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IZA DP No. 10509

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ABSTRACT

Regular versus Lump-Sum Payments in Union Contracts and Household Consumption

We use information on monthly wage increases set by collective agreements in Italy and exploit their variation across sectors and over time in order to examine how household consumption responds to different types of positive income shocks (regular tranches versus lump-sum payments). Focusing on single-earner households, we find evidence of consumption smoothing in accordance with the Permanent-Income Hypothesis, since total and food consumption do not exhibit excess sensitivity to anticipated regular payments. Consumption does not respond at the date of the announcement of income increases either, as these are known to compensate workers for the overall loss in their wages' purchasing power. However, consumption responds, albeit a little, to transitory and less anticipated one-off payments, as the expenditures on clothing&shoes increase upon the receipt of the lump-sum payments. This behaviour is consistent with bounded rationality as consumers do not consider the lump-sum as part of the overall wage inflation adjustment.

JEL Classification: D12, E21, J51

Keywords: union contracts, consumption, permanent income hypothesis, bounded rationality

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1 Introduction[1]

Around sixty years after the influential papers of Modigliani and Brumberg (1954) and Friedman (1957) on the Life-Cycle Model and the Permanent-Income Hypothesis, the debate on whether their theoretical predictions hold empirically is still on (see for example the recent papers of Parker et al., 2013; Agarwal and Qian, 2014; and Misra and Surico, 2014).[2] These studies add to an already large body of the literature which analyzes either theoretically or empirically how consumers respond to income shocks (see Jappelli and Pistaferri, 2010 for an excellent review). This is not surprising, as evaluating the impact of tax and income-support policies is of utmost importance for policy makers.

In this paper, we use information on monthly pay increases set by collective agreements in Italy and exploit variation across sectors and over time in order to examine whether total household consumption or expenditures on specific subcategories exhibit excess sensitivity to different types of positive income shocks. We focus on Italy for its specific features of the wage-determination process coupled with a unique, hand-collected dataset on wage increases in the private sector that allow us to disentagle the impact of different income shocks.[3] These shocks may be considered exogenous to

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[2]According to the theory, consumption should respond little to transitory income changes.

[3]The Italian government has recently implemented a number of policies that have stirred discus-

workers as the actions of a single worker are unlikely to determine the outcome of the collective bargaining.[4]

We find that households smooth consumption in line with the Permanent-Income Hypothesis, since total and food consumption do not exhibit excess sensitivity to anticipated income shocks. Consumption does not respond at the date of the announcement of income increases either, as these are known to compensate workers for the overall loss in their wages' purchasing power. In other words, workers are not subject to money illusion. We also find, in line with the Permanent-Income Hypothesis, that consumption responds, but only a little, to transitory and less anticipated shocks, as the expenditures on clothing & shoes increase upon the receipt of the lump-sum payments. This finding can be attributed to bounded rationality as workers do not consider the lump-sum as part of the overall wage inflation adjustment. Mental accounting may be the underlying mechanism. Lump-sum payments are irregular and small compared to the cumulative wage increase. Therefore, the mental cost of calculating the anticipated income change is higher than the utility gain from smoothing consumption. Moreover, clothing & shoes are generally not bought in monthly instalments and their purchase can be easily afforded through the amount of the lump-sum.

The literature so far has analyzed excess sensitivity of consumption exploiting the effect of either policies or individual-specific shocks in transitory income (see, for a review, Fuchs-Schundeln and Hassan, 2015). In the first strand of the literature one finds papers that analyze the effect of anticipated tax changes/rebates in the U.S.

sions on the sensitivity of consumption to income dynamics. These policies include a tax rebate for low-income workers (80 euros per month) and the possibility for workers to advance part of their severance pay. While evaluating these policies is out of the scope of this paper, our analysis could provide useful insights for policy design.

[4] See Section 2 for details on the institutional setting.

either through reduced-form regressions (Parker, 1999; Souleles, 1999; Johnson et al., 2006; Parker et al., 2013; Bracha and Cooper 2014; Misra and Surico, 2014; and Kueng, 2015) or through structural models (Huntley and Michelangeli, 2014; and Kaplan and Violante, 2014). All papers find evidence of excess sensitivity of consumption. A common explanation of these findings is the presence of liquidity constraints (Zeldes, 1989). By contrast, Hsieh (2003) uses anticipated payments from Alaska's Permanent Fund (the same natural experiment exploited more recently by Kueng, 2015) and finds that, consistently with the Life-Cycle/Permanent-Income Hypothesis, households smooth consumption. In the second strand of the literature there are papers that exploit differences in the timing of social security payments in the U.S. (Stephens, 2003), finding evidence of excess sensitivity, and the two extra payments received in summer and winter in Spain (Browning and Collado, 2001) finding, conversely, evidence in support of the Permanent-Income Hypothesis.[5] Other papers focus on specific subcategories of consumption or on specific groups of households. Browning and Crossley (2009) using cuts in unemployment insurance benefits in Canada find a stronger impact on clothing than on food expenditures. More recently, Campos and Reggio (2015) find that during the Great Recession employed households in Spain reduced consumption as a response to the rising unemployment rate. Ni and Seol (2014) using a unique monthly panel of Korean households and the variation in allowances of government employees show that overall excess sensitivity of consumption can be attributed to a small fraction of households with committed (unavoidable) expenses. Our paper is similar in spirit to Shea (1995) in exploiting union contract renewals. Due to the structure of the data

[5] See also Manaresi (2012) for the case of Italy.

that he uses (the Panel Study of Income Dynamics for the U.S.), his results are limited to food consumption at the annual level. We exploit instead monthly data for various subcategories of consumption using two different types of pay increase set by collective bargaining in Italy.

The rest of the paper is organized as follows. Section 2 explains briefly the wage-bargaining process in Italy. Section 3 describes the data and introduces the empirical strategy. Section 4 presents the main findings and discusses the underlying mechanisms. Section 5 presents some extensions, robustness checks, and alternative interpretations. Section 6 concludes.

2 Institutional setting

Collective wage-bargaining in Italy involves trade unions and employers' associations (social partners). Since the early 90s it takes place at two levels: a sectoral (national) level and a firm or sometimes local (district/regional) level.

First-tier bargaining is devoted to maintaining wages' purchasing power and deals also with a range of non-pay (normative) issues such as hours, work organization, welfare, safety, etc.. Until 1993 wage inflation adjustment was practically automatic through an indexation mechanism. Since then, this task has been assigned to the social partners through the first-tier bargaining.[6] Wage determination is staggered throughout the year, an important feature that we exploit in our empirical analysis. These sectoral-level contracts cover all the employees of a specific sector in the whole

[6] For details see *Protocollo del 3 luglio 1993 sulla politica dei redditi e dell'occupazione, sugli assetti contrattuali, sulle politiche del lavoro e sul convegno al sistema produttivo* (in Italian) and Brandolini et al. (2007).

Italian territory and are generally valid for a period of 2 years (4 years for normative provisions). Validity has been extended to 3 years for both economic and normative provisions since 2009. Note that in Italy there is no leading contract, i.e. renewals in one sector affecting those in other sectors like in other countries (e.g. pattern bargain in Germany and Austria). During wage-bargaining, involved parties take into consideration expected inflation and the general economic outlook. There is downward nominal wage rigidity, in the sense that renewals can determine only non-negative changes in the nominal negotiated wages. The contract agreed upon by the social partners sets the validity period and the pay increase, which is usually implemented in the form of several tranches, whose number, timing, and amount are envisaged in the contract as well. In case of long delays between the end of the period covered by the previous agreement and the signing of the new one, the contract may also specify a lump-sum (*una tantum*) payment, in addition to the tranches. However, not all delayed contract renewals imply one-off wage increases. Workers may actually be compensated for the delay through higher tranches.

Second-tier bargaining aims at redistributing productivity gains. Pay negotiations at the firm-level are intended to account for firm-specific developments and local conditions, such as improved productivity or the risk of job loss. In recent years, a series of agreements among the social partners as well as the national regulation have progressively widened the scope for opting-out clauses, which nowadays can derogate not only to conditions envisaged by the first-level agreements but also to national laws (D'Amuri and Giorgiantonio, 2015). However, despite the introduction of fiscal incentives, firm- and local-level bargaining are not currently widespread and have been

limited to bigger firms and to specific sectors, respectively. In the rest of the paper we only consider wage increases that are set at the sectoral level and apply to all employees. The wage set at the sectoral level represents on average more than 80 per cent of total wage.

3 Empirical Strategy

We use a unique database hand-collected by the Bank of Italy that includes all the details of contract renewals in the private sector during the period 1997-2013.[7] Both transitory (lump-sum or *una tantum*) and more permanent nominal wage increases (tranches) can be observed in our setting. While tranches are paid regularly every month, lump-sum payments (if any) take place only in a certain month, and in most cases they consist of one or two instalments. In other words, tranches lead to a step-wise pattern of nominal wage over time (Figure 1) while lump-sum payments take the form of one-off income shocks (Figure 2). In the period of the analysis we observe 143 contract renewals in 22 sectors that we aggregate into 6 in order to match them with the consumption data. Two thirds of the renewals involve also a lump-sum payment (Table 1). On average, each tranche amounts to 35 euros per month while a lump-sum wage increase amounts to 310 euros, both deflated using the monthly CPI (base year=2010). These figures compare to an average monthly negotiated gross wage of 2,120 euros in real terms. Given that collective bargaining takes place at the national level between the social partners, pay increases can be considered as exogenous shocks

[7] The details of each contract renewal are publicly available (in Italian) at www.cnel.it and in the journal Diritto & Pratica del Lavoro (IPSOA, 1997-2014). We observe around 70 per cent of the employees in the non-agricultural private sector and we exclude from our analysis the public sector.

to the workers. Moreover, the workers know that in the medium-run the sum of the tranches and of the lump-sum payments is supposed to compensate for the overall loss in their wages' purchasing power.

The variation that we exploit at the sectoral level is likely to be exogenous since in Italy there is no leading contract, i.e. renewals in one sector affecting those in other sectors. Moreover, the timing of the expiration of the contracts is uncorrelated across sectors. Regarding the lump-sum payment and the tranches, unions tend to emphasize the overall wage increase instead of the relative weight of its various components. Therefore, these two separate components can be considered even more exogenous than the overall wage increase.

Another important distinction is between anticipated and non-anticipated income increases.[8] Tranches can in general be considered as anticipated income shocks. It is less clear, though, whether this is true also in the case of one-off payments. First, a contract hiatus does not always imply a lump-sum payment. As Table 1 shows, lump-sum payments are more common in some sectors than in others and, although they tend to be associated with delays in contract renewals, their occurrence is not certain a priori. During the bargaining period unions negotiate with the employers' associations over the amount and the form of wage increases. Workers may have access to partial information regarding bargaining developments through direct contacts with the unions or through the media. However, nothing can be taken for granted before the social partners actually sign the contract renewal. Second, lump-sum payments

[8] A common practice in the literature is to rely on subjective expectations of the households in order to distinguish between transitory and permanent income shocks (see for example Pistaferri, 2001; and Christelis, Georgarakos and Jappelli, 2015).

usually take place immediately after the renewal. As Figure 3 shows, around 70 per cent of the lump-sum payments were paid within 3 months after the renewal. As in the case of dividend payments to veterans (Bodkin et al., 1959) or unemployment benefit reforms (Browning and Crossley, 2009), which have been considered as unanticipated in the literature, there is a short time span between the announcement and the implementation of the payment. Therefore, lump-sum payments may be considered as less anticipated shocks. Third, new qualitative evidence from the Bank of Italy's Survey of Households' Income and Wealth (SHIW), conducted in 2016, shows that only a small fraction (less than 12 per cent) of household heads is aware of having ever received a lump-sum payment. Moreover, 75 per cent of them found out only upon or after the receipt of the payment.[9]

Anyway, whether or not lump-sum payments are anticipated, they certainly are transitory and we expect to find no or small effects on consumption if the Permanent-Income Hypothesis holds. Lastly, in the case of tranches the change in income is permanent but consumption may react at the date of their announcement (when the workers receive the "news", whose timing is a priori uncertain) rather than upon their implementation (when the workers receive the payment, that is fully anticipated by then).

We merge this dataset with the Italian Household Budget Survey (HBS) for the years 1997-2013 in order to examine whether total consumption as well as different expenditure categories respond to the receipt of lump-sum payments or tranches. The

[9]The SHIW database has been previously used to examine whether consumption exhibits excess sensitivity to severance pay (Borella et al., 2009; and Jappelli and Padula, 2015) and capital gains (Guiso et al., 2006). However, these data are not adequate for our analysis since households report only yearly and not monthly consumption expenditures. Monthly expenditures are essential in order to be able to distinguish between the effect of the lump-sum payment and that of regular tranches.

HBS is conducted annually by the Italian National Institute of Statistics (ISTAT) and covers a sample of around 25,000 households per year. Each month around 2,100 households from every municipality of the whole Italian territory are interviewed. Each household participates in the survey only once and its members, apart from answering questions regarding demographics and their socioeconomic status, are also asked to fill in a detailed diary of all their consumption expenditures in the last month.[10]

We restrict our sample to single-earner households in order to obtain a comparable sample of households, for which the single earner's wage plays a substantial role.[11] Mainly due to the low female labour force participation in Italy, single-earner households represent more than half of all surveyed households with at least one working member. Therefore, we focus on a group that is not an exception in the Italian society.[12] Information on the sector of activity of the single earner is crucial in order to assign to each household the wage increase set by each contract renewal. However, the sector of activity in the HBS is in some cases more aggregate than the sector in which collective bargaining takes place. For example, in the HBS we only know whether the single earner is working in the manufacturing sector but there actually are 11 different contracts for 11 different subsectors of manufacturing (Table 2). The degree of aggregation is less pronounced in other sectors. Hence, for our benchmark empirical exercise we aggregate households by sector in order to obtain a monthly panel. In this way we observe the monthly consumption of the representative household of each

[10] The survey design ensures that, overall, household expenditures in every single day of the year are observed.

[11] On average, 70 per cent of single-earner households report that the labour income is their only source of income.

[12] In the literature there are many examples of excess sensitivity tests based on selected subgroups (e.g., public employees, unemployment benefit recipients, etc.).

sector over time.[13] Employees at different levels (blue-collar, white-collar, etc.) receive wage increases that are different in absolute terms but almost identical as percentage change of each corresponding wage. Given that our analysis refers to the representative household, we use the increases that apply to employees at the average level. We then use as weights the shares of employees of each subsector in order to aggregate the various contracts.[14] We also use the survey weights to ensure the representativeness of the sample.

Table 3 presents descriptive statistics for different consumption categories. We exclude from total expenditures mortgages, debt repayments, and vehicles. On average, total monthly consumption expenditures amount to 1,459 euros in real terms. Food and housing account for more than half of it. In the following sections we perform an empirical analysis of the effect of pay increases on total consumption and on its various subcategories. To do this, we exploit different settings, both panel and cross-sections at monthly frequency. Furthermore, we test the robustness of our results and discuss different mechanisms that may lie behind them.

4 Regression analysis

In this section we examine the effect of tranches and lump-sum payments on consumption. To clarify things, let us consider a hypothetical contract renewal for illustration purposes (Figure 4). At time T the contract is renewed. This is when

[13] See Deaton and Muellbauer (1980) for a discussion on aggregation over households.

[14] For example, metalworkers represent almost 57 per cent of all manufacturing workers. If the metalworkers' contract is renewed specifying a nominal monthly wage increase of 50 euros, the monthly wage of the representative household in the manufacturing sector will increase on average by 50*0.57=28.5 euros.

the workers receive the "news" regarding the date, the amount, and the number of tranches and lump-sum payments (if any). They also know that, in general, wage increases are set on the basis of expected inflation dynamics. The lump-sum payment is transitory and takes place usually immediately after the renewal (in our example at time *T+1,* amounting to 100 euros), so it may be considered as unanticipated. The contract envisages tranches that are fully anticipated, cumulate over time, and are thus permanent (in our example 10 of 10 euros each, 13 of 20 euros each, and 12 of 20 euros each).

According to the theoretical predictions of the Permanent Income Hypothesis, the lump-sum payment is expected to have a small or no effect on total consumption as it is transitory. Tranches, which are permanent, may affect consumption as long as they imply an increase of income in real terms, i.e., as long as consumers are not subject to money illusion. Given that tranches are anticipated, the theory posits that any effect on consumption should be observed upon their announcement rather than upon their receipt (cash-in-hand). Thus, we start the empirical analysis by examining the effect of the implementation of wage increases and later extend it in order to consider the effect of the "news".

Our benchmark regression that looks only at cash-in-hand, is specified in (1):

$$\begin{aligned}(C)_{s,t} &= \beta_1(\textit{lump-sum})_{s,t} + \beta_2(first\ tranche)_{s,t} + \beta_3(rest\ of\ tranches)_{s,t} \\ &\quad +\beta_4(X)_{s,t} + \beta_5(year)_y + \beta_6(month)_m + \alpha_s + u_{s,t}, \qquad (1)\end{aligned}$$

where t refers to a specific date (i.e., a specific month and year between 1997m1

and 2013m12), and s refers to the sector of activity of the single-earner households (i.e., manufacturing, construction, wholesale and retail trade, accommodation and food services, transport, information and communication, and financial and insurance activities). Year dummies control for aggregate shocks and the interest rate, while monthly dummies control for seasonality in consumption expenditures (e.g., Christmas presents in December or sales in January-February) as well as in the timing of the contract renewal (Figure 5). The vector $X_{s,t}$ includes socioeconomic controls of the representative household in each sector, i.e., the average age of the household members, the share of males in the household, and the share of university graduates, as well as the geographical composition, i.e., the percentage of households in each sector that live in the south of Italy. All consumption and wage values are deflated with the monthly CPI (base year=2010). Moreover, by considering households' structure, consumption values are adjusted for an equivalence scale.[15] We cluster the standard errors at the (sector)x(year) level resulting in 6x17=102 clusters.

Applying the same reasoning as in the case of lump-sum payments we consider separately the first tranche received because it may be unanticipated. However, our analysis goes through even if we do not distinguish between the first and the rest of the tranches. We exploit within-sector variation over time and perform a fixed-effect regression in order to estimate the effect of the evolution of wages on the corresponding change in consumption. In this way (1) is estimated in *mean deviations* rather than in *levels* and we are able to control for sector-specific shocks. Table 4 reports the results for total and food consumption expenditures. Differently from Shea (1995) we

[15] The equivalence scale chosen is the one used for ISEE (*Indicatore della situazione economica equivalente*), the most important tool for means-testing in the Italian welfare state.

do not find any statistically significant effect of wage increases on food consumption. All coefficients are small and noisy. Regarding total consumption, the coefficient of lump-sum payments is positive although not statistically significant. Moreover, the coefficient of tranches is similar in magnitude but not statistically significant either. These results are supportive of the Permanent-Income Hypothesis and are in line with Browning and Collado (2001) and Hsieh (2003) that do not find evidence of excess sensitivity of consumption to anticipated income changes in Spain and in Alaska, respectively.

We then examine the effect of wage increases on strictly durables (home appliances and furniture) and on clothing & shoes expenditures (Table 5). We find a positive significant effect of lump-sum wage increases on the consumption of clothing & shoes while the coefficients of tranches (that are more permanent but fully anticipated) are not statistically significant. According to our estimates, a 100-euros lump-sum payment will lead to a 14-euro increase in clothing & shoes expenditures. By contrast, we do not find any statistically significant effect on strictly durables. Our results are in line with Browning and Crossley (2009) that find that cuts in unemployment insurance benefits in Canada have a strong negative impact on clothing expenditures.[16]

While the data of Browning and Crossley (2009) do not allow them to examine finer sub-categories of the clothing category, our database provides us with this kind of information. In Table 6 we examine the effects of wage increases on clothes, shoes, complementary items (underwear, scarves, hats, ties, gloves, belts, furs, tailoring fab-

[16] Similarly, Arrondel et al. (2014) find that changes in the financial wealth of French households have stronger effects on highly income-elastic expenses (culture and clothing) than on less income-elastic ones (transport services, health, and food).

rics, and tailoring costs), and accessories (bags, suitcases and other luggage, jewelry, watches, personal items in silver/gold, costume jewelry, and sunglasses). We find that consumers spend the lump-sum payments in order to buy all the above items but clothes. Differently from Browning and Crossley (2009) this increase in clothing & shoes expenditures does not translate into an increase in overall consumption. This may be due to the fact that shoes, complementary items, and accessories account for less than 3 per cent of total household expenditures (Table 3).

Our findings suggest that households act subject to bounded rationality and do not consider the lump-sum as part of the overall process of inflation compensation. In line with Browning and Collado (2001) and Hsieh (2003) mental accounting may be the underlying mechanism. In the case of tranches the cumulative wage increase is large, regular, and transparent, and the mental cost of calculating the anticipated income change is lower than the utility gain from smoothing consumption. Therefore, households do internalize the tranches and smooth consumption. The opposite is true for lump-sum payments that are small and irregular. Tax rebates in the U.S. that have been studied extensively in the literature and have been found to affect total consumption are actually lump-sum (Souleles, 1999; Johnson et al., 2006; Parker et al., 2013). Sahm et al. (2012) compare the effect of fiscal stimulus in the U.S. delivered as one-time payments in 2008 to the one delivered as a flow from reduced withholdings in 2009 and find that the former boosted consumption more than the latter.

The indivisibility of the goods that are bought upon the receipt of the lump-sum payment may also play a role. Shoes, bags and accessories are generally not bought in monthly instalments and their purchase can be easily afforded through the amount

of the lump-sum. Moreover, these goods are of high sociocultural visibility, i.e., in full view to others. A status-seeking motive could lie behind this behaviour (see O'Cass and McEwen, 2004 and Charles et al., 2009). Heffetz (2011) shows that in a signaling-by-consuming framework high visibility goods are characterized by high income elasticity. We further confirm this conjecture by examining the effect of lump-sum payments on other small durables (i.e. small electrical appliances and home accessories) whose cost is comparable to the one of clothing & shoes but are of lower visibility.[17] Table 7 reports these estimates that are negative and very small in size. Therefore, our results suggest that indivisibility of goods, coupled with high visibility may also lead to an increase in the expenditure of certain conspicuous consumption items as a result of a transitory lump-sum payment.

As already mentioned, according to the Life-Cycle Theory, consumption should react on the date of the announcement of permanent income increases rather than on the date of their implementation. Since the payment of the first tranche and of the lump-sum (if any) takes place right after the renewal, the announcement often coincides with these payments. Therefore, in the absence of daily data, we constructed the dummy "news" using the lagged value of the date of the renewal in order to distinguish the announcement effect from the payment effect. The specification is thus

[17] Clothing & shoes rank high in the list of visible goods (see Heffetz, 2011; and Charles et al., 2009). These classifications are based on data that lack information on the brand of the various items. This type of information that would have been useful so as to refine the definition of "conspicuous consumption goods" is not available in our data either.

augmented with the dummy "news",

$$(C)_{s,t} = \beta_1(lump-sum)_{s,t} + \beta_2(first\ tranche)_{s,t} + \beta_3(rest\ of\ tranches)_{s,t} + \beta_4(news)_{s,t} + \beta_5(X)_{s,t} + \beta_6(year)_y + \beta_7(month)_m + \alpha_s + u_{s,t}. \quad (2)$$

Tables 8 and 9 report the results. The coefficient of the dummy "news" that takes the value 1 in the month of the renewal and 0 otherwise is never statistically significant.[18] Moreover, if we focus on clothing & shoes expenditures we confirm the effect of the lump-sum payment while the dummy "news" does not play any role. This result is in line with Poterba (1988) and Wilcox (1989) that find that actual income growth rather than its announcement affects consumption.[19] Following Ni and Seol (2014) we also add as controls in the regression the lag and the lead of the lump-sum payment. Figure 6 reports the results for the expenditures on shoes, complementary items, and accessories confirming the positive and statistically significant effect only at the month of the receipt of the lump-sum payment. By contrast, both the lag and the lead of the lump-sum payment have a small, negative effect which in most cases is not statistically significant.

In our case, tranches are permanent nominal increases of income but employees may consider them as zero expected real increases. Indeed, collective bargaining is devoted to maintaining wages' purchasing power and in general nominal wage increases are in line with expected inflation in the medium-run, implying close to zero expected

[18] This is true also if we replace the dummy "news" with the total expected wage increase. Regressing past consumption on future "news" also produced not statistically significant estimates.

[19] Agarwal and Qian (2014) find an announcement effect but it accounts for 19% of the overall effect.

real increases. It seems that households upon the receipt of the "news" treat income increases as a compensation for the future loss of their wages' purchasing power and do not change their consumption plans. Therefore, in our setting households are not subject to money illusion. Even in the case of deviations between expected and actual inflation, any real income increase will take place ex post, i.e., after the date of the announcement. Moreover, it is rather unlikely that households are actually able to perform such calculations. The fact that households react upon the receipt of a lump-sum payment cannot be interpreted as money illusion, as the lump-sum represents a real income increase in that specific month. This behaviour could be attributed to bounded rationality given that households do not probably consider the lump-sum as part of the overall wage inflation adjustment procedure.

5 Extensions, robustness and alternative interpretations

In this section we extend our analysis to further outcomes, we test the robustness of our results, and we discuss some alternative interpretations, such as the presence of liquidity constraints. First, we extend our model by expanding the set of potential outcome variables to other expenditure categories and to debt repayment. Second, we test the robustness of our estimates by omitting manufacturing, which is the most aggregate sector, and by using a GLS approach. Moreover, we change our specification by using budget shares, by excluding the tranches or the crisis period from the analysis, by considering only substantial lump-sum payments and by including a comprehensive

list of dummy variables. We also perform a placebo exercise using self-employed workers, who are excluded from collective bargaining. Lastly, we employ disaggregated data at the household level (repeated cross-section) to test whether liquidity constraints is an alternative mechanism behind our findings.

We start by examining the effect of wage increases on other consumption categories. These include housing, health expenses, transportation & communication, and leisure. In this way we examine whether households increase the consumption of other goods as a result of a lump-sum payment or they shift consumption from some goods towards clothing & shoes. We find that no other category is affected but health expenses (Table 10). Upon the receipt of a lump-sum payment households tend to decrease health expenses. Evans and Moore (2011 and 2012) and Andersson et al. (2015) find evidence of within-month mortality cycle related to income receipt in the U.S. and Sweden respectively. In particular, they document an increase in heart diseases and strokes among liquidity constrained individuals upon the receipt of a tax rebate or of the monthly salary. Furthermore, Gross and Tobacman (2014) find that economic stimulus payments in the U.S. increased the probability of drug- and alcohol-related emergency department visits. Such an effect would translate into an increase in health expenditures in the US but not necessarily in Italy since emergency visits in public hospitals are in generally for free. We split the health expenditures into prescription drugs and medical supplies; physician or dental services and diagnostic tests; and hospital and nursing care and we re-estimate the regression for each subcategory. We find that the subcategory that drives the decrease in total health expenditures upon the receipt of the lump-sum payment is the one that refers to check-ups and

visits: physician or dental services and diagnostic tests (results available upon request). Hence, our findings suggest a different channel with respect to the existing literature: people upon the receipt of the lump-sum payment may actually skip a regular check-up or neglect going to the doctor, which in turn may lead to an increase in mortality.

Recent literature (e.g., Di Maggio et al., 2014) has shown that, when hit by unanticipated income shocks, households deleverage. We looked at the impact of wage increases on debt repayment (including mortgages) and we did not find any statistically significant effect (results available upon request). This may be due to the fact that in the U.S. there are instruments that allow for the renegotiation of the debt (e.g. home equity withdrawal) while in Italy this is not the case. In particular, in Italy the initial house value determines the amount of the mortgage, and this value is not updated in order to renegotiate the outstanding debt.

We now check the robustness of our estimates and we omit the manufacturing sector from our analysis. It may be the case that the aggregation of the 11 different contracts into one sector creates excessive variation in wage pay. The results are unaffected by this exclusion (Table A1). We then use as an alternative strategy a feasible generalized least squares (GLS) approach that allows the estimation in the presence of AR(1) autocorrelation within panels and our main results are very similar (Table A2). We obtain similar results to the benchmark when we use the share of each expenditure category in total consumption, when we restrict the analysis to the pre-crisis period (1997-2008), when we consider only lump-sum payments that represent a substantial share of total expected income, and when we examine the effect of lump-sum payments alone without controlling for the tranches (results available upon request). In order

to control for the dynamics of the permanent income in an even more flexible and articulated way we also add a set of 143 contract dummies that take the value 1 for every new contract during its validity period and the results remain fairly stable (results available upon request). The results do not change even when we subtitute the year and monthly dummies with year*month dummies.

In the analysis so far we have excluded self-employed workers given that they are not covered by the collective bargaining agreements. Indeed, self-employed workers represent an ideal group for a placebo exercise as they work in the same sector of activity as the employees but are not receiving the wage increases that are determined by the collective contracts. As Table 11 shows, in the placebo exercise the effect of lump-sum payments on clothing & shoes is not statistically significant and is half the size of the corresponding coefficient in the benchmark specification. This reassures us that the effects that we found in the benchmark specification are actually causal and are not due to an unobserved aggregate shock.[20]

Next, we turn to the original disaggregated data at the household level and perform a repeated cross-section estimation. Given that the HBS does not follow the same household over time we cannot employ a fixed-effect estimator. Instead, we control for more individual variables, namely, homeownership and the skill-level of the single earner that we treat as the household head. We also include sectoral and regional dummies and we use the survey weights. Although unobserved heterogeneity may be an issue, it is important to check whether the results still hold at a disaggregated level.

[20]Repeating the placebo exercise for finer subcategories of clothing & shoes produces estimates (available upon request) that are not statistically significant either. However, there is a considerable reduction in the sample size when we use self-employed workers and these subcategories are likely to contain many zeros.

Besides, Ni and Seol (2014) using a Korean monthly household panel show that the results of the pooled estimation are similar to the ones of the fixed-effect estimation. Tables 12 and 13 report the results of the repeated cross section exercise. Again, clothing & shoes is the unique consumption category responding to transitory income shocks. The Permanent-Income Hypothesis is not violated as total consumption is not affected.

We also checked whether several households report zeros for particular items in the clothing & shoes categories and found that on average 41% of households have non-zero consumption of shoes, 33% buy some complementary items but only 12% buy accessories. We therefore added a specification (linear probability model) with the dependent variable being a dummy in the case of accessories (extensive margin). The coefficient of the lump-sum payment is again statistically significant (Table A3).

Turning back to the discussion of the possible underlying mechanisms, we are now able to examine whether liquidity constraints are present. Following Parker (1999) and Ni and Seol (2014), we use the age of the household head as a proxy for the presence of liquidity constraints. Typically, young-headed households (defined as those whose head is 40 years old or younger) are more likely to be liquidity constrained than old-headed households.[21] We do not find any evidence of liquidity constraints among young-headed households neither in the case of clothing & shoes nor in the case of total expenditures (Table 14). By contrast, old-headed households, who are less likely to be liquidity constrained, respond to positive transitory income shocks by increasing clothing & shoes expenditures. These findings point against the liquidity-constraints

[21] This is true also for Italy (Rodano and Rondinelli, 2014).

interpretation.

6 Conclusions

This paper adds to the literature that studies whether the theoretical implications of the Permanent-Income Hypothesis hold empirically. Using information on a unique dataset of monthly wage increases set by collective agreements in Italy and exploiting their variation across sectors and over time we are able to examine the effect of different types of income shocks (lump-sum versus regular tranches) on consumption. We find evidence in accordance with the Permanent-Income Hypothesis regarding total and food consumption as consumers do not react to any kind of wage increases and are not subject to money illusion. However, expenditures on clothing & shoes, that account for a small fraction of total expenditures, do respond to income shocks but only as a result of transitory, lump-sum payments. Moreover, this takes place upon the receipt of the payment rather than upon its announcement. This behaviour can be due to bounded rationality as consumers do not regard the lump-sum as part of the overall wage inflation adjustment. In particular, households that are not likely to be liquidity constrained, increase the expenditures on shoes, accessories, and other complementary items upon the receipt of the lump-sum payment. A possible underlying mechanism is bounded rationality as mental accounting is worth it in the case of tranches whose cumulative size is large but not in the case of lump-sum payments that are irregular and less transparent. The indivisibility of goods bought upon the receipt of the lump-sum payment and their conspicuous nature may also play a role. Our findings suggest, in

line with Sahm et al. (2012), that policies that take the form of a lump-sum payment may have different effects than policies of equal overall size that are implemented through regular smaller payments.

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Tables

Table 1. Contract renewals by sector, 1997-2013

	Number of renewals	% of renewals with lump-sum payments	Months of delay	
			no lump-sum	lump-sum
Manufacturing	83	67.5	1.2	5.2
Construction	7	28.6	3.8	2.1
Wholesale and retail trade	5	40	9.0	9.4
Accommodation and food services	4	50	3.8	16.1
Transport, information and communication	34	82.4	8.6	13.5
Financial and insurance activities	10	70	11.3	14.3

Source: Own calculations on Bank of Italy's archive.

Table 2. Aggregate sectors of activity, weights, and national union contracts

Sector of activity	Weight	Contract
Manufacturing	0.01	Gas
	0.01	Ceramic
	0.02	Paper
	0.03	Electrical engineering
	0.03	Graphics
	0.05	Rubber and plastic
	0.05	Wood
	0.06	Food
	0.06	Chemicals
	0.11	Textiles
	0.57	Metalworkers
Construction	1.00	Construction
Wholesale and retail trade	1.00	Wholesale and retail trade
Accommodation and food services	1.00	Accomodation and food services
Transport, information, and communication	0.04	Journalists
	0.14	Telecommunications
	0.14	Public transport
	0.17	Railways
	0.22	Post
	0.29	Transport of goods
Financial and insurance activities	0.13	Insurance
	0.87	Finance

Aggregation of contracts into sectors of activity is made using the corresponding weights.

Table 3. Summary statistics of monthly household expenditures

	Mean (standard deviation)	% in total consumption
Total consumption	1458.96	100
	(358.55)	
Food	373.65	26.19
	(71.34)	
Strictly durables	74.23	4.94
	(80.03)	
Clothing & shoes	100.02	6.71
of which	(51.79)	
Clothes	61.69	4.14
	(33.84)	
Shoes	22.72	1.55
	(12.32)	
Compl. items	8.11	0.54
	(11.38)	
Accessories	7.49	0.49
	(11.05)	
Housing	452.89	30.96
	(148.25)	
Health	51.75	3.52
	(32.82)	
Transportation & communication	210.04	14.53
	(56.66)	
Leisure	84.18	5.66
	(43.19)	
Other	112.20	8.37
	(66.23)	

All consumption values are deflated with the monthly CPI into 2010 euros and adjusted for an equivalence scale.

Table 4. The effect of wage increases on total consumption and food expenditures

	(1)	(2)
	Total consumption	Food
Lump-sum	0.074	0.005
	(0.172)	(0.024)
First tranche	0.078	-0.054
	(0.328)	(0.077)
Rest of tranches	-0.070	-0.050
	(0.294)	(0.077)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Household controls	Yes	Yes
F.E.	Yes	Yes
N	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category food includes both food at home and food away from home.

Table 5. The effect of wage increases on clothing & shoes and on strictly durables

	(1)	(2)
	Clothing & shoes	Strictly durables
Lump-sum	0.141**	-0.027
	(0.054)	(0.018)
First tranche	0.026	0.092
	(0.049)	(0.129)
Rest of tranches	0.033	0.055
	(0.045)	(0.112)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Household controls	Yes	Yes
F.E.	Yes	Yes
N	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories; the category strictly durables includes furniture and home appliances.

Table 6. The effect of wage increases on clothing & shoes subcategories

	(1)	(2)	(3)	(4)
	Clothes	Shoes	Complementary items	Accessories
Lump-sum	-0.000	0.033**	0.074**	0.034***
	(0.007)	(0.015)	(0.032)	(0.010)
First tranche	0.036	-0.004	0.002	-0.007
	(0.038)	(0.015)	(0.008)	(0.010)
Rest of tranches	0.039	-0.002	0.003	-0.006
	(0.034)	(0.015)	(0.008)	(0.009)
Year dummies	Yes	Yes	Yes	Yes
Monthly dummies	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
F.E.	Yes	Yes	Yes	Yes
N	1,222	1,222	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates, % households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category complementary items includes underwear, scarves, hats, ties, gloves, belts, furs, tailoring fabrics, and tailoring costs; the category accessories includes bags, suitcases and other luggage jewelry, watches, personal items in silver/gold, costume jewelry, and sunglasses.

Table 7. The effect of wage increases on small durables

	(1)	(2)
	Clothing & shoes	Small durables
Lump-sum	0.141**	-0.004**
	(0.054)	(0.002)
First tranche	0.026	0.003
	(0.049)	(0.007)
Rest of tranches	0.033	0.003
	(0.045)	(0.006)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Household controls	Yes	Yes
F.E.	Yes	Yes
N	1,222	1,222

**** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories; the category small durables includes blenders, grinders, toasters, irons, fans, cutlery, dishes, glasses, bottles, cups, utensils, ironing boards and food scales.

Table 8. The effect of wage-increases news on total consumption and food expenditures

	(1)	(2)
	Total consumption	Food
News	-19.43	-4.82
	(26.31)	(13.10)
Lump-sum	0.083	0.008
	(0.176)	(0.025)
First tranche	0.079	-0.054
	(0.328)	(0.077)
Rest of tranches	-0.068	-0.050
	(0.294)	(0.078)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Household controls	Yes	Yes
F.E.	Yes	Yes
N	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category food includes both food at home and food away from home.

Table 9. The effect of wage-increases news on clothing & shoes and on strictly durables

	(1)	(2)
	Clothing & shoes	Strictly durables
News	-1.46	1.64
	(7.34)	(7.94)
Lump-sum	0.142**	-0.029
	(0.055)	(0.018)
First tranche	0.026	0.092
	(0.049)	(0.130)
Rest of tranches	0.034	0.056
	(0.045)	(0.112)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Household controls	Yes	Yes
F.E.	Yes	Yes
N	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories; the category strictly durables includes furniture and home appliances.

Table 10. The effect of wage increases on other consumption categories

	(1)	(2)	(3)	(4)
	Housing	Transportation & communication	Health	Leisure
Lump-sum	0.030	0.003	-0.025**	-0.007
	(0.046)	(0.038)	(0.010)	(0.008)
First tranche	-0.004	0.019	0.035	-0.026
	(0.128)	(0.059)	(0.037)	(0.042)
Rest of tranches	-0.065	-0.015	0.036	-0.045
	(0.117)	(0.051)	(0.041)	(0.034)
Year dummies	Yes	Yes	Yes	Yes
Monthly dummies	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
F.E.	Yes	Yes	Yes	Yes
N	1,222	1,222	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates, % households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category housing includes the rent (imputed for home-owners), maintenance, bills, and house insurance; the category transportation & communication includes vehicles' maintenance and insurance, gasoline, tickets, fixed and mobile phones; the category health includes health insurance, medical visits and other expenses (e.g., glasses); the category leisure includes newspapers, books, photos, music, plants, pets, toys, cinema, theater, concerts, museums, dancing/painting courses, sports, and, fitness.

Table 11. The effect of wage increases on clothing & shoes, placebo

	(1)	(2)
	Placebo	Benchmark
Lump-sum	0.078	0.141**
	(0.117)	(0.054)
First tranche	0.053	0.026
	(0.125)	(0.049)
Rest of tranches	0.114	0.033
	(0.128)	(0.045)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Household controls	Yes	Yes
F.E.	Yes	Yes
N	1,189	1,222

**** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories.

Table 12. The effect of wage increases on total and food expenditures, pooled cross section

	(1)	(2)
	Total consumption	Food
Lump-sum	-0.063	0.005
	(0.197)	(0.033)
First tranche	0.057	-0.037
	(0.205)	(0.065)
Rest of tranches	-0.000	-0.057
	(0.201)	(0.063)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Sectoral dummies	Yes	Yes
Regional dummies	Yes	Yes
Household controls	Yes	Yes
Individual controls	Yes	Yes
N	47,122	47,122

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates.

Individual controls: house ownership, unskilled worker.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category food includes both food at home and food away from home.

Survey weights used.

Table 13. The effect of wage-increases on clothing & shoes and on durables, pooled cross section

	(1)	(2)
	Clothing & shoes	Strictly durables
Lump-sum	0.118**	-0.027
	(0.054)	(0.021)
First tranche	0.014	0.048
	(0.035)	(0.054)
Rest of tranches	0.018	0.037
	(0.034)	(0.048)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Sectoral dummies	Yes	Yes
Regional dummies	Yes	Yes
Household controls	Yes	Yes
Individual controls	Yes	Yes
N	47,122	47,122

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates.

Individual controls: house ownership, unskilled worker.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories; the category strictly durables includes furniture and home appliances.

Survey weights used.

Table 14. The effect of wage-increases on clothing & shoes and on total consumption, liquidity constraints

	(1)	(2)
	Young household head (N=22,263)	
	Clothing & shoes	Total consumption
Lump-sum	-0.010	-0.338
	(0.027)	(0.226)
First tranche	0.020	-0.082
	(0.041)	(0.278)
Rest of tranches	0.000	-0.030
	(0.042)	(0.278)
	Old household head (N=24,859)	
Lump-sum	0.179***	0.046
	(0.054)	(0.156)
First tranche	0.041	0.140
	(0.052)	(0.247)
Rest of tranches	0.030	-0.008
	(0.045)	(0.232)
Year dummies	Yes	Yes
Monthly dummies	Yes	Yes
Sectoral dummies	Yes	Yes
Regional dummies	Yes	Yes
Household controls	Yes	Yes
Individual controls	Yes	Yes

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates.

Individual controls: house ownership, unskilled worker.

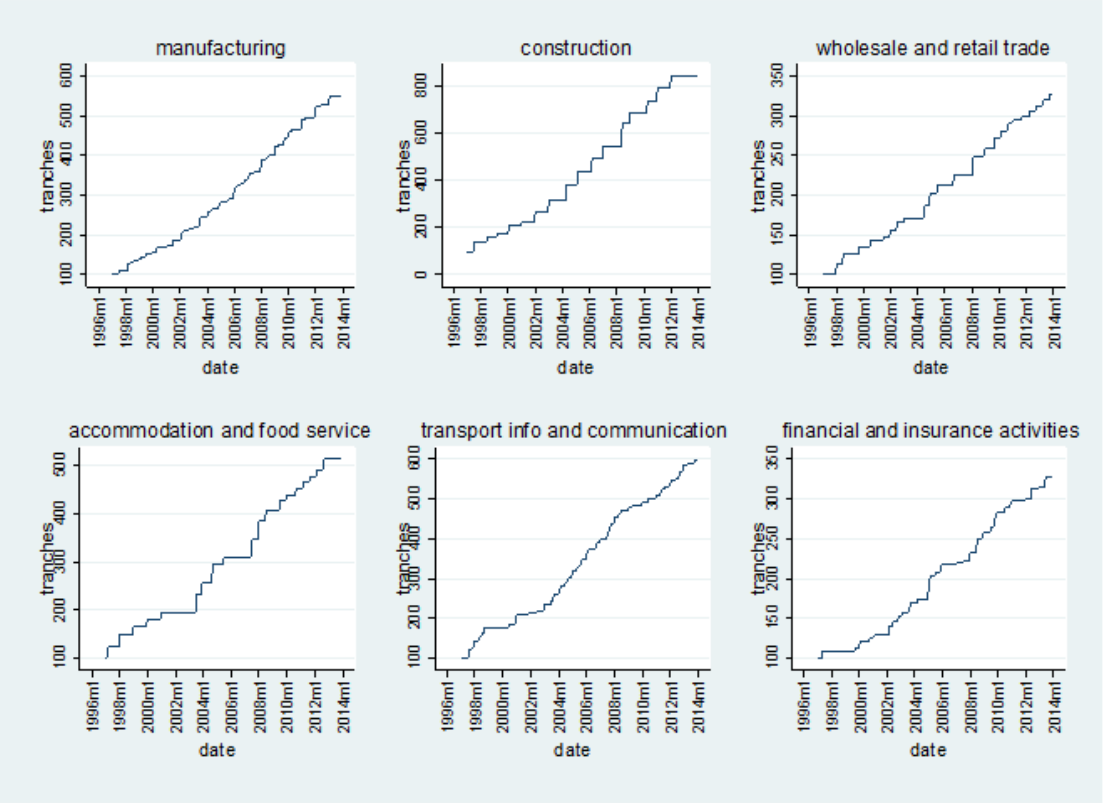
All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories. Survey weights used.

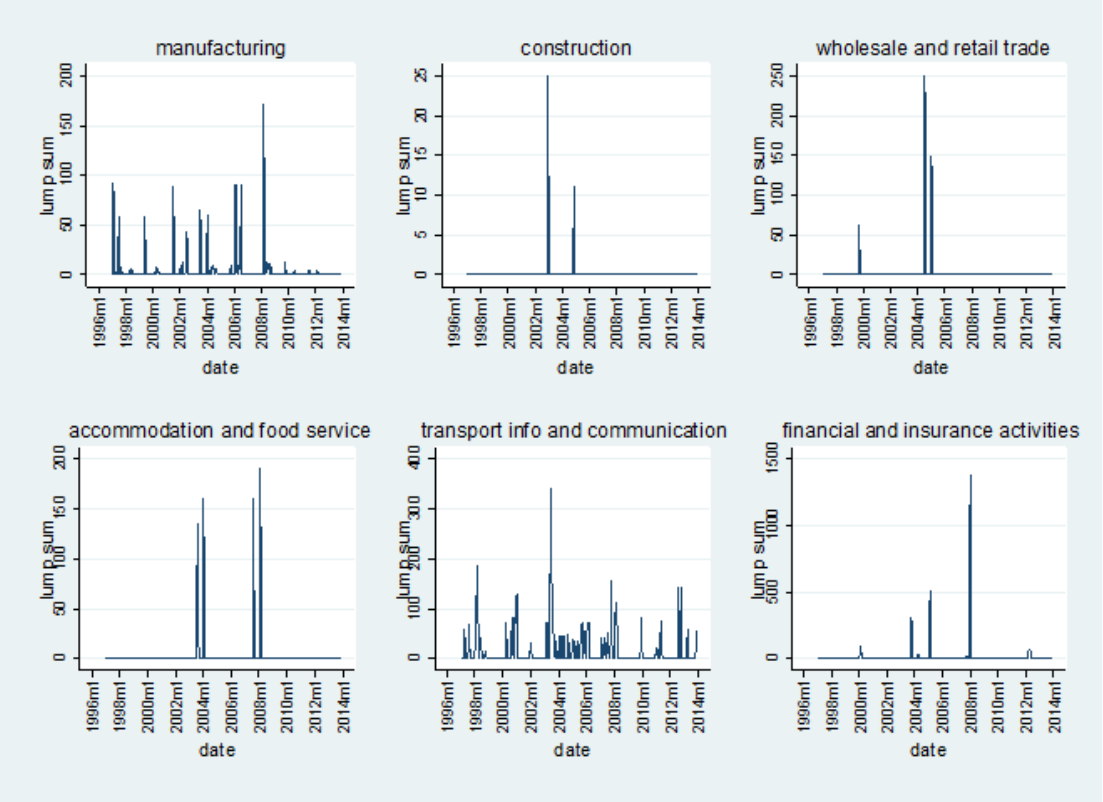
Figures

Figure 1. Contract renewals and step-wise nominal wage increases (1997m1=100)



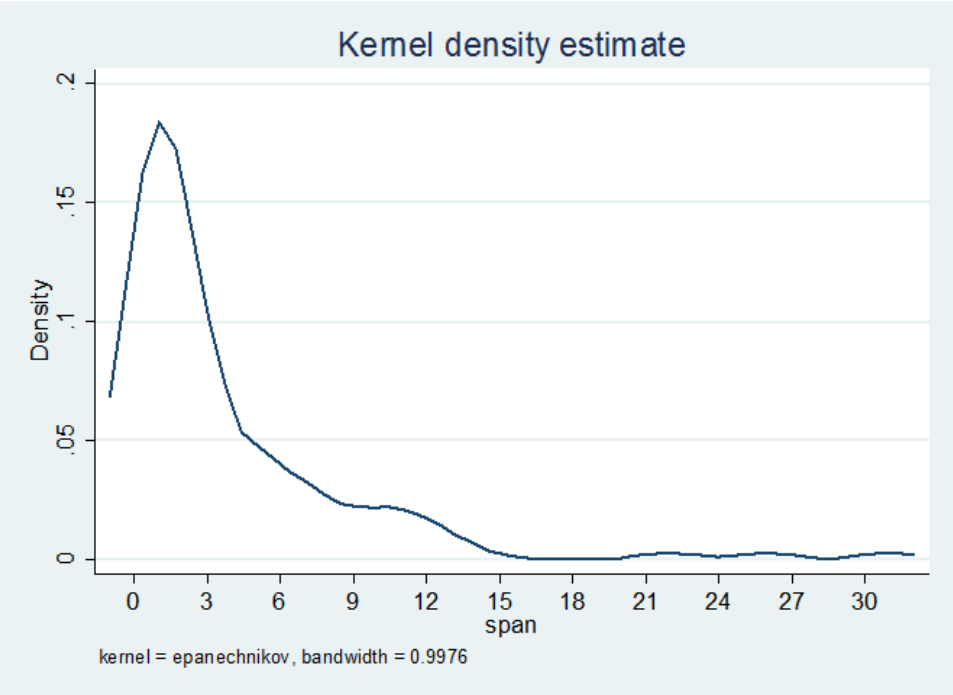
Source: Own calculations on Bank of Italy's archive.

Figure 2. Contract renewals and lump-sum nominal wage increases



Source: Own calculations on Bank of Italy's archive.

Figure 3. Time span (in months) betweeen contract renewal and receipt of the lump-sum payment



Source: Own calculations on Bank of Italy's archive.

Figure 4. An illustration of a contract renewal

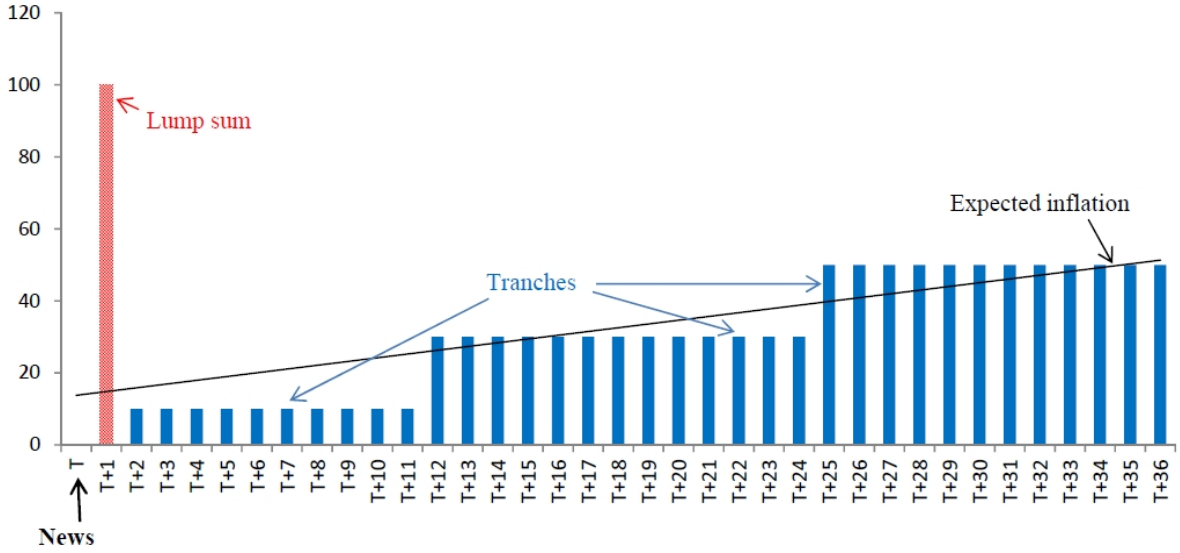
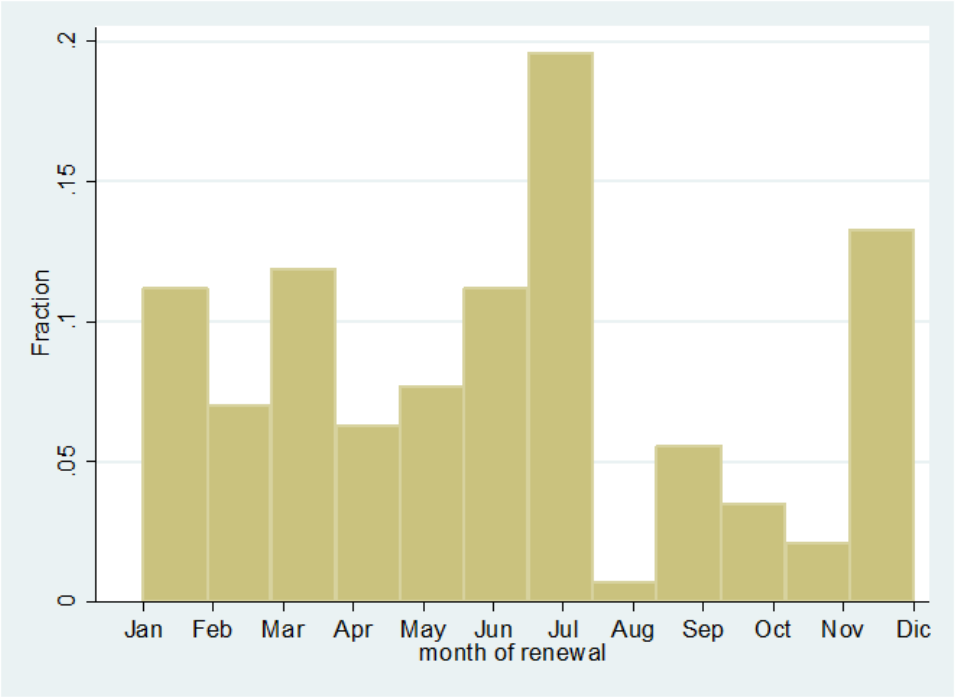
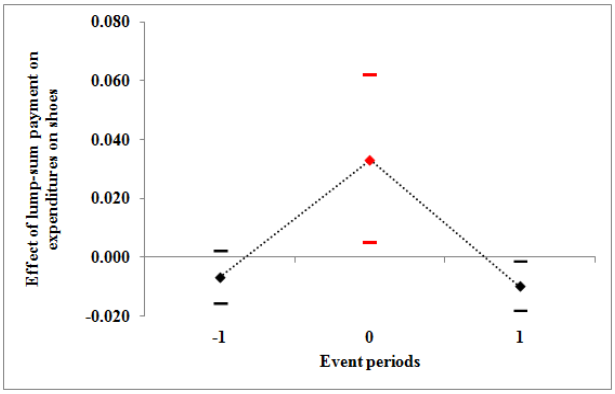


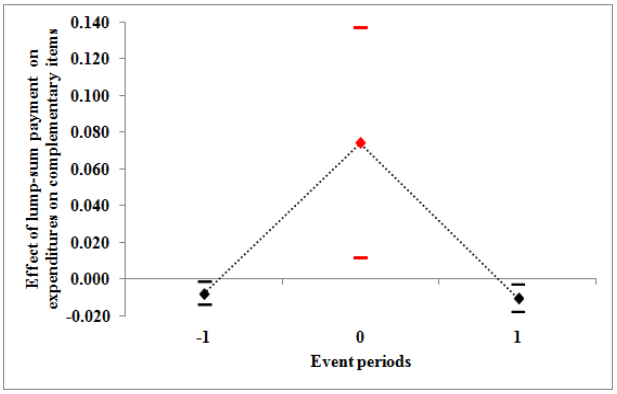
Figure 5. Frequency of contract renewals by month, 1997-2013

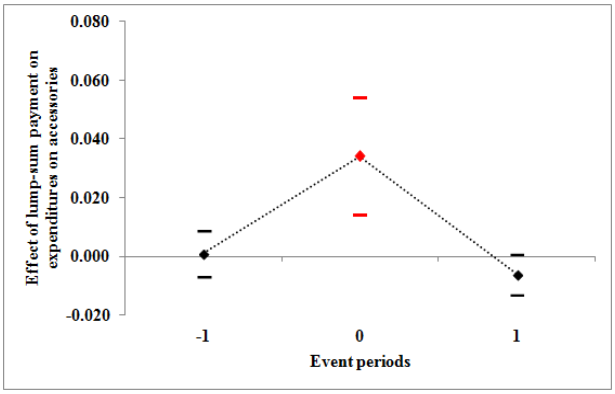


Source: own calculations on Bank of Italy's archive.

Figure 6. Effect of lump-sum payments on consumption-lags and leads







Note: point estimates and 95% confidence intervals.

Appendix

Table A1. The effect of wage increases on consumption-omitting manufacturing

	(1)	(2)	(3)	(4)
	Total consumption	Food	Clothing & shoes	Strictly durables
Lump-sum	0.075	0.000	0.141**	-0.030
	(0.174)	(0.024)	(0.054)	(0.019)
First tranche	0.009	-0.065	0.023	0.092
	(0.354)	(0.083)	(0.053)	(0.138)
Rest of tranches	-0.135	-0.054	0.030	0.060
	(0.314)	(0.084)	(0.049)	(0.117)
Year dummies	Yes	Yes	Yes	Yes
Monthly dummies	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
F.E.	Yes	Yes	Yes	Yes
N	1,018	1,018	1,018	1,018

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates,

% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category food includes both food at home and food away from home; the category clothing & shoes includes men's, women's and children's shoes, clothes, complementary items, and accessories; the category st. durables includes furniture and home appliances.

Table A2. The effect of wage increases on total, food, clothing & shoes and durables expenditures-GLS

	(1)	(2)	(3)	(4)
	Total consumption	Food	Clothing & shoes	Strictly durables
Lump-sum	0.076	0.006	0.145***	-0.032
	(0.130)	(0.033)	(0.022)	(0.043)
First tranche	0.080	-0.055	0.030	0.093
	(0.277)	(0.069)	(0.048)	(0.096)
Rest of tranches	-0.070	-0.050	0.034	0.056
	(0.257)	(0.064)	(0.045)	(0.089)
Year dummies	Yes	Yes	Yes	Yes
Monthly dummies	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
F.E.	Yes	Yes	Yes	Yes
N	1,222	1,222	1,222	1,222

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. estimated via feasible GLS with AR(1) autocorrelation within panel.

Household controls: average age of household members , % male, % university graduates,% households living in the south of Italy.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category food includes both food at home and food away from home; the category clothing & shoes includes men's,women's and children's shoes, clothes, complementary.items, and accessories; the category st. durables includes furniture and home appliances.

Table A3. The effect of wage increases on accessories-extensive margin

	(1)
	Accessories
Lump-sum	0.0001**
	(0.0000)
First tranche	-0.0000
	(0.0001)
Rest of tranches	-0.0001
	(0.0001)
Year dummies	Yes
Monthly dummies	Yes
Sectoral dummies	Yes
Regional dummies	Yes
Household controls	Yes
Individual controls	Yes
N	47,122

*** p<0.01, ** p<0.05, * p<0.1, robust s.e. clustered at the (sector)x(year) level.

Household controls: average age of household members , % male, % university graduates.

Individual controls: house ownership, unskilled worker.

All consumption and wage values are deflated with the monthly CPI into 2010 euros.

Consumption values are adjusted for an equivalence scale.

The category accessories includes bags, suitcases and other luggage jewelry, watches, personal items in silver/gold, costume jewelry, and sunglasses. Survey weights used.