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GOVERNMENT MSME FINANCING AND HOUSEHOLD ECONOMIC BEHAVIOR: A KUR ANALYSIS

Siti Rahmah Indriani and Muhammad Farid Habibi
Faculty of Economics and Business, Universitas Indonesia

Abstract: *The Kredit Usaha Rakyat (KUR) program in Indonesia has been instrumental in providing financial support to micro, small, and medium enterprises (MSMEs) since 2007. As of December 2014, KUR has channeled approximately US$13.7 billion to 12.4 million borrowers, playing a vital role in supporting the development of the MSME sector in accordance with Indonesian law. Since June 2015, the government has implemented interest rate caps and introduced various subsidies and guarantees through state-owned credit guarantee companies. However, discrepancies in KUR distribution have emerged, leading to increased default risks.*
This study delves into the impact of KUR on the economic behavior of MSME owners, particularly focusing on financial discipline and household consumption habits. By analyzing the differences in behavioral patterns between KUR recipients and non-recipients, this research aims to provide insights into the effectiveness of the KUR program and its implications on economic behavior among MSMEs in Indonesia.
Keywords: *Kredit Usaha Rakyat (KUR), Micro, Small, and Medium Enterprises (MSMEs), Economic Behavior, Financial Discipline, Household Consumption*

Introduction

Kredit Usaha Rakyat (KUR) is a credit program for micro, small and medium enterprises in Indonesia that has been conducted since 2007. Since 2015, KUR has been used as governmental subsidy instrument. The maximum interest rate of KUR credit is limited to 10%, where the banks obtain interest rate subsidy ranging from 4.5% to 12% p.a. from the government. Up to December 2014, KUR has channeled Rp178.8 trillion (approx. US$13.7 billion) to 12.4 million borrowers. The program is an embodiment of Law No. 20 of 2008 about MSMEs article 7 and 8 that the government would enact regulations and policies to develop MSME business environment, including financing. Since June 2015, the government has set an effective interest rate cap of 12% p.a. and has provided interest rate subsidy, including credit guarantee. The government appoints two state-owned credit guarantee companies (Perum Jamkrindo and PT. Askrindo) to guarantee KUR loans, where guarantee fee is included in interest rate subsidy. KUR only finances agriculture, maritime, processing industry and trading where KUR loans are to be used as working capital for productive debtors who lack access to additional financing. The recipient of KUR should be households that own a micro, small or medium enterprise (MSME), but in fact, there were households not owning MSME that also receive KUR. There was misconduct in the distribution of KUR, resulting in increase of KUR's default risk (Mardanugraha & Yappy, 2017). Apart of KUR, MSME has alternative of borrowing from other sources, such as non-KUR bank loans, cooperatives and micro financial institution. The loan source of choice would be one easiest

to access, as access to various source of credit can influence the economic behavior of households, as discussed in (Li, Lin, & Gan, 2016) dan (Ouanphilalay, 2017). This paper analyzes the effect of KUR on economic behavior of MSME owners. The economic behavior being discussed comprises behavioral difference between KUR recipients and non-recipients in regards to (1) discipline in financial management (including debt management) and (2) household consumption.

The MSME owners' economic behavior is estimated based on survey on 701 MSME owners in Greater Jakarta Area (Jabodetabek).Program KUR, together with credit from other sources such as non-KUR bank loans, cooperatives and micro financial institution can increase the amount of outstanding debt of households owning MSME. KUR would indirectly increase household consumption while being unable to grow the MSME. Therefore, the objective of channeling subsidy through KUR were not achieved, where the effect achieved being similar to direct subsidy to poor households not channeled through interest rate subsidy given to banks.

Literature Review

The effect of credit towards various aspects of household economic behavior has been researched. (Li, Lin, &

Gan, 2016) researched how credit constraint affect household consumption behavior by surveying 120 households in Fuzhou city, South China. The households would be totally credit constrained if they failed to obtain the loan and could be partly credit constrained if the loan amount they obtained was less than what they had applied for. 54.9% of the respondents are credit constrained. The percentage rural household's consumption expenditures who are credit constrained is 7.43% less than those who are not credit constrained. (Ajefu, 2017) analyzed the effect of income shocks on household real consumption expenditure using Nigerian Household Panel Survey of 5,000 household for the year 2010/2011 and 2012/2013 respectively. The probit model estimation results suggested that idiosyncratic shocks have effect on household consumption expenditure. Such idiosyncratic shocks comprise health (death of family member, disability to family member, or illness to household member), economic/business shocks (job loss of family member, non-farm business failure, dwelling damaged, fall in the price of output, kidnapping, and loss of property due to flood), and agricultural/natural shocks (destruction of household harvest by fire, death of livestock due to illness, poor rain that caused harvest failure, and pest infestation).

Credit can both increase and decrease household consumption. On certain level, a household can add to its consumption by paying its consumption in installments. However, pass an optimal point, household must reduce its consumption to pay for the installment. Different sources of credit also differing affect towards various types of household consumption. (Ouanphilalay, 2017) employed multinomial logit model which results suggested that compared to what household consumption would have been without credit, borrowing households tend to have higher overall consumption. However, when consumption is disaggregated into food and nonfood, only formal credit has positive impact on food spending. Borrowing from semiformal sources and informal sources without interest has a negative impact on food spending. For nonfood consumption, the impact of credit is found to be positive and statistically significant for all credit sources. (See-To & Ngai, 2018) analyzed spending behavior by its payment alternatives. This study investigates difference spending behavior among consumers using three alternative payment technologies: cash, credit cards, and stored value contactless smart cards.

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The payment process can do so by significantly affecting the subjective awareness of spending only. In contrast, the source of money can affect perceived payment security only. Both perceived security and convenience have little effect on spending behavior.

Data and methodology

Sampling method and data collection

The data was obtained from survey to 701 MSME owners spread across the Greater Jakarta Area (Jakarta, Bogor, Tangerang, Bekasi). The survey instrument employed both open-ended and close-ended survey questions delivered with one-on-one interview.

Independent Variables	Recipient of KUR credit?					
	YES		NO			
	Non-KUR Bank Loan		Co operative Loan		NBFI Loan	
	YES	NO	YES	NO	YES	NO
Dependent Var. 1 (Discipline)	Separation of bank account?					
	YES		NO			
Dependent Var. 2 (Consumption)	Monthly household expenditure (IDR)?					
Dependent Var. 3 (Debt Management)	Current outstanding debt (IDR)?					
Dependent Var. 4 (Investment)	Retained earnings/profit to add to business capital (IDR)?					

Figure 1. Conceptual Framework

Measuring the effect of KUR credit

Figure 1 shows the conceptual framework of survey questions and answers. Whether a respondent is recipient of KUR credit is used as independent variable. The significance of the variable is analyzed as indicator of the effect of KUR credit towards the dependent variables that explain household economic behavior. The choice of "YES" or "NO" a respondent being KUR recipient becomes values in a dummy variable measuring effect of KUR credit. The variable is encoded as 1 for KUR credit recipient and 0 for non-KUR credit recipient.

In addition to KUR credit, MSME has other alternatives of financing, such as non-KUR bank loan and cooperative loan. These variables are employed as independent variables due to the connection to financing. Similar to the KUR credit dummy variable, the answer of "YES" and "NO" is encoded as 1 and 0 respectively to analyze the effect of alternative loans on household economic behavior.

Table 2. Respondent Frequency Distribution by Category of Loan Obtained

		KUR Recipient		
		YES	**NO**	**TOTAL**
Recipient of Bank loan	**Non-KUR** NO	1.9%	65.2%	67.0%
	YES	13.1%	19.8%	33.0%

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	TOTAL	15.0%	85.0%	100.0%
Recipient of NBFI loan	NO	10.1%	63.1%	73.2%
	YES	4.9%	22.0%	26.8%
	TOTAL	15.0%	85.0%	100.0%
Recipient of cooperative loan	NO	13.6%	79.7%	93.3%
	YES	1.4%	5.3%	6.7%
	TOTAL	15.0%	85.0%	100.0%

The above Table 2 shows that most respondent (85%) are not recipient of KUR and other loans. This shows that external financing has not been preferred to MSME owners for their business. The subsidy program for low income families through MSME credit program had only reached a fraction of poor households. The portion recipient of KUR that also obtain credit from non-KUR bank loan is also large (13.1% of 15%), showing that a recipient obtain KUR credit is already bankable.

3.3 Discipline in financial management

Discipline in financial management is measured by ownership of separate bank account for their MSME activities not used for personal purposes. Only 20% of respondents own a separate business account. Table 4 below shows the percentage of respondents by ownership of separate business account and whether the respondents obtain KUR credit.

Table 4. Percentage of Respondents by Separate Business Account Separate Business Account

	Separate Business Account		
	YES	**NO**	**Total**
KUR Recipient	6%	9%	15%
Not KUR Recipient	14%	71%	85%
Total	20%	80%	100%

As much as 40% (6% of 15%) KUR credit recipient owns a separate business account, while only 16% (14% of 85%) respondents that are not KUR credit recipient owns a separate business account. This indicates that KUR credit program shows some potential in improving household discipline in financial management.

3.4 Household Consumption Expenditure

The questionnaire surveys the amount of household consumption expenditure. Table 4 below shows the descriptive statistics for monthly household expenditure.

Table 4. Descriptive Statistics for Household Consumption Expenditure (IDR)

Category	**Mean**	**Max**	**Min**	**Std. Dev**
KUR recipient				
	4,757,143	20,000,000	500,000	3,410,331

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Not recipient KUR	3,947,766	25,000,000	50,000	2,317,636
Total	4,069,871	25,000,000	50,000	2,526,724

The average expenditure of KUR receiving household is higher compared to non-KUR receiving household. This indicates that KUR has the potential to directly increase household consumption. The large target of KUR loan for banks to distribute cause banks to become less selective in qualifying borrowers. Adverse selection occurs in KUR channeling (Mardanugraha & Yappy, 2017). Household that do not own MSME business were able to obtain KUR credit to increase its consumption.
Indirectly, KUR might be able to expand household owned enterprises, allowing for higher income that would cause increased household consumption behavior.

3.5 Debt Management

KUR credit program would basically increase the debt amount of MSME owners. Table 5 below shows the amount of outstanding debt by KUR credit recipient.

Table 5. Descriptive Statistics Existing Nominal Debt (IDR)

Category	Mean	Max	Min	Std. Dev
KUR recipient	235,000,000	13,400,000,000		1,400,000,000
Not KUR recipient	7,127,883	200,000,000		26,000,000
Total	51,500,000	13,400,000,000		623,000,000

The average debt for KUR recipient was much larger compared to non-KUR recipient. The MSME owner can obtain KUR up to IDR 500 million. The opportunity to obtain and paying KUR and thus obtain good credit rating would increase offering from other loan types. After graduating to non-KUR eligible category (annual sales exceeding IDR. 50 billion), the business owner can no longer apply for MSME loans. The respondent with greatest amount of outstanding debt in Table 5 above is an owner of several restaurants, which assets are being used to obtain such large amount of loan.
Another alternative is for one unit of business to obtain several KUR credits. (Mardanugraha & Yappy, 2017) has explained the existence of invalid loan recipients, one of which are loans for recipient with same name with differing addresses.

3.6 Investing Behavior

Part of profit that is being retained to add to capital becomes a variable indicating investment behavior of MSME. Table 6 below presents the descriptive statistics for the amount of daily profit being used to expand business capital.

Table 6. Descriptive Statistics for daily profit Used to add business capital (Rp)

Category	Mean	Max	Min	Std. Dev
KUR Recipient	570,048	10,000,000		1,613,990

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Not Recipient	**KUR**	365,901	12,000,000		1,044,096
Total		397,262	12,000,000		1,150,982

Upon receiving KUR credit, households have two alternative choices. Firstly, households can decrease portion of retained earnings for the business due to the business capital being expanded through KUR credit. Secondly, households can increase retained earnings due to increased sales after receiving KUR. The table above shows that KUR recipient set apart a greater amount profit for retained earnings compared to non-KUR recipients. With education program in operating and expanding business indicates the potential in expanding the scale of business or improving investing behavior of the business owner. The main success indicator for KUR program is the increasing business scale of KUR recipient to being enterprises beyond MSMEs.

3.7 Control Variables

This article employed three control variables, namely the average daily sales (sales), average daily profit (profit) and business capital (capital). Table 7 below presents the descriptive statistics of the three control variables.

Table 7. Descriptive Statistics of Control Variables (IDR)

Category	Variables	Mean	Max	Min	Std. Dev
KUR Recipient	**SALES**	6,326,857	500,000,000	100,000	48,700,000
	PROFIT	3,809,133	350,000,000	20,000	34,100,000
	CAPITAL	57,000,000	400,000,000	170,000	77,800,000
Not Recipient	**KUR** **SALES**	1,184,299	25,000,000	25,000	2,122,598
	PROFIT	426,359	13,000,000	2,000	1,010,473
	CAPITAL	46,600,000	5,000,000,000		218,000,000
Total	**SALES**	1,955,683	500,000,000	25,000	19,000,000
	PROFIT	933,051	350,000,000	2,000	13,200,000
	CAPITAL	48,200,000	5,000,000,000		203,000,000

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This article analyzes the correlation between sales, profit dan capital with KUR receiving household economic behavior. A larger enterprise should result in more disciplined household in terms of financial management, larger consumption expenditure and ability to obtain more credit.

3.8 Empirical model

This article employed logarithmic transformation for 0-1 coded variables, employing STATA statistical software. Equation 1 below would be employed to analyze the probability of households having a separate business account. A positive coefficient value would indicate positive effect of KUR credit.

$$Discipline_i = \beta_0 + \beta_1 KUR_i + \beta_2 LOAN_i + \beta_3 COOP_i + \beta_4 MF_i + \delta_1 ln(SALES) + \delta_2 ln(PROFIT) + \delta_3 ln(CAPITAL) + \varepsilon_i \quad (1)$$

Discipline is coded 1 if the household that separate bank account from personal account, and 0 otherwise. KUR, LOAN, COOP, MF are dummy variables that are coded as 1 for households that have KUR loan, non-KUR bank loan, cooperative loan, and non-bank microfinance loan, respectively. SALES, PROFIT and CAPITAL are for daily sales, daily profit and business capital the business owner (household) invested. The above equation is estimated using logistic regression in order to predict the effect of KUR to the probability of households using separate business account. Equation 2 below is used to analyze the effect of KUR to the increase in profit households used to increase capital.

$$\ln(ADCAP)_i = \beta_0 + \beta_1 KUR_i + \beta_2 LOAN_i + \beta_3 COOP_i + \beta_4 MF_i + \delta_1 ln(SALES) + \delta_2 ln(PROFIT) + \delta_3 ln(CAPITAL) + \varepsilon_i \quad (2)$$

ADCAP is daily profit being allocated to increase capital. If the household use KUR to increase the portion of profit for business capital, the β_1 in the above equation would have positive value. Equation 2 would be estimated using OLS regression.

Equation 3 below is used to analyze the effect of KUR credit to household consumption behavior.

$$\ln(CEXP)_i = \beta_0 + \beta_1 KUR_i + \beta_2 LOAN_i + \beta_3 COOP_i + \beta_4 MF_i + \delta_1 ln(SALES) + \delta_2 ln(PROFIT) + \delta_3 ln(CAPITAL) + \varepsilon_i \quad (3)$$

CEXP is the monthly household expenditure. KUR might increase the household expenditure both directly and indirectly, therefore, the expected sign for β_1 in the Equation 3 above is positive.
Equation 4 below is used to analyze the effect of KUR credit to household debt.

$$\ln(DEBT)_i = \beta_0 + \beta_1 KUR_i + \beta_2 LOAN_i + \beta_3 COOP_i + \beta_4 MF_i + \delta_1 ln(SALES) + \delta_2 ln(PROFIT) + \delta_3 ln(CAPITAL) + \varepsilon_i \quad (4)$$

DEBT is the amount of current outstanding debt of the household. The debt in discussion should be loan being invested to be used as business capital. However, MSME owners have difficulties in differentiating loan for business and consumption. KUR add the loan owned by household, therefore, the expected value for the β_1 coefficient in the equation (4) is positive. However, if KUR is being used to substitute for other loans, the sign can also be negative.

4. Result and discussion

The estimated result for equation (1) above is as follows:

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$$Discipline_i = \underset{(0.000)}{-10.5623} + \underset{(0.000)}{1.0834} * KUR_i \underset{(0.940)}{-0.0202} * LOAN_i \underset{(0.000)}{-0.9616} * COOP_i + 0.0513 * MF_i$$
$$\underset{(0.913)}{-0.0179} * ln(SALES)_i + \underset{(0.001)}{0.5257} * ln(PROFIT)_i + \underset{(0.024)}{0.1634} * ln(CAPITAL)_i$$
(0.900)
(5)

The number in the parentheses are the z statistics that shows the significance of independent variable on the dependent variable, what would be significant for values below 5% or 10%. The equation above shows that upon receiving KUR, the probability of MSME owners separating business bank account and personal bank account increases. KUR recipients are bankable people, or owners of large enough and consistent enterprise. The positive coefficient for profit and capital shows that these factors increase the discipline of business owners in their financial management. The larger the scale of business, the larger the probability of business owners conducting their transaction through the banking system.

The estimated result for equation (2) above is as follows:

$$\ln(ADCAP)_i = \underset{(0.003)}{1.9854} + \underset{(0.801)}{0.0382} * KUR_i + \underset{(0.226)}{0.1393} * LOAN_i \underset{(0.013)}{-0.2600} * COOP_i + \underset{(0.672)}{0.0740} * MF_i$$
$$\underset{(0.000)}{+0.3793} * ln(SALES)_i + \underset{(0.000)}{0.2610} * ln(PROFIT)_i + \underset{(0.000)}{0.1069} * ln(CAPITAL)_i \quad (6)$$

The number in the parentheses is the t statistics that shows the significance of independent variable on the dependent variable, what would be significant for values below 5% or 10%. KUR loan does not significantly increase the proportion profit being allocated as retained earnings to increase business capital.

The control variables being linked to business activities, namely SALES, PROFIT and CAPITAL has significant effect for business owners to increase their capital. For medium enterprise with annual sales above IDR 1 billion, the maximum KUR loan of IDR 25 million does not result in significant effect for business expansion.

The estimated result for equation (3) above is as follows:

$$\ln(CEXP)_i = \underset{(0.000)}{12.5113} + \underset{(0.567)}{0.0405} * KUR_i + \underset{(0.217)}{0.0678} * LOAN_i \underset{(0.000)}{-0.2758} * COOP_i + \underset{(0.864)}{0.0149} * MF_i$$
$$\underset{(0.818)}{+0.0077} * ln(SALES)_i + \underset{(0.001)}{0.1069} * ln(PROFIT)_i + \underset{(0.000)}{0.0734} * ln(CAPITAL)_i \quad (7)$$

The number in the parentheses are the t statistics that shows the significance of independent variable on the dependent variable, what would be significant for values below 5% or 10%. KUR loan does not increase the household consumption. The increase of monthly household consumption is more linked to the increase of profit obtained from the MSME. A larger profit of the MSME would result in increased household welfare through consumption. However, the increase of profit is not linked to MSMEs receiving KUR loan.

The estimated result for equation (4) above is as follows:

$$\ln(DEBT)_i = 11.7564 + 0.7434 * KUR_i + 0.7592 * LOAN_i - 0.7125 * COOP_i + 0.0359 * MF_i$$

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(0.000) (0.004) (0.007) (0.002) (0.920)

$$+0.2402 \underset{(0.137)}{} *ln(SALES)_i + 0.1267 \underset{(0.414)}{} *ln(PROFIT)_i + 0.1364 \underset{(0.076)}{} *ln(CAPITAL)_i \quad (8)$$

The number in the parentheses is the t statistics that shows the significance of independent variable on the dependent variable, what would be significant for values below 5% or 10%. KUR significantly add the amount of outstanding debt.

5. Conclusion

The KUR credit program increased household financial management discipline in running their MSMEs but was not found to increase the ability of MSMEs in expanding their business. The households get increased wealth, shown by increased consumption, as profit from business capital and profit of the MSMEs increased. However, KUR loan does not directly cause increased household consumption expenditure. KUR was also not found to increase MSMEs' profit. Along with loans obtained from other sources such as cooperatives, NFBI and banks, KUR credit increase the debt burden of households owning MSMEs. Therefore, the objective of channeling subsidy through KUR were not achieved, where the effect achieved being similar to direct subsidy to poor households not channeled through interest rate subsidy given to banks. Developing MSME in Indonesia necessitate a novel scheme that focus not only on financing. Psychological and social aspect of MSME owners matters more compared to financing. The consistency of MSME in developing the started enterprise is important, as expanding the business is different from MSME owners trying to obtain additional income from the business. The basic needs of low-income family should be fulfilled first, including means such as government subsidy. Afterwards, MSME can start expanding its business. The purpose of government subsidy should be to fulfill the family needs of MSME owners, not to expand the business, as MSME would not be able to consistently expand its business if daily needs of its owners is not fulfilled. As the MSME owner becomes consistent in running and expanding their enterprise, access to finance even with market interest rate would not be a hindrance.

References

Ajefu, J. B. (2017). Income shocks, informal insurance mechanism, and household consumption expenditure Microevidence from Nigeria. International Journal of Social Economics, 44(12), 1818-1832.

Li, C., Lin, L., & Gan, C. (2016). China credit constraints and rural housholds' consumption expenditure. Finance Research Letters, 19, 158-164.

Mardanugraha, E., & Yappy, B. (2017). Principal-Agent Problem of Governmental MSME Financing Program in Indonesia. The 2nd International Confecence on Indonesian Economy & Development. Jakarta.

Ouanphilalay, S. (2017). The Impact of Household Credit on Consumption in Laos. Journal of Southeast Asian Economies, 34(2), 345-66.

Sarofim, S., Chatterjee, P., & Rose, R. (xxxx). When store credit cards hurt retailers: The differential effect of paying credit card dues on consumers purchasing behavior. Journal of Business Research, xxx, xxx-xxx.

See-To, E. W., & Ngai, E. W. (2018). An empirical study of payment technologies, the psychology of consumption, and spending behavior in a retailing context. Information & Management.

OUTPUT STATA for Equation (5)

```
. logit x12a p05a x21b x22b x23b lx01 lx02 lx05
Iteration 0:  log likelihood = -339.37812
Iteration 1:  log likelihood = -303.46795
Iteration 2:  log likelihood = -301.57792
Iteration 3:  log likelihood = -301.56977
Iteration 4:  log likelihood = -301.56977
Logistic regression                     Number of obs   =        676
                                        LR chi2(7)      =      75.62
                                        Prob > chi2     =     0.0000
Log likelihood = -301.56977             Pseudo R2       =     0.1114

------------------------------------------------------------------------------
       x12a |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------+----------------------------------------------------------------
       p05a |   1.083435   .3017336     3.59   0.000     .4920482    1.674822
       x21b |  -.0202534   .2681985    -0.08   0.940    -.5459127    .5054059
       x22b |  -.9616499   .2665586    -3.61   0.000    -1.484095   -.4392047
       x23b |   .0513144   .4098016     0.13   0.900    -.7518821    .8545108
       lx01 |  -.0179018   .1633088    -0.11   0.913    -.3379812    .3021776
       lx02 |   .5257392   .1629082     3.23   0.001     .2064451    .8450333
       lx05 |   .1693977   .0751649     2.25   0.024     .0220772    .3167182
      _cons |  -10.56226   1.609194    -6.56   0.000    -13.71623   -7.408299
------------------------------------------------------------------------------
```

OUTPUT STATA for Equation (6)

```
. reg lx03 p05a x21b x22b x23b lx01 lx02 lx05

      Source |       SS       df       MS              Number of obs =     538
-------------+------------------------------           F(  7,   530) =   37.04
       Model |  289.867916     7  41.4097022            Prob > F      =  0.0000
    Residual |  592.604448   530  1.1181216            R-squared     =  0.3285
```

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Adj R-squared = 0.3196
Total 882.472364 537 1.64333773 Root MSE = 1.0574

lx03	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
p05a	.0382038	.15122840.801		-.2588769	.3352846	
0.25						
x21b	.139318	.1148909	1.21	0.226	-.0863794	.3650155
x22b	-.2599775	.1045575	-0.013	-.4653756	-	
2.49						.0545795
x23b	-.0740009	.1745226	-0.672	-.4168418	.2688399	
0.42						
lx01	.3793401	.0717114	5.29	0.000	.2384666	.5202136
lx02	.2610038	.0708303	3.680.000		.1218612	.4001464
lx05	.1069335	.0334003	3.200.001		.0413202	.1725467
_cons	1.985376	.67085410.003		.6675171	3.303236	
2.96						

OUTPUT STATA for Equation (7)

. reg lx04 p05a x21b x22b x23b lx01 lx02 lx05

Source	SS	df	MS	Number of obs =	684
F(7, 676) = 16.68					
Model	37.9543856		Prob > F	=	
75.42205509					0.0000
Residual	219.763646		R-squared	=	
676.325094151					0.1473
			Adj R-=		
			squared		0.1384
Total	257.718032	683	Root MSE	=	
.377332404					.57017

lx04	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
p05a	.040486	.07059670.567		-.0981291	.1791011	
0.57						
x21b	.0678199	.05489970.217		-.0399745	.1756144	
1.24						
x22b	.2758153	.05130940.000		.1750703	.3765603	
5.38						

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x23b	-.0148519	.0867281	-0.864	-.1851408	.1554369
0.17					
lx01	-.007742	.0336864	-0.818	-.0738846	.0584006
0.23					
lx02	.1069274	.0329257	3.250.001	.0422784	.1715764
lx05	.0734541	.0153529	4.780.000	.0433089	.1035993
_cons	12.51128	.3244190.000	11.87429	13.14827	
38.57					

OUTPUT STATA for Equation (8)

. reg lx06 p05a x21b x22b x23b lx01 lx02 lx05

Source	SS	df	MS	Number of obs =	165
				F(7, 157) =	8.59
Model	112.568991	7	16.0812845	Prob > F =	0.0000
Residual	293.763303	1571.87110384		R-squared =	0.2770
				Adj R-squared =	0.2448
Total	406.3322942.47763594			Root MSE =	1.3679
164					

lx06	Coef.	Std. Err.	tP>t	[95% Conf.	Interval]
p05a	.7434412	.2575397	2.890.004	.2347515	1.252131
x21b	.759191	.2771078	2.74 0.007	.2118506	1.306531
x22b	.7125207	.2236527	3.190.002	.2707643	1.154277
x23b	-.0358676	.356442	-0.920	-.739908	.6681728
0.10					
lx01	.2401616	.1605632	1.500.137	-.0769811	.5573043
lx02	-.1267079	.1547524	-0.820.414	-.4323732	.1789573
lx05	.1363645	.0763503	1.790.076	-.0144418	.2871707
_cons	11.75636	1.52329	7.720.000	8.747572	14.76515