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**DOES CONSUMPTION RESPOND TO PREDICTED  
INCREASES IN CASH-ON-HAND AVAILABILITY?  
Evidence from the Italian “severance pay”**

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EVIDENCE FROM THE ITALIAN “SEVERANCE PAY”***

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Abstract

One of the main implications of the life-cycle hypothesis is the absence of consumer reaction to *expected* income changes, since these are already incorporated into the consumer’s (intertemporal) budget constraints.

This paper aims at detecting whether Italian households’ consumption exhibits *excess sensitivity* to “severance pay”, a sizable lump sum that workers receive as part of their contract (and therefore anticipate) at job termination, either through retirement or for whatever other reason.

We use the Bank of Italy Survey of Household Income and Wealth (SHIW), and more specifically its rotating panel component for 1989-2004. Through an Euler equation approach to different categories of consumption, we estimate the consumption response to the cashing of severance pay for households close to retirement.

With respect to the excess sensitivity hypothesis, our findings are mixed: they indicate that households do not alter their consumption of non-durable goods but do increase their expenditure on food by a small but precisely estimated amount in the year when severance pay is cashed.

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## 1. INTRODUCTION

The basic insight of the consumption dynamic optimization model with perfect credit markets is the independence of the consumption path from the income path. The rational expectations life-cycle/permanent income hypothesis imposes testable orthogonality restrictions on future consumption growth, first examined by Hall (1978): in particular, consumption should not respond to predictable variations in income. As consumers formulate their forecasts about future income conditional on an information set which is typically unknown to the econometrician, the power of conventional excess sensitivity tests may be weak (see Browning and Lusardi, 1996, for a survey).

A growing number of papers has explicitly taken into account the above mentioned “superior information” problem, by focusing on predictable changes in income (or cash in hand in general), which are observable also by the econometrician. For example, Shea (1995) uses publicly-available information on union contracts to construct expected wage increases at household level; Browning and Collado (2001) use information on regular extra-payments that Spanish workers receive during the year.

Our paper contributes to this literature by exploiting a specific feature of the Italian wage structure: severance pay, a statutory payment made by firms to their staff on contract termination. Severance pay, called *Trattamento di Fine Rapporto* (TFR), constitutes a delayed compensation, built up by forcing individuals to save one thirteenth of their gross annual earnings and of which workers have good knowledge. We use the data collected in the Bank of Italy Survey of Italian Households’ Income and Wealth (SHIW) and, more specifically, its panel component in order to perform our test. The SHIW data contain detailed information on households’ characteristics as well as on labour market variables, which allow us to select a sample of potential/actual recipients of severance pay, and to identify those families which may weaken the power of our test.

As long as termination is foreseen and voluntary, the cashing in of the TFR represents an ideal setting to test whether consumers react to anticipated income changes. There are a number of complications, though, as TFR also serves as a buffer stock in the case of layoff. In order to have a valid test, we try to select only those workers who “voluntarily” terminated their job.

As a further feature, TFR can alleviate liquidity constraints: workers can – although with some limitations – draw up to 70 per cent of their accrued fund during their working life to ease liquidity constraints problems on certain occurrences. Again, in order to strengthen our test, we need to rule out the working of liquidity constraints at the time of cashing in the severance pay,

which we do by concentrating on “elderly” households enjoying a current income higher than the permanent one.

In testing whether Italian households exhibit excess consumption sensitivity to expected income increases, this paper contributes to a rather large, although not yet conclusive, empirical literature.

Many tests have indeed been performed on the “excess sensitivity of consumption” hypothesis. Some studies have focused, in particular, on well anticipated income increases and their impact on consumption. Among them, Shapiro and Slemrod (1995) and Parker (1999) analyze consumption reaction to a reduction in tax withholding. In a close spirit, Souleles (1999) examines whether tax refunds generate an impact on consumption, while Stephens (2003) examines the reaction to predictable increases in income following the final payment of a vehicle loan. All these studies show evidence of excess sensitivity of consumption to predictable changes in income.<sup>1</sup>

More recent studies find that consumption reacts differently to income variations according to the *magnitude* of the latter. If changes in anticipated income are large, consumers do not alter their consumption profiles (Browning and Collado 2001), while when income changes are rather small such as those deriving from announced tax refunds, households do not seem to smooth their consumption (Hsieh 2003).

Souleles (2000) finds that households do smooth their consumption during the (academic) year, in that they do not react to college expenses for their offspring. In line with this evidence, Coulibaly and Li (2006) find that consumption smoothing is preserved after households have paid their last mortgage payment.

Following a different line of research, which exploits the subjective income and inflation expectations available in the Bank of Italy Survey of Italian Households’ Income and Wealth (SHIW), Jappelli and Pistaferri (2000) find that consumption growth is uncorrelated with predicted income growth – while it is positively correlated with the expected variance of income.

On balance, the existing empirical literature seems thus to suggest that consumers do take into account predicted income changes and try not to alter their consumption profile, particularly when those changes are large and easy to predict.

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<sup>1</sup> A somewhat opposite test on the implication of the life cycle can be performed on the reaction of consumption to unexpected shocks to income. According to the theory, consumption should exhibit reaction to positive and unexpected income shocks while it should not react to expected income increases. Levenson (1996) performs this test on unexpected windfall gains in income. However, he finds that households neither react to windfall gains nor consumption of those who received a higher windfall gain reacted more relative to those who were granted less.

## 2. A CURSORY LOOK AT TFR

The Italian severance pay fund originated in the Twenties of the last Century as a “paternalistic” feature of the compensation policy by firms, by which part of the remuneration would be withheld by the firm and paid to the worker in case of unemployment or other hardships. By the end of the Second World War, it had evolved into an important element of the *collective agreements* between firms and trade unions, although with large differentiation among workers, according to their qualifications: it generally corresponded, per year of seniority, to one month and a half of the *last* salary for managers; one month for white collars and a few weeks for blue collars. For rather long seniority, the fund could easily amount to three times the latest annual earnings. The provision was thus of the *defined benefit* kind, more beneficial to steeper (richer) wage profiles. In periods of high earnings growth (such as the Sixties and Seventies) it represented a good asset in terms of both the implicit risk/return combination, and of tax treatment (being separately taxed, at a favourable rate). By the same token, however, it became a burden for firms, sometimes even exceeding the market capitalisation in their balance sheets. In parallel with an increasing protection of (and rigidity in) the labor market, by which employees could hardly be made redundant, it evolved into a lump sum paid out to workers mostly at retirement to compensate financial adversities, should these happen in old age when individuals are less able to cope with shocks by resorting to additional labor or saving.

In 1982, severance pay was profoundly reformed (as for the new flows, not for the accumulated fund), becoming since then the TFR. Under TFR regulations, 2/27th of a year’s gross salary (7.41 per cent, of which 0.5 earmarked for financing a public guarantee fund) must be set aside by each firm every year. In order to strengthen its nature as (forced) saving for the worker, as well as automatic source of financing for the firm, the return was legally established at 1.5 per cent plus  $\frac{3}{4}$  of the inflation rate. A similar provision is recognized to public employees, except that their severance pay fund is completely run on a PAYGO basis, i.e. with no accumulation of funds and no recognition of the corresponding public debt.

Workers are allowed to withdraw up to 70 per cent of the stock, provided they have at least 8 years of seniority with the firm. Withdrawals are allowed in order to finance medical expenses or down payments for the purchase of a house<sup>2</sup>.

From the worker’s perspective, TFR is thus a relatively “safe” asset which enjoys a low but almost risk-free return (at least in low inflation periods) and which plays different roles, possibly at

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<sup>2</sup> To these occurrences, in year 2000, a new law added the possibility of withdrawals in case of temporary leaves for educational and care activities.

different times in the life cycle: as a buffer against the risk of unemployment (precautionary savings); as a liquidity-provider in cases of binding constraints; as a form of retirement wealth.

Since the first retrenchment of public pensions in 1992, TFR has been identified as the main source of financing for the new pension funds. In the following fifteen years, however, workers have proved rather reluctant to divert their TFR flows to the new pension funds, possibly because of mistrust in private pensions and of sluggishness in the implementation of the new contributory formula which left their public pensions at a relatively high level. In 2007, however, the fate of the TFR seems settled, as a new pension reform, determined to support the pension market, has resorted to a kind of “gentle compulsion” to divert the TFR: workers who do not specifically express their opposition, will have their TFR flows automatically transferred to a pension fund (the so called “silent assent clause”).

The aggregate annual flow is about 19 billion € which will make a considerable contribution to the still infant Italian pension market, if a large majority of workers decides upon diversion. Considering private sector workers, in Table 1 we present the *average* amount of the accumulated stock, disaggregated by gender and age ranges, respectively. As expected, the stock of TFR peaks at retirement age, corresponding to the age range 50-54, for both gender classes, amounting to about 17,000 and 12,000 Euros for men and women, respectively for the whole sample (Table 1) or for the subset of households who cashed their TFR.

### **3. SETTING AN EXCESS SENSITIVITY TEST BASED ON TFR**

As long as a job separation is foreseen and voluntary, the attainment of the TFR represents an ideal situation to test whether consumers react to anticipated cash-in-hand changes.

As already mentioned, however, the TFR also serves as a buffer stock in case of layoffs. Since the Italian welfare system is rather ungenerous on unemployment benefits<sup>3</sup>, the accumulated TFR can provide liquid resources to laid off workers. Consequently, in our analysis we pay attention to select the “right” workers for our test.

The first feature taken into account in the selection procedure consists in establishing whether the job separation is voluntary or not. As already mentioned, we exclude laid off workers from our sample as it is only natural that they use their TFR precisely to smooth their consumption during a spell of unemployment. It is also important to notice that, as long as termination is voluntary, the shock to the cash in hand is “endogenous”, in the sense that the worker cashes the

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<sup>3</sup> Perhaps also because it used to overprotect the “insiders”, making layoffs quite difficult for employers.

TFR as a consequence of his own decision to quit the job (either to enter retirement or to start a different one). We assume that the separation decision does not depend on the worker's will to cash in the TFR – which can be cashed in, under some circumstances, without quitting the job – so that the validity of the test is not affected.

A second feature is the presence of liquidity constraints during working life. Indeed, as workers can draw up to 70 per cent of their accrued fund during their working life - although with significant restrictions, i.e. once in each job tenure and under the above mentioned specific motivations - the TFR can also alleviate liquidity constraints during working life. If liquidity constraints were binding at the time of cashing in the severance pay, an increase in consumption would represent a rational response to their loosening. In order to strengthen our test, we should therefore be able to rule out the existence of liquidity constraints at the time of severance pay cashing.

Liquidity constraints may be binding for young households whose optimal consumption is likely to exceed their current cash on hand. In later stages of the working life, however, this is much less plausible; more specifically, liquidity constraints can easily be ruled out for individuals close to retirement, as they are at the peak of their accumulated assets. For these households a positive response of consumption to severance pay could therefore be interpreted as “excess sensitivity”, signaling a failure of the theory. On the other hand, observing zero assets at the end of working lives is not evidence of problems caused by liquidity constraints but rather of households being very close to the subsistence level.

#### **4. DATA**

The SHIW dates back to 1965; since then it has been conducted regularly every year (except in 1985) until 1987, and every two years thereafter<sup>4</sup>. It is the most comprehensive survey of individual data in Italy and it contains detailed information on household members' demographic characteristics and labour supply variables, as well as on households' expenditures.

The SHIW surveys a representative sample of the Italian resident population. Sampling takes place in two stages: first municipalities and then households<sup>5</sup>. Households are randomly selected from registry office records. From 1987 through 1995 the survey (carried out every other year) covered about 8,000 households, defined as groups of individuals related by blood, marriage or adoption and sharing the same dwelling. Since 1989, each wave has re-interviewed a number of

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<sup>4</sup> For more details see Brandolini and Cannari (1994).

<sup>5</sup> Municipalities are divided into 51 strata defined by 17 regions and 3 classes of population size (more than 40,000, 20,000 to 40,000, less than 20,000).

households from the previous surveys thus building up a panel component in the dataset. Respondents included in the panel have increased over time: 15 percent of the sample was re-interviewed in 1989; 27 percent in 1991; 43 percent in 1993; 45 percent in 1995; 37 percent in 1998 and 48 percent in the year 2000.

For the purposes of our analysis, the panel dimension of the dataset is crucial since the Euler equation can only be carried out with longitudinal data on consumption, as we can exploit it to generate the consumption difference over time for the same household. Given the rotating sample structure, the number of repeated observations on households in our sample ranges from a minimum of two to a maximum of six.

## 5. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

We begin our selection procedure by selecting a sample of households whose head is aged between 45 and 65, as households where heads are older than 45 are much less likely to be liquidity constrained, while households where heads are older than 65 may have a consumption level strongly influenced by health related expenditures, which – apart from being beyond the scope of our analysis – have a higher degree of unpredictability<sup>6</sup>.

In addition, we select only those households in which the head and/or the spouse are current or retired employees: we exclude households in which both the husband and the wife are self-employed because their savings and consumption decisions could reflect decisions correlated with their own activity.

Finally, as we wish to study consumption changes, we consider only those households who are observed at least at two adjacent time periods.

As consumption is observed at household level, and households may have multiple earners, we also take into consideration the severance payment received by other household members. In particular, we do not distinguish between the TFR received by the head of the household and/or by his wife (or her husband) and consider its effect on household consumption changes. However, we distinguish it from the severance payment received by any descendants, as it may not be perceived as cash on hand by the household, but rather reflect higher job and earnings uncertainty for the younger generations<sup>7</sup>.

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<sup>6</sup> Moreover, beyond that age virtually all workers are retired and have already cashed their TFR.

<sup>7</sup> Perhaps it should be recalled that for youngsters to live with their parents is a common feature of Italian society. In order to derive testable implications one should have a model of insurance within the household. On the one hand, TFR is exactly meant to provide a buffer to finance consumption in periods of unemployment, so that it should be used by the (enlarged) family to smooth consumption; on the other hand, if parents interpret receiving the TFR as a sign of job uncertainty for their sons, they could prefer to save it in order to increase the precautionary component of savings for the future difficulties their sons are likely to face in the future.



As for the severance payment cashed, it is important in our analysis to distinguish those households who received it as a consequence of a voluntary lay off (job change or retirement) from those who asked for an anticipation or received it as a consequence of an involuntary lay off. We argue that in the former case the household income change is exogenous, severance payment being a consequence of a decision that is independent of receipt<sup>8</sup>. In the case of a household member asking for an anticipation, the severance payment is clearly endogenous, while in the case of involuntary lay off (possibly followed by an unemployment spell) it should serve as a buffer stock. Using information on the job characteristics available in the SHIW data, we distinguish among these cases, and we select out those families cashing in their severance payment after a partial withdrawal or an involuntary lay off<sup>9</sup>.

As shown in Table 2, in 127 households out of the total sample the household head or the spouse received the severance payment during the sample years. The majority of severance payments were received by either the head or the spouse upon retirement. In only 14 cases either the head or the spouse cashed the severance payment as a consequence of a job change, witnessing the low job mobility in the Italian labour market. In addition, 28 households asked for an anticipation and only 3 faced an involuntary lay off: these 31 households are selected out in our analysis.

After these selections, we are left with 6653 household-year observations in our sample.

In Table 3 we report summary statistics for our selected sample<sup>10</sup>. The statistics in column (1) refer to the subset of households whose head or spouse received a severance payment and refer to the year in which this payment is received, while statistics in column (2) refer to the whole sample<sup>11</sup>.

As shown in Table 3, the average value of the severance pay obtained by the household (excluding payments made to the younger generations in the household) amounts to about 27,000 Euros, a substantial cash transfer. To put things in perspective, the net annual labour income of workers in 2004 was equal on average to 15,000 Euros, which implies that severance payment is 180% of the average annual labour income.

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<sup>8</sup> Although with some limits, it is possible to cash in the severance payment without quitting the job, as described in section on page 8.

<sup>9</sup> As information available in the data is limited, we label as involuntary those lay offs followed by an unemployment spell. We define as partial withdrawal those observations in which either the husband or the wife report cashing severance payment but do not report having changed their job.

<sup>10</sup> It is important to recall that the sample in Table 3 is not the same as the sample in Table 1. The latter is derived from an administrative dataset relative to private sector employees, while the former is taken from the Bank of Italy SHIW, which also considers public employees. This element also helps explaining the difference in the average TFR, which is about 30 thousands euro in Table 3, and about 12 (women) and 18 (men) in the relevant age bands of Table 1. Public employees are characterized by higher wages, greater career continuity and, correspondingly, by a higher TFR.

<sup>11</sup> It has to be noted that, due to the nature of the data, some households who receive severance payment during the years 1991-2004 could not be observed due to the time interval of two years between the two waves. However, this would not invalidate our results as consumption is annually recorded.

In addition, 47 households had sons or daughters who received severance pay during the reference period.

As expected, the magnitude is very different if we consider descendants rather than household head as beneficiaries of the cash transfer, the average value of severance pay being less than ten per cent of that of the latter, i.e. about 2,000 Euros (not shown in the table).

## 6. EMPIRICAL STRATEGY

As we want to rule out liquidity constraints problems, we only consider those individuals who are in their middle age, close to retirement or in their retirement age. The likelihood that households in our sample are liquidity constrained is extremely low as, in the stages of life closed to retirement, consumers will enjoy a level of income above their permanent one, being at the peak of their accumulated assets.

Liquidity constrained individuals are those who can reach their optimal consumption only by recurring to debt, which may not be allowed given the imperfection of the credit markets. Thus, consumers who exhibit positive asset are not, by definition liquidity constrained. In our dataset, very few households (about 1%) show a negative or zero value of their asset. As already discussed, the youngest families are those who tend to exhibit negative asset values, and therefore are not in our sample.

Following the standard life cycle framework, we assume that utility can be separated in durable and non-durable consumption and that it is time-additive in its components (Deaton, 1992). Thus, each component of household consumption should be smoothed over time. We also assume that the real interest rate is constant and equal to the rate of time preference and that each period's utility function is quadratic<sup>12</sup>. We thus estimate an equation in the first difference of expenditure as follows:

$$(1) \Delta c_{it} = B_0 + \gamma \Delta L_{i,t} + X_{it}' B_1 + v_t + e_{it}, \quad i=\text{household}, t=\text{time}$$

Where  $c$  is the *level* of household yearly expenditure, variously defined as expenditure on food, non-durable, durable and total expenditure,  $X$  is a set of demographic variable changes and  $\Delta L$  is the anticipated income.  $v_t$  is a set of dummy variables for each wave, so as to control for aggregate shocks.  $\Delta L$  is equal to severance payment at the year of cashing in, while in the subsequent period it is equal to minus the severance payment. All expenditure variables and the

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<sup>12</sup> The certainty equivalence assumption rules out a precautionary motive for saving (Kimball, 1990).

severance payment are measured at 2004 price level. Our coefficient of interest,  $\gamma$ , measures if and to what extent consumption reacted to predicted income changes. If the severance pay is received in year  $t$  and consumption is over-sensitive, consumption at time  $t$  would be higher than in previous period, thus generating a positive effect of anticipated income increase on consumption change. Hence, if  $\gamma$  displays a positive sign, this should be interpreted as evidence in contrast with the life cycle theory. Our a-priori expectation is that  $\gamma$  should be not significantly different from zero. As we are able to rule out liquidity constraints problems, due to the specification of our experiment, should we find an increase in expenditure after receiving severance payment (i.e. a positive  $\gamma$ ), we would interpret this as evidence against the hypothesis of intertemporal maximization.

Finally, it is worth noticing that we do not observe the exact month in the year when the severance pay is cashed in. If households react to severance payment, however, they will exhibit an increase in their consumption during the month of payment, thus augmenting their yearly consumption .

## 7. RESULTS

Table 4 illustrates the baseline regression results for non-durable, food and durable expenditure. The heteroskedasticity-corrected standard errors are reported in parentheses. The parameter of interest is the coefficient associated to the severance payment variable ( $\gamma$ ). A positive and significant estimate for  $\gamma$  implies that severance pay (TFR) increases expenditure following the anticipated increase in cash-in-hand.

Starting with the first column in table 4, we find that non-durable expenditure (including food) is not affected by the anticipated income change, as the estimated coefficient on TFR is negative but rather close to zero in magnitude and with a relatively large standard error. The negative sign of the estimated coefficient could arise because in the selected sample there are some households receiving the severance payment as a consequence of some bad news which we did not account for. Below we address this issue.

When we restrict our attention to food expenditure (column 2 in table 4) we, somewhat surprisingly, find a small but significantly different from zero (at 5 per cent level), impact of the severance payment on expenditure: the estimated coefficient implies that a TFR of 10,000 Euro increases annual food expenditure by 150 Euro.

We also estimate the same specification for durable expenditure (column 3, table 4): from our findings it appears households receiving severance payment spend some of the extra cash on durables: a TFR of 10,000 Euro increases expenditure by 730 Euro. The estimated coefficient is significant at the 1 per cent level. This result may be reconciled with the theory noting that the

majority of households cashing the severance payment are also retiring from the labour market: after retirement shopping costs are reduced, and individuals may wait for this time to invest in durables.

Among other regressors, we include a dummy variable taking the value of one if the household head retired in the current wave. This variable captures the possible consumption drop that characterizes retirement age, possibly due to the disappearance of working related costs and the raise in home-production (Banks et al., 1998; Hurd and Rohwedder, 2003; Miniaci et al. 2003).

A possible weakness of our analysis is related to the timing of retirement. Excess sensitivity to TFR payment could be due to an unexpected change in the time of retirement, for example due to health problems. If a (bad) surprise in retirement happens, it is likely that the household will react to TFR, while only “non-surprised” households should exhibit no reaction to TFR. In order to rule out any contamination due to unexpected retirement, we select only those households who were not surprised in their retirement timing<sup>13</sup>. Results are shown in Table 5. The coefficient on severance pay turns positive but is still not significant in explaining non-durable expenditure changes, confirming the robustness of our results.<sup>14</sup> Results for food and durable expenditure are also confirmed.

## 8. CONCLUDING REMARKS

Using the Bank of Italy Survey of Italian Households’ Income and Wealth (SHIW) data on consumption and income, we test whether Italian households exhibit excess sensitivity of consumption after cashing in their severance pay, a lump sum workers receive at retirement or upon leaving the job.

We find no evidence of excess sensitivity of non-durable expenditure to this anticipated cash-in-hand change. This result is in line with part of the literature for the non-durable goods decisions, and in particular they confirm that substantial predicted income changes do not alter the profile of non-durable consumption. In a test exploiting the subjective income and inflation expectations available in the SHIW data, Jappelli and Pistaferri (2000) also find that consumption growth is uncorrelated with predicted income.

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<sup>13</sup> A household is defined “surprised” if its head expected retirement age in the wave prior to retirement differs from the actual one.

<sup>14</sup> We also run several regressions to test the robustness of our results to different sample selection strategies: In particular, we select households in which the household head is aged between 50 and 65 (instead of 45-65). We also restrict our sample to be composed by households whose head been either an employee or retired for the entire observation period. However, none of these different selections affected our results, confirming that non durable expenditures show no excess sensitivity to predicted income changes.

When estimating the response of food expenditure to severance payment, we find a small but reasonably precisely estimated positive coefficient: a TFR of 10,000 Euro increases annual food expenditure of 150 Euro. Finally, we find that households do alter their durable goods expenditure choices in the year in which the expected lump sum is cashed. As the majority of households cashing their severance payment are also retiring from the labour market, a time when shopping costs are likely to be falling, this result may be reconciled with the theory.

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WHIP (Work Histories Italian panel), 1999; for a description of the data set, see: [http://www.laboratoriorevelli.it/whip/whip\\_datahouse.php](http://www.laboratoriorevelli.it/whip/whip_datahouse.php)

**Table 1. Mean TFR stock by age class and gender (000 euros)**

| Age group | Female   | Male     |
|-----------|----------|----------|
| <=19      | 687.8    | 913.8    |
| 20 – 24   | 1,543.0  | 1,589.3  |
| 25 – 29   | 3,231.3  | 3,178.9  |
| 30 – 34   | 5,474.8  | 5,483.8  |
| 35 – 39   | 6,877.4  | 7,770.8  |
| 40 – 44   | 9,594.4  | 10,745.2 |
| 45 – 49   | 11,284.7 | 14,319.8 |
| 50 – 54   | 11,941.4 | 17,538.4 |
| 55 – 59   | 9,801.0  | 16,907.5 |
| 60 – 64   | 10,893.3 | 11,972.3 |
| 65 – 69   | 6,417.2  | 11,981.1 |
| 70 – 74   | 7,091.5  | 5,622.5  |
| All ages  | 6,052.0  | 8,296.8  |
| N         | 17,223   | 33,661   |

Values are expressed in Euro, 1999 prices.

Source: WHIP (Work Histories Italian panel), 1999; for a description of the data set, see: [http://www.laboratoriorevelli.it/whip/whip\\_datahouse.php](http://www.laboratoriorevelli.it/whip/whip_datahouse.php).

**Table 2. Reason for getting severance payment: head/spouse**

|                     | Number | Percentage |
|---------------------|--------|------------|
| HH head retired     | 63     | 49.61      |
| Spouse retired      | 19     | 14.96      |
| HH head change job  | 9      | 7.09       |
| Spouse change job   | 5      | 3.94       |
| Partial withdrawal  | 28     | 22.05      |
| Involuntary lay off | 3      | 2.36       |
| Total               | 127    | 100        |

Source: SHIW dataset, Bank of Italy, years 1991-2004.



**Table 3. Summary Statistics**

|                                       | <b>Received TFR in 1991-2004</b> |                           | <b>All Sample</b> |                           |
|---------------------------------------|----------------------------------|---------------------------|-------------------|---------------------------|
|                                       | Mean                             | <i>Standard Deviation</i> | Mean              | <i>Standard Deviation</i> |
| # of hh members                       | <b>3.3</b>                       | <i>1.1</i>                | <b>3.3</b>        | <i>1.2</i>                |
| Hh head's age                         | <b>55.7</b>                      | <i>5.1</i>                | <b>55.5</b>       | <i>5.4</i>                |
| Retired in current wave               | <b>0.5</b>                       | <i>0.5</i>                | <b>0.1</b>        | <i>0.3</i>                |
| Severance payment (amount) to parents | <b>27417.0</b>                   | <i>22282.4</i>            | <b>395.6</b>      | <i>4216.9</i>             |
| Severance payment (amount) to sons    | <b>33.2</b>                      | <i>236.0</i>              | <b>13.6</b>       | <i>221.0</i>              |
| Non durable expenditure               | <b>24461.7</b>                   | <i>9864.5</i>             | <b>23732.4</b>    | <i>12589.3</i>            |
| Durable expenditure                   | <b>3094.4</b>                    | <i>5022.3</i>             | <b>2218.9</b>     | <i>5040.5</i>             |
| Food expenditure                      | <b>7846.3</b>                    | <i>3497.7</i>             | <b>7639.2</b>     | <i>3536.5</i>             |
| Number of observations                | <b>96</b>                        |                           | <b>6653</b>       |                           |

Source: SHIW dataset, Bank of Italy, years 1989-2004. Data pooled and monetary values are expressed in 2004 Euro.

**Table 4. Estimation Results. Euler Equation**

| Regressors                      | Non Durable<br>Expenditure<br>(1) | Food Expenditure<br>(2)  | Durable Expenditure<br>(3) |
|---------------------------------|-----------------------------------|--------------------------|----------------------------|
| # of hh members                 | 3,068.332<br>(280.189)***         | 1,054.221<br>(77.991)*** | 373.902<br>(168.623)**     |
| TFR                             | -0.028<br>(0.025)                 | 0.015<br>(0.007)**       | 0.073<br>(0.015)***        |
| TFR to sons                     | -0.480<br>(0.497)                 | 0.058<br>(0.138)         | -0.462<br>(0.299)          |
| Hh head retired in current wave | -1,264.124<br>(530.057)**         | -151.804<br>(147.543)    | -594.818<br>(318.999)*     |
| Hh head's age                   | -92.374<br>(605.759)              | 120.546<br>(168.615)     | -108.663<br>(364.558)      |
| Hh head's age squared           | 0.620<br>(5.421)                  | -1.198<br>(1.509)        | 0.753<br>(3.262)           |
| Observations                    | 6653                              | 6653                     | 6653                       |
| R-squared                       | 0.02                              | 0.04                     | 0.01                       |

SHIW dataset, Bank of Italy, years 1989-2004. Data pooled and monetary values are expressed in 2004 Euro.  
Standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 5. Estimation Results. Euler Equation on households without shock in their retirement age**

| Regressors                      | Non Durable<br>Expenditure<br>(1) | Food Expenditure<br>(2) | Durable Expenditure<br>(3) |
|---------------------------------|-----------------------------------|-------------------------|----------------------------|
| # of hh members                 | 3,133.377<br>(287.807)***         | 991.682<br>(80.270)***  | 321.782<br>(175.642)*      |
| TFR                             | 0.023<br>(0.028)                  | 0.017<br>(0.008)**      | 0.086<br>(0.017)***        |
| TFR to sons                     | -0.476<br>(0.492)                 | 0.056<br>(0.137)        | -0.474<br>(0.300)          |
| Hh head retired in current wave | -908.387<br>(586.531)             | -218.122<br>(163.584)   | -569.849<br>(357.947)      |
| Hh head's age                   | -105.341<br>(612.739)             | 132.804<br>(170.893)    | -89.925<br>(373.941)       |
| Hh head's age squared           | 0.752<br>(5.484)                  | -1.291<br>(1.529)       | 0.608<br>(3.347)           |
| Observations                    | 6274                              | 6274                    | 6274                       |
| R-squared                       | 0.02                              | 0.03                    | 0.01                       |

SHIW dataset, Bank of Italy, years 1989-2004. Data pooled and monetary values are expressed in 2004 Euro.

Standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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