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- **Households' income and wealth account for strong private consumption before the crisis**

- **Disposable income was boosted by supportive policies**

- **Automatic stabilisers and recovery measures sustained private consumption during the crisis**

- **The outlook for private consumption in France is not very bright**

Private consumption in France – Stubbornly high, or responsive to determinants?

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Summary

During the decade preceding the global financial and economic crisis, France experienced continued economic expansion, driven mostly by domestic demand, and in particular private consumption. The high contribution of private consumption to growth has been described as a peculiarity of the French economy. Indeed, during the same period private consumption contributed to half of GDP growth in the euro area and less than one third in Germany. Even when France underperformed the euro area in terms of growth, private consumption remained resilient and much higher than the euro area average and in particular Germany.

Are French consumers greater spendthrifts than their European fellows? In this paper, we estimate a consumption function to show that strong growth of private consumption in France during the pre-crisis decade is explained by the main determinants identified in the literature: real disposable income and wealth. We highlight the role of employment and wage policies in supporting households disposable income throughout the decade. During the crisis, private consumption was sustained by the working of the built-in fiscal stabilizers and stimulus measures. As the latter are being withdrawn, private consumption growth may lose its vigour in the coming quarters.

Introduction

Domestic demand: France's main growth engine in the last decade

During the decade preceding the crisis, 1998-2008, France experienced a period of continued economic growth, of 2.2%, compared to 2% in the euro area. Throughout this period, domestic demand has been a key driver of growth. Regardless of whether France outperformed the euro area in terms of GDP growth, French private consumption remained resilient, recording much higher growth rates than the euro area (see Figure 1). Specifically, during 1998-2008, private consumption rose by 2.6% per year compared to 1.9% in the euro area and 0.8% in Germany. From 1998 to 2005, it increased by 2.9% against 2.2% in the euro area and 1% in Germany while lately, from 2006 to 2008, households' expenditure grew by 2% in France compared to 1.3% in the euro area and 0.2% in Germany. During the crisis, private consumption was hit but remained relatively resilient, and was the main determinant of France's relatively good performance during the slowdown. In contrast with most of the countries in the euro area, French private consumption contributed positively to GDP growth, by +0.4 pp. By contrast, in almost all European countries, households' expenditure shrank, by 1.7% on average, amplifying the economic downturn.

Figure 1. GDP and private consumption growth
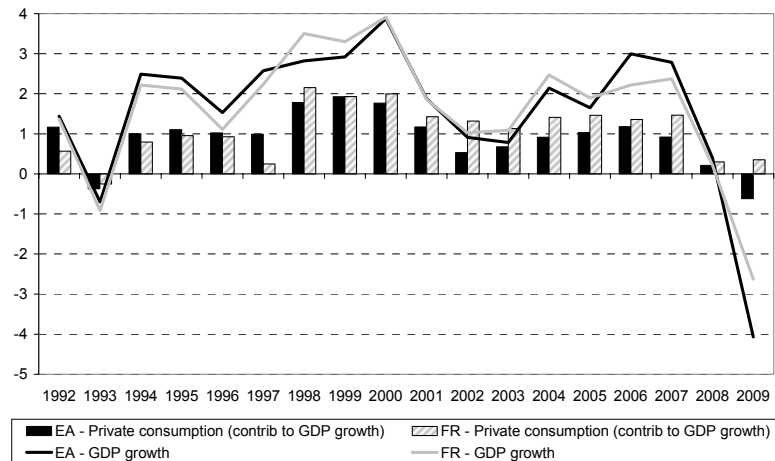
Sources: French national institute of statistics and economic studies (Insee), Eurostat

The economic literature identifies several possible determinants of private consumption. Disposable income has long been recognised as the main driver (Keynes, 1939). Wealth – financial and non-financial – has also been found to have an impact on consumption levels (Modigliani and Brumberg, 1954; Friedman, 1957). In line with the Ricardian equivalence proposition, the fiscal stance could also influence consumption of households as the latter internalise the government's budget constraint by adjusting their spending decisions (Barro, 1974).

Error correction modelling (ECM) is widely used to study consumption, as it allows combining the analysis of a stable long-run relationship between private consumption and its determinants with short run variations around that equilibrium. The model presented in this paper investigates the factors behind the strength of private consumption in France since 1997 by estimating an aggregate consumption function based on a two-step error correction model (Engle and Granger, 1987)[1].

Private consumption developments in France accounted for by determinants

As detailed in the box below, the consumption behaviour of French households is primarily explained by the evolution of their income. Assets also play a role, with housing prices and financial wealth entering the equation with significant coefficients. Additionally, results are not incompatible with the presence of – comparatively small – Ricardian effects on consumption decisions. All in all, private consumption in France simply responded to the underlying macroeconomic determinants.

Box: estimation results

In the long-term equation of the model, real private consumption ("cons") is regressed on real gross disposable income ("gdi"), financial wealth ("f_wealth"), housing prices ("housing"), as well as the general government debt-to-GDP ratio ("debt")[2]. Quarterly variables for the period 1997-2006 are used; they are seasonally and calendar adjusted and deflated by consumer prices (except debt); they enter the equation in logarithm form (therefore the estimated coefficients can be regarded as elasticities). The short-term equation is estimated with the fourth difference of the same variables (Hamilton, 1994). Lagged consumption growth is added to reflect persistence in consumption behaviour.

The following equation is obtained[3]:

$$(1-L^4)\text{cons}_t = \beta1 . c + \beta2 . (1-L^4)\text{cons}_{t-4} + \beta3 . (1-L^4)\text{gdi}_t$$
$$+ \beta4 . (1-L^4)\text{f\_wealth}_t + \beta5 . (1-L^4)\text{housing}_t + \beta6 . (1-L^4)\text{debt}_t + \beta7 . (1-L^4)\text{EC}_t,$$

where $\text{EC}_t = \text{cons}_t - (\alpha1 . c + \alpha2 . \text{gdi}_t + \alpha3 . \text{f\_wealth}_t + \alpha4 . \text{housing}_t + \alpha5 . \text{debt}_t)$.

We start off by estimating this standard equation. Estimation results are as follows (after elimination of non-significant variables):

Results of estimation n°1

	c	gdi	housing		
Long run	1.99	0.66	0.05		
	(3.52)	(13.38)	(3.35)		
	c	gdi	f_wealth	$cons_{t-4}$	EC_{t-1}
Short run	0.00	0.23	0.08	0.48	-0.45
	(1.90)	(2.54)	(4.76)	(3.94)	(-2.44)

Adj. R^2: 0.79   DW: 1.55

Note: The sample is based on quarterly data from 1997Q1 to 2006Q4 (data availability is the constraint when fixing the starting date). Residuals are stationary. The Breusch-Godfrey test rejects the autocorrelation of residuals. T-values are in brackets.

The predicting power of this equation is not satisfactory: simulation results over 2007Q1 – 2009Q3 show that the model significantly overestimates private consumption, especially from 2007Q3 onwards (see Figure 2a). This possibly suggests a non-Keynesian behaviour of households in relation to changes in the fiscal environment (mainly tax cuts) following the May 2007 presidential election. Alternatively, this could be explained by the fact that tax cuts were concentrated on households with a lower marginal propensity to consume. To test this, we regress consumption on the components of disposable income (compensation of employees, property income, income tax and the balance) over the same period, so as to assess the specific impact of income supplied by income tax cuts on consumption. We find that the coefficients for income tax are not significantly different from zero. Consequently, we compute a modified gross disposable income variable, without taking the income tax into account ("gdi2"), in order to obtain a better fit and predicting power.

Estimation results of the model when using gdi2 instead of gdi are as follows (after elimination of non-significant variables):

Results of estimation n°2

	c	gdi2	housing	debt	f_wealth
Long run	4.47	0.54	0.12	-0.05	0.03
	(12.74)	(16.02)	(10.31)	(-2.26)	(2.27)
	c	gdi2	housing	EC_{t-1}	
Short run	-0.01	0.71	0.17	-1.23	
	(-2.93)	(14.84)	(8.34)	(-8.14)	

Adj. R^2: 0.88   DW: 1.84

Note: The sample is based on quarterly data from 1997Q1 to 2006Q4 (data availability is the constraint when fixing the starting date). Residuals are stationary. The Breusch-Godfrey test rejects the autocorrelation of residuals.

This second equation behaves better, with a higher adjusted R-square and simulation results closer to actual consumption (see Figure 2b). Also, financial wealth enters the long term equation, which intuitively makes more sense.

Figure 2: Simulation with estimations 1 and 2. Actual private consumption (red), simulations from the model (dashed blue) and simulations from long-term equation (dashed black, thin line).
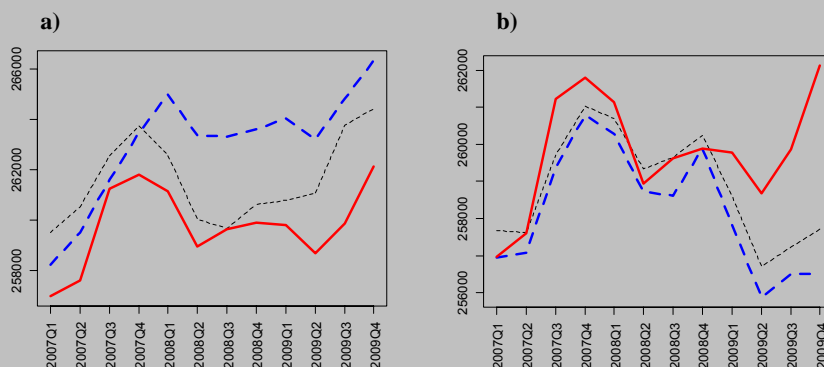
Unsurprisingly, the results of the long-term co-integration relation show high elasticity of consumption with respect to income: an increase by 1% in income leads to an increase by 0.5% in consumption. The elasticity to housing prices is also relatively high and suggests that the effect of the housing cycle on consumption has been significant in the past decade. This is all the more interesting as there is only an indirect link in France between households' expenditure and housing prices, as the practice of equity withdrawal is not widespread[4]. The general government debt enters the equation with a negative sign[5]. As regards the short-run dynamics, income plays a key role in explaining changes in consumption. The system tends quickly to the long-term equilibrium, as shown by the high coefficient for the error-correction term.

The importance of economic policies for private consumption growth in the last decade

According to our estimation, while income explains the lion's share of private consumption developments in France, variations in wealth, both financial wealth and real estate, also play a significant role[6]. In this section, we study the evolution of these determinants during the decade before the crisis, with a focus on the role of policy in these developments.

Private consumption was strong when GDP growth was above euro area average (1998-2005)…

In the decade preceding the crisis, the increase in households' disposable income has been particularly high, explaining France's better performance of private consumption: specifically, income has been growing roughly twice as fast as in Germany from 2000.

Public policies key in explaining strong disposable income

The strong growth of disposable income was notably triggered by labour income. Compensation of employees recorded very strong growth during the years 1998-2005, increasing on average by 4% each year, compared to less than 1.5% in Germany. First of all, employment growth was very robust during this period (1.2% for employment in full-time equivalent terms compared to 0.1% in Germany). In 1998-2005, 1.8 million new jobs were created, more than over the preceding 25 years. This can be partly attributed to a series of policy measures that helped to increase the labour content of growth. Indeed, from the mid-1990s, French employment policy focused on 3 pillars:

- Cuts in social contributions at the low end of the wage scale: starting in the summer 1993, the French authorities gradually implemented several waves of social contributions' cuts targeting workers at the low end of the wage scale, in an attempt to alleviate the negative effect of the minimum wage on employment of workers with a lower productivity. Several studies point to very significant results in terms of employment impact.[7]

- Reduction in working time ("35 hours a week"), accompanied by further social contributions' exemptions.
- Increased flexibility in the labour market: labour market performance benefited from the increased flexibility introduced by new forms of contracts. Between 1990 and 2005, the share of flexible contracts (interim and temporary contracts) in private employment increased from 6% to 14%. Over the same period, the share of part-time contracts increased by 50% to represent 17% of total employment in 2005.

Households' labour income benefited as well, between July 2002 and July 2005, from an increasing average hourly minimum wage (SMIC): it rose by about 6% in real terms as a consequence of the merging of the different levels of SMIC resulting from the 35 hours law[8] (Fillon law of 2003). This rise was much faster than the increase in the median wage and accounted for about 20% of the increase in the real wage per employee in the competitive sectors.[9]

Households' disposable income and consumer demand were also stimulated by some reductions indirect taxes.[10] In 2003 and 2004, the French authorities introduced temporary measures to encourage households to free up savings. In particular, there was a tax exemption on the withdrawal of employees' stakes in companies' savings schemes and on intergenerational money transfer. These measures are likely to have contributed to the decrease in the household saving rate to 15% in 2005 after a peak at 17% in 2000.

Favourable developments of asset prices

From 1998 to 2005, housing prices surged by 130%. The market was fed by households eager to buy their main residence and the preference for housing as investment. Public policies in favour of real estate played a role as well: public support for home ownership is significant (mainly through income tax exemptions), and investment in rental real estate is subsidised through personal income tax reductions for landlords. In addition, house prices were pushed up by the credit boom (combination of lower interest rates and longer credit maturities). The increase in housing prices had a positive impact on households' wealth with positive effects on consumption. A side effect was an increase in consumption related to housing, as a consequence of the need to equip new houses with furniture.

Over the same period, households' financial wealth[11] increased by 50%. Among total placements, shares and equities as well as insurance technical reserves registered the strongest rise (respectively + 75% and +100%) in line with the developments in the financial markets. For example, the main French stock index CAC 40 rose by close to 50% over 1998-2005, with a peak in the 2000's (+160% compared to 1998).

…but private consumption was also robust when French GDP growth was below the euro area average (2006-2008)

From 2006 to 2008, GDP grew strongly in France as the economy was picking up from the slow-down of the early 2000s; still, growth was below the euro area average. Private consumption remained the main driver of growth and households' disposable income rose strongly (4.5% on average against 2% in Germany). It was supported by resilient employment (+1% on average) and labour income (compensation of employees increased by +3.9%). From 2006 to the beginning of 2008, employment growth was supported in the market sector by the recovery in activity (with GDP growth coming back to potential), the productivity cycle, the rise in subsidized contracts[12], as well as by the construction "bubble", which triggered a significant need for workforce in this sector. Employment in the construction industry contributed to one quarter of total employment creation. In the non-market sector, employment was boosted by the creation of new jobs in public services (+20 000), targeted to the low-skilled.

As the unemployment rate was falling and as the economy recovered, wages were growing quite strongly, more bonuses were paid and overtime hours used more extensively (also due to tax exemptions, see below). In Germany, in contrast, wages were still very weak as a consequence of a series of policies which helped restore competitiveness. The rise in wages was then much stronger in France than in Germany and accounted for most of the difference in the evolution of compensation of employees (+3% on average in 2006-2008 against +1.5% in Germany) and households' disposable income. The tax cuts introduced in summer 2007 after the

presidential election (new scale for the income tax cuts, tax cuts on overtime) as well as further cuts to social contributions[13] sustained households disposable income in both 2007 and 2008.

Private consumption was resilient during the crisis but what's next?

Good show of private consumption during the crisis

The crisis had an immediate impact on households' disposable income growth, notably due to the sharp slowdown in income from property. Earned income stagnated (0.1% after +3.1% in 2008) as a consequence of a sharp increase in unemployment as firms in the industrial sectors increased the use of short-time working arrangements. At the same time, households' income was sustained by the built-in stabilisers and the stimulus measures put in place by the government. Social transfers were very supportive of income, partly because households benefited from the payment of two one-off bonuses introduced by the government as part of the stimulus package, but also as a result of the deterioration of the labour market. All in all, in 2009, the real purchasing power of households remained positive and accelerated: it rose by +1.6%, after +0.4% in 2008.

As in all European countries, households responded to the mounting uncertainty about employment and public finances, and to deteriorated asset prices by saving more. The saving rate increased by almost 1 pp in France (to 16% in 2009), less than in the euro area as a whole, where it was up by 1.5 pp. (to 15.4% in 2009). Regarding asset prices, the impact of the crisis was both sudden and significant. Between the third quarter of 2008 and the fourth of 2009, housing prices declined by 7%: this was the first time prices went down in more than a decade. Financial wealth witnessed very high volatility; the CAC 40 decreased by 12% between the third quarter of 2008 and the fourth of 2009.

**Figure 4: Contributions to GDP growth between 2008Q1 and 2009Q3**
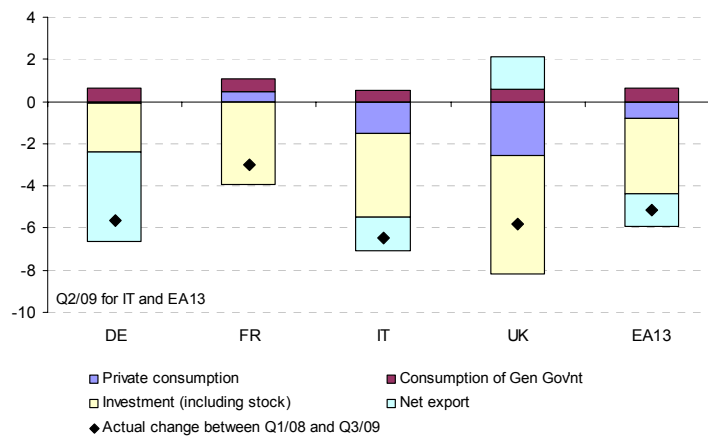
Sources: Eurostat

Role of automatic stabilisers and stimulus measures

The car scrapping premium implemented in the framework of the stimulus package has had a very significant impact on households' consumption decisions. Although the cost of the measure for public finances has been very limited (€220 million, or 0.01% of GDP), the multiplier proved quite high in all estimates. Car purchases were significantly boosted (as had been the case for previous car scrapping schemes) and peaked at the end of 2009 (+8% in the four quarter of 2009, see Figure 5). This factor is undoubtedly the biggest contributor to divergences between the model and the simulation: The strongly positive residuals estimated in our model for 2009 can most probably be largely attributed to it.

Figure 5: Impact of car incentives on car registrations levels
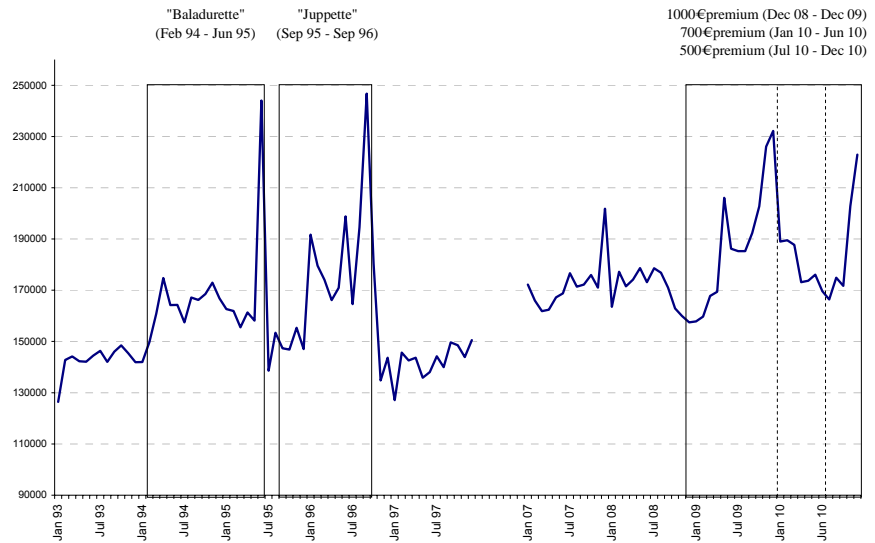
Note: "Baladurette" and "Juppette" were car scrapping schemes. The car scrapping scheme implemented as part of stimulus measures from December 2008 was extended until the end of 2010, with reduced premiums (700€from January, 500€from July).

Sources : Insee, Comité des constructeurs français d'automobiles.

Aftermath of the crisis to be less bright

The stimulus measures that supported households' disposable income and thus private consumption in 2009 have gradually expired in the course of 2010. The car scrapping premium was steadily reduced (from 1 January) and has expired in end-2010, and a backlash of high car consumption in 2009 was already visible. Unemployment remains high and the outlook for wealth is no brighter: uncertainty prevails both in real estate and the stock market. All in all, real private consumption can be expected to be weak in the near future.

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[1] For a study on German private consumption, see Eppendorfer and Stierle (2008).

[2] Data on private consumption, households' disposable income, inflation and debt are from INSEE quaterly national accounts. Financial wealth is from the Banque de France. The housing prices index is the INSEE/notaires index.

[3] "L" is the lag operator.

[4] Home equity withdrawal refers to loans for other purposes than house purchases which are secured against housing.

[5] On a Ricardian perspective, when debt increases, households anticipate future rise in taxes and spend less, thus implying an increasing saving rate. However, this economic interpretation is fragile as public spending also stimulates private consumption, notably via transfers. Another possible relationship is that debt is a consequence of economic situation (strong growth can lead to both high consumption and lower debt).

[6] These results are in line with the extensive literature on private consumption in France. See for instance Schüle (2004), which includes a discussion on wealth effects.

[7] Crepon and Deplasz (2001) estimate that from 1994 to 1997 460 000 jobs directly came from cuts in social contributions.

[8] The reduction in working time to 35 hours was implemented from 1998 to 2002. To avoid a drop in revenue as the number of hours worked diminished, monthly wages were kept constant for minimum wage earners. As firms switched to 35 hours a week at different times, there were 5 different levels of SMIC when the law was fully implemented in 2002 (SMIC being indexed on inflation).

[9] INSEE, *Note de conjoncture,* juin 2004.

[10] They included the introduction of a negative income tax and the reduction in the VAT rate for home refurbishment (1999) as well as the suppression of taxes on car circulation (2000).

[11] Households' financial wealth is broken into currency and deposits (27%), debt securities (excluding financial derivatives) (11%), shares and other equities (22%) and insurance technical reserves (39%).

[12] "Plan de cohésion sociale et d'urgence pour l'emploi" implemented in July 2005.

[13] "Loi en Faveur du Travail, de l'Emploi et du Pouvoir d'Achat" adopted in summer 2007.