1 percent, meaning that a large number of families will affect the total household income. The larger the number of families, the lower the total household income. This indicates that a large number of families who are only dependent on the family will reduce the total household income.

However, in 2007 the number of families was positively correlated to the total household income. These results indicate that large family members in 2000 have transitioned to become independent or have income so that they are not a burden on the family. Therefore, the number of family members has a positive effect on total household income.

Using real values in 2005, the average value of total household income in 2000 and 2007 from both treatment and control households are shown in Table 4.24. The average total income of treatment households in 2000 was around Rp. 12,277,248.00 and in 2007 it increased to Rp. 15,496,831.00. This shows that there has been an increase in income of up to IDR 3,219,583.00 or 26 percent in the treatment households. The average income of control households in 2000 was around Rp.8,548,977.00 and increased to Rp.10,529,617.00 in 2007. This shows that there has been an increase in income to Rp.1,980,640.00 or 23 percent in control households. Based on these values, it can be seen that there has been an increase in treatment households and an increase in control households with a difference of IDR 1,238,943.00 or 3 percent. In Graph 2. it can be clearly seen the difference in the increase in household income.

There is a difference in income increase in the treatment and control groups by 3 percent, but from the regression results, this change does not appear to be even negative 0.4***. This is presumably because the impact will be relatively small so it is not visible during the regression. According to Khanker (2005) and Waheed (2009), basically, microcredit programs can increase borrowers' income by way of including the creation of entrepreneurs, in this context borrowers make loans for the purpose of purchasing capital for businesses, so from these businesses will create profits. In addition, according to Khanker (2005), the microcredit program

will increase income if women are the borrowers. According to Khanker (2005) women are considered to be more careful and wise in the use of loan funds.

The results of the regression analysis of the impact of loans in 2000 on household income in 2007 using the fixed effects method and followed by all control variables and household characteristics are shown in Table 5. From these results, it can be seen that there has been an increase in total income in 2007 compared to 2000 with a coefficient of 0.279 *** using face value. Although in real terms there has been an increase in income in 2007 compared to 2000, because this increase is relatively small, the coefficient value does not show any significant difference, namely negative 0.063.

CONCLUSION

Based on the double-difference (DD) method, it is proven that the impact of micro-loans on income changes is not visible and even looks negative at 0.446. There was an increase in total income in 2007 compared to 2000 with a coefficient value of 0.279 using the nominal value. However, in real terms, the coefficient value is not significant, namely negative 0.063.

In this study, there are at least two moral hazard conditions, the first is the creditor's moral hazard. In general, the emergence of moral hazard among creditors is carried out because the creditor wants to get the maximum profit or profit, therefore creditors tend to be less careful in choosing prospective creditors. As a result, many debtors are actually not eligible to meet the criteria but instead get a loan and vice versa. The second condition is the moral hazard by the debtor to the creditor, in this condition, the asymmetric information is already very high, the creditor may have little information about the prospective creditor, both in terms of returning goods and using

the funds. Although procedural lending has undergone rigorous analysis, in the end, borrowers can change their behavior at any time after receiving a loan, for example using loans that are not in accordance with the purpose of micro-lending at first. For example, microcredit programs that should be used for productive activities are actually used for short-term consumptive activities.

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ATTACHMENT

Tabel 2
Deskripsi Variabel Penelitian

No	Variabel	Notasi	Keterangan	Nilai
1	Pinjaman mikro	UT	Variabel yang menggambarkan besarnya jumlah pinjaman mikro yang diterima rumah tangga dalam setahun	Rupiah dalam setahun
2	Jangka waktu	JW	Variabel yang menggambarkan jangka waktu pengembalian pinjaman	Dalam bulan
3	<i>Moral Hazard</i>	MH	Variabel yang menggambarkan intensitas pinjaman (pinjaman berulang) yang dilakukan rumah tangga dalam satu tahun	Kali dalam setahun
4	Pinjaman non formal	IF	Variabel yang menggambarkan pinjaman yang diperoleh dari arisan, teman, rentenir (pinjaman perseorangan)	<i>Dummy</i> 1 jika nonformal (tempat meminjam: majikan, pemilik rumah atau tanah, pemilik toko, Arisan dan rentenir dan 0 jika formal (Bank, koperasi, pegadain dan lembaga keuangan lain)
5	Agunan	JM	Variabel menggambarkan dummy variabel jaminan	<i>Dummy</i> 1 jika menggunakan agunan; 0 jika tidak menggunakan agunan

21	Jenis usaha	JU	Variabel yang menggambarkan jenis usaha yang dilakukan rumah tangga	0 jika tidak mempunyai usaha, 1 jika memiliki usaha tani saja, 2. Jika memiliki usaha non tani saja, 3. Jika memiliki usaha tani dan non tani
22	Pengalaman usaha	PU	Lamanya usaha non tani dijalankan	Tahun
23	<i>Windfall Income</i>	WF	Variabel yang menggambarkan pendapatan yang diperoleh dari warisan, lotere atau undian, saudara kakak atau adik, orang tua, teman, tetangga, bantuan pemerintah, lembaga atau organisasi	Rupiah per tahun
24	Usia kepala rumah tangga	UM	Variabel yang menggambarkan usia kepala rumah tangga	Umur
25	Pendidikan kepala rumah tangga	ED	Variabel yang menggambarkan lamanya pendidikan (tahun sekolah) kepala rumah tangga	Jumlah tahun
26	Pendidikan ayah	EDF	Variabel yang menggambarkan lamanya pendidikan ayah	Jumlah tahun
27	Pendidikan ibu	EDM	Variabel yang menggambarkan lamanya pendidikan ibu	Jumlah tahun
28	Jumlah Keluarga	JK	Variabel yang menggambarkan jumlah anggota rumah tangga yang tinggal dalam satu rumah tangga	Orang
29	Anggota bukan keluarga	NK	Jumlah ayah ibu , kakak adik, anak dan suami yang berada di luar rumah tangga (dari kepala rumah tangga dan pasangan)	Orang
30	Kegiatan ekonomi	KE	Variabel yang menggambarkan kegiatan ekonomi kepala rumah tangga (status pekerjaan)	1 jika bekerja;0 jika tidak bekerja

11	Pola konsumsi individu	PCE	Variabel yang menggambarkan pengeluaran konsumsi per orang dalam rumah tangga untuk makanan dan non makanan per bulan (<i>percapita expenditure</i>)	Rupiah per bulan
12	Pola konsumsi rumah tangga	EXP	Variabel yang menggambarkan pengeluaran konsumsi rumah tangga untuk makanan dan non makanan per bulan	Rupiah per bulan
13	Permintaan pendidikan	LED	Variabel yang menggambarkan pengeluaran pendidikan dalam rumah tangga peminjam mikro	Rupiah per tahun
14	Pengeluaran pendidikan	P	Variabel yang menggambarkan pengeluaran pendidikan dalam semua rumah tangga	Rupiah per tahun
15	Pengeluaran kesehatan	H	Variabel yang menggambarkan pengeluaran untuk biaya kesehatan yang mencakup biaya rumah sakit, puskesmas, dokter praktek, dukun, obat-obatan dan lainnya	Rupiah per tahun
16	Kegiatan Sosial	SOS	Variabel yang menggambarkan pengeluaran yang dilakukan rumah tangga untuk berpartisipasi dalam kegiatan masyarakat (upacara ritual termasuk pernikahan, sunatan, sedekah, kado, dan sejenisnya)	Rupiah per tahun
17	Kegiatan sosial keluarga	SOSKEL	Variabel yang menggambarkan pengeluaran yang dilakukan rumah tangga untuk keluarga di luar rumah tangga	Rupiah per tahun
18	Angka kemiskinan	POV	Pengeluaran konsumsi berdasarkan garis kemiskinan menurut BPS	<i>Dummy</i> 40 persen terbawah dari PCE. <i>Dummy</i> 1 miskin (< 40 persen dan 0 tidak miskin (>= 40 persen)
19	<i>Dummy</i> kota- desa	KD	Variabel yang menggambarkan variabel kota-desanya	<i>Dummy</i> 1 jika kota dan 0 jika desa
20	Wilayah	Region	Variabel yang menggambarkan wilayah sampel	1 jika Sumatera; 2 jika Jawa-Bali; 3 jika lainnya

21	Jenis usaha	JU	Variabel yang menggambarkan jenis usaha yang dilakukan rumah tangga	0 jika tidak mempunyai usaha, 1 jika memiliki usaha tani saja, 2. Jika memiliki usaha non tani saja, 3. Jika memiliki usaha tani dan non tani
22	Pengalaman usaha	PU	Lamanya usaha non tani dijalankan	Tahun
23	<i>Windfall Income</i>	WF	Variabel yang menggambarkan pendapatan yang diperoleh dari warisan, lotere atau undian, saudara kakak atau adik, orang tua, teman, tetangga, bantuan pemerintah, lembaga atau organisasi	Rupiah per tahun
24	Usia kepala rumah tangga	UM	Variabel yang menggambarkan usia kepala rumah tangga	Umur
25	Pendidikan kepala rumah tangga	ED	Variabel yang menggambarkan lamanya pendidikan (tahun sekolah) kepala rumah tangga	Jumlah tahun
26	Pendidikan ayah	EDF	Variabel yang menggambarkan lamanya pendidikan ayah	Jumlah tahun
27	Pendidikan ibu	EDM	Variabel yang menggambarkan lamanya pendidikan ibu	Jumlah tahun
28	Jumlah Keluarga	JK	Variabel yang menggambarkan jumlah anggota rumah tangga yang tinggal dalam satu rumah tangga	Orang
29	Anggota bukan keluarga	NK	Jumlah ayah ibu , kakak adik, anak dan suami yang berada di luar rumah tangga (dari kepala rumah tangga dan pasangan)	Orang
30	Kegiatan ekonomi	KE	Variabel yang menggambarkan kegiatan ekonomi kepala rumah tangga (status pekerjaan)	1 jika bekerja;0 jika tidak bekerja

Tabel 3
Hasil Estimasi Pinjaman Mikro terhadap Total Pendapatan Rumah Tangga

Variabel	Notasi	Koefisien	Standar Deviasi
Pinjaman tahun 2000	logUT0	0.016	(0.013)
Kemiskinan tahun 2000	POV0	0.117	(0.110)
Kemiskinan tahun 2007	POV1	-0.258***	(0.099)
Kota tahun 2000	K_D0	0.094	(0.131)
Kota tahun 2007	K_D1	0.237*	(0.130)
Sumatera tahun 2000	region_i10	0.066	(0.100)
Selain Sumatera , Jawa bali tahun 2000	region_i30	0.217**	(0.103)
Pemanfaatan pinjaman tahun 2000	PP0	-0.035	(0.191)
Pemanfaatan pinjaman tahun 2007	PP1	0.277	(0.175)
Permintaan pendidikan tahun 2000	LED0	-0.000	(0.000)
Permintaan pendidikan tahun 2007	LED1	-0.000	(0.000)
Jaminan tahun 2000	JM1	-0.277*	(0.154)
Jangka waktu tahun 2000	JW0	-0.005	(0.007)
Jangka waktu tahun 2007	JW1	0.007**	(0.004)
Windfall income tahun 2000	log WF0	-0.016*	(0.009)
Windfall income tahun 2007	log WF1	-0.000	(0.012)
Moral Hazard tahun 2000	MH0	0.010	(0.032)
Moral Hazard tahun 2007	MH1	-0.079*	(0.042)
Pinjaman non formal tahun 2000	IF0	-0.087	(0.208)
Pinjaman non formal tahun 2007	IF1	-0.367	(0.265)
Tempat peminjaman bank tahun 2000	bank0	0.070	(0.234)
Tempat peminjaman bank tahun 2007	bank1	0.079	(0.192)
Usia kepala rumah tangga tahun 2000	UM0	-0.012***	(0.004)
Usia kepala rumah tangga tahun 2007	UM1	0.008*	(0.005)
Pendidikan kepala rumah tangga tahun 2000	ED0	0.007	(0.018)
Pendidikan kepala rumah tangga tahun 2007	ED1	0.043**	(0.018)
Jumlah Keluarga tahun 2000	JK0	-0.102***	(0.037)
Jumlah Keluarga tahun 2007	JK1	0.470***	(0.034)
Kegiatan Ekonomi Kepala RT tahun 2000	KE0	0.286	(0.185)
Kegiatan Ekonomi Kepala RT tahun 2007	KE1	0.476***	(0.221)
Pengeluaran Pendidikan tahun 2000	logP0	0.011	(0.007)
Pengeluaran Pendidikan tahun 2007	logP1	-0.036***	(0.007)
Pengeluaran Kesehatan tahun 2000	logH0	-0.003	(0.010)
Pengeluaran Kesehatan tahun 2007	logH1	-0.001	(0.010)
Kegiatan sosial keluarga tahun 2000	logSOSkel0	0.433***	(0.114)
Kegiatan sosial keluarga tahun 2007	logSOSkel1	0.488***	(0.078)
Kegiatan Sosial tahun 2000	logSOS0	0.026**	(0.012)
Kegiatan Sosial tahun 2007	logSOS1	0.039***	(0.011)
Pengeluaran perkapita tahun 2000	logpce0	-0.228***	(0.060)
Pengeluaran perkapita tahun 2007	logpce1	-0.136***	(0.043)
Constant		-4.985***	(1.478)
R-squared		0.428	
Prob (F Statistik)		0,000	
Robust standard errors in parentheses *** p<0,01 ** p<0,05 * p<0,1			

Tabel 4
Peningkatan Pendapatan Tahun 2007 akibat Pinjaman Tahun 2000 (dalam rupiah)

	2000	2007	2007-2000
T0	8.548.977	10.529.617	1.980.640 (23%)
T1	12.277.248	15.496.831	3.219.583 (26%)
T1-T0	3.728.271(44%)	4.967.214(47%)	1.238.943 (3%)

Sumber: data diolah

Tabel 5
Hasil Regresi Fixed Effects Dampak Pinjaman Tahun 2000 terhadap Pendapatan Rumah Tangga Tahun 2007

Variabel	Nilai Riil		Nilai Nominal	
	Coefesien	SD	Coefesien	SD
Tahun2007	-0.063	(0.066)	0.279***	(0.072)
Memiliki Pinjaman di th 2000 * tahun 2007	-0.446***	(0.147)	-0.418***	(0.147)
Dibawah 40 percentail pce	-0.245**	(0.097)	-0.244**	(0.097)
Kota	0.173	(0.152)	0.162	(0.152)
Sumatera	0.705	(0.782)	0.706	(0.779)
Selain Sumatera, Jawa , Bali	1.598	(1.479)	1.550	(1.474)
Produktif	0.151	(0.186)	0.159	(0.185)
Pengeluaran pendidikan di RT memiliki pinjaman	0.000	(0.000)	0.000	(0.000)
Ada agunan	-0.131	(0.194)	-0.146	(0.194)
Jangka waktu	0.011***	(0.004)	0.011***	(0.004)
<i>Windfall income</i>	0.005	(0.009)	0.007	(0.010)
<i>Moral Hazard</i>	-0.061**	(0.025)	-0.062**	(0.025)
Pinjaman non formal	-0.298	(0.217)	-0.302	(0.217)
Bank	-0.055	(0.193)	-0.049	(0.192)
Usia kepala rumah tangga	0.036***	(0.005)	0.036***	(0.005)
Pendidikan Kepala Rumah Tangga	0.065***	(0.020)	0.064***	(0.020)
Jumlah Keluarga	0.500***	(0.030)	0.497***	(0.029)
Bekerja	7.017***	(0.132)	6.985***	(0.131)
Pengeluaran Pendidikan	-0.042***	(0.006)	-0.040***	(0.006)
Pengeluaran Kesehatan	0.001	(0.009)	0.000	(0.009)
Kegiatan Sosial Keluarga	0.360***	(0.043)	0.361***	(0.042)
Kegiatan Sosial	0.027**	(0.011)	0.026**	(0.011)
Constant	-2.153***	(0.813)	-2.379***	(0.795)
Observations	17,366			
R-squared	0.306			
Number of hhid	8,683			
Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1				

Sumber: data diolah