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Abstract

The European crisis is partly attributable to the sharp increase in external imbalances across Europe during the pre-crisis period. We examine current account imbalances in Europe over 1995-2007, together with the underlying saving and investment rates (and their subcomponents). We find that the discrete expansion in current account imbalances during the 2002-2007 period can be attributed to a strengthening in the link between growth forecasts and current account balances. A striking pattern was that greater optimism about future growth was associated with lower savings and higher construction investment, rather than investment in productive capital.

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1 Introduction

A central issue in understanding the current European crisis is the accumulation of current account imbalances during the years running up to 2007. It has turned out that the excessive scale of current account deficits in the periphery during the pre-crisis period has contributed to the severity of the economic contraction and damaged banking systems and sovereign creditworthiness (see Lane and Milesi-Ferretti 2011, amongst others). Moreover, the surplus countries have been damaged by the associated decline in aggregate demand in the periphery and by the risk of losses on foreign asset holdings in the periphery. For these reasons, the management of external imbalances has resurfaced as a policy priority for European governments, with the intention of avoiding such excessive imbalances in the future.

Accordingly, it is important to re-examine the behaviour of external imbalances during the pre-crisis period and assess how large imbalances emerged. In this paper, we offer a structured approach to the analysis of current account balances in Europe during the 1995-2007 period. We examine a broad group of European countries, since many forces were common to both member countries of the euro area and non-member countries. Since the current account imbalance is just the difference between saving and investment rates, we go further by investigating the relative contributions of variation in savings and investment rates to shifts in current account balances. Indeed, we also look at key subcomponents of aggregate savings and aggregate investment in order to obtain further insights.

Our empirical work can be viewed as an update and extension of Blanchard and Giavazzi (2002). Relative to that contribution, we consider more recent data and a broader set of European countries. Most important, we extend the scope of the analysis by allowing

growth expectations to have an independent impact on current account imbalances, over and above the convergence mechanism emphasised by those authors. In addition, we provide a more detailed analysis of the contributions of sub-components of aggregate savings and investment rates to current account variation.

Previewing our main results, we find that the convergence mechanism was still evident in the current account data through 2007, with the effect significantly stronger for members of the euro area. The convergence effect operated most strongly through lower saving rates for lower-income countries, although investment rates were also slightly higher for these countries. In addition, independently of the convergence mechanism, the data indicate that countries with more optimistic growth forecasts (for whatever reason) ran larger deficits. Importantly, the association between growth forecasts and the current account balance grew in strength between 2002 and 2007 and mainly operated through higher levels of construction investment in more optimistic countries. We infer that the greater elasticity of net capital flows to growth forecasts during this critical pre-crisis period can be, at least in part, attributed to some mix of a decline in global risk aversion and insufficiently-countercyclical prudential policies in both deficit and surplus countries.

The structure of the rest of the paper is as follows. Section 2 lays out our conceptual framework. Section 3 provides some background data analysis. The core empirical work is reported in Section 4. Section 5 concludes.

2 Conceptual Framework

We build our analysis around two key concepts that are relevant for current account determination: *convergence* and *growth expectations*.

According to growth theory, capital will flow from rich to poor countries where the rate of return on capital is higher, leading to growth in the poor countries and income convergence. According to the neoclassical model, lower-income capital-scarce countries will borrow from abroad to finance domestic fixed investment. In the mean time, higher growth prospects for these countries will lead to increased consumption, as households want to smooth consumption over time. Both mechanisms induce current account deficits for capital-scarce countries.

Although it is well established that capital does not flow from rich to poor countries on a global level, it has been shown that within Europe capital does flow from rich to poor countries, with the most prominent contribution being Blanchard and Giavazzi (2002). These authors take a closer look at the current account deficits of some European countries in the 1980s and 1990s, with a special focus on Portugal and Greece and conclude that the current account deficits of Portugal and Greece are a part of the economic integration process in Europe. They argue that increased financial integration in the European Union and the euro area reduced borrowing costs, inducing poorer countries to borrow more. At the same time, increased goods market integration should have made it easier for the poorer countries to repay the debt in the future by exporting to the richer countries.

The convergence mechanism provides a reason why growth expectations should be higher in lower-income countries. As is surveyed by Lane (2008), this apparent neoclassical pattern in net capital flows within Europe stands in stark contrast to the global pattern by which capital has been running uphill from emerging Asia to high-income deficit countries (most prominently, the United States). In line with the arguments developed by Blanchard and Giavazzi (2002), Herrmann and Winkler (2008) and Abiad et al (2009), Lane (2008, 2010b) explains this pattern by virtue of the institutional anchor provided by the

European Union (more generally, the common institutional framework across the European Economic Area) such that many of the frictions that have discouraged net capital flows to other emerging regions have been ameliorated within Europe.

Two (overlapping) sub-groups within the E30 aggregate have received particular attention. First, membership of the euro area may have relaxed borrowing constraints for residents for the lower-income countries that adopted the euro (see also Blanchard and Giavazzi 2002 and Fagan and Gaspar 2007). For several peripheral member countries, nominal and real interest rates fell substantially in the period surrounding the adoption of the euro, contributing to revaluation of local asset prices, higher net worth and rapid credit expansion.

Second, the convergence hypothesis was widely applied in relation to ten Central and Eastern European (CEE) countries that ultimately joined the European Union in 2004. The low initial income per capita levels in these countries combined with financial integration and institutional convergence to drive substantial net capital flows towards these countries (see Lane and Milesi-Ferretti 2007b, amongst many others).

However, the convergence hypothesis does not explain the emergence of high current account deficits in the mid-200s in relatively-rich countries such as Ireland. Accordingly, we augment the basic convergence mechanism by also examining the impact of dispersion in growth expectations. Regardless of the underlying source, an improvement in growth expectations will lead to consumption smoothing and increased investment today. Indeed, optimistic growth expectations can also lead to current account deficits without any link to economic convergence, if countries with higher growth expectations are not the poorest group members.

The intertemporal model of the current account predicts that countries with higher

growth prospects relative to other countries will run current account deficits to fund higher consumption today. Countries that expect to be richer in the future will want to borrow abroad to increase consumption today, independent of their level of current relative income. In addition, more optimistic growth forecasts may also stimulate investment, by improving the expected profitability of firms (at least those firms with a significant component of domestically-sourced revenues).

Engel and Rogers (2006) address the sustainability of the US current account deficit from the perspective of the intertemporal model. These authors use a long-run world equilibrium model to determine the link between a country's current account and its expected discounted present value of its future share of world GDP relative to its current share of world GDP. According to the authors, it can be shown that for reasonable expectations of the future share of US output in the output of the advanced economies, the US current account deficit at that time could be construed to be close to its optimal level on the basis of these forward-looking expectations.

However, in the presence of other distortions, a more elastic supply of external capital may lead to over-borrowing. In relation to governments, political economy factors may generate a temptation to borrow more in order to increase public spending or cut taxation. For banks and near-banks, poorly-designed regulations or inadequate supervision may encourage excessive lending on the back of funds raised through the wholesale market or securitisation. For corporates, if the corporate governance environment is inadequate, international leveraging may tempt some executives to undertake excessive investment or make ill-advised acquisitions. Under these scenarios, capital flows magnify the impact of such distortions and may amplify cyclical shocks through a pro-cyclical pattern in capital flows. Accordingly, an inadequate regulatory and macroeconomic policy framework may

result in boom-type expectations inducing excessively-large current account deficits.

In our empirical analysis, we focus on convergence and growth expectations as twin forces that can help explain the distribution of European current account imbalances. Unlike Engel and Rogers (2006), we do not seek to rationalise the underlying determinants of these growth forecasts - we do not take a stand on whether these forecasts were reasonable or possibly reflected "irrational exuberance" in some countries.

3 Some Preliminary Analysis

In what follows, we define Europe as constituting the member countries of the European Union, plus Iceland, Norway and Switzerland. The latter three countries are all members of the European Economic Area and adhere to EU rules in relation to many dimensions of economic and financial policies. For ease of reference, we label this set of countries as the E30 group.

There is considerable heteroegeneity among the E30 group. Figure 1 plots the dispersion in current account balances within the E30 group over 1995-2007, with the dispersion sharply increasing during the 2004-2007 period. Figure 2 shows the dispersion in net foreign asset positions and tells a similar story, even if the dynamics of net foreign asset positions are more volatile due to the operation of valuation effects and other data adjustments.

It is important to appreciate that the cross-sectional distribution of current account balances within the E30 group has been highly persistent: the correlation between the average balance during 2002-2007 and the average balance during 1995-2001 is +0.88 (see also Figure 3). In the next section, we investigate the driving forces behind the distribution of current account balances among the E30 group.

In terms of understanding the distribution of external imbalances among the E30 group, Figure 4 shows the strong cross-sectional correlation between the level of GDP per capita and the current account balance during 2004-2007: the poorer members of the E30 group ran the largest deficits during the pre-crisis period, while the richer member countries typically ran substantial surpluses. However, there were some striking exceptions to this rule, including the deficits ran by Ireland and (especially) Iceland during this period.

The negative correlation between output per capita and the current account balance among the E30 group has been widely noted by researchers. While the convergence explanation for this correlation carries substantial weight, it is also possible that the "strong fundamentals" story was confounded with excessive optimism and inadequate countercyclical policies in some of the lower-income countries, such that scale of the deficits during the pre-crisis period grew excessively large.

As noted above, further insights can be obtained by inspecting the saving and investment dynamics that lie behind the current account balance. On the saving side, the bencmark neoclassical model is silent on the distribution of saving between households, corporates and the government, since households should factor in the other forms of saving (which ultimately accrue to households). However, the sectoral allocation of saving matters under alternative models in which the link is broken between households and the other sectors. In relation to the investment implications of the convergence hypothesis, capital inflows should in part be allocated to an increase in investment in productive capital. In relation to the growth expectations hypothesis, it is illuminating to establish which types of investment are most affected by variation in growth forecasts.

Figure 6 shows the time-series savings dynamics for the aggregate E30 group. We see a marked decline in aggregate household savings between 1995 and 2000 but relative stability

over 2001 to 2007. In relation to corporate savings, there was a sustained jump in 2002 and 2003 which was then maintained during 2004-2007. The government savings rate shows a clear cycle - with an improvement during 1995-2000, a decline in 2001-2003 and a recovery phase during 2004-2007.

We turn to aggregate investment dynamics for the E30 group in Figure 7. Non-construction investment exhibits a pronounced cycle, with a boom in the late 1990s followed by a persistent decline, a plateau during 2003-2005 and recovery during 2006-2007. Residential construction shows a marked increase during 2002-2006, while non-residential construction also grew beween 2004-2007.

While these aggregate dynamics are helpful in understanding the macroeconomic environment during this period, it is the dispersion in saving and investment rates that matters for current account balances. Accordingly, we plot the top and bottom quintiles within the E30 group for saving and investment rates in Figures 8 and 9. In relation to saving rates, the top quintile saving rate fluctuated between 1995 and 2002 but then climbed between 2003 and 2007; similarly, the saving rate for the bottom quintile fell noticeably between 2003 and 2007. The 2003-2007 period also shows an increasing dispersion in investment rates, with a surge in the top quantile investment rate.

Finally, Figure 10 shows the dispersion in growth forecasts. The gap between the top and bottom quintiles fell during 1995-2001 but then progressively increased during 2003-2007 (the cross-country standard deviation in growth forecasts nearly doubled from 1.05 in 2002 to 1.89 in 2007). The similarity in timing between the increased dispersion in growth forecasts and increased dispersion in current account balances during this latter period is striking.

4 Econometric Analysis

To gain more insight into the determination of external imbalances during the pre-crisis period, we provide an econometric analysis of the current account balances in Europe for the period 1995-2007.[1] Data for subsequent years are not included since the goal is to understand the sources of the current account imbalances that were built up in the period running up to the financial crisis; Lane and Milesi-Ferretti (2012) provide a detailed analysis of the subsequent reversal in current account balances during 2008-2010.

As was outlined above, we highlight two driving forces behind the distribution of current account imbalances. Following Blanchard and Giavazzi (2002), we ask whether the convergence hypothesis holds by which current account balances systematically vary with income levels.[2] On top of this, we allow for growth expectations to have an impact on the current account. Our intuition is that the expansion in current account imbalances during the mid-2000s may have been driven directly by variation in growth expectations (regardless of the source of this variation), independently of relative income levels.

In addition to examining the overall current account, further insights can be obtained by looking at the underlying sources of current account imbalances. In particular, we examine the behaviour of saving and investment flows and their subcomponents. This gives an indication of whether the current account dynamics are related with poorer countries investing more or saving less. Even if current account deficits are mainly driven by higher investment rates, the impact on economic convergence will differ according to whether the investment is allocated to machinery and equipment or residential construction, to take two

[1] See also the model-based analyses reported in Campa and Gavilan (2006) and Ca'Zorzi and Rubaszek (2008).

[2] Campa and Gavilan (2006) and Ca'Zorzi and Rubaszek (2008) examine the convergence mechanism in a calibrated version of the intertemporal current account model.

examples. Similarly, the macroeconomic implications of a decline in the savings rate differs across a shift in the household saving rate, the corporate saving rate and the government saving rate.

We follow Blanchard and Giavazzi (2002) by allowing for different dynamics in the euro area since 1999 compared to the rest of Europe. The main reason is that increased intra-area financial integration since the introduction of the euro might have led to current account dynamics that are different for the euro area than for the rest of Europe, since the common currency area may have especially reduced investment risk. We also allow for differences between the new member states from Central and Eastern Europe and the older members of the European Union, in view of the specific "convergence play" that applies to the CEE group.

The econometric analysis extends the Blanchard-Giavazzi framework by allowing the link between fundamentals and the current account balance to be different across regions as well as over time. To the extent that the levels of liquidity and risk aversion in international financial markets fluctuated over time, this should results in time-varying elasticities of net capital flows to the underlying fundamental variables. Relative to the Blanchard-Giavazzi study, we also extend the time period to include the years up to 2007, just before the full-scale crisis took hold in 2008

The time span is 1995-2007 and the sample consists of the E30 but excluding, for data availability reasons, Luxembourg, Malta and Cyprus. We estimate the following baseline

model

$$
\begin{aligned}
CA_{it} \;=\; & \alpha + \theta_t + \phi_1 EMU_{it} + \phi_2 CEE_i + \\
& \beta_1 RELINC_{it} + \gamma_1 RELINC_{it} * EMU_{it} + \gamma_2 RELINC_{it} * CEE_i + \\
& \beta_2 FORECAST_{it} + \zeta_{0t} FORECAST_{it}\theta_t + \\
& \zeta_1 FORECAST_{it} * EMU_{it} + \zeta_2 FORECAST_{it} * CEE_i + \rho X_{it} + \epsilon_{it}
\end{aligned} \tag{1}
$$

where CA_{it} is the current account balance as a percentage per GDP, $RELINC_{it}$ is the initial level of relative income per capita (where the reference group is the average of the whole sample's income per capita), $FORECAST_{it}$ is the projection of future output growth, X_{it} is a set of control variables, EMU_{it} is a dummy for euro area membership in year t and CEE_i is a dummy for Central and Eastern European countries. The growth projections are mainly collected from vintage releases of the OECD *Economic Outlook* and the IMF *World Economic Outlook*, supplemented by data from the EBRD for Central and Eastern European countries.

Relative income matters under the convergence hypothesis that the poorer countries will converge in the long term to the average level of GDP per capita in Europe, such that investment should be higher and savings lower than in the richer countries. Independently of the relative income level, similar mechanisms should also apply for those countries that are more positive about future growth prospects. We allow the elasticity of net capital flows to growth forecasts to vary over time, since funding conditions in global capital markets will shift over time in line with liquidity factors and levels of global risk aversion.

We also include demographic factors as control variables, since the demographic structure of the population will also influence savings and investment rates. Our measures are

the dependency ratio of the young and the dependency ratio of the old (over 65).[3] In view of the annual data frequency, the limited sample period and the high number of time-varying parameters to be estimated, we do not include additional control variables.[4] To the extent that many control variables mostly operate at a lower medium-term frequency, the omission of such variables may not be critical in understanding the variation in current account period over the limited interval that is the focus of this study.

As indicated, we also estimate this model for the aggregate saving and investment rates and their subcomponents. In relation to savings, we look separately at household, corporate and government savings rates. For investment, we examine investment in residential and non-residential construction, equipment, machinery and transport. Table 1 lays out the summary statistics for the variables included in the analysis.

The model is estimated using ordinary least squares with robust standard errors. The general specification includes many interaction terms. In the reported estimates, we remove all time-varying explanatory variables that have been shown to be not significant for the current account regression.[5] The results for the current account, aggregate savings and aggregate investment are presented in Table 2, while the results for the subcomponents of savings and investment are reported in Table 3.

The estimates show that lower relative income was associated with larger current ac-

[3]Contrary to Blanchard and Giavazzi (2002), we choose not to include the contemporaneous growth rate as an explanatory variable. Blanchard and Giavazzi (2002) include this to capture cyclical movement in the current account. But the contemporaneous growth rate is subject to reverse causality problems.

[4]See Lane and Milesi-Ferretti (2012) for a recent overview of the literature on "equilibrium" current account balances and estimation of such a model. This approach includes a long list of regressors but is typically estimated over a long period and does not allow for time-varying parameters.

[5]Pels (2010) reports alternative versions of this specification. If time variation in the relative income coefficient is permitted, there is evidence of time-varying coefficients if the growth forecast variable is excluded from the specification. However, if both relative income and the growth forecast variable are permitted to have time-varying coefficients, there is no longer evidence of time variation in the relative income coefficient. Accordingly, in order to maximise degrees of freedom, we report the restricted specification in which the relative income coefficient is fixed but the growth forecast coefficient is allowed to vary over time.

count deficits during the 1995-2007 period. Moreover, this effect is stronger among members of the euro area. The link between relative income and the current account balance is driven by poorer countries having lower saving rates, mainly in relation to government and corporate saving rates. However, there is also a significant link between relative income and the household saving rate for members of the euro area. In Central and Eastern Europe, poorer countries also have lower household saving rates, but the links between relative income and corporate and government saving rates are weaker.

For the whole sample, lower-income countries invest less, weakening the negative link between relative income and the current account. Still, investment is important for the link between relative income and current account balances in the euro area. Lower-income members of the euro area countries invest more, especially in relation to nonresidential construction.

Turning to the role of growth expectations, a key result is that more positive growth expectations are increasingly linked with current account deficits from 2002 onwards. As is illustrated in Figure 5, this effect is mainly due to a strong positive link between growth expectations and investment rates, especially investment in nonresidential construction investment and, to a lesser extent, investment in dwellings. In addition, higher growth expectations have been increasingly linked with lower household saving rates. The role of growth expectations in driving the current account during 2002-2007 is especially relevant since this is the period in which liquidity conditions were high and global risk aversion low in global capital markets.

In relation to the control variables, the qualitative direction of the results confirm that demographics have a strong effect on elements of saving and investment behaviour. Higher dependency ratios of the young and the old in general lead to lower household saving and

higher government saving. A high old-age dependency ratio also reduces corporate saving but the increase in government saving cancels out the reductions in household and corporate saving . A high youth dependency ratio has a negative effect on the overall saving rate of the country. Both dependency ratios lead to lower investment rates. The youth dependency ratio affects all subcomponents of investment, while the old-age dependency ratio goes mainly through reducing construction investment. But, for both types of dependency ratio, the overall effect on the current account is insignificant when controlling for both relative income and growth expectations.

In summary, our empirical analysis affirms the main result from Blanchard and Giavazzi (2002) continued to hold through 2007, with capital flowing downhill from higher-income to lower-income countries. However, this was mainly associated with lower savings rates in the lower-income countries, although the lower-income countries inside the euro area additionally had higher construction investment rates.

However, our extended specification goes further than documenting the convergence pattern in that it also highlights an independent role for growth expectations in explaining the variation in current account behaviour. Importantly, this link strengthened during the mid-2000s, such that it was a combination of an increased elasticity of net capital flows to growth forecasts and an increased dispersion in growth expectations rather than solely the convergence mechanism that is an important co-variate with the growth in current account imbalances during the period immediately before the onset of the financial crisis. The increased elasticity of net capital flows allowed more optimism about future growth rates to map into higher investment rates and lower household savings rates.

In turn, this result begs the question of what explains the differences in growth expectations during this period and why these differences mapped into larger net capital

flows. In part, there may be some reverse causality from current account deficits to growth forecasts but this is difficult to address in this type of panel estimation. In relation to the greater elasticity of net capital flows to growth expectations during this period, this is consistent with the widely-documented decline in global risk aversion in international financial markets during this period. Moreover, the expansion in imbalances may have been augmented by insufficient macro-prudential regulatory interventions in both deficit and surplus countries, together with inappropriately pro-cyclical fiscal policies.

Finally, although we do not seek to establish the underlying drivers of growth forecasts in this paper, it is instructive to examine the time-varying cross-sectional co-movements between growth forecasts, current growth and the (lagged) level of output per capita in Table 4. Under a strict, narrow version of the convergence hypothesis, the lagged level of output per capita should be a sufficient statistic for the growth forecast. Under extrapolative expectations, the current output growth rate may be a good predictor of future output growth. Table 4 shows that the convergence mechanism was strong in the mid-1990s but that the partial correlation between current growth and growth expectations became significant from 2002 onwards, with the partial correlation coefficient reaching a peak in 2006. Even if firm conclusions cannot be drawn form this type of analysis, this time-varying pattern is suggestive that the extrapolation of high future growth on the basis of high contemporaneous growth rates in the mid-2000s (as might happen during a housing boom, for example) might have contributed to an increase in current account deficits for some high-income countries.

The pattern that increased deficits mainly fuelled higher consumption and construction investment may be viewed as problematic in that the types of productive capital accumulation that might have accelerated convergence and/or delivered higher future growth were

not undertaken. As emphasised by Giavazzi and Spaventa (2010), the lack of investment in the tradables sector by the deficit countries posed a problem in terms of building repayment capacity. In similar vein, Chan et al (2011) document the connections between high deficits and competitiveness problems. Accordingly, a benign view of large deficits is difficult to support given these underlying patterns.

In terms of the future research agenda, the role of policy failures in permitting the expansion in current account imbalances during the 2003-2007 period warrants further investigation. In relation to deficit countries, it is important to assess whether inadequate macro-prudential regulation failed to curb excesssive external borrowing by banking systems and whether current account deficits induced destabilising pro-cyclical fiscal responses (Benetrix and Lane 2011). In relation to surplus countries, financial regulators may have been insufficiently prudential in relation to the surge in external lending by domestic banks.

5 Conclusions

This paper has sought to identify the sources of current account imbalances across Europe during the 1995-2007 period. It has highlighted that the convergence mechanism identified by Blanchard and Giavazzi (2002) was in operation throughout this period but that an independent role can also be ascribed to growth forecasts, with optimistic countries running larger deficits. The association between growth forecasts and current account imbalances grew in strength during 2002-2007, which is consistent with an increased elasticity of capital flows during this period, augmented by an insufficiently-prudent counter-cyclical policy response.

The high-deficit European economies are currently undergoing a forced compression

in domestic spending, with households, firms and governments each cutting back due to recessionary forces and tighter funding conditions. For those countries inside EMU (or maintaining a hard peg), there is also the novel challenge of engineering real devaluation in the absence of nominal exchange rate flexibility. The scale of the adjustment would be even more severe without substantial official capital inflows in a number of countries, whether through EU/IMF programmes or, for euro area member countries, courtesy of the liquidity policies of the ECB (Lane and Milesi-Ferretti 2012).

Looking to the future, the costs of the current recession will plausibly lead to an array of policy moves that will serve to limit the scale of future external deficits (Lane 2010b). These may include tighter macro-prudential regulation of banking systems, greater counter-cyclicality in fiscal positions and further moves to discourage foreign-currency borrowing. Indeed, enhanced surveillance of external imbalances is a central component in the proposals for reform of EU-level economic governance (see also Giavazzi and Spaventa 2010). For countries with independent monetary policies, the external position may also receive a greater weighting in determining interest rate decisions (at least for smaller countries).

Appendix: Data Sources

- ca: Balance on current transactions with the rest of the world (National accounts)(UBCA) AMECO
- s_total: Gross national saving (USGN)/Gross domestic product at current market prices (UVGD)
- s_hh: Gross saving: households and NPISH (USGH)/Gross domestic product at

current market prices (UVGD)

- s_corp: Gross saving: corporations (USGC)/Gross domestic product at current market prices (UVGD)
- s_gov: Gross saving: general government :- ESA 1995 (USGG)/Gross domestic product at current market prices (UVGD)
- gfcf_total: Gross fixed capital formation at current prices: total economy (UIGT)/Gross domestic product at current market prices (UVGD)
- gfcf_dwellings: Gross fixed capital formation at current prices: dwellings (UIGDW)/Gross domestic product at current market prices (UVGD)
- gfcf_nonres: Gross fixed capital formation at current prices: non-residential construction and civil engineering (UIGNR)/Gross domestic product at current market prices (UVGD)
- gfcf_equipment: Gross fixed capital formation at current prices: equipment (UIGEQ)/Gross domestic product at current market prices (UVGD)
- gfcf_mach: Gross fixed capital formation at current prices: metal products and machinery (UIGMA)/Gross domestic product at current market prices (UVGD)
- gfcf_transport: Gross fixed capital formation at current prices: transport equipment (UIGTR)/Gross domestic product at current market prices (UVGD). Source: AMECO database

- RELINC: measured as the real GDP per capita of country i over the average of real GDP per capita of the whole sample. Real GDP per capita (rgdpch: Constant Prices: Chain series; "real" means "PPP converted"). Source: Penn World Tables

- gdp_forecast: Year t growth expectation is the average of the dec. t-1 forecast for t and t+1. If no OECD EO observation, EBRD transition report forecast is used: growth expectation in year t-1 is march-oct forecast for year t. Sources: OECD Economic Outlook and EBRD Transition reports.

- pop14: Population ages 0-14 (% of total) (SP.POP.0014.TO.ZS); pop65: Population ages 65 and above (% of total) (SP.POP.65UP.TO.ZS). Source: World Bank World Development Indicators

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Table 1: Summary statistics

	Obs	Mean	STDEV	Min	Max
Current Account	377	-2.0	6.8	-25.6	17.2
Saving Rate (total)	374	20.8	5.5	7.5	39.2
Saving Rate (household)	314	6.3	4.7	-15.9	17.0
Saving Rate (corporate)	321	13.2	3.6	0.2	31.5
Saving Rate (government)	351	2.2	3.5	-6.1	21.3
Investment Rate (total)	377	21.8	4.0	11.0	35.7
Investment Rate (dwellings)	337	4.7	2.2	0.6	14.0
Investment Rate (nonresidential construction)	338	7.1	2.5	3.1	15.3
Investment Rate (equipment)	359	8.7	2.4	3.4	16.2
Investment Rate (machinery)	358	6.5	1.9	2.5	12.4
Investment Rate (transport)	358	2.2	0.9	-3.1	7.2
Growth Forecast	364	3.3	1.3	7.9	1.0
Relative income per capita	377	100.0	41.8	27.5	198.6
Population Share: 0 to 14	377	17.8	2.5	13.4	25.1
Population Share: 65 and over	377	14.9	2.1	10.8	20.0

The current account balance (CA), saving (S) and investment (I) are all expressed as percentages to GDP. Investment is gross fixed capital formation. See data appendix for sources.

Table 2: The Drivers of the Current Account I

	CA	S	I
Relinc	0.11***	0.16***	0.03***
	(0.02)	(0.02)	(0.01)
RelincEURO	0.15***	0.06**	-0.07***
	(0.03)	(0.03)	(0.02)
RelincCEE	-0.05*	-0.02	0.03
	(0.03)	(0.03)	(0.02)
Forecast	0.30	-0.32	-0.75
	(0.94)	(0.85)	(0.74)
Forecast*EURO	0.64	0.23	-0.42
	(0.97)	(0.76)	(0.46)
Forecast*CEE	0.46	0.55	0.12
	(0.94)	(0.75)	(0.49)
Forecast1996	0.18	0.48	0.22
	(0.67)	(0.88)	(0.94)
Forecast1997	-0.41	1.28	1.67*
	(1.00)	(0.80)	(0.90)
Forecast1998	-1.23	0.46	1.46*
	(0.81)	(0.93)	(0.82)
Forecast1999	-1.05*	0.67	1.39**
	(0.62)	(0.68)	(0.68)
Forecast2000	-1.14	0.16	1.03
	(0.76)	(0.77)	(0.72)
Forecast2001	-1.04	0.07	1.02
	(0.73)	(0.76)	(0.74)
Forecast2002	-2.67***	-0.44	1.96**
	(0.73)	(0.87)	(0.82)
Forecast2003	-3.31***	-0.85	2.13**
	(0.81)	(0.90)	(0.94)
Forecast2004	-3.39***	-1.19	1.92**
	(0.70)	(0.73)	(0.81)
Forecast2005	-3.40***	-1.08	2.21***
	(0.80)	(0.80)	(0.84)
Forecast2006	-4.06***	-1.44**	2.24***
	(0.81)	(0.72)	(0.80)
Forecast2007	-3.16***	-0.84	1.95**
	(0.91)	(0.73)	(0.79)
EURO	-21.87***	-7.81*	12.60***
	(5.14)	(4.30)	(2.66)
CEE	4.58	9.59**	2.65
	(4.51)	(3.85)	(2.60)
DepY	-0.19	-0.65***	-0.51***
	(0.20)	(0.18)	(0.14)
DepO	0.29	-0.23	-0.76***
	(0.31)	(0.23)	(0.19)
N	338	338	338
R2	0.58	0.50	0.49

Includes time fixed effects. Robust standard errors in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1% .

Table 3: The Drivers of the Current Account II

	S^{HH}	S^{Corp}	S^{gov}	I^{DW}	I^{NR}	I^{EQ}	I^{M}	I^{T}
Relinc	0.01	0.04***	0.12***	0.02	-0.01*	0.02***	0.02**	0.00*
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
RelincEURO	0.08***	0.02	-0.07***	-0.00	-0.02**	-0.01	-0.01	-0.00
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
RelincCEE	0.10***	0.01	0.03***	-0.02	-0.00	-0.02***		
	(0.03)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Forecast	-1.88***	-1.07	1.11*	0.43	-0.64	-0.57	-0.74*	0.20
	(0.61)	(0.78)	(0.66)	(0.27)	(0.41)	(0.44)	(0.38)	(0.13)
Forecast*EURO	0.17	0.55	0.10	0.12	-0.35*	-0.05	0.01	-0.07
	(0.58)	(0.76)	(0.42)	(0.25)	(0.21)	(0.31)	(0.30)	(0.12)
Forecast*CEE	2.01***	0.66	-0.61	-0.43**	0.09	0.48	0.62**	-0.17
	(0.53)	(0.66)	(0.39)	(0.22)	(0.23)	(0.30)	(0.29)	(0.11)
Forecast1996	0.17	-0.03	0.04	-0.06	0.19	-0.09	-0.10	-0.00
	(0.78)	(0.55)	(0.78)	(0.18)	(0.50)	(0.51)	(0.43)	(0.12)
Forecast1997	-0.22	0.38	0.10	-0.19	1.00**	0.79	0.61	0.16
	(1.00)	(0.89)	(0.69)	(0.25)	(0.47)	(0.52)	(0.47)	(0.13)
Forecast1998	1.17	-0.44	-0.39	0.12	0.76*	0.52	0.28	0.22
	(0.97)	(0.65)	(0.63)	(0.22)	(0.45)	(0.49)	(0.40)	(0.14)
Forecast1999	1.48*	0.31	-0.32	1.39**	1.02***	0.41	0.27	0.14
	(0.77)	(0.96)	(0.60)	(0.24)	(0.38)	(0.43)	(0.35)	(0.14)
Forecast2000	0.81	-0.22	-0.10	-0.07	1.02***	0.13	0.18	-0.06
	(0.86)	(0.72)	(0.72)	(0.24)	(0.38)	(0.48)	(0.40)	(0.16)
Forecast2001	-0.25	1.18	-0.62	0.06	0.92**	0.13	0.10	0.02
	(0.83)	(0.89)	(0.66)	(0.30)	(0.42)	(0.47)	(0.39)	(0.15)
Forecast2002	-0.69	1.08	-0.42	0.28	1.05**	0.66	0.37	0.28
	(0.66)	(0.85)	(0.68)	(0.31)	(0.44)	(0.51)	(0.42)	(0.18)
Forecast2003	-1.49**	0.82	0.46	0.47*	1.17**	0.60	0.17	0.42
	(0.64)	(0.82)	(0.70)	(0.27)	(0.49)	(0.64)	(0.44)	(0.32)
Forecast2004	-1.02	0.36	0.11	0.41*	1.27***	0.30	0.08	0.22
	(0.64)	(0.68)	(0.63)	(0.22)	(0.42)	(0.47)	(0.37)	(0.17)
Forecast2005	-1.15*	0.68	0.11	0.30	1.43***	0.52	0.35	0.17
	(0.59)	(0.66)	(0.63)	(0.23)	(0.42)	(0.51)	(0.41)	(0.16)
Forecast2006	-1.25**	0.61	-0.24	0.21	1.63***	0.40	0.12	0.28
	(0.56)	(0.56)	(0.70)	(0.27)	(0.39)	(0.48)	(0.37)	(0.17)
Forecast2007	-1.31**	0.43	-0.10	0.11	1.59***	0.26	0.04	0.26**
	(0.52)	(0.47)	(0.64)	(0.26)	(0.41)	(0.43)	(0.36)	(0.12)
EURO	-8.31***	-5.60*	8.04***	1.03	5.14***	1.55	1.16	0.43
	(2.74)	(3.28)	(2.91)	(2.11)	(1.45)	(1.69)	(1.69)	(0.55)
CEE	-11.99***	2.86	13.91***	-1.37	0.78	3.84**	1.89	2.06***
	(2.86)	(2.86)	(2.77)	(2.03)	(1.63)	(1.57)	(1.51)	(0.52)
DepY	-0.88***	-0.18	0.63***	-0.21***	0.10	-0.29***	-0.14*	-0.15***
	(0.15)	(0.17)	(0.13)	(0.07)	(0.07)	(0.09)	(0.07)	(0.03)
DepO	-0.61***	-0.47***	0.43***	-0.50***	-0.11	-0.03	0.01	-0.03
	(0.15)	(0.17)	(0.13)	(0.10)	(0.09)	(0.10)	(0.08)	(0.04)
N	304	311	325	311	312	333	332	332
R2	0.55	0.26	0.53	0.68	0.74	0.51	0.50	0.46

Includes time fixed effects. Robust standard errors in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%. S^{HH} is household savings rates, S^{Corp} is corporate savings rate, S^{gov} is government savings rate, I^{DW} is residential construction, I^{NR} is non-residential construction, I^{EQ} is investment in equipment, I^{M} is investment in machines and I^{T} is investment in transport.

Table 4: Growth Forecasts: Repeated Cross Sections

	β_{G_t}	(t_G)	β_{Y_t}	(t_Y)	R^2
1995	0.003	(0.03)	-1.81	(-4.45)	0.43
1996	0.11	(2.38)	-0.98	(-3.74)	0.34
1997	0.14	(1.90)	-0.53	(-1.79)	0.29
1998	0.37	(5.01)	-0.32	(-0.97)	0.48
1999	0.34	(3.30)	-0.77	(-2.12)	0.41
2000	0.33	(2.31)	0.61	(1.65)	0.28
2001	0.46	(1.72)	0.93	(0.87)	0.25
2002	0.36	(4.56)	0.51	(1.18)	0.65
2003	0.28	(7.53)	0.001	(0.00)	0.77
2004	0.41	(10.77)	-0.672	(-3.50)	0.82
2005	0.39	(8.03)	-0.58	(-1.55)	0.82
2006	0.57	(7.00)	-0.31	(?0.71)	0.78
2007	0.53	(4.96)	-0.64	(?1.44)	0.79

Regression of growth forecast on current growth and lagged log output per capita. $GF_{it} = \alpha_t + \beta_{G,t} G_{it} + \beta_{Y,t} Y_{i,t-1} + \epsilon_{it}$

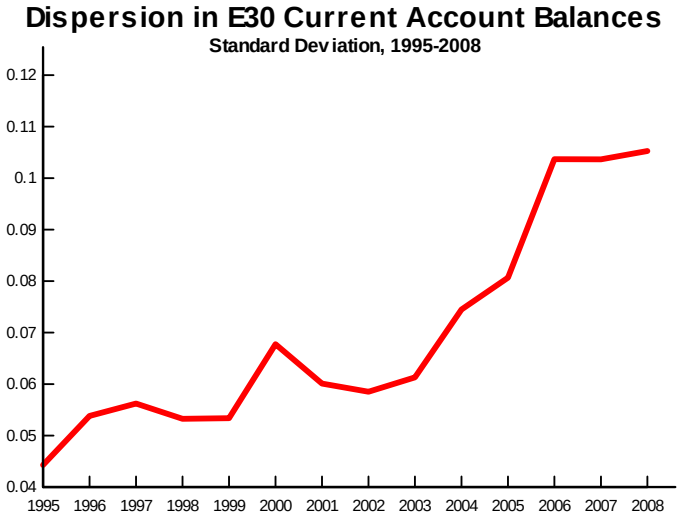

Figure 1: Current Account Balances in Europe. Note: Standard deviation of current account to GDP ratios.

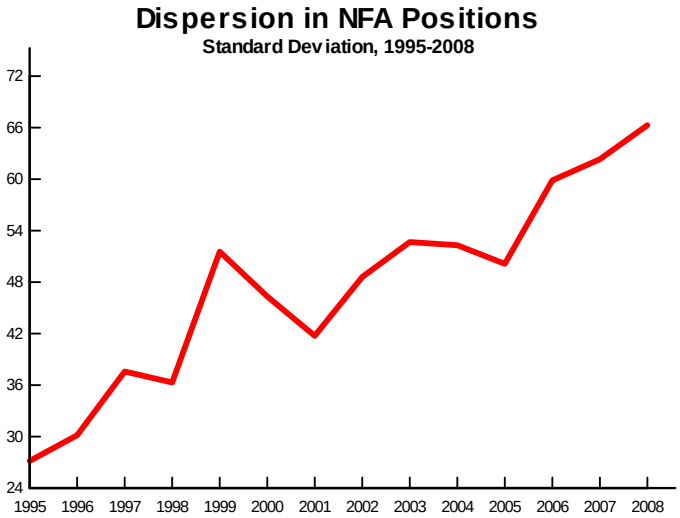

Figure 2: Net Foreign Asset Positions in Europe. Note: Based on data from Lane and Milesi-Ferretti (2007a).

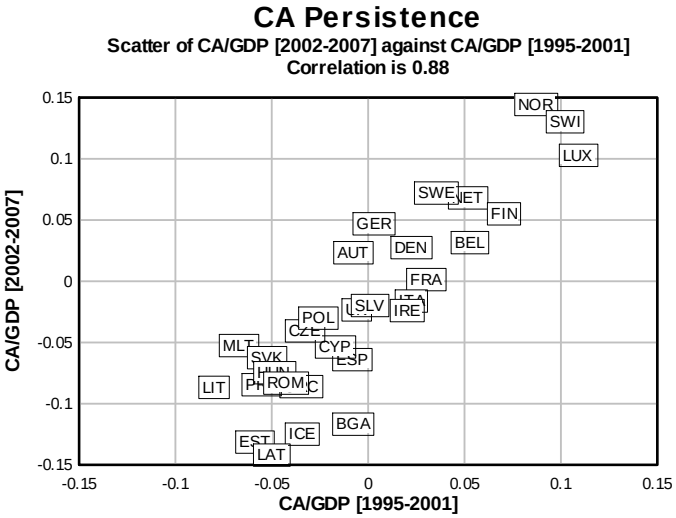

Figure 3: Persistence in Current Account Balances

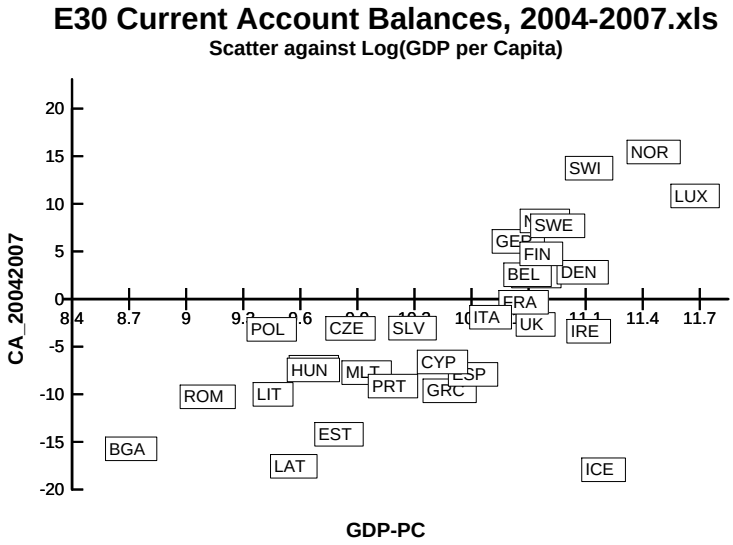

Figure 4: Current Account Balances and Per Capita Income Levels

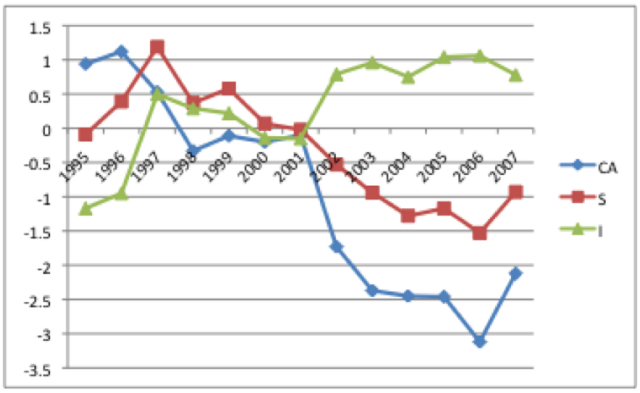

Figure 5: Time-Varying Impact of Growth Forecasts. Note: Plot of estimated regression coefficients from Table 2.

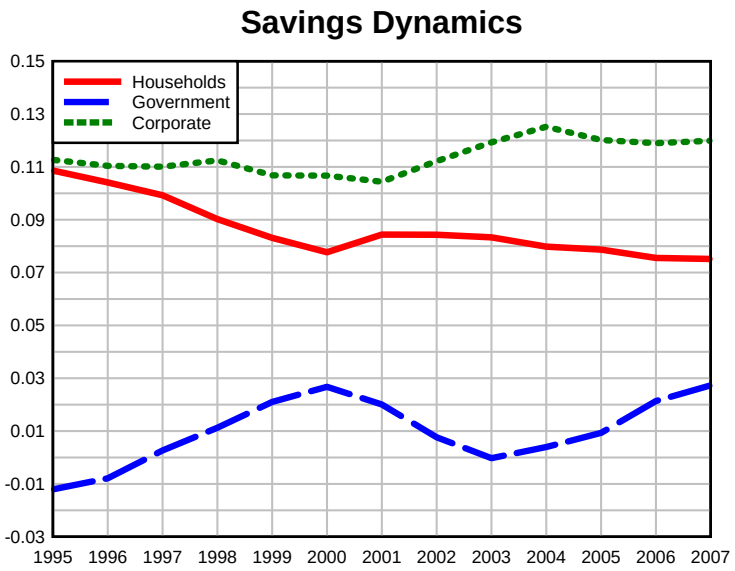

Figure 6: Sectoral Savings Rates, 1995-2007. Note: E30 aggregate. Source: Authors' calculations based on AMECO data.

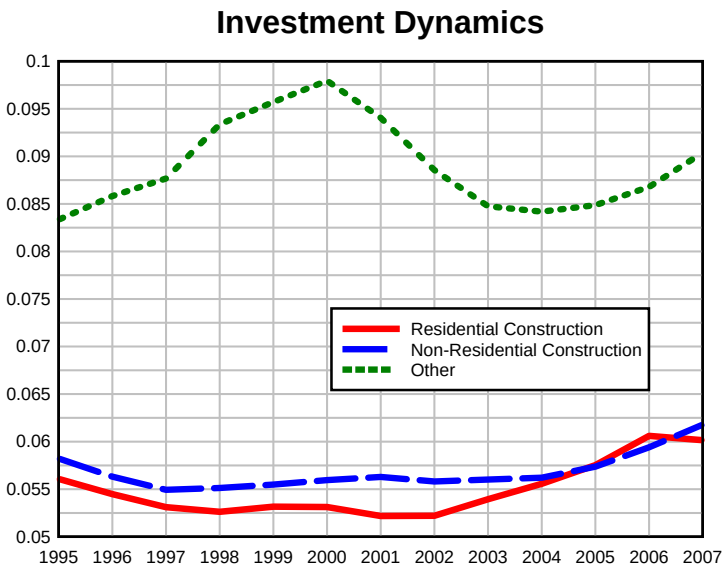

Figure 7: Sectoral Investment Rates, 1995-2007. Note: E30 aggregate. Source: Authors' calculations based on AMECO data.

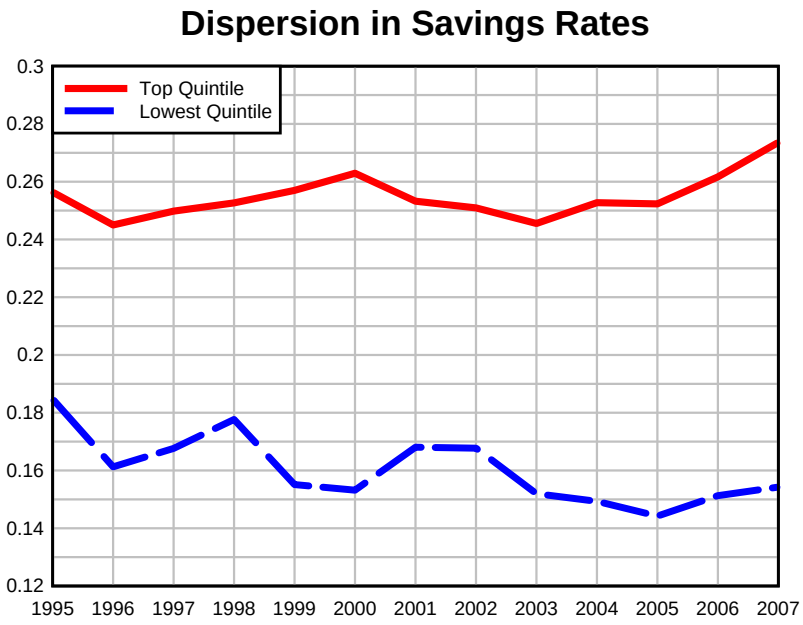

Figure 8: Dispersion in Savings Rates. Note: Top and bottom quintiles for E30 group. Source: Authors' calculations, based on AMECO data.

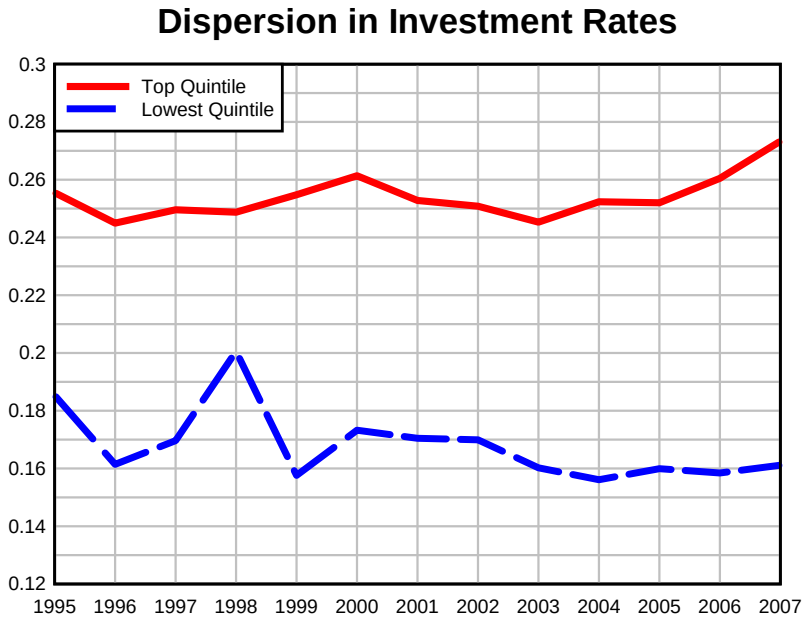

Figure 9: Dispersion in Investment Rates. Note: Top and bottom quintiles for E30 group. Source: Authors' calculations, based on AMECO data.

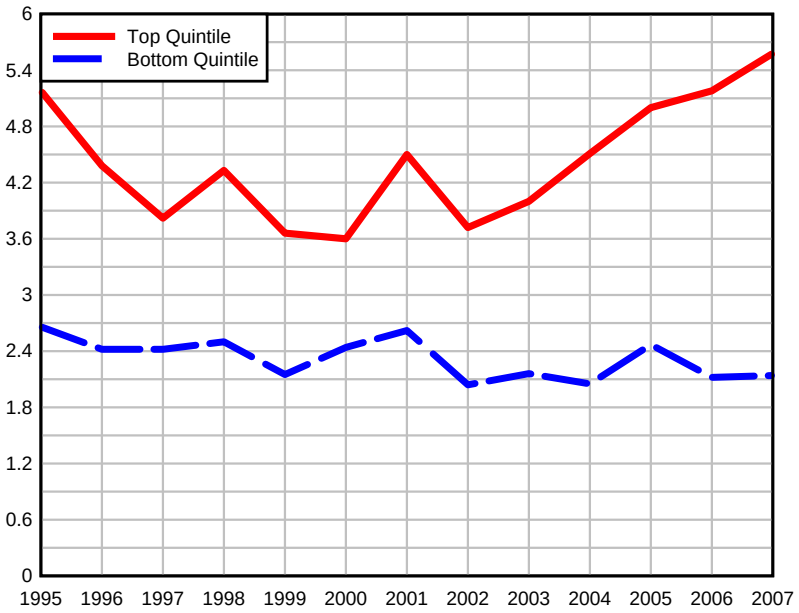

Figure 10: Dispersion in Growth Forecasts. Note: Top and bottom quintiles for E30 group. Source: Authors' calculations, based on AMECO data.

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