

Household Debt in Turkey

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Alper Duman
Izmir University of Economics

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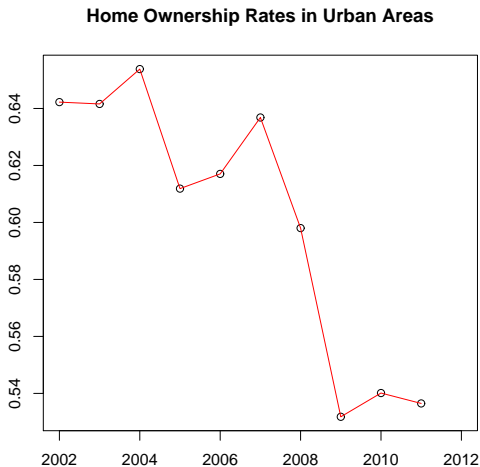
Introduction

- ▶ Consumption-led recovery since 2001
- ▶ Fragile household balance sheets
- ▶ Declining saving rates
- ▶ Eggertsson and Krugman (2010): importance of gross debt
- ▶ Mason and Jayadev (2012): Fisher dynamics for the household sector
- ▶ Increasing formalization in housing market and loss of imputed rental income

Introduction

- ▶ Household liabilities rose by 10.2% in 2010 , which is the 2nd highest after Greece among OECD countries.
- ▶ In various credit rationing models, households suffer from sudden stops or rapid decline in consumer credit. And the outcome is a volatile and lower consumption growth.
- ▶ As the inflation rate declines in an environment of low household income growth and high or moderate levels of effective nominal interest rates, households are obliged to increase net borrowing.
- ▶ While the net effect of credit on growth is still debated (Palley, 1994; Dutt, 2012; Hein, 2012) we argue that the developments in the Turkish housing market coupled with the supply side pressures lead to long run instability.

Figure : Declining Home Ownership Rates



- ▶ As Erdoğan (2010) demonstrates in the absence of strong state support for formal housing especially for the lower and middle income groups in Turkey the solution was informality (i.e. gecekondu) till the early 2000s.
- ▶ The falling home ownership rates imply worsening household balance sheet dynamics since tenants have to pay monthly rents which constraint their consumption spending and debt service capabilities if they are in debt.
- ▶ Moreover, the total number of urban households had a cumulative increase of % 34 while the home-owner households went only by % 12 between 2002 and 2011. Hence, the gap between the urban settlers and those who can be home-owners widen steadily.

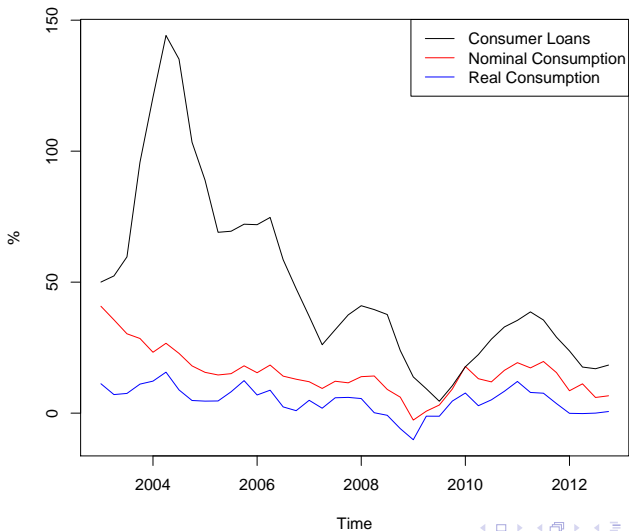
Table : Household Budget Dynamics

	2010	2011	9-Months. 2012
Disposable Income (DI)	448.8	531.2	591.3
Household Debt (HD)	195.1	252	284.4
Interest Payment (IP)	20.4	23.1	29.3
IP/DI (%)	4.5	4.4.	4.9
HD/DI (%)	43.5	47.4	48.1

Source: Financial Stability Report. CBRT. November 2012

- ▶ The aggregate consumer credit volume, covering consumer, mortgage and credit cards, increased from 111 billion TL to 250 billion TL between 2008 and 2012, and the cumulative increase amounted to staggering 125 %.
- ▶ As can be seen from the table, both the household debt and interest payments have risen significantly. Besides, almost 75 % of all borrowers have less than 2000 TL (\$1300) monthly income.
- ▶ During the years of 2004 and 2012-september, the disposable income rose by 16 % on average whereas the interest payments went by 27 % and household indebtedness rose by 43 % on average for the same period.

Figure : Booming Consumer Credits and Private Consumption



- ▶ According to Ceritoğlu (2013), there are important differences in terms of effects of financial variables on various components of household consumption expenditures.
- ▶ Household expenditures on durable goods are more sensitive to changes in household expectations, the real interest rates and consumer credits than household expenditures on non-durable goods and services as expected.
- ▶ We find that overall nominal increase in durable consumption is 430 % between 2002 and 2011.
- ▶ However, while the home owners have increase their spending on the durable goods by 340 % the tenants have increased their spending by 556 %. The gap in relative growth in total spending is also striking. The increase in total spending from 2002 to 2011, reached 302 % for the home owners and 452 % for tenants.

Figure : Growth in Gross Fixed Capital Formation

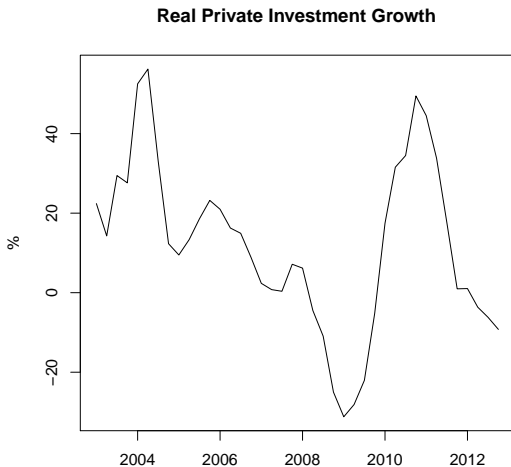
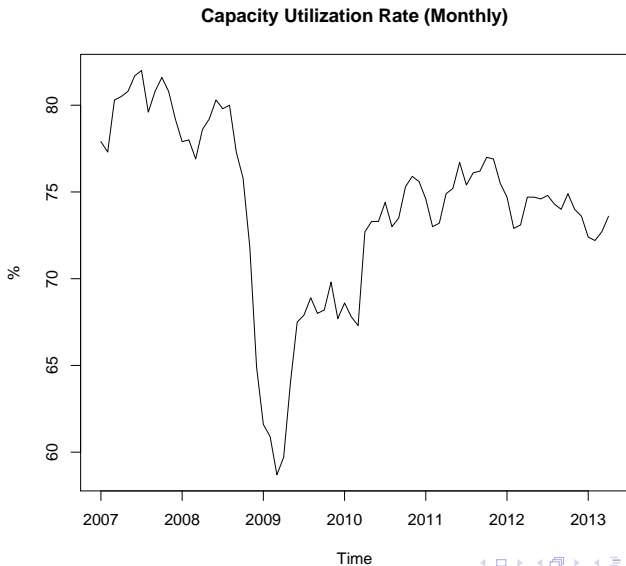


Figure : Capacity Utilization



- ▶ The responsiveness of the firms to slow growth of wages and high growth of consumer loans in the last decade can be seen from the previous two figures.
- ▶ Real private investment growth is highly volatile but does not demonstrate an upward trend.
- ▶ Our observation of the limited effects of consumer debt on the economic performance is confirmed by the capacity utilization rates, which stay flat after the 2008 crisis at a lower plateau.
- ▶ It should be also remembered that there is a significant and increasing gap between the interest rates charged by banks for short-term deposits and interest rates charged for consumer loans (a composite rate on credit cards, mortgages and other consumer loans).

Rentier Constrained Debt Led Growth Model

- ▶ The model assumes that the economy is a closed private economy in which output depends on capital stock and utilization rate. Capital productivity, q , is given and constant.
- ▶ The profit share, h , is determined exogenously. The profit rate, r , on the other hand is endogenous.
- ▶ There are two groups of agents: Workers and Rentiers. The latter also finance the firms through equity purchases. Thus all the profits flow to the Rentiers and there are no retained earnings.

- ▶ Workers spend all of their incomes. The Rentiers on the other hand spend a portion of their aggregate income which is derived both from profits interest earnings.
- ▶ Rentiers divide their savings in fixed proportions among the workers households and the firms, and this is determined by the home ownership and financial mark-up rates.
- ▶ While the former is inversely related to savings allocated to consumer credit, the latter is positively related as expected.
- ▶ Lending to firms is treated as a residual.

$$\frac{C_W}{K} = (1 - h)uq + \hat{B}\lambda_W + -i\lambda_W \quad (1)$$

$$\frac{C_R}{K} = c_R(huq + i\lambda_W) \quad (2)$$

$$\frac{\Delta B_W}{K} = \hat{B}\lambda_W = \theta(\kappa, \xi)s_R(huq + i\lambda_W) \quad (3)$$

$$g = (1 - \theta(\kappa, \xi))\sigma \quad (4)$$

$$(1 - \theta(\kappa, \xi))s_R hq - \beta > 0 \quad (5)$$

In the short-run we treat the debt-capital ratio of the workers exogenously determined and constant. The two endogenous variables u^* and g^* are then follow from substitutions in the above equilibrium equations.

$$u^* = \frac{\alpha - (1 - \theta(\kappa, \xi))s_R i \lambda_W}{(1 - \theta(\kappa, \xi))s_R h q - \beta} \quad (6)$$

$$g^* = \frac{(1 - \theta(\kappa, \xi))s_R (\alpha h q - \beta i \lambda_W)}{(1 - \theta(\kappa, \xi))s_R h q - \beta} \quad (7)$$

First, as the share of lending to workers' households out of total savings go up. $\theta(\kappa, \xi)$ increases, both the equilibrium levels of capacity utilization and the rate of growth rise.

Second, as the exogenously given debt-capital ratio λ_W increases, both the equilibrium levels of capacity utilization and the rate of growth decline.

$$\frac{\partial u^*}{\partial \theta(\kappa, \xi)} = \frac{s_R(i\lambda_W + hqu^*)}{(1 - \theta(\kappa, \xi))s_R hq - \beta} > 0 \quad (8)$$

$$\frac{\partial g^*}{\partial \theta(\kappa, \xi)} = \frac{\beta s_R(i\lambda_W + hqu^*)}{(1 - \theta(\kappa, \xi))s_R hq - \beta} > 0 \quad (9)$$

As the share of lending goes up workers' consumption also goes up inducing higher aggregate demand hence higher growth rates and capacity utilization levels.

$$\frac{\partial u^*}{\partial \lambda_W} = \frac{-(1 - \theta(\kappa, \xi))s_R i}{(1 - \theta(\kappa, \xi))s_R hq - \beta} < 0 \quad (10)$$

$$\frac{\partial g^*}{\partial \lambda_W} = \frac{-\beta(1 - \theta(\kappa, \xi))s_R i}{(1 - \theta(\kappa, \xi))s_R hq - \beta} < 0 \quad (11)$$

In the long-run equilibrium , the growth rate debt-to-capital ratio is described below. Since in steady-state $\hat{\lambda}_W = 0$. Then it follows that $\hat{B}_W = g$

. By substitution we obtain

$$\hat{\lambda}_W = \hat{B}_W - \hat{K} = \hat{B}_W - g \quad (12)$$

$$\hat{B}_W = \frac{\theta(\kappa, \xi)s_R(\alpha hq - \beta i \lambda_W)}{\lambda_W[(1 - \theta(\kappa, \xi))s_R hq - \beta]} \quad (13)$$

There exist two equilibrium values for the debt-capital ratio for the workers

$$\lambda_{W1}^{**} = \frac{\theta(\kappa, \xi)}{(1 - \theta(\kappa, \xi))} \quad (14)$$

$$\lambda_{W2}^{**} = \frac{\alpha hq}{\beta i} \quad (15)$$

Stability of the long-run equilibrium Workers' debt-capital ratio requires

$$\frac{\partial \hat{\lambda}_W}{\partial \lambda_W} < 0 \quad (16)$$

Then the stability condition will be satisfied if

$$\lambda_W < \left(\frac{\theta(\kappa, \xi)}{(1 - \theta(\kappa, \xi))} \frac{\alpha h q}{\beta i} \right)^{1/2} \quad (17)$$

$$u_1^{**} = \frac{\alpha - \theta(\kappa, \xi) s_R i}{(1 - \theta(\kappa, \xi)) s_R h q - \beta} \quad (18)$$

$$g_1^{**} = \frac{s_R [\alpha (1 - \theta(\kappa, \xi)) h q - \beta \theta(\kappa, \xi) i]}{(1 - \theta(\kappa, \xi)) s_R h q - \beta} \quad (19)$$

We are mainly interested in the effects of θ . The home ownership rates and the spread ratio (or mark-up power of creditors) will have influences through θ . Given positive levels of utilization growth rates we can obtain the following results

$$\frac{\partial u_1^{**}}{\partial \theta} = \frac{s_R(hqu_1^{**} - i)}{(1 - \theta(\kappa, \xi))s_R hq - \beta} = \frac{s_R(r^{**} - i)}{(1 - \theta(\kappa, \xi))s_R hq - \beta} \quad (20)$$

Similarly,

$$\frac{\partial g_1^{**}}{\partial \theta} = \frac{\beta s_R(hqu_1^{**} - i)}{(1 - \theta(\kappa, \xi))s_R hq - \beta} = \frac{\beta s_R(r^{**} - i)}{(1 - \theta(\kappa, \xi))s_R hq - \beta} \quad (21)$$

There are mainly two conditions (i) if $(r^{**} - i) > 0$ and there is a positive effect or (ii) $(r^{**} - i) < 0$ and there is a negative effect.

On the other hand $\theta(\kappa, \xi)$ depends on home ownership rate with a negative derivative and on the spread ratio with a positive derivative.

$$\frac{\partial g_1^{**}}{\partial \kappa} = \frac{\partial g_1^{**}}{\partial \theta} \frac{\partial \theta}{\partial \kappa} \quad (22)$$

If we keep the simple form of the $\theta(\kappa, \xi)$ function, as $\theta(\kappa, \xi) = \xi/\kappa$ then the partial derivatives also depend on the levels of κ and ξ , corresponding to home ownership rates and the spread ratio.

Implications

- ▶ Declining rate of home ownership and increasing financial distress has multiple and contradictory consequences
- ▶ Rentiers might decreased the portion of their savings channelled to the workers' households, $\theta(\kappa, \xi)$ goes down.
- ▶ Rentiers require higher interest rates (i goes up).
- ▶ Worker households deleverage so that their net borrowing might decline (ΔB_W going down)
- ▶ Worker households' choice might be between bankruptcy and borrowing at much higher costs.

- ▶ Depending on the rate of interest relative to the rate of profit, we may therefore have two stable long run constellations in the face of higher lending of Rentiers to workers.
- ▶ With a relatively low rate of interest a higher proportion of Rentiers saving being lent to workers, causing a higher Workers' debt capital ratio, will be accompanied by higher rates of capacity utilisation and capital accumulation. Aggregate demand and growth will hence be debt led.
- ▶ With a relatively high rate of interest, however, a higher proportion of Rentiers saving allocated to consumer lending causing a higher Workers debt capital ratio will be accompanied by lower rates of capacity utilisation and capital accumulation. In this case, aggregate demand and growth will be debt burdened.

Conclusions and Limitations

- ▶ In a simple Kaleckian model we demonstrate that equilibrium growth rates will be lower in a debt burdened economy with lower home ownership rates and higher real costs of borrowing.
- ▶ There are several limitations of our study:
 1. corporate debt dynamics are neglected despite the huge increases in Turkey especially denominated in foreign exchange.
 2. Exchange rate dynamics or sudden stops of capital flows are also not accounted.