Demand and long term growth: Testing some post-keynesian topics

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Drawn by: The role of demand factors
in the determination of the
GDP growth rate, R.Paniccià and S.Prezioso, in: *Theoretical foundation of macroeconomic policy: growth productivity and public finance*, ed(F.Saltari), Routledge 2016:

Demand and long term growth: three approaches

1) Pure neoclassical: Demand? What is demand?….. Although someone said, precisely, "*At the five to ten years time scale, we have to piece things [Supply and Demand] together as best as we can, and look for an hybrid model that will do the job*" (Solow, 2000, p. 158).

2) Neo-keynesian: Demand is only a source of short term disequilibria mainly due to production factors inertia and market rigidity

3) Post keynesian: Demand is a source of structural change of the long term growth

Framework of post keynesian analysis

Starting point

Forget the 'natural' neoclassical equilibrium (full utilization of production factors) the starting point is the Domar-Harrod "structural" dynamic instability, this means that the long term growth is not a natural path, towards all economies are converging, but it is endogenously determined by the interaction of demand and supply

Theorethical tools

From the original multiplier-accelerator scheme, the post keynesian approach included significant contributions on the distribution, demand and supply side. In this presentation I would like to test the role of demand on long term growth via investment and kaldorian TPF.

Precisely…

Demand shocks could have significant effects on long term growth, and what I need to isolate is the long term component (structural) of growth

Just a remind: The Kaldor TPF (tech.progress function)

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The supply side of this test starts from the “consensus” equation on the structural productvity

$$\pi = f(A,\kappa)$$

Kaldor (1957) and later on Thirwall (2002) proposed a different interpretation of the Ak equation

1) It is not the same for all economies
2) it is not driven by factors prices but depends on two main factors: i) investment efficiency in embodying tech progress (Kaldor); ii)multiplier (Thirwall)

A simple post keynesian model: key equations

$$\dot{Y} = y(\dot{D}, \dot{T}x, g_x)$$

$$g_x = q(A, \dot{k})$$

$$I = i(\Delta(Y_{t-1}), K_{t-1})$$

To introducing gx in the GDP equation I used a ECM approach:
So gx=q(A, k) is the long run relation

Two main estimates: GDP growth

ECM equation on GDP growth

Dependent variable *?log(Y)*	Germany	France	Italy	USA
Constant	-0.00036	-0.00154	0.00085	-0.00471
	(-0.0021)	(-0.0018)	(-0.001)	(-0.003)
?log(D)	1.08	1.12	1.08	1.15
	(0.1148)**	(0.0905)**	(0.0512)**	(0.1015)**
?log (E $_w$/M $_w$)	0.31	0.14	0.23	0.09
	(0.0553)**	(0.0599)*	(0.0223)**	(0.0288)**
g $_x$(-1)	-0.054	-0.041	-0.054	-0.023
	(0.0221)*	(0.0202)*	(0.0220)*	(0.0131)*
Observations:	23	25	30	30
R-squared:	0.94	0.90	0.95	0.96
DW	1.929	2.81	2.464	1.892
Sample	1992-2014	1990-2014	1985-2014	1985-2014

Source: our calculation on data-set AMECO release 2014

and Gross Fixed Investments

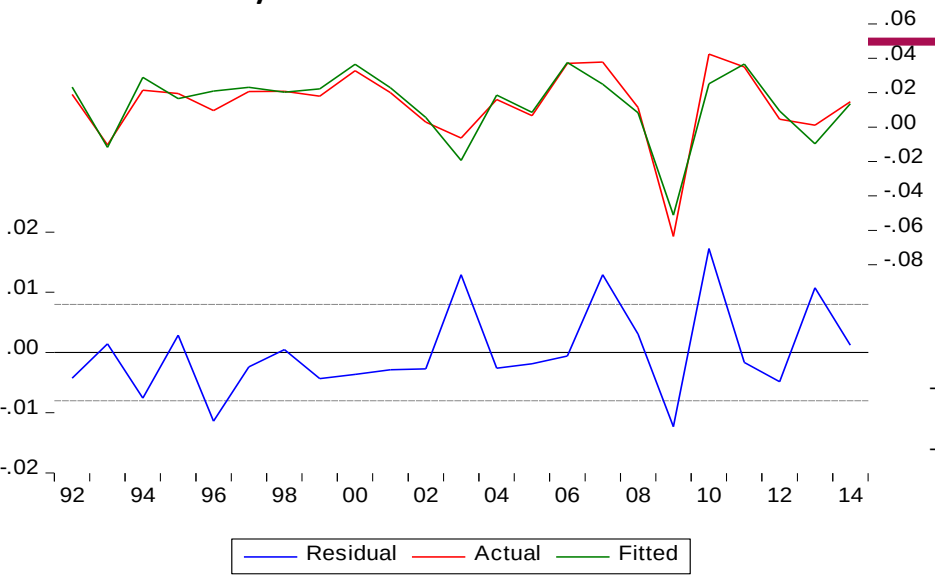
Estimate of accelerator-type equations

Dep. Var: log(I)	Germany	France	Italy	USA
Constant	-5.60636	-2.56992	-2.87634	-6.08079
	(1.8752)*	(0.3720)**	(1.3385)*	(0.9670)**
MovAv[2,(Dlog(D*)]	2.20611	2.52208	2.29004	2.78354
	(0.4819)**	(0.5326)**	(1.0276)*	(1.1385)**
log(K(-1))	0.61291	1.03164	1.06902	1.34343
	(0.1175)**	(0.0421)**	(0.1584)**	(0.0907)**
Dummy=2002				0.09620
				(0.0386)*
Dummy=2005	-0.07639			
	(0.0305)*			
Dummy>=2013	0.0522	0.07612	-0.14315	-0.11203
	(0.0240)*	(0.0271)*	(0.0601)*	(0.0267)**
R-squared:	0.8293	0.9769	0.9235	0.9535
DW	1.287	1.234	1.71	1.507
Sample	1995-2014	1995-2014	1995-2014	1995-2014

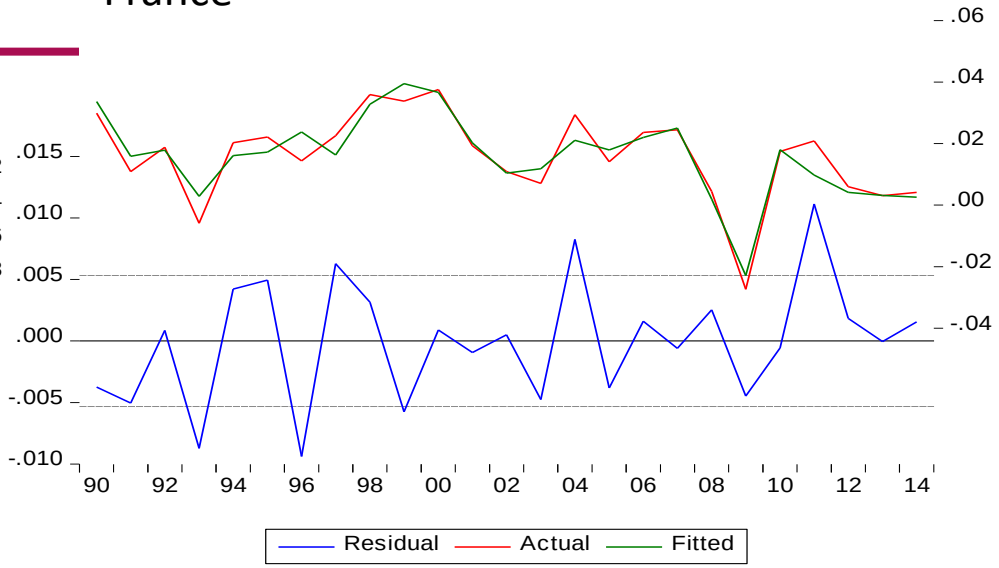
Note: D^* stands for Final Demand net of investments
Source: our calculation on data- set AMECO release 2014

Results of the GDP equation estimates

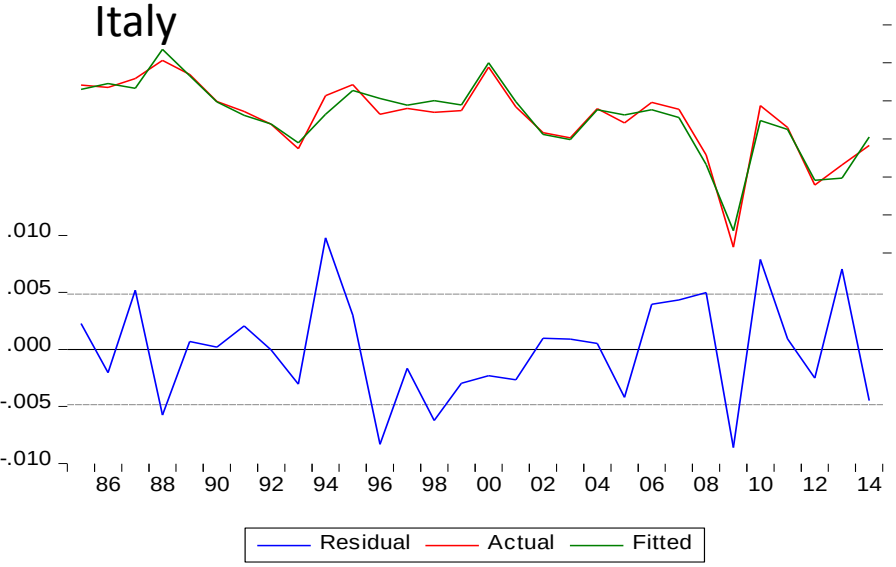
Germany



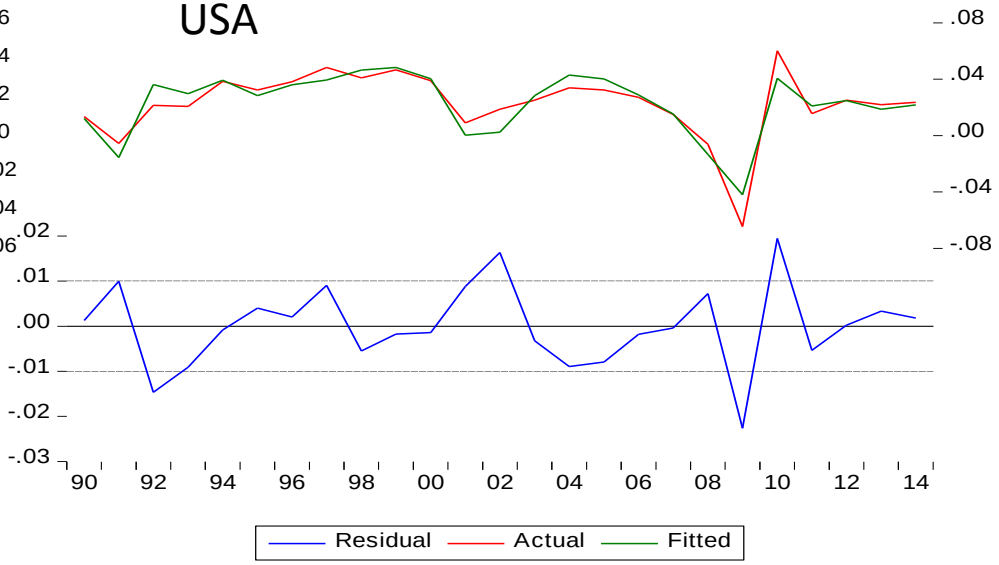
France



Italy



USA



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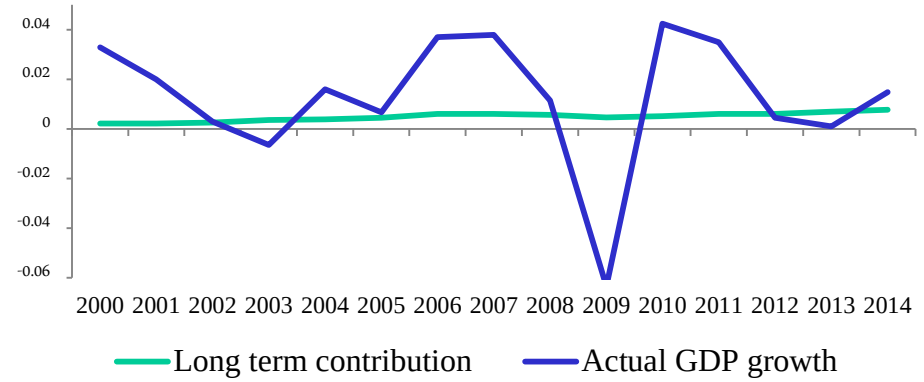
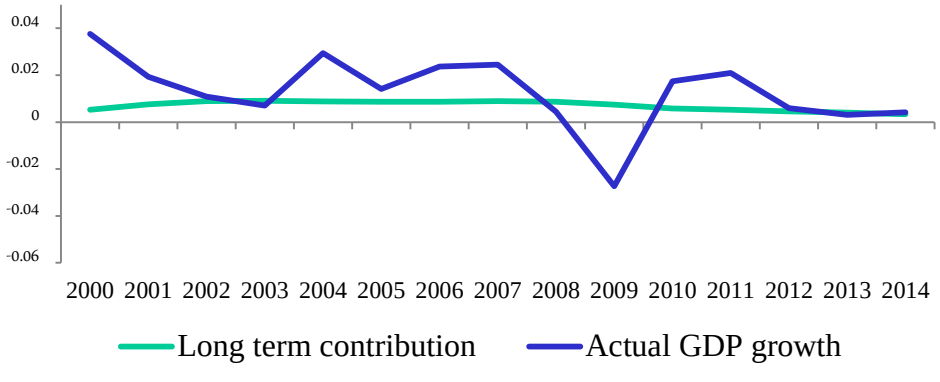
The long term contribution

Germany



France



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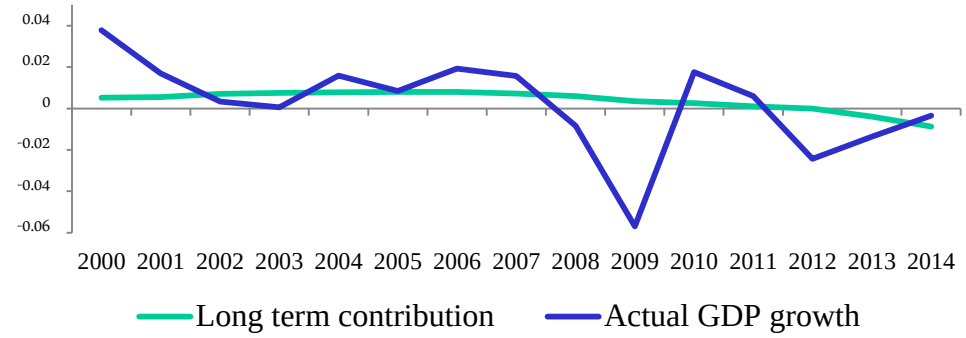
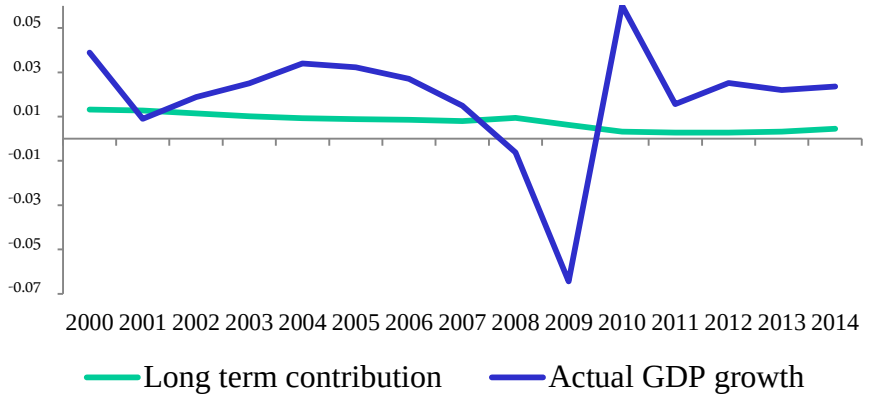


USA



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