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**Personal Income Distribution and Progressive
Taxation in a Neo-Kaleckian Model: Insights
from the Italian case**

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Abstract

This paper develops a stylized short-run neo-Kaleckian model incorporating personal income inequality and income taxes based on You and Dutt (1996), targeting a gap in the post-Keynesian literature. Accordingly, the main goal of this paper is to investigate how changes in income taxes and personal income distribution affect output growth in the stylized model. The theoretical discussion of the model is then empirically assessed using data retrieved from the Survey of Household Income and Wealth published by the Bank of Italy. The empirical analysis confirms both the heterogeneity of the propensities to consume of Italian households, as well as validates the dominance of absolute income effects in the Italian consumer behaviour that assures the negative trade-off between inequality and aggregate demand. More specifically, it is shown that, overall, Italians are still income-budget constrained, preventing from a compensation of the demand-depressing effects of raising inequality via debt and wealth-based consumption. Likewise, it is argued that decreasing personal income inequality via progressive income tax reforms and through a shift towards wages would have positive effects on aggregate demand, utilization and growth, further boosting the effect of government expenditure (through its impact on the multiplier).

Key Words: Income inequality, Personal and functional income distribution, Income taxes, Kaleckian model

JEL Code: D11, D12, D31, E12, E21, H24

List of Figures

Figure 1: The effects of a progressive tax reform on inequality, utilization and growth 13	
Figure 2: Adjusted Wage Share as percentage of GDP at current factor cost in Italy, Germany, France, Spain and the US (1980-2017)	16
Figure 3: Top 1% income share in Italy, Germany, France, Spain and the US (1980- 2009)	17
Figure 4: Top 10% income share in Italy, Germany, France, Spain and the US (1980- 2009)	17
Figure 5: Density histograms: by income types ordered by income quintile in Italy (1989)	19
Figure 6: Density histograms: by income types ordered by income quintile in Italy (2002)	19
Figure 7: Density histograms: by income types ordered by income quintile in Italy (2008)	20
Figure 8: Density histograms: by income types ordered by income quintile in Italy (2014)	20
Figure 9: Gini indexes and the wage share of Italian households to disposable income (1989-2014).....	22
Figure 10: Italian Households' consumption spending and the effect of worsened income distribution (1989-2014)	27
Figure 11: Household debt to net disposable income ratio in Italy, Germany, France, Spain and the US (1995-2016).....	29
Figure 12: Household debt to GDP ratio in Italy, Germany, France, Spain and the US (1980-2016).....	30
Figure 13: Italian Households' Average Financial Liability by quintiles in euros (1991- 2014)	31
Figure 14: Italian Households' (1st quintile) Average Financial Liability by type in euros (1991-2014)	32
Figure 15: Italian Households' (2nd quintile) Average Financial Liability by type in euros (1991-2014)	32
Figure 16: Italian Households' (2nd quintile) Average Financial Liability by type in euros (1991-2014)	33
Figure 17: Italian Households' (3rd quintile) Average Financial Liability by type in euros (1991-2014)	33
Figure 18: Italian Households' (4th quintile) Average Financial Liability by type in euros (1991-2014)	34
Figure 19: Total outstanding residential loans to GDP ratio in Italy, Germany, France, Spain and the US (2003 - 2014).....	35

Figure 20: Italian Households' Average Net Wealth by component in euros (1991-2014)	37
Figure 21: Italian households' wealth by type and quintile (1991)	38
Figure 22: Italian households' wealth by type and quintile (2014)	38

List of Tables

Table 1: Income shares in households` disposable income by quintiles and income type (1989 and 2014).....	23
Table 2: Basic features of the Italian SHIWs of 1989 and 2014	24
Table 3: Italian households` average propensities to consume and income shares in total disposable income by quintile (1989 and 2014)	25
Table 4: Gini decomposition by households` income quintile in Italy (1989 and 2014)	
26	

Table of Contents

1. Introduction	1
2. A Brief literature review of post-Keynesian growth models and the incorporation of personal income inequality and taxation	3
2.1 Post-Keynesian growth models and the incorporation of personal income inequality	3
2.2 Post-Keynesian growth models and the incorporation of taxation	7
3. A stylized neo-Kaleckian model with personal income inequality and income taxes	8
4. Discussing inequality and consumption patterns in Italy.....	15
4.1 Functional and personal income inequality trends in Italy	15
4.2 Income inequality and the propensity to consume: a micro-data analysis of the Italian SHIW's of 1989 and 2014	23
4.3 Stylized Facts on household consumption and financial behavior in Italy ..	28
5. Assessing the Stylized Model in the light of the Italian case: some policy implications.....	39
6. Conclusion.....	43
List of References	45

1. Introduction

Topics related to income distribution and growth have emerged both in the media and in the academia since the Great Recession. From then on, several important events shaped the path of the political and economic debate. Even mainstream strands in economics brought back topics related to financial instability, inequality, taxation and stagnation to the centre of their discussions, albeit lacking realism in their methodology and consistency on the theoretical ground. In this sense, the publication of Piketty's *Capital in the XXI Century* played a major role in drawing attention to the drastic rise in personal income inequality, contributing to the availability of data and encouraging research and debate on the field.

Considering the heterodox strands, more specifically the post-Keynesian research agenda, we can argue that the thematic of distribution and growth is no novelty, being inclusively one of its few commonalities among divergent groups (Lavoie 2014, p.36). However, it was only with the turmoil of 2007 that the increasing discrepancies within wages and the rising inequality (particularly in Western developed countries) pushed for the incorporation of personal income distribution in Kaleckian models. Among the main revisions incorporated in these models it is possible to highlight the distinction between industrial capitalists and rentiers, the separation between supervised and non-supervised work, the incorporation of wage differentials as well as relative income effects and expenditure cascades on aggregate consumption and wealth and debt-based consumption. Despite these amendments, the explicit inclusion of interpersonal inequality with heterogenous propensities to consume has not yet been done within a post nor neo-Kaleckian macro model framework. In addition, the connection between the personal dimension of inequality and taxation has also not yet been made.

In line with this gap in the post-Keynesian literature, the first goal of this paper is to develop a stylized neo-Kaleckian model incorporating personal income inequality and income taxes. Accordingly, it seeks to investigate how changes in income taxes and personal

income distribution affect output growth in the stylized model. In accordance with the Keynesian tradition that derives from *The General Theory*, the first assumption is that lower income groups have a higher propensity to consume, hence, improving distribution enlarging the disposable income at the bottom would lead to higher aggregate consumption with a dominance of the absolute income effect. Following the ‘Pure Keynesian Process’ (Lavoie 2010), according to which firms would adjust output and hence capacity utilization towards consumption demand in each period, higher demand would then boost capacity utilization and hence, growth.

Since it is assumed that the result of the model depends on the behavior of the propensities to consume by quintiles as well as on the dominance of absolute income effects as a result of the redistribution, the second research goal of this work is to investigate the relation between rising interpersonal income inequality and aggregate consumption. Following Japelli and Pistaferri (2014), kept some methodological and theoretical divergences, it is assumed that the Italian households have a heterogeneous propensity to consume, higher at the bottom and lower at the top. Secondly, it is presumed that financial institutions and norms prevented from the dominance of relative income effects (verified in the Anglo-Saxon world) as argued by Barba and Pivetti (2009). Likewise, in accordance with the literature on macro growth regimes (Dodig et al. 2015, Gabbi et al. 2014), which classifies Italy as private domestic demand led, it is assumed that the demand-depressing effects raised by the increasing inequality levels did not significantly shift the private households’ financial balances, suggesting a dominance of absolute income effects.

Chapter 2 presents a brief literature review of post-Keynesian growth models shortly discussing the incorporation of personal income inequality and revising the integration of taxation in the models. Chapter 3 proposes an extension of the neo-Kaleckian model developed by You and Dutt (1996) with the inclusion of both personal income inequality as well as income taxation. Chapter 4 empirically assesses inequality, consumption patterns as well as debt and wealth- based consumption in Italy. Finally, Chapter 5 is dedicated to assessing the results of the stylized model in light of the country case study of Italy presented on Chapter 4. Chapter 6 concludes, summarizing the main findings.

2. A Brief literature review of post-Keynesian growth models and the incorporation of personal income inequality and taxation

This Chapter presents a brief literature review of post-Keynesian growth models. In Section 2.1 it is shortly discussed the emergence of macro modelling within the post-Keynesian strand and its development until the incorporation of personal income inequality. Section 2.2 revises the incorporation of taxation in the models.

2.1 Post-Keynesian growth models and the incorporation of personal income inequality

The discussion of distribution and growth is no novelty in the heterodox strands within economics, dating back to the works of Robinson, Kaldor and Pasinetti. Already in the late 1950s and early 1960s they developed a consistent modelling framework inspired basically by the ideas of John Maynard Keynes “extend[ing] Keynes’s principle of effective demand from the ‘short period’ [...] to the ‘long period’” (Hein 2014, p.120). These first post-Keynesian growth models emerged as an alternative to the neoclassical growth models, where distribution features were sole and intrinsically related to the marginal productivities of labour and capital derived from the neoclassical production function, which were heavily criticised for assuming out problems of involuntary unemployment, underutilization and for its theoretical inconsistency surrounding the ‘capital controversy’ (Hein 2014, p.106-107).

Subsequently, a new generation of macromodels incorporating the ideas of Michal Kalecki and Joseph Steindl gave rise to the first generation of Kaleckian models. The neo-Kaleckian models of distribution and growth have their roots on two important deviations from the neo-Keynesian models developed in Cambridge. As argued by Lavoie (2014, p.348), while the models of Keynesian inspiration were based on a market characterized by competition, already the first generation of post-Kaleckian models assume oligopoly and imperfect competition inspired by the writings of Kalecki and his fundamental contributions surrounding mark-up price setting and the influence of market concentration on it. Moreover, the Cambridge tradition assumes that capacity utilization is fixed at its normal

level in the long-run, while in the Kaleckian models this rate is endogenized both in the short and in the long-run, strongly inspired by Steindl's micro and macro foundations developed in his *Maturity and Stagnation in American Capitalism*, where excess capacity is the key variable of analysis.

The most important feature of the neo-Kaleckian models pioneered by Rowthorn (1981) and Dutt (1984, 1987) is that within a private closed economy, aggregate demand, capital accumulation and growth are wage-led. In this regard, a redistribution towards wages would have a positive impact on capacity utilization, capital accumulation and (assuming out saving out of wages) also in the rate of profit. The second generation of Kaleckian models proposed by Bhaduri and Marglin (1990) and Kurz (1990) advocated for the incorporation of the profit-share on the investment equation giving rise to the distinction between wage or profit-led regimes also enriched through the extension of the canonical neo-Kaleckian model with the inclusion of the external sector by Blecker (1989).

The labour-capital conflict of the 1970s and 1980s shaped the political economy inspiring the research agenda of post-Keynesian economics motivating the rise of both neo and post-Kaleckian models, centred (until very recently) on functional income distribution (Palley 2016). It was only with the turmoil of 2007 that the increasing discrepancies within wages, the rising inequality (particularly in the Western developed countries) along with several publications pointing to the extreme rise in top income and wealth shares from a more mainstream perspective (Piketty and Saez 2003; 2007) have pushed for the incorporation of personal income distribution in Kaleckian models. From then on, several amendments have been done drawing attention to the vertical dimension of inequality and its wage differential component.

Some examples of amendments include a distinction between industrial and financial capitalists. A pioneering attempt previous to the crisis was done by Dutt (1989, 1992) adopting a three classes model framework with workers, capitalists, that receive profits, and rentiers, that receive interest income. More recently Argitis and Bozani (2008) also developed a three-income classes model emphasizing the role played by the rentiers class on changes in income distribution and on the economic process also explicitly presenting the

impacts of monetary factors on distribution, employment, output and growth. The impact of the rentiers class has also been empirically assessed using econometric estimation by Onaran et al. (2011) making a distinction between rentiers profits and non-rentiers profits shares in the US (1962-2007) and by Hein and Schoder (2011) estimating the propensity to save out of the rentiers' and wage income for the US and Germany (1960-2007).

A separation between different types of workers (i.e. supervised and non-supervised) has also been incorporated. Recent models have done so including a class of managers affecting the behaviour of the firm and its growth path (see Lavoie 2009; Dutt 2012; Palley 2015; Tavani and Vasudevan 2014). Palley (2014), for instance, includes the management class combining the managers and capitalist in one single group also arriving at a two-class model in which the top-income group receives both wage and capital income. More recently, Dutt (2016) developed a model with the type of dual distinction used by Palley (2014) also including financiers (following the literature on financialization) placing them on the top-income group.

Other revisions of the Kaleckian growth models integrate the phenomenon of increasing wage dispersion. Carvalho and Rezai (2016) integrate to their model a measure of wage inequality in a strictly positive relation to savings out of wages. However, Prante (2017) points out that this relation might also not always hold true. A good example where the strictly positive relation between wage dispersion and savings does not hold could be illustrated by the empirical puzzle arising especially in the Anglo-Saxon world, where top income shares have increased the most (Atkinson et al. 2011) especially due to a significant and rising wage dispersion that was accompanied by increasing consumption and a decreasing savings.

Finally, considering this empirical puzzle that was closely related to the turmoil of 2007, several attempts have been done to explain and enable this counter intuitive trend of raising inequality and increasing consumption. In this regard, some have been devoted to the incorporation of wealth and debt-based consumption that compensate the lack of demand arising from the increasing inequality in the light of the US American case (Cynamon and Fazzari 2008 and 2013; Zezza 2008; Barba and Pivetti 2009; Palley 2012, chap. 3 and van

Treeck and Sturn 2012 and 2013). In addition, the concept of interdependent social norms on the fashion of Veblen (1899) and Duesenberry (1959) was revived and incorporated¹ (see Belabed et al. 2013; Detzer 2016; Kapeller and Schütz 2014; Kapeller and Schütz 2015; Setterfield and Kim 2016; Zezza 2008) also inspired by the US American case, which is the most emblematic.

As it has been argued by Dafermos and Papatheodorou (2015) using a stock-flow consistent approach, not only the two aspects of inequality are linked but they both interact with the macroeconomic dynamics through two main stages. First, the factors income shares influence not only consumption due to the different propensities to consume of each income factor but also investment (through the profitability and utilisation rate channels). In turn, the interpersonal distribution is also impacting consumption expenditures, since the same factor of income is distributed to households with different propensities to consume, as it has been highlighted by some of the amendments revised previously. In this regard, it is possible to argue that splitting the income in factors would end up ignoring the dispersion within these factors. Secondly, the authors point out that economic activity itself affects the bargaining power of workers and the ability of firms to set prices, impacting, in turn, the primary distribution of income and thus the overall interpersonal distribution of income.

Despite some amendments that circumscribe part of the dispersion within factors, the explicit inclusion of interpersonal inequality with more income groups with heterogenous propensities to consume could be more efficient in terms of reducing the effects of heterogeneity within these factors. Accordingly, Chapter 3 includes personal inequality as the key distribution feature in the model through the heterogenous propensities to consume of each income strata (quintile), which has not yet been done in Kaleckian macro models. Functional income distribution is incorporated via an indirect effect discussed in general terms and empirically assessed on Section 4.1 focusing on the Italian case.

¹ The incorporation of the concept of ‘expenditure cascades’ is also modelled and revised by Frank et al. (2014). For a case study of Germany and the US tracking the relation between inequality and demand and the possible presence of relative income effects and expenditure cascades see Prante (2017).

2.2 Post-Keynesian growth models and the incorporation of taxation

While the theory on fiscal policy has been more related to the Keynesian tradition, the one on taxation is based on the works of Kalecki, mainly inspired by his article of 1937 (Laramie and Mair 2000). Hence, its main feature is the distinction between taxes on labour and on capital and their implications on the determination of output. Several post-Keynesian authors have extended the Kaleckian theory of taxation taking into account the possibility that a shift in taxation may imply a regime shift from wage to profit-led (Blecker 2002; Laramie 1991; Laramie and Mair 1996).

More recently, Obst et al. (2017) evaluated the effects of a progressive tax reform on growth in a post-Kaleckian model in which a more progressive tax system is characterized by “taxes on capital increasing while those on labour decreasing” (*ibid.*, p.11). The authors bring the novelty of estimating empirically the effects of government expenditure and taxes (including taxes on labour, capital and consumption as well as government expenditure) and how these effects interact with the impact of income distribution on demand. The authors apply a multi-country model incorporating the government sector within an open economy context with a Europe-wide multiplier.

Summarizing, all the amendments done within post-Keynesian models include a distinction between tax on labour and on capital. The existing literature lacks a model including personal income inequality and income taxation impacting the different income strata, that would be compatible both with the recent trends, namely the fundamental increase in wage dispersion and the significant rise in overall income inequality. In this sense, the heterodox agenda lags behind the mainstream, which has been pushed by the publication of Piketty’s *Capital in the XXI Century* and his extensive work on taxation, in particularly *Pour une révolution fiscale*² co-authored by Camille Landais and Emmanuel Saez.

² In the book, Landais et.al (2011) argue that there is a significant space for the increase in the progressivity of the French income tax system.

Moreover, from a political and strategic spectrum, we can argue that the sole argument of taxing capital over labour might be unwise, since it would require not only unrealistic political will but also power from central governments, that have been gradually losing space since the 1980s. Therefore, despite being desirable and appropriate in terms of growth, focusing only on taxing capital might be a hard task to begin with, as already admitted by Kalecki (1937) himself. As brilliantly argued by Robinson (1936), this type of policy would be a significant step in remedying the defects of capitalism, however “any government which had both the power and the will to remedy the major defects of the capitalist system would have the will and the power to abolish it altogether” (*ibid.*, p. 693). In this sense, policies that first strengthen labour, such as increasing their bargaining power and progressive general income taxes could be more strategical than solely increasing taxes on capital.

Consequently, we propose to focus on income taxes and personal income inequality also seeking to fulfil the present gap in the post-Keynesian literature. The next Chapter is dedicated to the incorporation of both interpersonal income inequality, as well as income taxation in a neo-Kaleckian model framework and to the implications of income distribution and taxation for output and growth.

3. A stylized neo-Kaleckian model with personal income inequality and income taxes

Following the short-run model presented by You and Dutt (1996) it is assumed that the capital stock and government expenditures are exogenously given and the equilibrium in the goods market is due to variations in the capacity utilisation rate (u) via changes in the output level (Y), since the capital stock (K) is given in the short-run and depreciations are assumed away. Its considered a closed economy, where there is no labour supply constraint and firms operate below full capacity.

Following the Keynesian tradition, the aggregate consumption function can be formalized as follows:

$$C = \left(\sum_i c_i(1 - t_i)y_i \right) Y, i = 1, \dots, 5 \quad (1)$$

where c_i is the propensity to consume out of disposable income of each income quintile. The income share of each quintile is represented by y_i , t_i is the income tax rate that impacts the respective quintile and Y represents the total output.

We adopt the neo-Kaleckian investment equation without the profit-share. This simplification can be justified by the empirical studies that find almost in totality that domestic demand is wage-led, which implies that higher real wage rates would have both a positive impact on consumption as well as on investment demand in a closed economy (as in the canonical neo-Kaleckian model). Moreover, even if we had opted for the possibility of a profit-led outcome in an open economy, we would still incur in the same results based on the empirical tests for Italy found by Onaran and Galanis (2012). According to their estimations, Italy can be qualified as wage-led both considering an open and closed economy, given that both its domestic and total demand is wage-led.

Accordingly, investment is determined by animal spirits α_0 and the level of capacity utilization ($u = Y/K$)³, which reflects the reaction of investment to changes in demand.

$$I = (\alpha_0 + \alpha_1 u)K \quad (2)$$

Real government expenditure (G) is constant and represented as a portion (γ) of the capital stock (K).

$$G = \bar{G} = \gamma K \quad (3)$$

³ We follow the definition of capacity utilization used by You and Dutt (1996) also as a matter of simplicity, acknowledging that this rate is conventionally defined as the output to potential ratio ($u = Y/Y^P$).

The goods market equilibrium in the short-run with government sector in the closed economy is given by:

$$Y = C + I + G \quad (4)$$

Plugging (1), (2) and (3) into equation (4) we have:

$$Y = \left(\sum_i c_i(1 - t_i)y_i \right) Y + (\alpha_0 + \alpha_1 u)K + \gamma K \quad (5)$$

Normalizing equation (5) for K and solving it for u we obtain the short-run equilibrium rate of capacity utilization:

$$u^* = \frac{\alpha_0 + \gamma}{1 - \sum_i c_i(1 - t_i)y_i - \alpha_1} \quad (6)$$

Assuming away the depreciation of capital, it follows that the rate of capital accumulation in the short-run ($g = I/K$) is determined by the rate of capacity utilization. In equilibrium the following relation holds:

$$g^* = \alpha_0 + \alpha_1 u^* \quad (7)$$

The analysis of the stability condition of the model is a bit more complex than in the canonical neo-Kaleckian model without taxes but can be formalized as the following:

$$\sum_i (1 - c_i)(1 - t_i)y_i > \alpha_1 \quad (8)$$

For the adjustment process to be stable, the savings rate of after-tax income has to be more responsive to shifts in capacity utilisation than investment.

Finally, the shifts in the short-run equilibrium can be analysed through the comparative statics of equation (6) in respect to changes in exogenous variables.

$$\frac{\partial u^*}{\partial \gamma} = \frac{\partial u^*}{\partial \alpha_0} = \frac{1}{1 - \sum_i c_i(1 - t_i)y_i - \alpha_1} > 0 \quad (9)$$

If the stability condition is assumed, an increase in animal spirits (α_0) and or in government expenditure (γ) would imply in an increase in the equilibrium capacity utilization (u), hence on capital accumulation and growth.

$$\frac{\partial u^*}{\partial t_i} = -\frac{(\alpha_0 + \gamma) \sum_i c_i y_i}{(1 - \sum_i c_i(1 - t_i)y_i - \alpha_1)^2} < 0 \quad (10)$$

In turn, the signal of the partial derivative of u in respect to t_i is always negative, as shown in equation (10) above. Accordingly, we can argue that increasing the tax rate on all of the income quintiles has an overall negative effect on utilization and, subsequently on the rate of capital accumulation. However, the interesting feature here, particularly in terms of policy implication, is a mathematical exercise describing how tax shifts on the different income strata (quintile) would affect the final result of the model.

Solving the partial derivatives of u with respect to each of the income tax rates that impact each quintile separately we have that the size of the negative (or positive in case of reduction of the tax rate) impact is ultimately determined by the expression $c_i y_i$ as shown in (11), (12), (13), (14) and (15) below. In other words, the impact of a shift in the tax rate that affects each quintile in terms of utilization and capital accumulation is stronger the bigger the product of the propensity to consume and the income share of this quintile.

$$\frac{\partial u^*}{\partial t_1} = -\frac{(\alpha_0 + \gamma)(c_1 y_1)}{(1 - \sum_i c_i(1 - t_i)y_i - \alpha_1)^2} < 0 \quad (11)$$

$$\frac{\partial u^*}{\partial t_2} = -\frac{(\alpha_0 + \gamma)(c_2 y_2)}{(1 - \sum_i c_i(1 - t_i)y_i - \alpha_1)^2} < 0 \quad (12)$$

$$\frac{\partial u^*}{\partial t_3} = -\frac{(\alpha_0 + \gamma)(c_3 y_3)}{(1 - \sum_i c_i(1 - t_i)y_i - \alpha_1)^2} < 0 \quad (13)$$

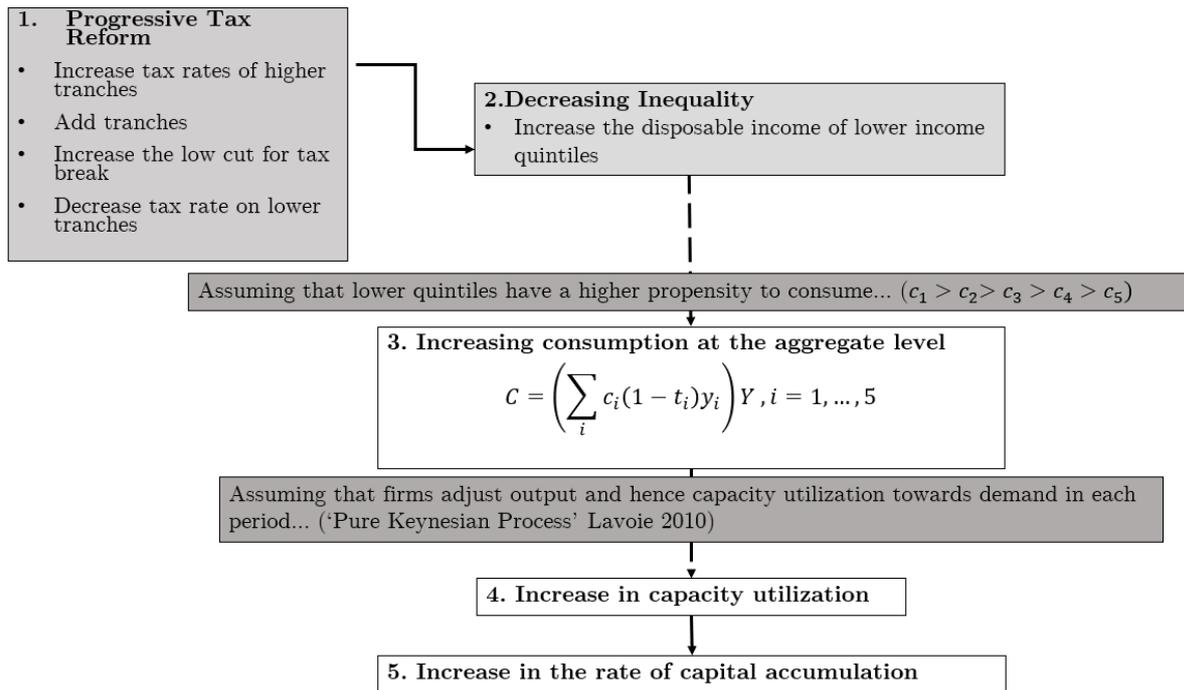
$$\frac{\partial u^*}{\partial t_4} = -\frac{(\alpha_0 + \gamma)(c_4 y_4)}{(1 - \sum_i c_i(1 - t_i)y_i - \alpha_1)^2} < 0 \quad (14)$$

$$\frac{\partial u^*}{\partial t_5} = -\frac{(\alpha_0 + \gamma)(c_5 y_5)}{(1 - \sum_i c_i(1 - t_i)y_i - \alpha_1)^2} < 0 \quad (15)$$

Assuming that $c_1 > c_2 > c_3 > c_4 > c_5$, and that these propensities to consume of each quintile do not shift with shifts in income distribution, there would be a dominance of absolute income effects. A redistribution policy through progressive tax reform⁴ would have then an overall positive impact and increase consumption at the aggregate level, which would lead to an increase in the output through the capacity utilization and a subsequent increase in the rate of capital accumulation (which is a function of the rate of utilization) as illustrated in Figure 1. This can be easily calculated with the separate effects on each of the quintiles as shown in expressions (11), (12), (13), (14) and (15) by summing up the partial effects on utilization preventient from tax shifts. Since we assume here that the propensities are a decreasing function of the income level, it is clear that even with a significant higher income share at the top, the negative impact of increasing the tax rate on the top could be over compensated by a decrease in the tax rates on the lower quintiles. Moreover, due to the increase in the aggregate propensity to consume, the size of the multiplier would increase, improving the positive effects of an increase in animal spirits (α_0) and of government expenditures (γ).

⁴A progressive income tax reform could be configured, for example, by increasing the tax rate of higher tranches, adding more tranches particularly at the top of the distribution, increasing the low cut for tax break and decreasing the tax rate on lower tranches.

Figure 1: The effects of a progressive tax reform on inequality, utilization and growth



Source: Author`s elaboration

Accordingly, we confirm the starting hypothesis. Therefore, the result of the model both with respect to tax reforms affecting income distribution as well as due to shifts in income distribution coming from other sources becomes an empirical issue. Ultimately, the adjustment of output and hence capacity utilization towards demand in each period depends on the type of relation between shifts on the disposable income of each income strata (overall inequality) and aggregate consumption⁵.

Hitherto, only interpersonal income inequality has entered the model through the income shares of each income quintile. However, the distribution of income between wages and profits has also an indirect effect, rooted in the relation between functional and personal income inequality that cannot be ignored. In this sense, it is possible to argue that the

⁵ The specific case of Italy concerning inequality and consumption patterns developed in the country are assessed on Chapter 4.

classical division incorporated by Kalecki⁶ and by Kaleckian models, still plays an important role⁷.

The linkages between the two dimensions of inequality have been extensively discussed in the literature using a diverse range of methodologies. Several econometrical studies also estimate the response of the overall level of inequality related to changes in the factor income shares or institutional factors that determine these shares (see Daudey and García-Peñalosa 2007; Checchi and García-Peñalosa 2010 and Schlenker and Schmid 2013). In a nutshell, the three main linkages found between functional and personal income inequality are that: i. capital and self-employment income have an important contribution in the determination of total inequality; ii. wage inequality also has significant effects in the total and iii. the greater the unionization and the wage bargaining coordination, the lower the overall inequality.

Following the literature, we assume that any rise in the profit share, increasing wage inequality and decentralization of labour market institutions would lead to an increase in the overall personal income inequality reducing consumption, the aggregate propensity to consume, aggregate demand, the level of capacity utilization and the accumulation rate. The country specific case of Italy and the linkages between functional and interpersonal income distribution in the country are discussed in Section 4.1.

⁶ The classical approach to income distribution has also been incorporated by Sraffa and Sraffians, for a more in-depth analysis see Garegnani (1984). For an overview of the distinction between the Sraffian and the Kaleckian incorporation of primary distribution is summarized see Stirati (1992).

⁷ Different than Marx's where class struggle plays a broader role, in Kalecki's *Theory of Economic Dynamics* and in Kaleckian models class conflict is incorporated through its relations with the degree of monopoly and their effect on income distribution. As pointed out by Rugitsky (2013, p.455): "[t]he problem is that, by restricting the purview of the theory to the struggles over the real wage, Kalecki is placing all emphasis on a part of the class struggle that cannot be properly understood in isolation. Without resorting to the distinction between labor and labor-power, which Marx put at the core of his theory of value, the real object of the class struggle remains overcast".

4. Discussing inequality and consumption patterns in Italy

This Chapter discusses inequality and consumption patterns in Italy⁸ to evaluate the behavior of the propensities to consume by quintiles and at the aggregate levels as well as to verify the linkages between the two dimensions of inequality in the country. Section 4.1 discusses the trends of functional and personal income inequality in Italy. Section 4.2 presents a brief overview drawing some conclusions in respect to aggregate demand, inequality and consumption behaviour for the years of 1989 and 2014 according to the Italian SHIW. Finally, Section 4.3 analyses some stylized facts on household consumption and financial behaviour, taking into consideration the trends in household debt and wealth.

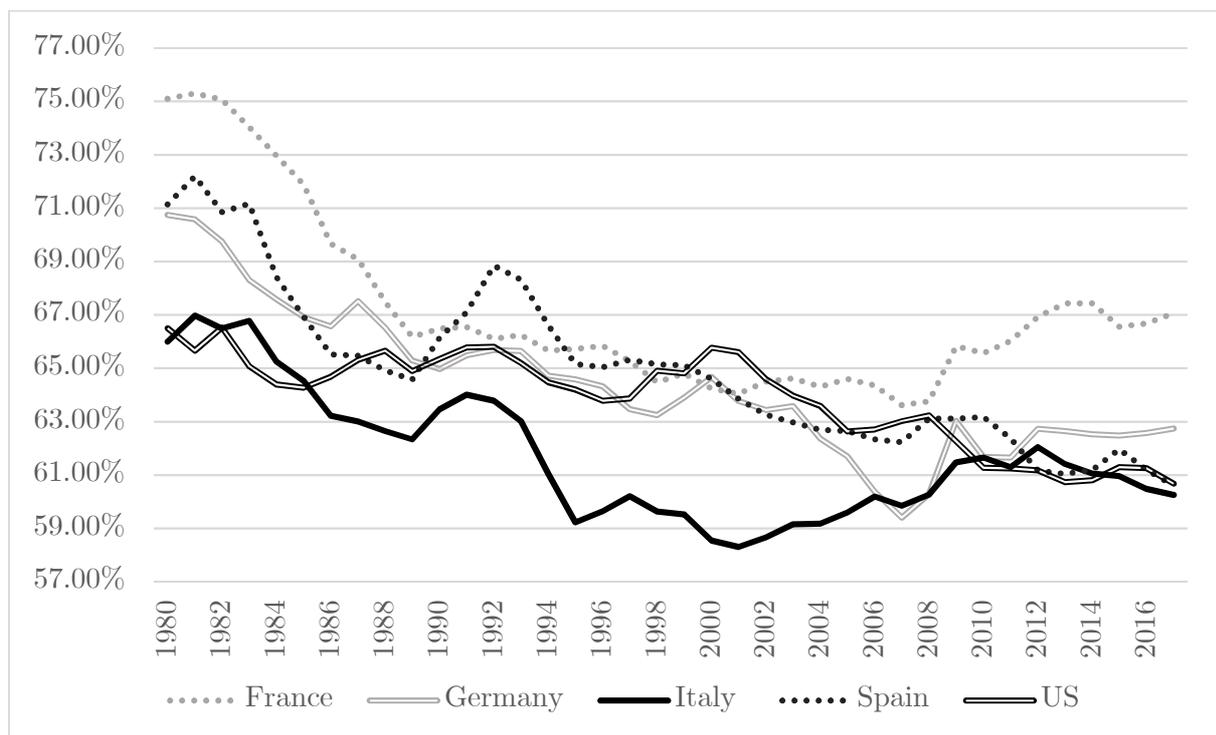
4.1 Functional and personal income inequality trends in Italy

The inequality pattern in Italy can be analysed through the significant shifts occurred in past decades. One interesting feature is the different dynamic occurred in the Mediterranean country in comparison with the US and other European countries. While in the US the adjusted wage-share decreased around 5.8 percentage points between 1980 and 2017 accompanied by strong wage concentration at the top culminating in extreme increases in top income shares, in Italy the 5.75 percentage point fall in the adjusted wage share⁹ as illustrated in Figure 2 did not imply in a comparable rise in top income shares. Other European countries (Germany, France and Spain) presented a stronger decrease in the adjusted wage share, but the level of the wage share in Italy still remains the lowest among the selected European counterparts and the US.

⁸ The choice for the empirical analysis of Italy is justified both by its dissonance in terms of post-crisis recovery, as well as by the free availability of the Italian Survey of HIW, which is the only European survey containing data on wealth, consumption, income and demographic characteristics for every wave. The survey provides information for heads of households, which are defined as a group of individuals related by blood, marriage or adoption and sharing the same dwelling.

⁹ For a more in-depth overview of the decline in the wage share in Italy see Stirati (2010). For an overview of the channels which contributed to slow growth and real wages stagnation in Italy see Leviero and Stirati (2005), according to which the redistribution of profits from manufacturing to the service sector (through relative prices mechanisms) contributed to the stagnation of real wages.

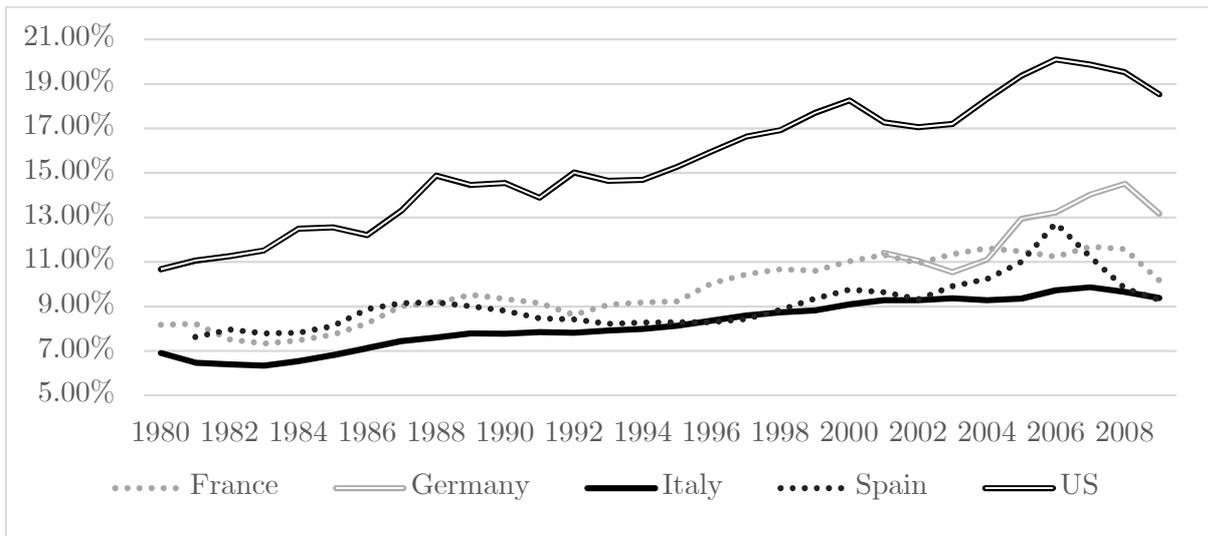
Figure 2: Adjusted Wage Share as percentage of GDP at current factor cost in Italy, Germany, France, Spain and the US (1980-2017)



Source: author's representation, AMECO

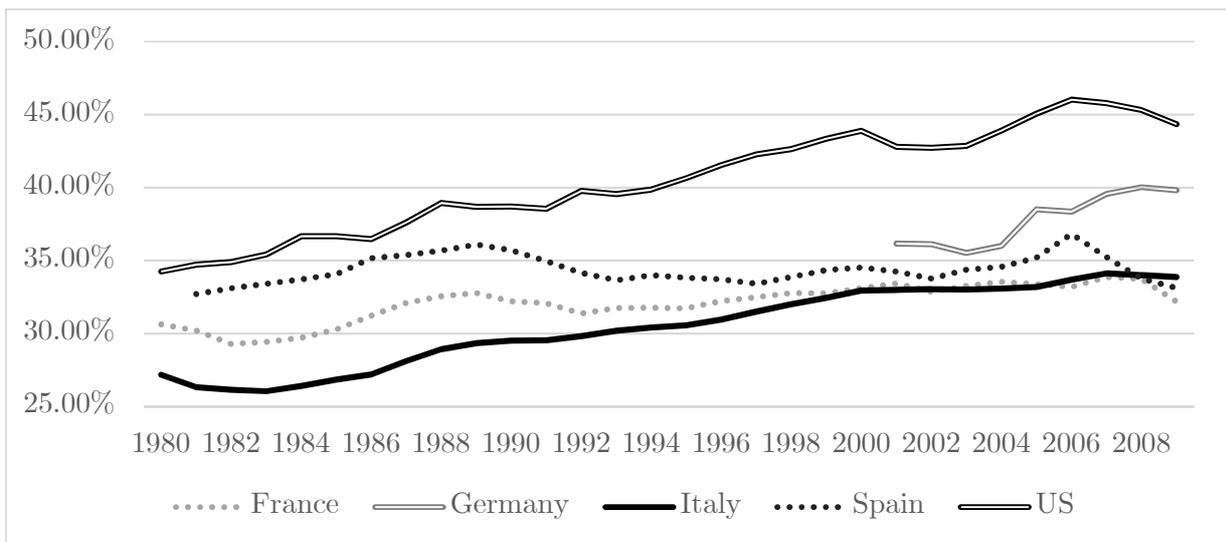
As illustrated in Figure 3, the top 1% in Italy increased its participation by around 2.5 percentage points between 1980 and 2009, whereas in the US the magnitude was of almost 8 percentage points. For the top 10% (Figure 4) the discrepancy was a bit less significant, with the Americans augmenting their share in about 10 percentage points, whereas the Italians experienced an increase of 6.70 percentage points. In comparison to other Europeans, Italy was in 2009 (together with Spain) the least unequal. However, the results for the top 10% are a bit worse, with Italy only lagging behind Germany.

Figure 3: Top 1% income share in Italy, Germany, France, Spain and the US (1980-2009)



Source: author`s representation, WID

Figure 4: Top 10% income share in Italy, Germany, France, Spain and the US (1980-2009)



Source: author`s representation, WID

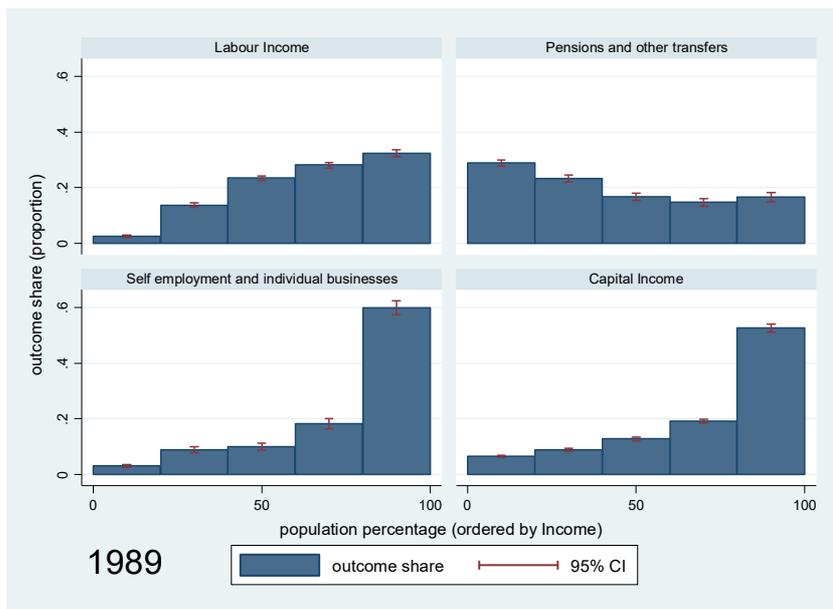
This discrepancy between the US American patterns and the Italian one might have its roots on the peculiar evolution of the distribution of earnings in Italy. Observing the density histograms (Figures 5, 6, 7 and 8) of the different income types ordered by income quintiles from the Italian SHIW, one interesting feature is the very important increase from 1989 to 2014 in the inequality within income from self-employment and individual businesses, a less

pronounced increase in the inequality within wages, a counter-intuitive increase in the inequality within income from pensions and other transfers and a reduction in inequality within capital income¹⁰. We can split our analysis into three periods: i. (1989-2002, Figures 5 and 6) from the first survey until the adoption of the Euro passing by the political and economic crisis of 1991-1993; ii. (2002-2008, Figures 6 and 7) from the adoption of the Euro until the crisis and iii. (2008-2014, Figures 7 and 8) after the crisis of 2008.

The first period has shown a clear increase in the inequality within self-employment and individual businesses' income, a certain increase in the inequality within labour income and a more equal distribution of income from transfers and pensions (that was more concentrated in the first quintile in 1989). In the second period there has not been a significant difference, only a small increase in the inequality within capital income and within income from pensions and other transfers. In the third and last period it is possible to observe a small increase in the inequality within pensions and other transfers and within labour income, as well as a small decrease in the inequality within self-employment and individual businesses. Accordingly, the period that appears to have had the greatest impact on the change in the distribution of income between the different income categories was the first one (1989-2002).

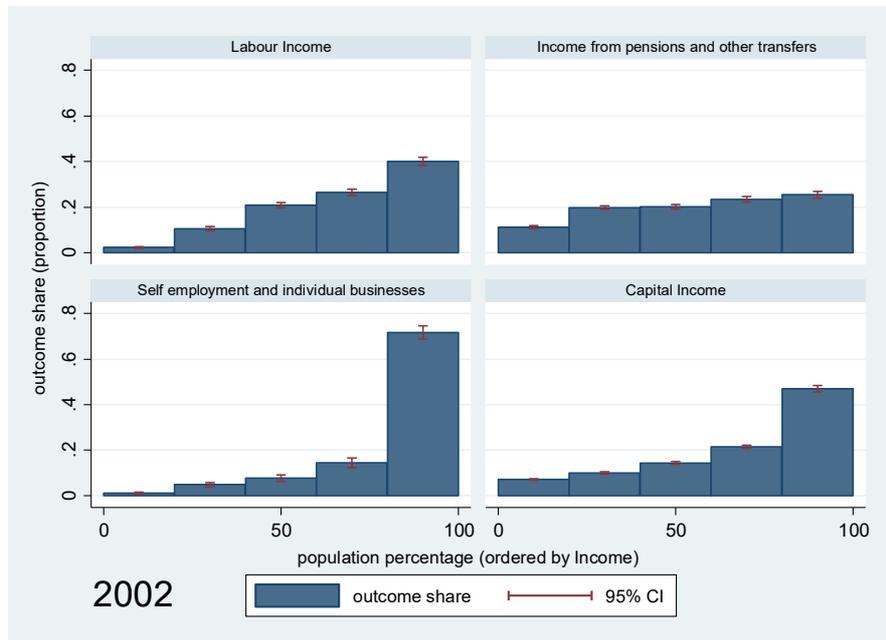
¹⁰ Capital income can be decomposed into actual rents and income from financial assets, interest income and imputed rents.

Figure 5: Density histograms: by income types ordered by income quintile in Italy (1989)



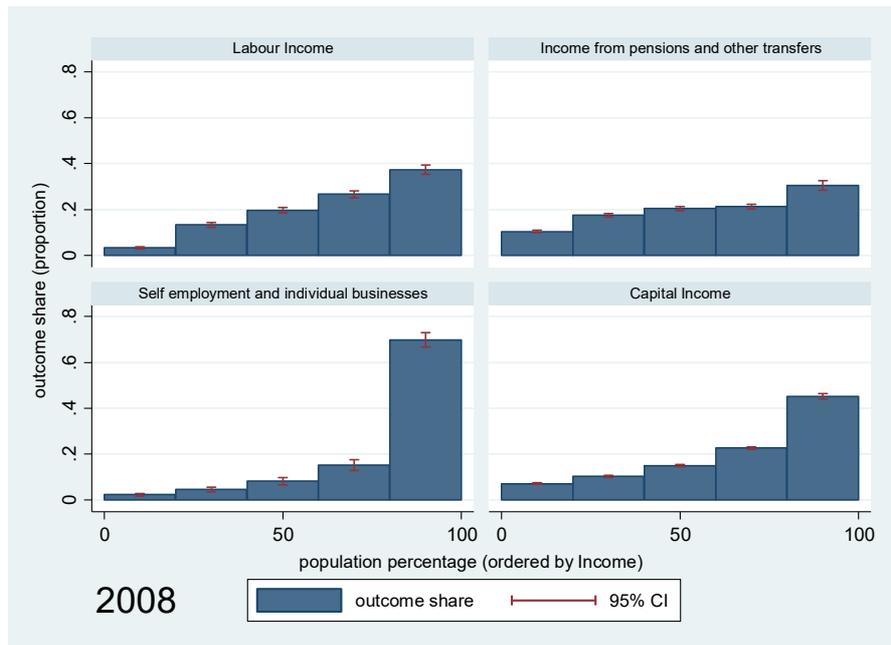
Source: author`s calculation, Bank of Italy (SHIW)

Figure 6: Density histograms: by income types ordered by income quintile in Italy (2002)



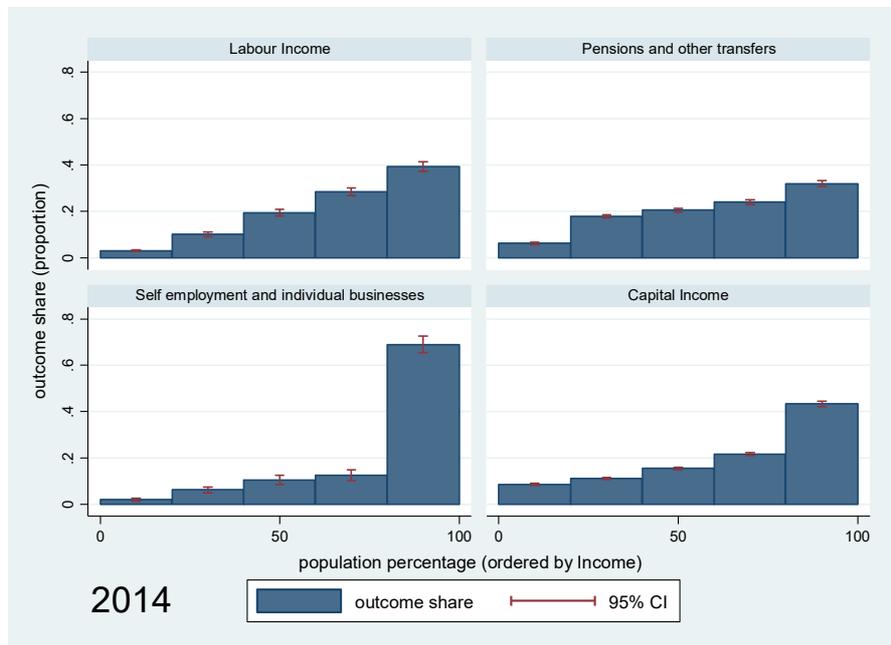
Source: author`s calculation, Bank of Italy (SHIW)

Figure 7: Density histograms: by income types ordered by income quintile in Italy (2008)



Source: author`s calculation, Bank of Italy (SHIW)

Figure 8: Density histograms: by income types ordered by income quintile in Italy (2014)



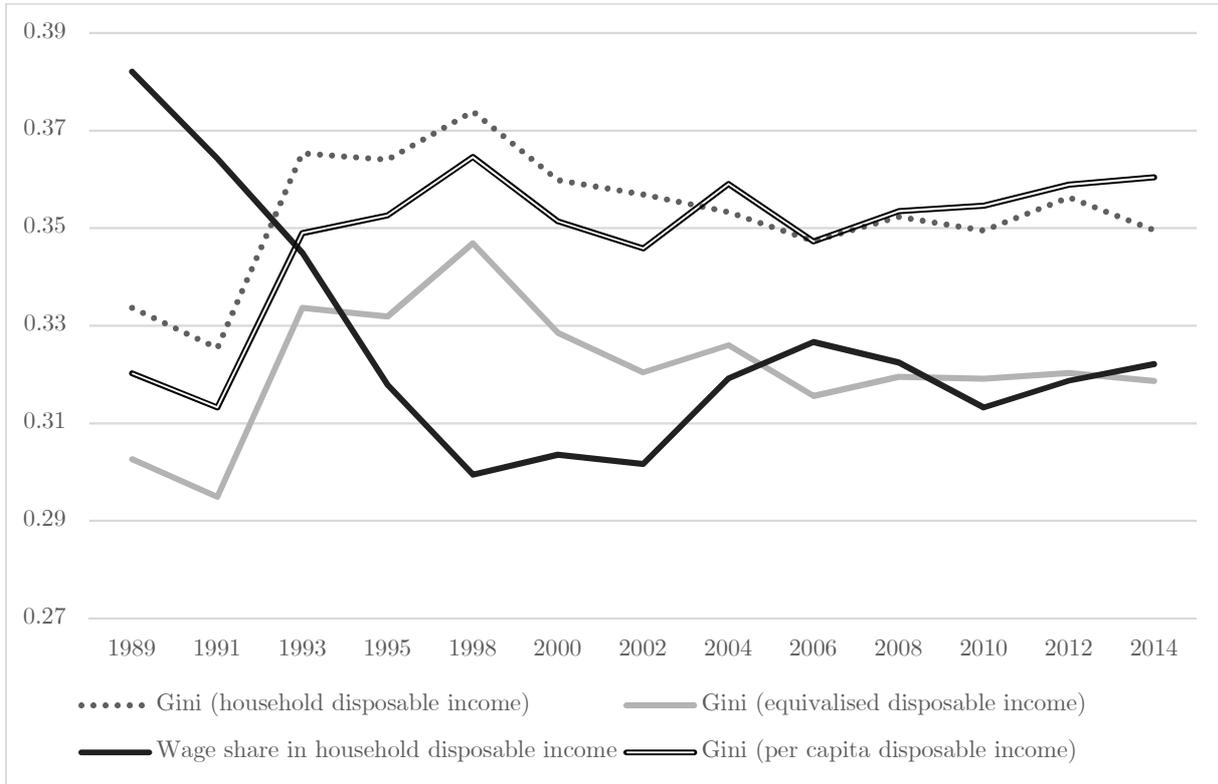
Source: author`s calculation, Bank of Italy (SHIW)

Besides explaining the peculiarity of the Italian case, these movements also explain why despite contributing to the rise in overall inequality measured by the Gini index the shift away from wage income did not always materialize in an increase in the index¹¹ (as illustrated in Figure 9). In spite of the significant increase after the crisis of 1991¹² until 1998, the overall level of inequality measured by the Gini index have clearly varied in a opposite direction from the wage share only until 2002. From then on, we either get a variation in the same direction, that is an increase in the wage share is accompanied by an increase in the Gini index, or a slight variation of the Gini concomitant with a stronger decrease of the wage share between 2006-2010.

¹¹ As matter of comparison with the movements in the wage share, following Barba (2013) we focus on the Gini calculated taking as a reference the individual as income unit. Figure 8 also presents two other alternatives that are the Gini of household disposable income and the Gini of equivalized disposable income.

¹² The crisis initiated in 1991 has its roots in structural and institutional changes related to both economic and political factors. Since then, the Italian economy has begun to experience a long period of decline. In the political sphere it is possible to highlight the shifts occurred in the occasion of the corruption scandal that condemned a significant number of Italian politicians in the operation ‘*Mani pulite*’ (Clean hands). In the economic sphere, the signature of the Maastricht Treaty in 1992 prevented the possibility of adopting discretionary policies, that both boosted the already existing disparities between the member countries and complicated the absorption of shocks such as the strong devaluation of the Italian Lira. This period was followed by a strong wave of liberalization and flexibilization of the labour market that culminated in rising levels of “income inequality, job precariousness, declining wage share, low wage and low consumption levels and a strong profit soar; along with low education and training, low competitiveness and low labour productivity, low innovation and low R&D” (Tridico 2015, p.166).

Figure 9: Gini indexes and the wage share of Italian households to disposable income (1989-2014)



Source: author's calculation, Bank of Italy (SHIW)

Barba (2013) attributes this apparent independence of the Gini coefficient from the factors income shares (especially after 2002) to two main causes. First, he argues that there is “a poor representation of capital income” (*ibid.*, p. 278) in comparison to other income factors which makes it hard to draw proper conclusions from it. The second cause would be related to a change in the “economic position of wage earners” (*ibid.*, p. 278). This is clear if we analyse the income percentage shares in households’ disposable income by quintiles (Table 1), where it is possible to see that wages have moved to the bottom of the income distribution, partially compensating for the overall negative effect of decreasing wage share and increasing wage inequality. Whereas in 1989 the majority of the bottom quintile received their income from transfers (particularly unemployment benefits), in 2014 this was partially reversed due to the movement of enlarging the wage income at the bottom.

Table 1: Income shares in households` disposable income by quintiles and income type (1989 and 2014)

	1st Quintile		2nd Quintile		3rd Quintile		4th Quintile		5th Quintile	
	1989	2014	1989	2014	1989	2014	1989	2014	1989	2014
Labour Income	16.80%	25.03%	41.56%	35.93%	46.24%	35.55%	45.65%	31.18%	33.94%	31.36%
Income from pensions and other transfers	58.92%	46.63%	31.52%	33.76%	19.81%	30.74%	12.89%	28.45%	8.75%	18.97%
Income from self employment and individual businesses	5.08%	4.66%	10.36%	6.86%	13.76%	5.19%	18.17%	8.97%	24.09%	16.20%
Capital Income	19.21%	23.67%	16.56%	23.45%	20.20%	28.53%	23.30%	31.40%	33.23%	33.47%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Share in total disposable income	7.17%	6.35%	12.13%	11.98%	16.80%	16.62%	23.40%	23.77%	40.50%	41.29%

Source: author`s calculation, Bank of Italy (SHIW)

The problem, as highlighted by Barba (2013), is that this movement has been attached to the increase in the poorly paid jobs that cannot compensate for a longer period the destruction of stable jobs. In this sense, the substitution of well-paid and protected labour force by precarious labour “could not fail to translate into a substantial reduction in the wage share” (*ibid.* p.279). In this sense, the hidden effect of decreasing wage share on the overall inequality measured by the Gini index is condemned in the future and the positive feedback going from functional income inequality to the interpersonal inequality is preserved and faded to be exacerbated by these trends in the labour market.

4.2 Income inequality and the propensity to consume: a micro-data analysis of the Italian SHIWs of 1989 and 2014

In order to make an empirical assessment on how consumption, particularly the average propensity to consume (APC henceforth), is impacted by changes in income distribution and to verify if the APC is homogeneous or not across the income distribution, this Section relies on data from the Italian SHIW drawing a comparison between the survey from 1989 and the survey from 2014.

The main inference that can be made comparing the surveys of 1989 to 2014 is that there is a clear increase in personal income inequality measured both by the Gini index¹³ as well as by the S80/S20 ratio accompanied by a decrease in the aggregate APC¹⁴ (as illustrated in Table 2).

Table 2: Basic features of the Italian SHIW of 1989 and 2014

	1989	2014
Sample	13,826.00	14,148.00
Population	14,331,319.00	14,523,181.00
Mean Income	16,807.36	30,570.10
APC	0.76	0.74
Gini	0.33	0.35
S80/S20	5.65	6.50

Source: author's calculation, Bank of Italy (SHIW)

If we compare the results of 1989 to the last survey of 2014 we can observe that the first three income quintiles lost participation in terms of total disposable income (Table 3). The first income quintile was the one that presented the most significant change, in 1989 its income share was of the magnitude of 7.17% and in 2014 it accounted for 6.35%, registering a loss of 11.41% in the period. The second quintile, that had a share of 12.13% in 1989, slightly went down to 11.98%. The third quintile also experienced a mild reduction going from 16.80% to 16.62%. The fourth and fifth quintiles presented a small increase in their income shares going from 23.40% to 23.77% and from 40.50% to 41.29% respectively.

¹³ The income unit to which the calculation refers to here is the household.

¹⁴ The APC is calculated by the dividing mean consumption by mean disposable income from each year analysed.

Table 3: Italian households' average propensities to consume and income shares in total disposable income by quintile (1989 and 2014)

	1st Quintile		2nd Quintile		3rd Quintile		4th Quintile		5th Quintile	
	1989	2014	1989	2014	1989	2014	1989	2014	1989	2014
Share	7.17%	6.35%	12.13%	11.98%	16.80%	16.62%	23.40%	23.77%	40.50%	41.29%
Δ		-11.41%		-1.25%		-1.10%		1.56%		1.95%
APC	0.94	1.14	0.87	0.88	0.85	0.80	0.76	0.72	0.66	0.62
Δ		21.37%		1.74%		-6.17%		-5.88%		-6.68%

Source: author's calculation, Bank of Italy (SHIW)

Summarizing, the quintiles with the highest propensities to consume lost participation, while the two top quintiles with lower propensities gained participation. Doing a simple arithmetic exercise, it is already possible to conclude that, in this case, the increase in the shares of the top quintiles with respect to the bottom ones impacted negatively the total APC, proving the arguments of the Keynesian Absolute Income Hypothesis (AIH henceforth) and the relative income hypothesis (RIH henceforth) with dominance of absolute income effects and denning the logic behind the Friedmanian Permanent Income Hypothesis (PIH henceforth) and the Life Cycle Hypothesis (LCH henceforth) and already giving a simple answer to the second research question.

In order to understand better the sources of the increase in the total Gini index from the first survey to the last one it is interesting to make an analysis of the decomposition of such index (Table 4) based on the division of the sample into quintiles. In doing so we can verify to which extent such increase was caused by an increase in the inequality within (Gh) and between the groups (Ge) that compose the generalized entropy index as well as how the Gini of each quintile evolved. The idea is to capture how income inequality within and between the quintiles and the change of the share of each quintile is related to the changes in the aggregate APC ($\sum y_i * c_i$) as well as in the APC of each income group (c_i).

In this regard, it is possible to point out that both inequalities within and between the groups have contributed to the general rise in inequality, even with a slightly bigger contribution of the former. Another interesting feature is the comparison of the increase in the Gini in the first and third quintiles together with a decrease in their respective shares

in relation to what happened to the respective propensities to consume. Whereas in the third quintile the increase in the inequality and decrease in the participation has been translated into a lower propensity to consume (reinforcing the aggregate result), in the first quintile the worsening of the Gini and the reduction of the income share translated into a higher propensity to consume (minimizing the overall decrease in the aggregate APC). Furthermore, a rather constant inequality within the top quintile and its increasing income share translated into lower APC (reinforcing the aggregate result).

Consequently, it is possible to argue that the AIH does not fully explain the Italian results. Despite the confirmation of the existence of a trade-off between inequality (increase in the global Gini index) and APC at the aggregate level, the separate analysis of the different quintiles, shows that the higher inequality at the bottom quintile resulted in a significantly higher APC whereas the higher inequality within the top quintile resulted in a lower APC of that income group. In other words, the negative trade-off between inequality and APC is inverted in the extremes of the distribution, especially at the bottom.

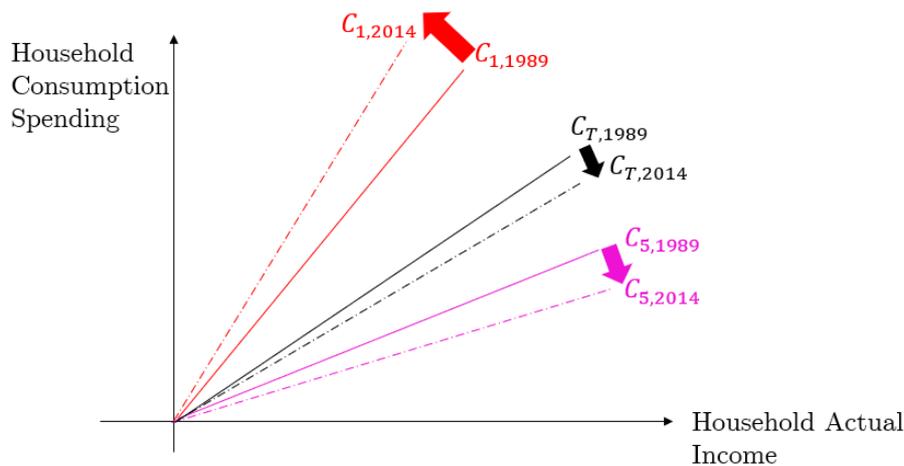
Table 4: Gini decomposition by households` income quintile in Italy (1989 and 2014)

1989								
	yi	ci	yi*ci	Gini by quintile	Gh	Ge	Generalized Entropy index	Gini
1	0.072	0.942	0.068	0.153				
2	0.121	0.868	0.105	0.059				
3	0.168	0.848	0.142	0.053	0.071	0.167	0.238	0.334
4	0.234	0.760	0.178	0.058				
5	0.405	0.661	0.268	0.170				
Σ			0.761					
2014								
	yi	ci	yi*ci	Gini by quintile	Gh	Ge	Generalized Entropy index	Gini
1	0.063	1.143	0.073	0.223				
2	0.120	0.883	0.106	0.059				
3	0.166	0.796	0.132	0.055	0.086	0.182	0.268	0.350
4	0.238	0.715	0.170	0.061				
5	0.413	0.617	0.255	0.171				
Σ			0.735					

Source: Author`s calculation, Bank of Italy (SHIW)

Accordingly, it seems that the absolute income effects of a higher overall level of inequality have been partially compensated by relative income effects¹⁵ (particularly at the bottom of the distribution), as described by Palley (2010). In other words, the APC has indeed decreased, mirroring the increase in the overall inequality level. Nevertheless, this negative trade-off could have been even bigger without the relative income effects that are especially clear in the two extremes of the distribution. Figure 10 illustrates exactly this movement with the consumption expenditure functions with respect to the actual income of each of the quintiles (C_1 and C_5 highlighted) as well as their respective shifts (dashed line) and the total effect ($C_{T,1989}$ and $C_{T,2014}$).

Figure 10: Italian Households' consumption spending and the effect of worsened income distribution (1989-2014)



Source: Author's elaboration, based on Palley (2010)

¹⁵ The presence of relative income effects, especially at the bottom of the distribution, is probably related to the need of keeping a certain minimum living standard that lead the lower class to increase the propensity to consume in face of decreasing income levels since there has not been an increase in the propensities in the middle of the distribution. This issue is further investigated in the next Section that discusses credit, debt and wealth as key elements in the prevention from full dominance of relative income effects.

4.3 Stylized Facts on household consumption and financial behavior in Italy

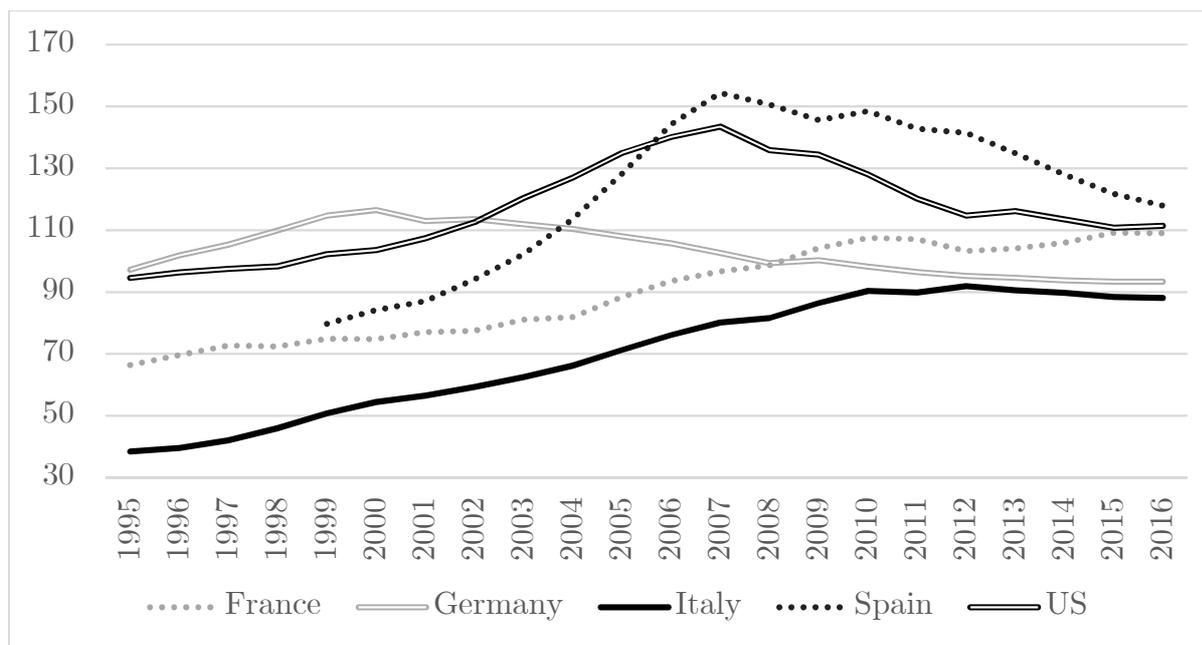
As previously discussed, Italian households have experienced an increase in income inequality that was concentrated on the extremes of the distribution accompanied by a decrease in the APC at the aggregate level, this provides support that there was a dominance of absolute income effects, confirming our assumption. Nevertheless, this reduction of the propensity to consume have been partially compensated by relative income effects. The question that remains is how relative income effects could partially (but not fully) compensate for the demand depressing effects of rising inequality on aggregate consumption. The answer relies on how constrained by their income budget are the consumption decisions of households, as argued by Brown (2004). In this sense, credit, debt and wealth might play a certain role.

The relation between rising debt and the compensation for increasing inequality has been extensively discussed in the literature for the US American case. Barba and Pivetti (2009) have argued that the rising income inequality has been the main source of the the rise in debt levels sustaining the puzzle raised in that country, when declining wages have for long coexisted with increasing consumption demand. Cynamon and Fazzari (2013) have also made an assessment of the US economy associating inequality, worsening relative income and changing consumption and financial norms pushing for the rise in debt levels. Carr and Jayadev (2013) provide evidence from panel data also for the US that the rising indebtedness of households is related to high levels of inequality as well as relative income effects.

For the Italian case, despite the existence of relative income effects, it was observed a dominance of overall demand-depressing effects of rising inequality, which might already indicate that rising indebtedness does not play the same role as in the US American case. Analysing the level of household debt to net disposable income ratio (Figure 11) there is a clear upward trend from the end of the 1990s until the Eurozone crisis, which is intensified in the beginning of the 2000s (with the exception of Germany), corresponding to the period right after the introduction of the Euro. Nevertheless, while Spain and France reached levels

comparable to the US one, Italy maintains lower debt levels compared to Germany despite the strong acceleration of the 2000s. An interesting feature is that, even after the crisis, the ratio of debt to disposable income has kept increasing in Italy even if to a slower pace probably due to stagnating or decreasing income¹⁶.

Figure 11: Household debt to net disposable income ratio in Italy, Germany, France, Spain and the US (1995-2016)

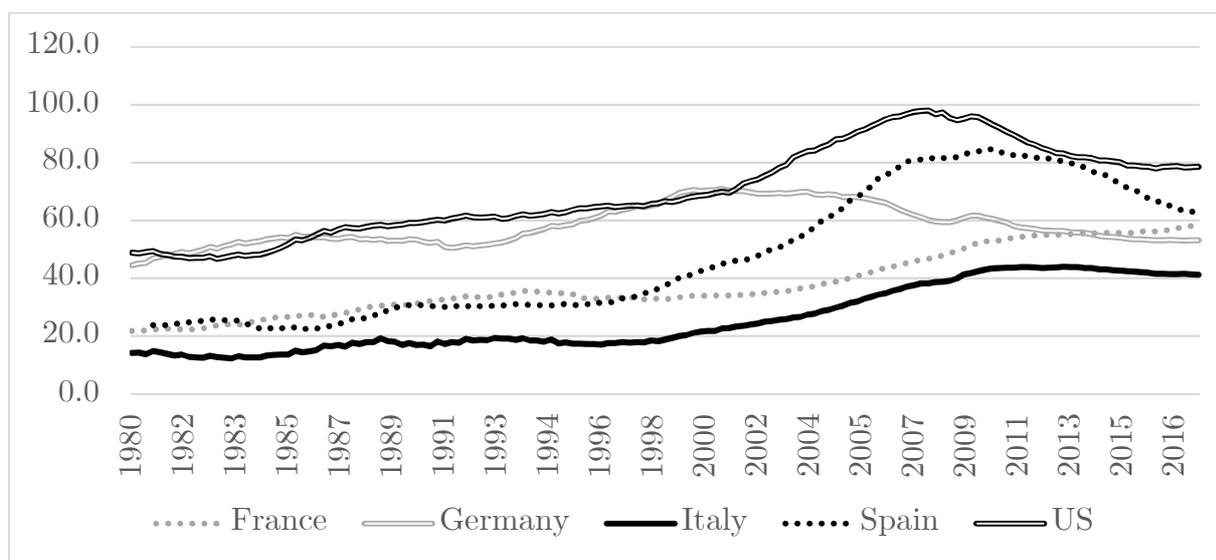


Source: author's representation, OECD

The same is true for total household debt to GDP ratio (as illustrated in Figure 12, representing the outstanding amount of credit at the end of the reference quarter as percentages of nominal GDP). Regardless of the significant rise, Italian households still lag behind in comparison to other European countries and to the US.

¹⁶ The decreasing household disposable income of the magnitude of 13 % in real terms (IMF 2013) in the Italian case can be related to “modest wage growth and high unemployment” (*ibid.*, p.6).

Figure 12: Household debt to GDP ratio in Italy, Germany, France, Spain and the US (1980-2016)

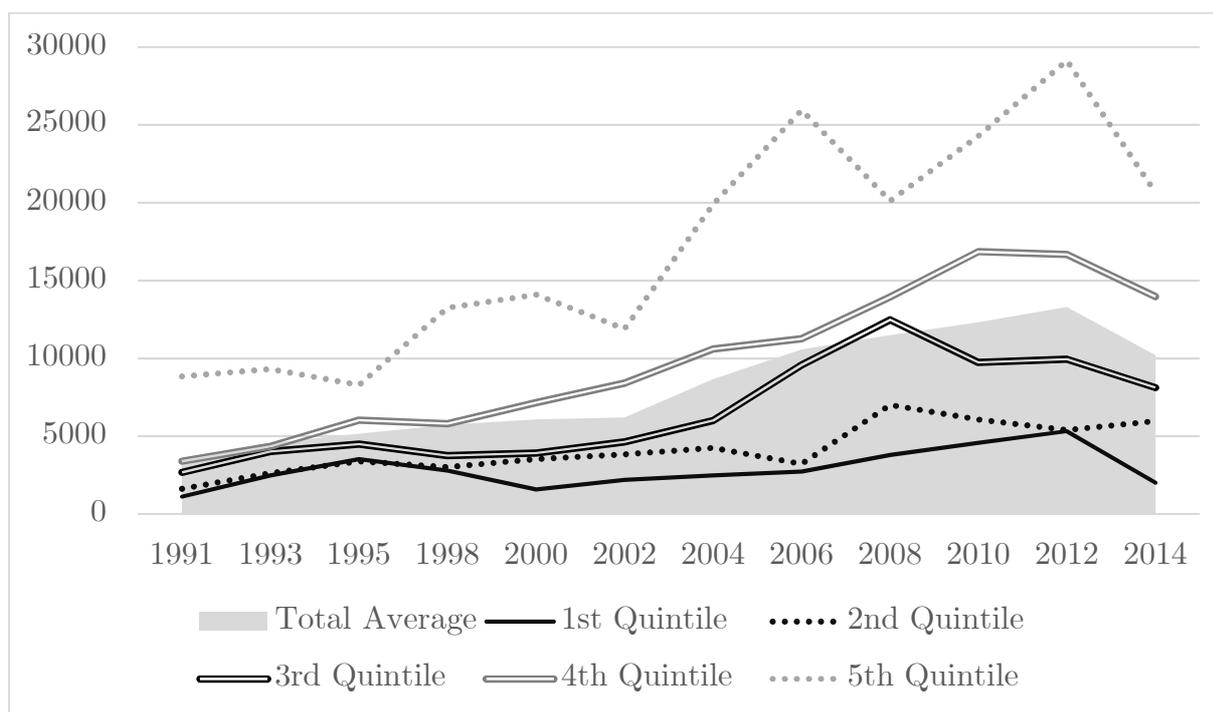


Source: author's representation, BIS

At the micro level, analysing the data from the Italian SHIW, it is possible to observe the indebtedness by quintile. It is clear that the increasing average of financial liabilities has materialized in all the five quintiles (Figure 13), which have reached a higher average liability level in 2014 compared to the starting point (1991¹⁷). However, it is evident that the upper quintiles are the ones that pull up the average, also meaning that the ones holding more income and wealth also hold the highest amounts of financial liabilities.

¹⁷ The analysis of the financial liability is constrained to start in 1991 due the availability of data from the storical files published by the Bank of Italy.

Figure 13: Italian Households' Average Financial Liability by quintiles in euros (1991-2014)



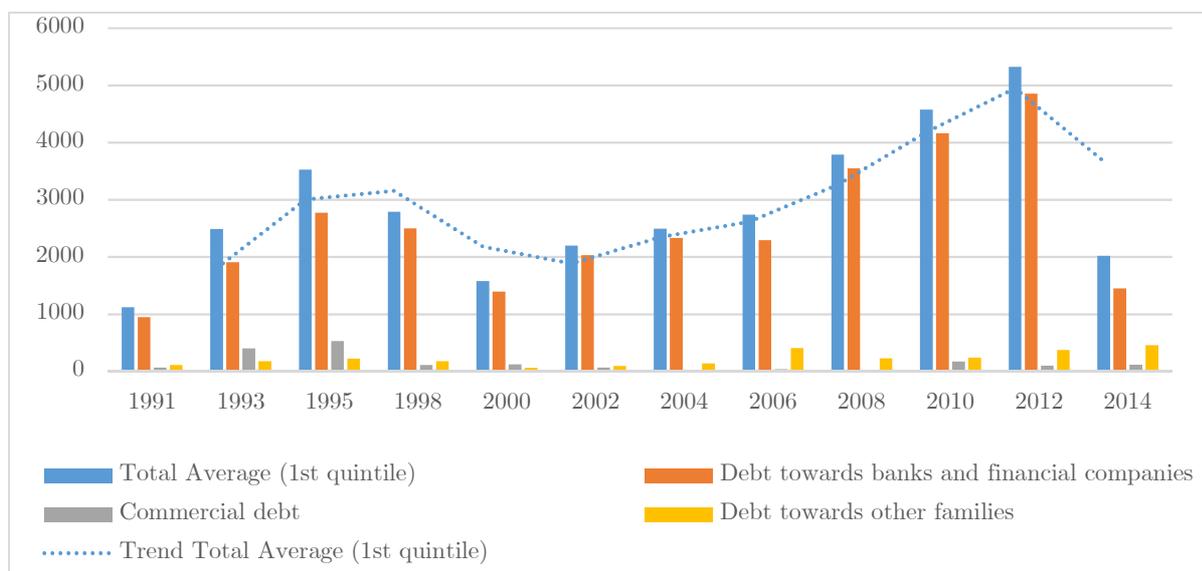
Source: Author's representation, Bank of Italy (SHIW)

Analysing Figures 14, 15, 16, 17 and 18 it is possible to see the decomposition and the exact period when the growth of financial liabilities accelerated the most in each of the quintiles (ordered by disposable income)¹⁸. Figure 14 shows that the increase in the average of liabilities in the first quintile was concentrated in the period between 2000-2012. The interesting feature is that this accelerating trend did not stop after the crisis but rather kept its pace until 2012, which can be related to need of maintaining a certain basic living standard in face of decreasing income levels. Other peculiar characteristic of the profile of the average liability related to the first quintile is the importance of commercial debt and debt towards other families, which despite being very small is the highest among all the other income strata. The second quintile (Figure 15) presented the peak of acceleration between 2006-2010. The third quintile (Figure 16) had the biggest increase in the liability average between 2002-2008, clearly decreasing after the crisis. The fourth quintile (Figure

¹⁸ The trend line is a moving average trend referent to the total average of financial liability of each quintile.

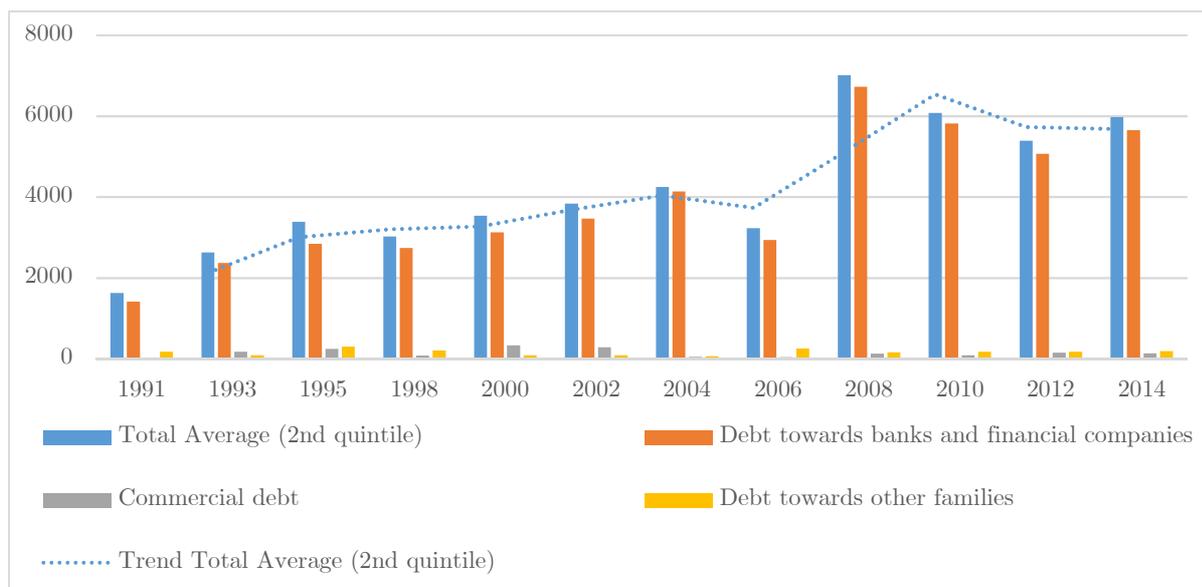
17) had a rather stable accelerating path between 1991-2012. And, finally, the fifth quintile (Figure 18) presented two periods of acceleration, 2002-2006, possibly related to the euphoria after the adoption of the Euro, and between 2010-2012.

Figure 14: Italian Households' (1st quintile) Average Financial Liability by type in euros (1991-2014)



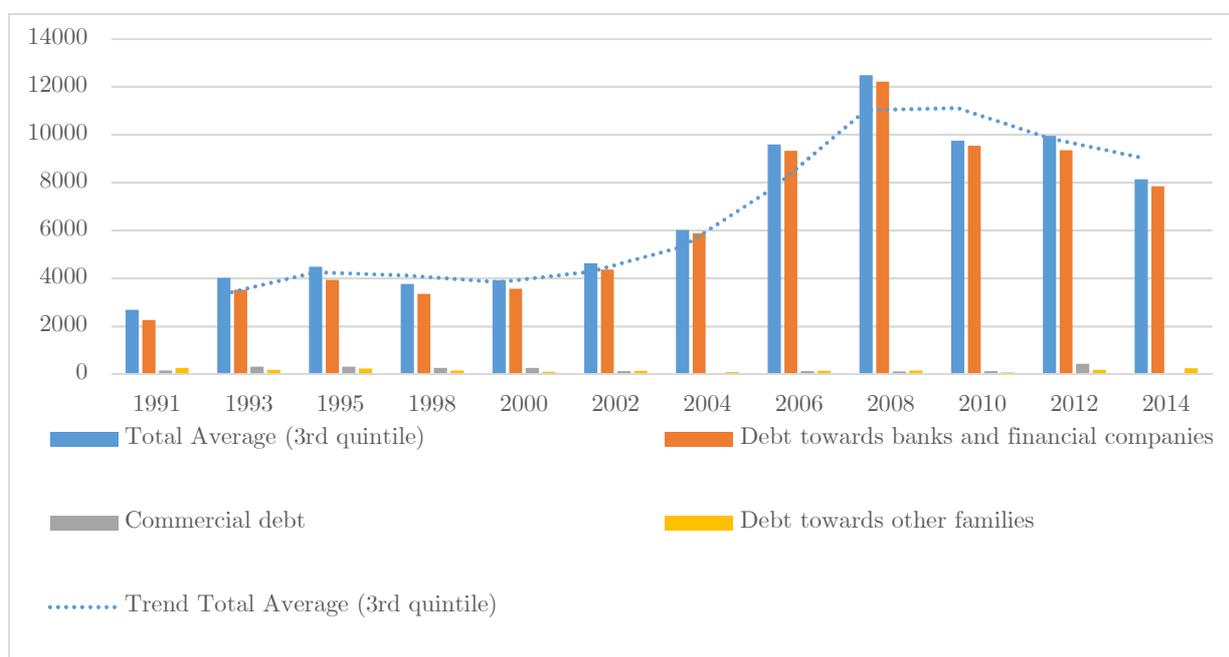
Source: Author's representation, Bank of Italy (SHIW)

Figure 15: Italian Households' (2nd quintile) Average Financial Liability by type in euros (1991-2014)



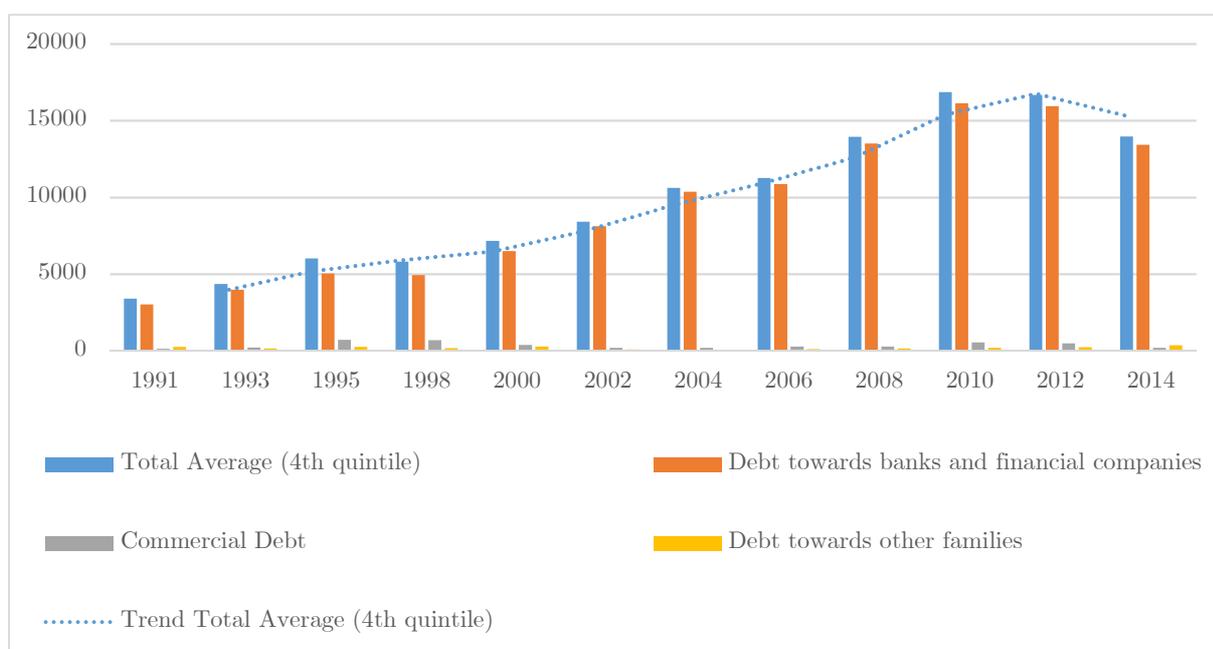
Source: Author's representation, Bank of Italy (SHIW)

Figure 16: Italian Households' (2nd quintile) Average Financial Liability by type in euros (1991-2014)



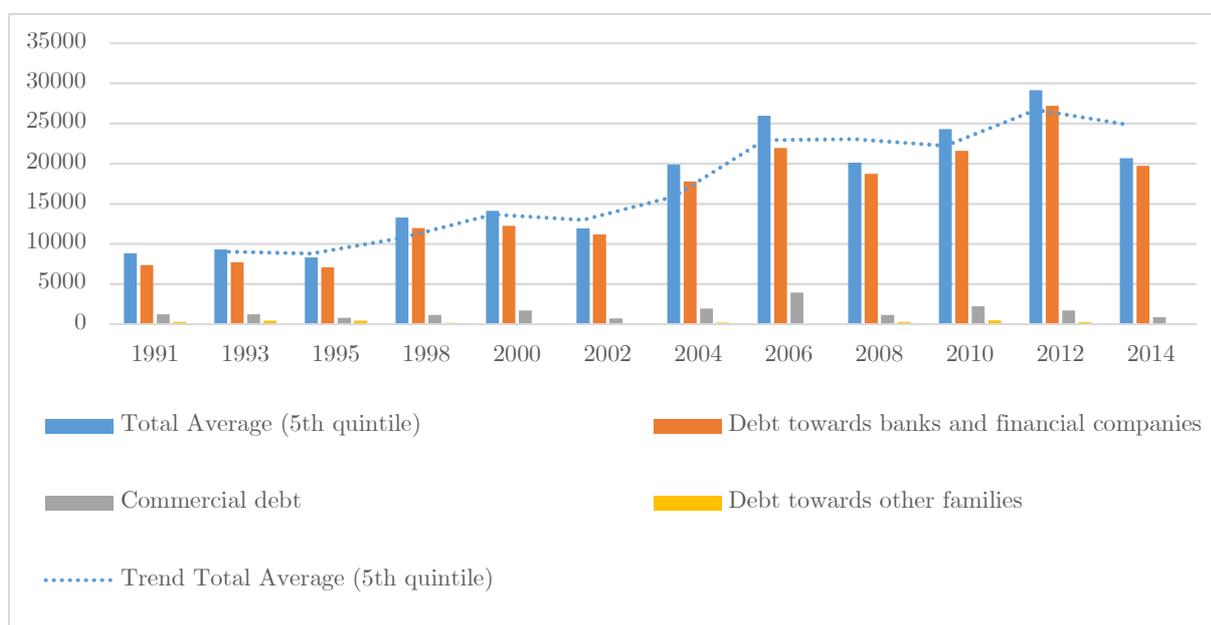
Source: Author's representation, Bank of Italy (SHIW)

Figure 17: Italian Households' (3rd quintile) Average Financial Liability by type in euros (1991-2014)



Source: Author's representation, Bank of Italy (SHIW)

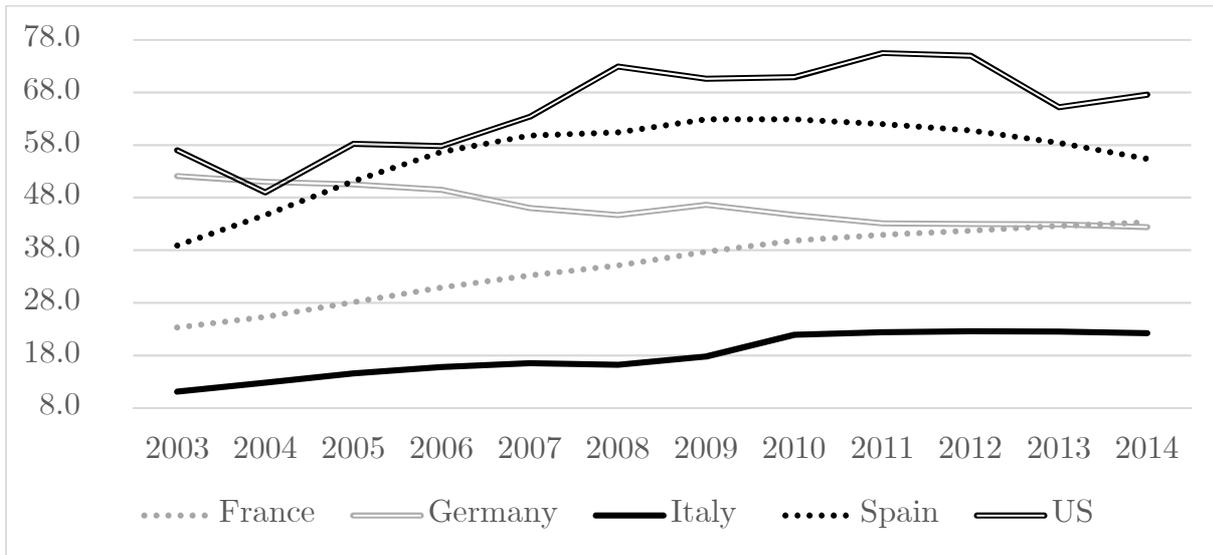
Figure 18: Italian Households' (4th quintile) Average Financial Liability by type in euros (1991-2014)



Source: Author's representation, Bank of Italy (SHIW)

Going back the macro level and analysing the composition of household debt, it is possible to make a distinction between mortgages and consumer credit. In the Italian case, according to the IMF (2013) the key component of households' debt structure are mortgages, accounting for 60% of the total household debt in 2012. Taking a closer look to this key component of the Italian private debt structure it is possible to argue that even with a significant increase (growing from 11.1% of GDP in 2003 to 22.2% in 2014, as illustrated in Figure 19), the mortgage financing in the Mediterranean country is still very low in comparison to other European countries and to the US.

Figure 19: Total outstanding residential loans to GDP ratio in Italy, Germany, France, Spain and the US (2003 - 2014)



Source: author's representation, Center for Economic Studies (CES)

The fact that the demand-depressing effects triggered by the increasing inequality levels did not significantly shift the private households' financial balances in Italy are also discussed in the literature of macro growth regimes. While some European member countries have experienced a debt-led private demand boom regime (Spain, for example) that compensated through current account deficit and debt accumulation the scenario of stagnating income and increasing inequality, other countries complementary have developed an export-led mercantilist regime (Germany, for example). Italy (like France and Portugal) was qualified in the literature as an intermediate case, following a domestic-demand led regime, in which "positive financial balances of the private household sector as well as the external sector, and hence, current account deficits" (Dodig et al. 2015, p.8) were sustained by negative results runned by the government and by the corporate sector. In the Italian case, in particular, Gabbi et al. (2014) demonstrate that the largest component of aggregate demand and growth was aggregate private consumption, with relatively low contribution of stock investments and a balanced current account. In this sense, the authors qualify the growth regime of the country as internal domestic-demand led.

Besides the possible compensation of debt-based consumption, wealth¹⁹ might have played a role as well. Barba and Pivetti (2009) and Cynamon and Fazzari (2008) have emphasized the mechanism of rising house prices functioning as collateral with significant effects on consumption, once households with mortgages make use of refinancing schemes to create disposable income (transforming houses in ATM machines²⁰). This was, again, especially true in the US (which was the case deeply analysed in the literature).

In Italy, however, despite the significant increase in housing loans (Figure 19) pulling the levels of total household debt, housing equity withdrawals did not play a significant role. Regardless of the attempt of the Ministry of Economy and Finance to encourage such recourse in 2003 in the face of stagnating wages and consumption, housing equity withdrawals did not successfully boost consumption demand, as occurred in the US. The main argument behind this attempt is that “much of the wealth of Italian households is concentrated in the real estate market, and support to consumption could come from the possibility of converting part of this wealth into disposable income” (Ministero dell'Economia e delle Finanze 2003, p.25, author`s translation).

The strategy of the Ministry was accurate in what concerns the decomposition of wealth of Italian households, which according to data of the Italian SHIW, was around 90 per cent concentrated in real assets in the occasion of the publication of the plan (as illustrated in Figure 20). However, most of Italian households' real wealth is concentrated in residential properties²¹, that they fear to loose in refinancing schemes, not only preventing them from incurring in home equity withdrawals, as sustained by Barba and Pivetti (2009), but also

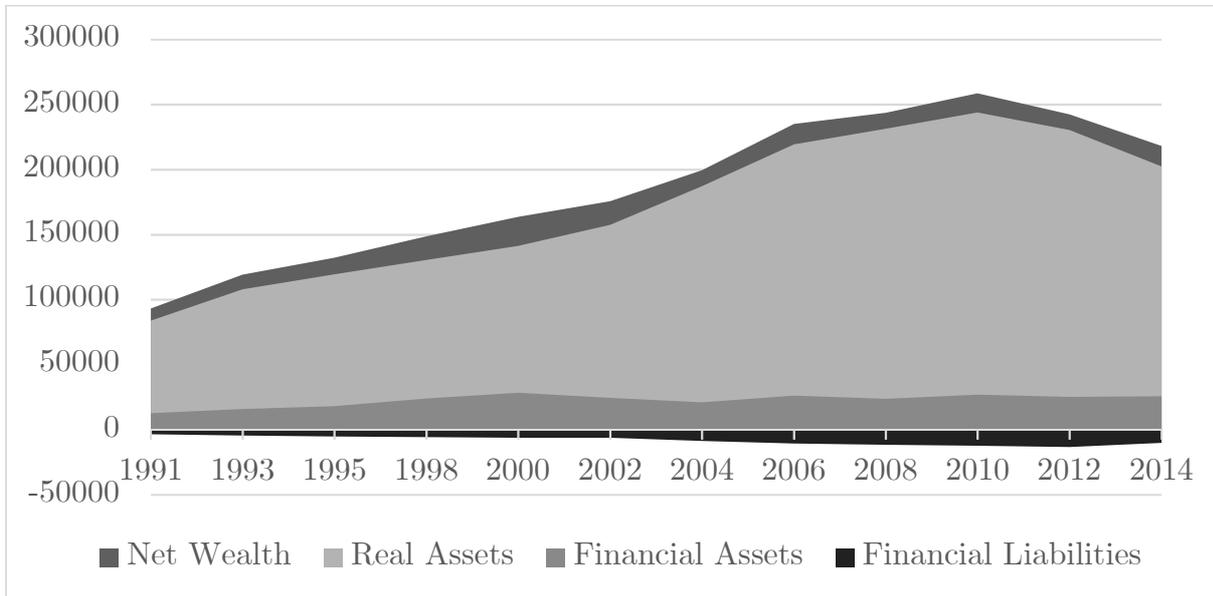
¹⁹ The positive impact of wealth on consumption is discussed by different economic paradigms. As highlighted by Stockhammer et al. (2018), whereas in the mainstream the positive effect of wealth is related to utility maximizing behaviour of rational households, in the heterodox literature it is related to financialization, to the role of lenders and to consumption norms. In addition, New Keynesians have argued that the effect of wealth on consumption runs from the channel of wealth functioning as collateral to households that are credit constrained.

²⁰ For an extensive description of mortgage refinancing in the US see Guttman (2016).

²¹ In 2014 Italian households' real assets were 85 per cent made up by dwellings, 6 per cent by non-residential buildings, 4 per cent by land, 3 per cent by plant, machinery, equipment, inventories and goodwill and 2 per cent by valuables (Bank of Italy).

contributing to the relatively low risk contribution coming from the household sector (IMF 2013).

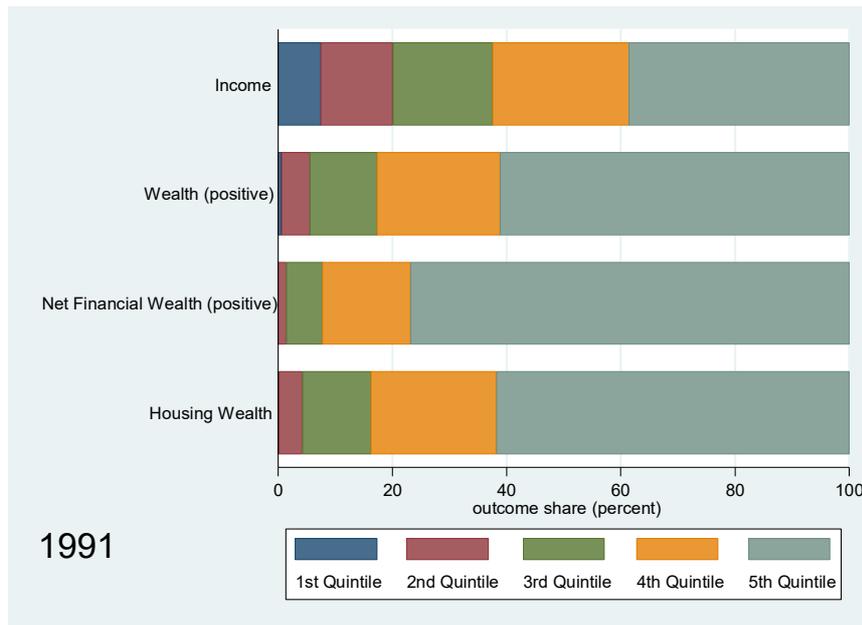
Figure 20: Italian Households' Average Net Wealth by component in euros (1991-2014)



Source: author's calculation, Bank of Italy (SHIW)

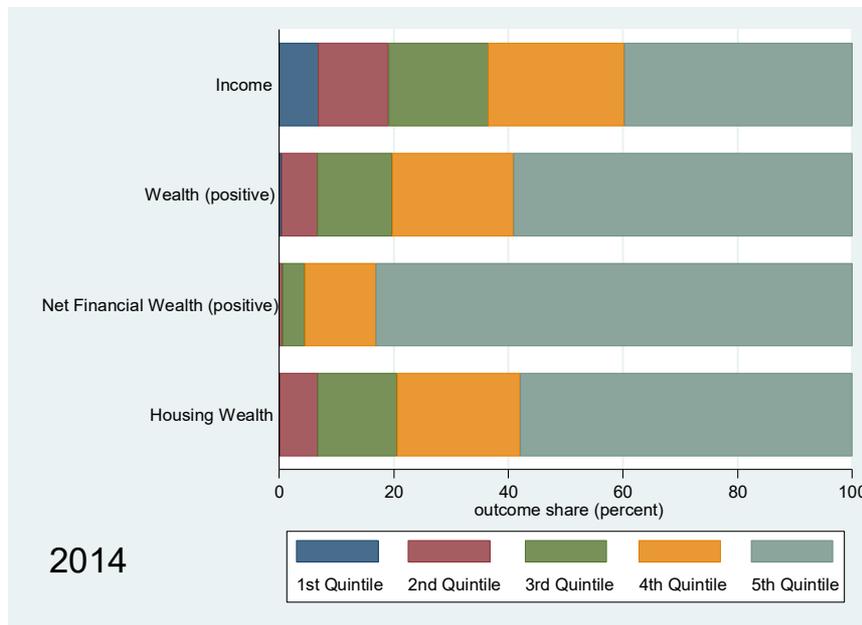
Besides social norms that shape Italian households' behaviour and their reluctance towards mortgage refinancing schemes, the low presence of wealth effects might also be related to the very unequal wealth distribution, as highlighted by Gabbi et al. (2014) and illustrated in Figures 21 and 22. The concentration of financial wealth is even more alarming and becomes strictly clear in 2014 (Figure 22).

Figure 21: Italian households' wealth by type and quintile (1991)



Source: author's calculation, Bank of Italy (SHIW)

Figure 22: Italian households' wealth by type and quintile (2014)



Source: author's calculation, Bank of Italy (SHIW)

Recent econometric studies have also tested the influence of real and financial wealth on Italian households' consumer behaviour from a mainstream perspective. Rossi and Visco

(1995) have shown that the marginal propensity to consume out of wealth varies between 3 and 3.5 per cent. A smaller magnitude around 2 per cent is found by Paiella (2007), Grant and Peltonen (2008) and Guiso et al. (2005). Slacalek (2009) applies an estimation method based on the sluggishness of aggregate consumption, implying that “the eventual (long-run) marginal propensity to consume out of total wealth is 5 cents (averaged across countries)” (*ibid.*, p. 4). In doing so, the author evaluates both real and financial wealth effects on consumption in 16 different countries. The interesting feature is that these effects are found to be very strong ranging between 4 and 6 per cent where mortgage markets are more developed and in market-based economies²². In Italy, however, the total wealth effect on the MPC is found to be statistically insignificant. Analysed separately, nor financial nor housing wealth effects are significantly different from zero (at the 95 percent significance level) in the Mediterranean country.

Summarizing, it is possible to argue that the discussed stylized facts and the literature cannot confirm the existence of significant wealth and debt effects on consumption despite the increasing trend on indebtedness particularly related to the real estate sector in Italy. That can be justified by the very unequal distribution of both financial and real wealth among Italian households (Gabbi et al. 2014), as well as by its high concentration on real estate, particularly residential properties that the Italians are sceptical to involve in refinancing schemes or use as collateral (Barba and Pivetti 2009).

5. Assessing the Stylized Model in the light of the Italian case: some policy implications

This Chapter is dedicated to the assessment of the results of the model presented on Chapter 3 in light of the country case study of Italy presented in Chapter 4 and draw some policy recommendations. First, the signal of the partial derivative of the equilibrium rate of capacity utilization (u^*) of the stylized model in respect to t_i would depend on the type of

²² In this sense, Slacalek’s results are in line with the distinction between market-based and bank-based financial systems used by Jackson and Deeg (2006).

tax reform adopted (that is, on the sum of the partial effects on all income quintiles). Considering that this shift is a progressive one oriented towards redistribution alleviating the (income) tax burden on the poorest and increasing their disposable income, the final result would be attached primarily to the propensities to consume out of each income quintile, as it has been argued.

As demonstrated in Section 4.2, the propensities to consume of the different income quintiles of the Italian households are not only significantly different but are also a decreasing function of the income level. In other words, as assumed in the heterodox literature based on the Keynesian tradition, the propensity to consume out of disposable income is higher at the bottom and lower at the top (quintiles). The interesting feature here is that not only the assumption of heterogeneity of the propensity to consume has been confirmed, but the dispersion of the APCs of the quintiles has increased in a comparison based on the Italian SHIW of 1989 and 2014.

Subsequently, we need to analyse the shifts within each quintile's APC. This is because, depending on the change in these propensities, the aggregate result might also change. In the Italian case, the worsening of the distribution has implied in a decrease in the aggregate APC, confirming the dominance of absolute income effects in the country, as demonstrated in Section 4.2 and confirming our hypothesis. In this regard, a redistribution policy would be effective in terms of boosting aggregate demand (through the consumption channel), increasing capacity utilization and growth.

These results are also in line with the assessment of the the Italian case in the literature based on macroeconomic growth regimes. As demonstrated by Gabbi et al. (2014), the largest component of aggregate demand and growth in Italy is aggregate private consumption. In this sense, the reverse relation also holds true, with the decline in the aggregate demand (particularly private consumption) being the key source for the sluggish dynamics of GDP and for its decline, as highlighted by Tridico (2015).

Furthermore, as already argued on Chapter 3, the positive effect on the aggregate consumption function would boost the size of the multiplier, also increasing the positive effects of positive shifts in animal spirits and in government expenditure. In this regard, it is possible to argue that the effectiveness of fiscal policies in terms of utilization and growth would be boosted in case of adoption of redistribution policies. In other words, the adoption of progressive income tax reforms could improve the positive effect of the public-sector component on aggregate demand.

Despite the existence of relative income effects, the stylized facts could not confirm the existence of significant wealth and debt effects on consumption regardless of the increasing trend on indebtedness (particularly related to the real estate sector) in Italy. In this sense, the dominance of the absolute income effects might be due to financial and consumption norms that prevent a detachment of the consumer behaviour of Italian households from their income budget, thus avoiding the dominance of relative income effects (as occurred in the US case).

The last possible shift in the stylized model presented is related to shifts in functional income distribution that have an indirect effect on the result through its influence on overall inequality (changing the shares of the different income strata). In the specific case of Italy, a shift towards profits has implied an overall increase in inequality. Hence, the indirect negative effect of an increase in the profit share is also confirmed for the Italian case.

Albeit confirming the link between functional and personal income inequality, the Italian case has a particularity that partially hides the impact of factor income inequality on the overall inequality. That is because despite increasing significantly after the crisis of 1991, the overall level of inequality measured by the Gini index has only slightly varied not accompanying in magnitude the changes in the wage share especially after 2002, as argued by Barba (2013). One of the main explanations for this relies on the changes occurred in the Italian labour market and its segmentation (particularly affecting the younger generations). In this sense, the reforms²³ adopted since the signature of the Maastricht

²³ For an in-depth overview of the reforms in the Italian labour market see Cirillo et al.(2017).

Treaty and intensified since the end of the 1990s and beginning of the 2000s, terminated in a clear precarization of the labour market and in an increase in the in-work poverty levels. In this aspect, the small impact of both the decline in the share of labour as well as its radical flexibilization might also be related to its stronger impact in the very left extreme of the distribution, not significantly affecting the Gini (which is well known for capturing the inequality in the middle of the income distribution). Thereupon, the ‘immiseration of the proletariat’ advocated by Marx (1867) that seemed to contradict the empirical observations in the occasion when Kaldor wrote his famous article “Alternative Theories of Distribution”, seem actually to fit the case of Italy and of other Western European countries, particularly in the south, as argued by Pradella (2015)²⁴.

The reforms that aimed to fight the historical low labour force participation, labour segmentation and geographical dualism in the Italian labour market only resulted in a shift in the wage income to the bottom of the distribution without significant improvements. In this sense, the recovery of the primary income distribution, that would thus improve the overall inequality (the focus of this work), is not only recommendable but urgent, considering both the unsuccess and the important side effects coupled to the restructurings adopted up to now. This could be achieved, for example, through the abolishment of the neoliberal and wage policy reforms implemented and through policies that improve the bargaining power of workers, such as the strengthening of labour unions, as proposed by Stirati (2016).

Succinctly, it is possible to argue that in the Italian case a progressive income tax reform would have a positive effect confirmed by the heterogeneity in the propensities to consume and by the dominance of absolute income effects. Moreover, adding more income brackets could also be efficient in the Italian case, given the significant disparities of consumption propensities from one strata to the other. Still, a redistribution policy could also increase the size of the fiscal multiplier, which was only briefly discussed here and remains as an

²⁴ Pradella (2015) emphasizes that the “increasing IWP [...] since the outbreak of the global economic crisis is linked to long-term trends in the IPE and to the growth of new competitors, mainly from emerging countries” (*ibid.*, p. 1).

interesting topic for further research, especially considering the fundamental role played by fiscal policies (particularly industrial policies) in the resolution of the historical geographical dualism of the Italian economy. Lastly, a shift towards wages and the abolishment of the neoliberal labour market reforms implemented in Italy could also affect the model positively, decreasing the overall level of inequality and mitigating the harmful scenario raised in the country in terms of youth unemployment, massive emigration flow and in-work poverty levels.

6. Conclusion

In this paper it has been briefly reviewed the evolution of post-Keynesian growth models particularly regarding the incorporation of personal income inequality and taxation. Despite the amendments done up till now in the post-Keynesian literature, it has been pointed out that the inclusion of interpersonal inequality with heterogenous propensities and the connection between the personal dimension of inequality and income taxation has not been touched upon. Therefore, the first goal of this work was to develop a simple neo-Kaleckian model inspired by You and Dutt (1996) incorporating both personal income inequality as well as income taxes in order to identify how changes in income taxes and personal income distribution affect output and growth.

Confirming the hypothesis, the result of the model both with respect to tax reforms that affect income distribution as well as due to shifts in income distribution coming from other sources is primarily dependent on the propensities to consume out of each income quintile, which should be heterogeneous and a decreasing function of the income level (following the Keynesian tradition based on *The General Theory*) for progressive shifts to be positive (and *vice versa*). Secondly, this result was shown to be conditioned to the type of relation between overall inequality and aggregate consumption. In this sense, the strictly negative trade-off between aggregate consumption and inequality has been attached to the dominance of absolute income effects confirming the empirical feature of the issue. Accordingly, the second research goal of this Master's thesis was verifying empirically the

behavior of the propensities to consume by quintiles as well as to test the dominance of absolute income effects in Italy.

Confirming again our hypothesis, the propensities to consume of the different income quintiles were shown to be significantly different and a decreasing function of the income level. In addition, the dominance of absolute income effects has been confirmed given that the worsening in income distribution has implied a decrease in the aggregate APC, in spite of the existence of relative income effects affecting the Italian households' propensity to consume on the extremes of the distribution.

In this regard, it has been argued that the prevalence of absolute income effects has been related, in the Italian case, to the non-existence of sufficiently significant wealth and debt effects on consumption to compensate for demand depressing effects of rising inequality. Consequently, confirming that financial and consumption norms prevented from a detachment of the consumer behaviour of Italian households from their income budget, thus avoiding the dominance of relative income effects. Besides the institutional features, wealth distribution and structure have shown to also play a role. Additionally, the empirical results have validated the assessment of the the Italian case in the literature based on macroeconomic growth regimes (Gabbi et al. 2014; Dodig et al. 2015) reiterating the importance of private consumption for aggregate demand and growth in the Mediterranean country.

Finally, some interesting policy implications have been drawn based on the empirical observations in Italy. First, a progressive income tax reform has been recommended based on its positive effect confirmed by the heterogeneity in the propensities to consume and by the dominance of absolute income effects. Secondly, fiscal policies have been not only suggested but also argued to be boosted by progressive income tax reforms (that increase the size of the fiscal multiplier). The topic was only briefly touched upon, remaining as an interesting topic for further research. Lastly, a shift towards wages and the abolishment of the neoliberal labour market reforms implemented in Italy were also argued to affect the model positively, decreasing the overall level of inequality and mitigating the harmful scenario raised in the country.

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