



**Should we fear secular stagnation? or
Are we all dead in the long-run?**

Gennaro Zezza

Will be talking about...

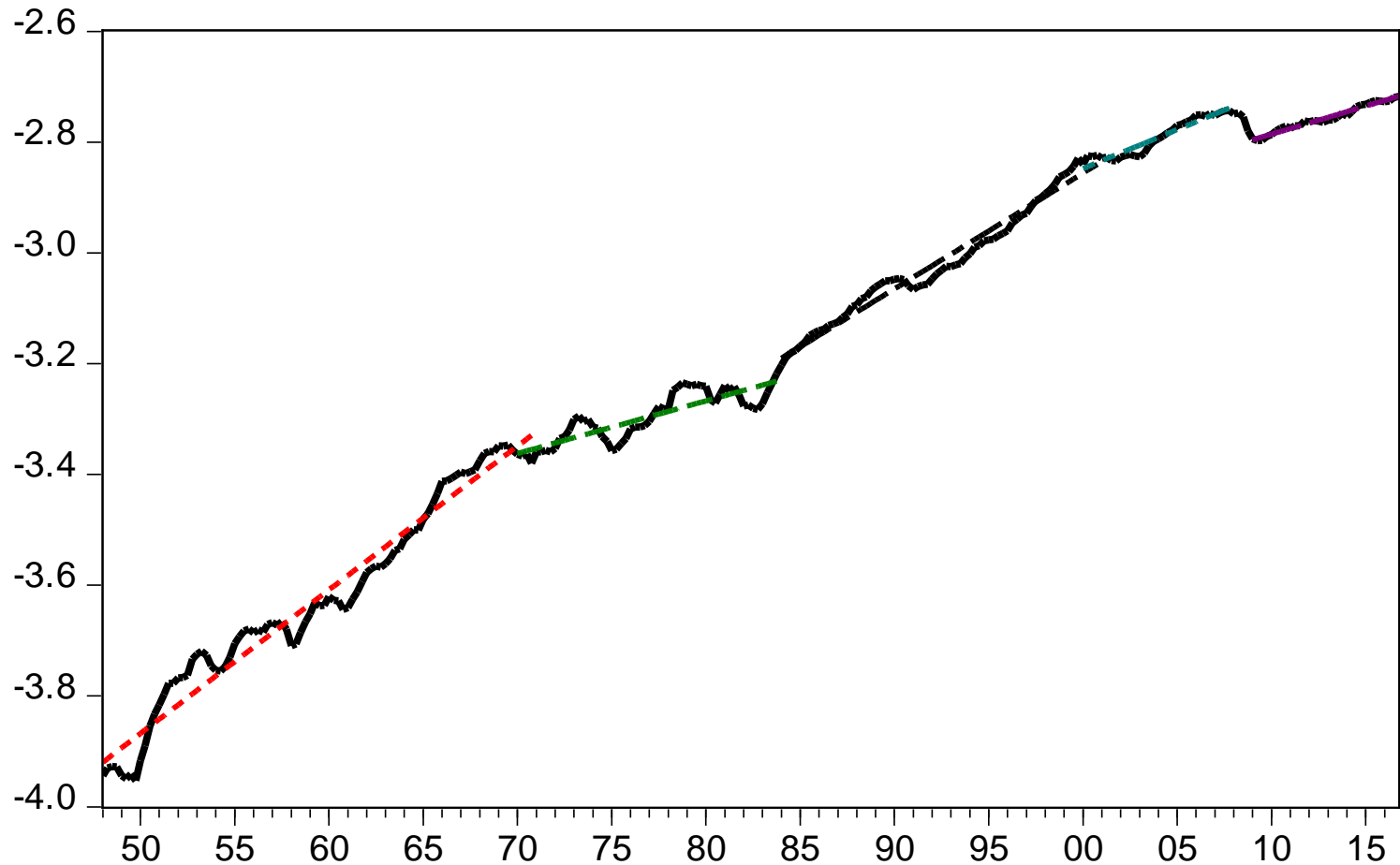
Mainstream approach to growth

The secular stagnation hypothesis

Alternative theories of growth

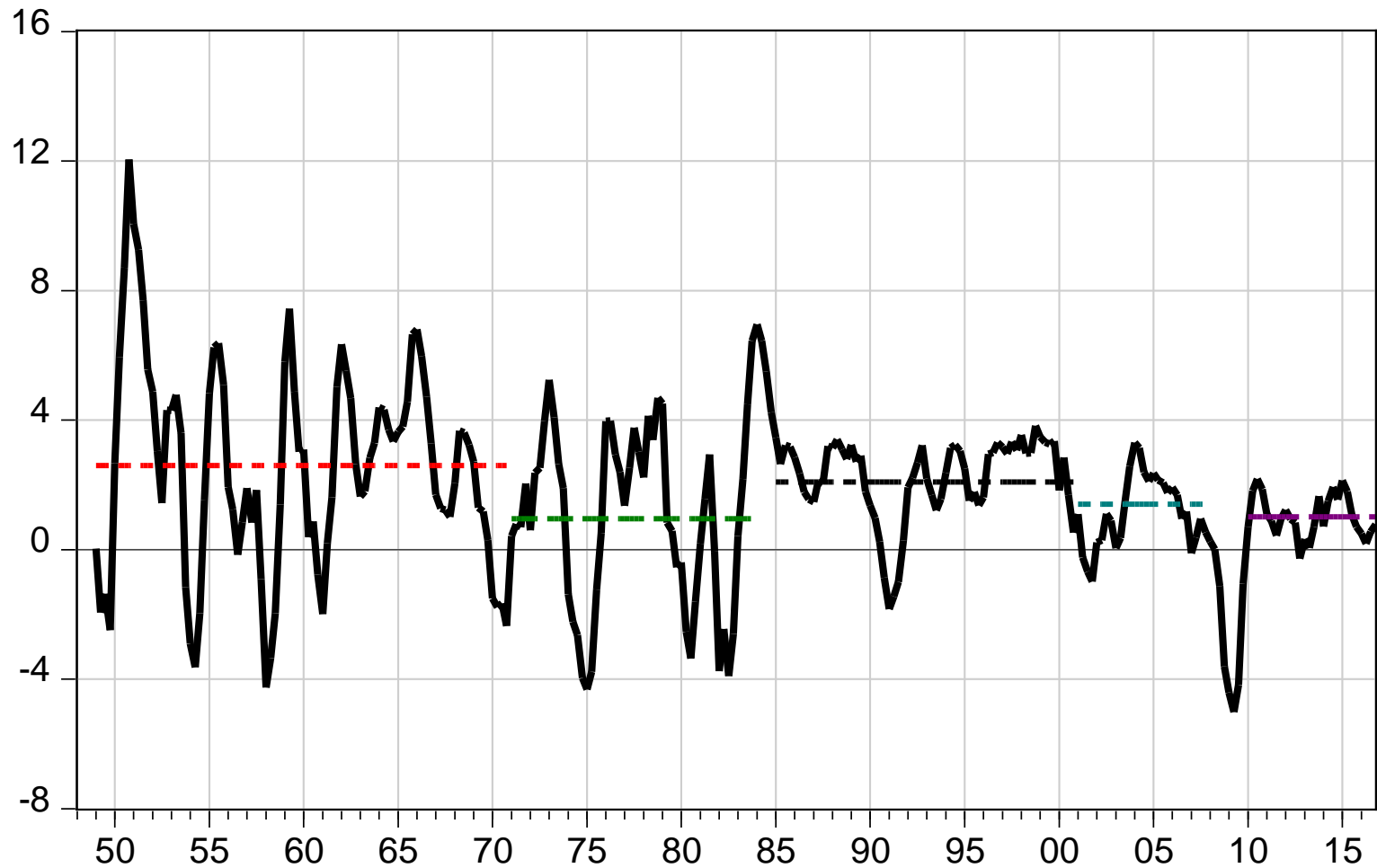
Stagnation?

U.S. Real GDP per capita



Stagnation?

U.S. Real GDP per capita (growth rate)



Mainstream growth theory

The infamous aggregate production function

$$Q = f(L, K, \dots)$$

$$Q/L = f(K/L, \dots)$$

Even when modifying the theory to take into account education (human capital) most of growth is unexplained, i.e. given by *total factor productivity*

The Secular Stagnation Hypothesis

Given this approach, a slow-down in growth may be due to

- ▶ Technological progress
- ▶ Accumulation
- ▶ Availability of labor

The Secular Stagnation Hypothesis was put forward after the 1929 depression. We have seen it did not materialize

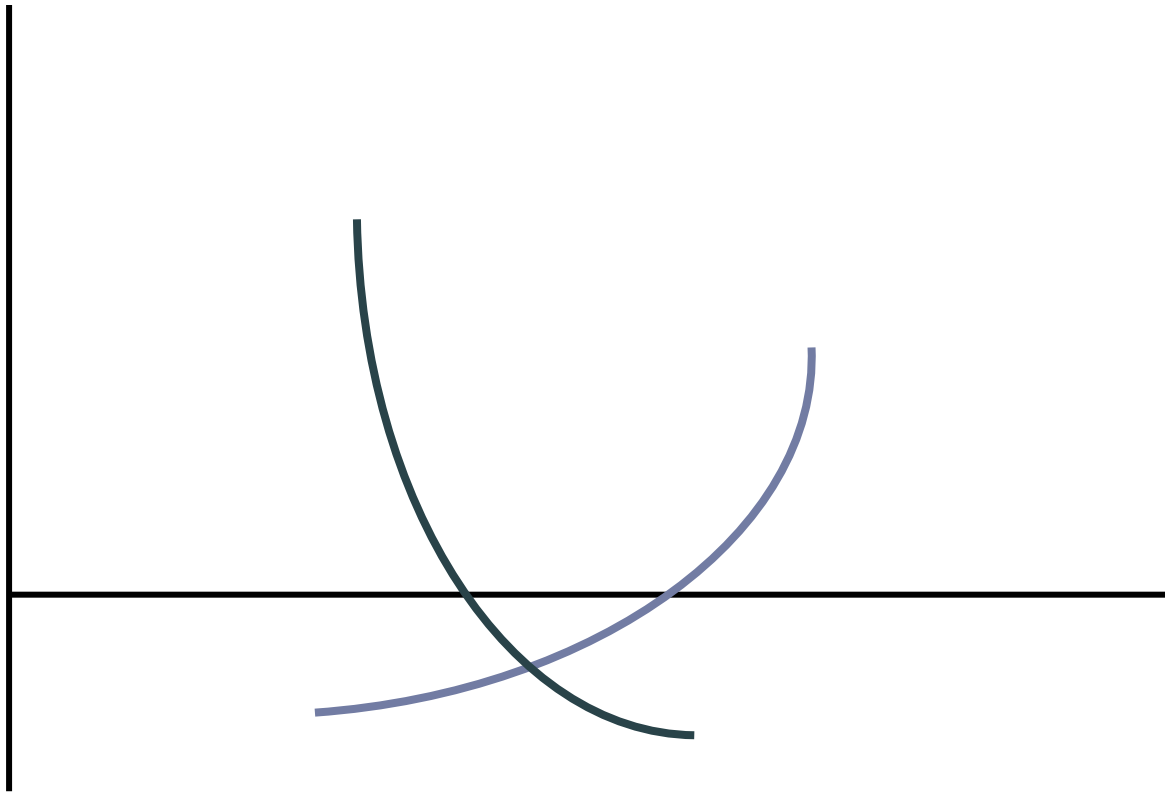
The Secular Stagnation Hypothesis

After the 2007-2009 Great Recession, the SecStag came back, due to Summers (2014)

Voxeu.org has a 2014 e-book with different approaches

The argument put forward by Summers relates to the equilibrium real interest rate

The Secular Stagnation Hypothesis



Summers (2014)

- ▶ reduction in demand for debt-financed investment (high-tech firms do not need large capital)
- ▶ decline in growth rate of the labor force (and possibly slowdown of technological progress)
- ▶ changes in income distribution towards the top, increase the propensity to save
- ▶ shift (decline) in the relative price of capital goods
- ▶ when inflation declines, the post-tax interest rate is lower
- ▶ increase in C.B. reserves (holding of safe financial assets)

Summers (2014) - policy

1. Do nothing
2. Reduce actual rate of interest
 1. Problem: ZLB
 2. Problem: financial bubbles
 3. Problem: fragile firms survive
3. Increase demand

Convergence

Researchers modeling the very long run ignore (so far) the secular stagnation hypothesis

Shared socio-economic pathways

<https://tntcat.iiasa.ac.at/SspDb/dsd?Action=htmlpage&page=about>

Uncertainty and expectations

Unpredictable events are one reason why model fail

But uncertainty over the future is also the major motivation for making projections!

In a world of uncertainty, agents need to *anchor* their expectations to something, especially when considering long-term investment projects

An authoritative projection provides such an anchor

Since this is mostly relevant for public investment plans, the art (science?) of making economic projections is more and more influenced by political forces (TTIP...)

Advantages and drawbacks

Strength of the mainstream approach:

- Specialization
- Co-operation among institutions

Drawbacks

- Lack of realism

Practitioners are well aware of the pros and cons of the approach

Coverage

- ▶ Multiple industries/commodities
- ▶ Structural change
- ▶ Use of natural resources
- ▶ Feedback with climate
- ▶ Demographic and gender issues
- ▶ Distribution of income/wealth
- ▶ Evolution of market structures (value chains)

Projecting GDP

Entirely from the supply side

Standard growth accounting:

$$g = n + k + p$$

Assuming full employment, and projecting somehow the participation ratio, growth of output depends on population growth, available productive capital, and growth in productivity

Population growth is projected taking into account demographics, possibly migration, possibly feedbacks from other endogenous model variables (climatic change, etc.)

Projecting GDP #2

The stock of productive capital is usually computed dynamically from investment flows, which in turn depend on saving

For determining individual countries performance, the key assumption is catching-up

Productivity growth for the country on the frontier is projected exogenously, and productivity growth in other countries is obtained assuming convergence, given by imitation processes

Does it make any sense?

Nobody denies that mainstream macroeconomic models in use in **all** international agencies (IMF; WB; EC; ...) failed to predict the Great Recession

If macro models are unable to predict what is likely to happen 6 months from now, does it make sense to project what may happen 20 years from now?



Heterodox alternatives?

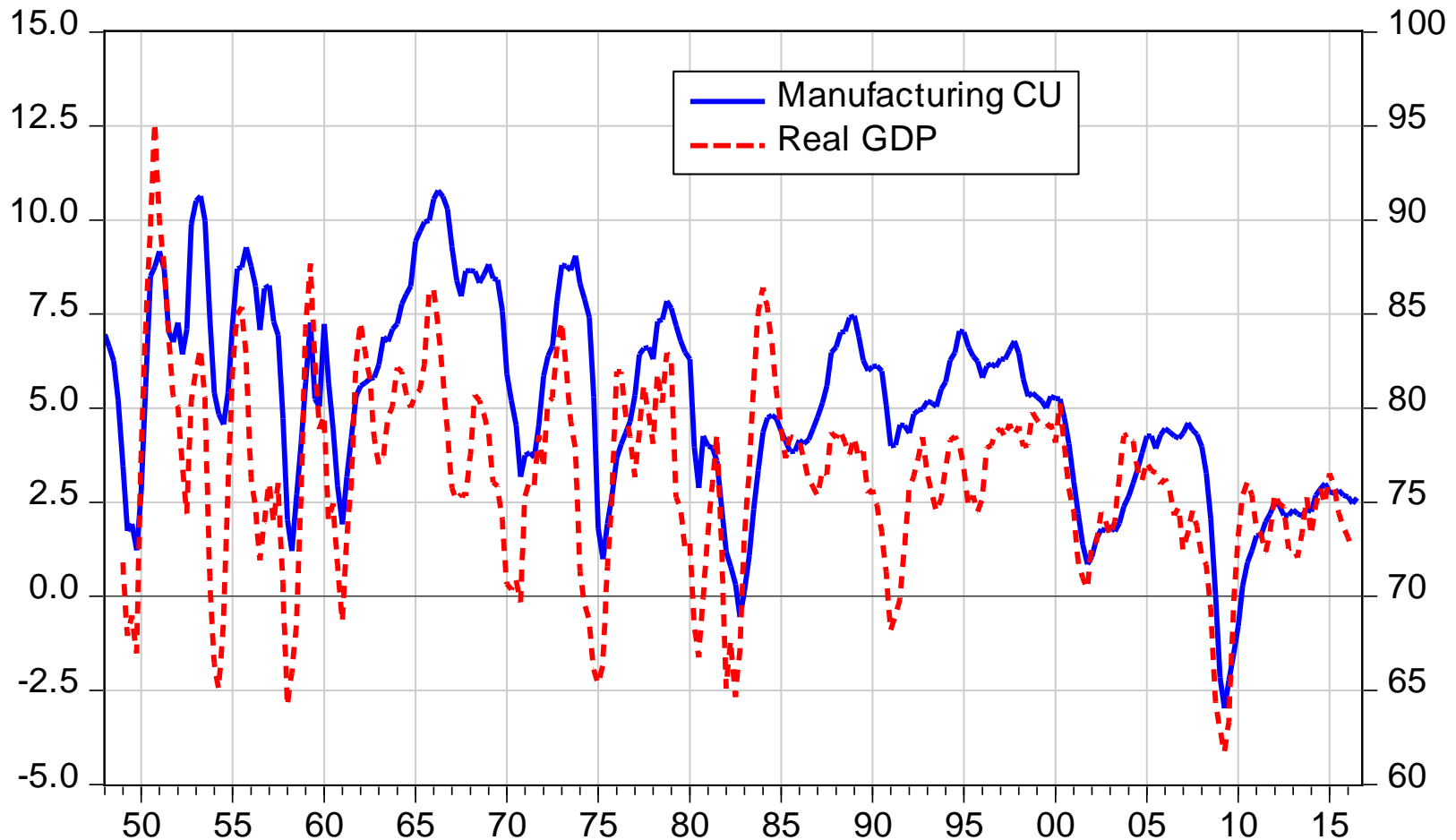
The PK-SFC approach is a sound basis for an alternative

However...

In most PK growth models, the ultimate source of growth is given by arbitrary assumptions on the growth rate of some component of aggregate demand. While this has proven to be effective for medium term (3 years) projections, is it reasonable for the long term?

Heterodox alternatives #2

US. Capacity utilization in manufacturing and GDP growth



Heterodox alternatives #3

What do we put in place of the assumption about full employment?

The utilization rate is a good candidate, but the heterodox camp is still divided between models with a target, «normal» utilization rate, and models which are entirely path-dependent.

Would an assumption about a «normal» unemployment rate (reserve army of labor) be useful?

Multi-country SAM

Table I.A multi-country compact Social Accounting Matrix

		Country A				Country B				Total	
		IN	FoP	IS	CA	IN	FoP	IS	CA		
Country A	Industries	I-O _A		FD _A	ΔK _{AA}		IG _{BA}		FD _{BA}	ΔK _{BA}	Q _A
	Factors of production	VA _A					VA _{BA}				Y _{PA}
	Institutional Sectors		PY _A	TR _A				PY _{BA}	TR _{BA}		Y _A
	Capital account			S _{AA}					S _{BA}		S _A
Country B	Industries	IG _{AB}		FD _{AB}	ΔK _{AB}		I-O _B		FD _B	ΔK _{BB}	Q _B
	Factors of production	VA _{AB}					VA _B				Y _{PB}
	Institutional Sectors		PY _{AB}	TR _{AB}				PY _B	TR _B		Y _B
	Capital account			S _{AB}					S _{BB}		S _B
Total		Q _A	Y _{PA}	Y _A	ΔK _A		Q _B	Y _{PB}	Y _B	ΔK _B	

Example of flow of funds

Table 3. Flows of funds

Changes in	Households						NFB	FB	CB	Gov	RoW	TOTAL
	RP	RL	RH	UP	UL	UH						
Real assets		$+\Delta K_{RL}$	$+\Delta K_{RH}$		$+\Delta K_{UL}$	$+\Delta K_{UH}$	$+\Delta K_{NFB}$	$+\Delta K_{FB}$		$+\Delta K_G$		$+\Delta K$
Monetary base		$+\Delta MB_{RL}$	$+\Delta MB_{RH}$		$+\Delta MB_{UL}$	$+\Delta MB_{UH}$		$+\Delta MB_{FB}$	$-\Delta MB$			0
Bank deposits		$+\Delta BD_{RL}$	$+\Delta BD_{RH}$		$+\Delta BD_{UL}$	$+\Delta BD_{UH}$		$-\Delta BD$				0
Bank loans		$-\Delta BL_{RL}$	$-\Delta BL_{RH}$		$-\Delta BL_{UL}$	$-\Delta BL_{UH}$	$-\Delta BL_{NFB}$	$+\Delta BL$				0
Corporate equities			$+\Delta EQ_{RH}$			$+\Delta EQ_{UH}$	$-\Delta EQ$	$+\Delta EQ_{FB}$			$+\Delta EQ_W$	0
Government debt			$+\Delta GD_{RH}$			$+\Delta GD_{UH}$		$+\Delta GD_{FB}$	$+\Delta GD_{CB}$	$-\Delta GD$	$+\Delta GD_W$	0
Foreign equities							$+\Delta FE_{NFB}$	$+\Delta FE_{FB}$			$-\Delta FE$	0
Foreign liabilities								$+\Delta FL_{FB}$	$+\Delta FL_{CB}$		$-\Delta FL$	0
TOTAL	0	S_{RL}	S_{RH}	0	S_{UL}	S_{UH}	S_{BFB}	S_{FB}	0	S_G	S_W	$+\Delta K$

Legenda: RP: rural poor; RL: rural low-income; RH: rural high-income; UP: urban poor; UL: urban low-income; UH: urban high-income; NFB: non-financial business; FB: financial business; CB: Central Bank; Gov: Government; RoW: Rest of the world

Macroeconomic closures

All models need to deal with how to close macro accounting

$$S_p + S_g + S_w = I$$

or

$$S_p - I = \text{Def} + \text{CA}$$

where Def is government deficit, and CA the current account balance

Most models assume that in the long run $\text{Def} = 0$, and that domestic plus net capital inflow finance investment

No role for money or Central banks

Alternatives

1. CA deficit for countries issuing reserve currencies?
2. Feasible CA deficits with respect to income growth (potentially unstable)

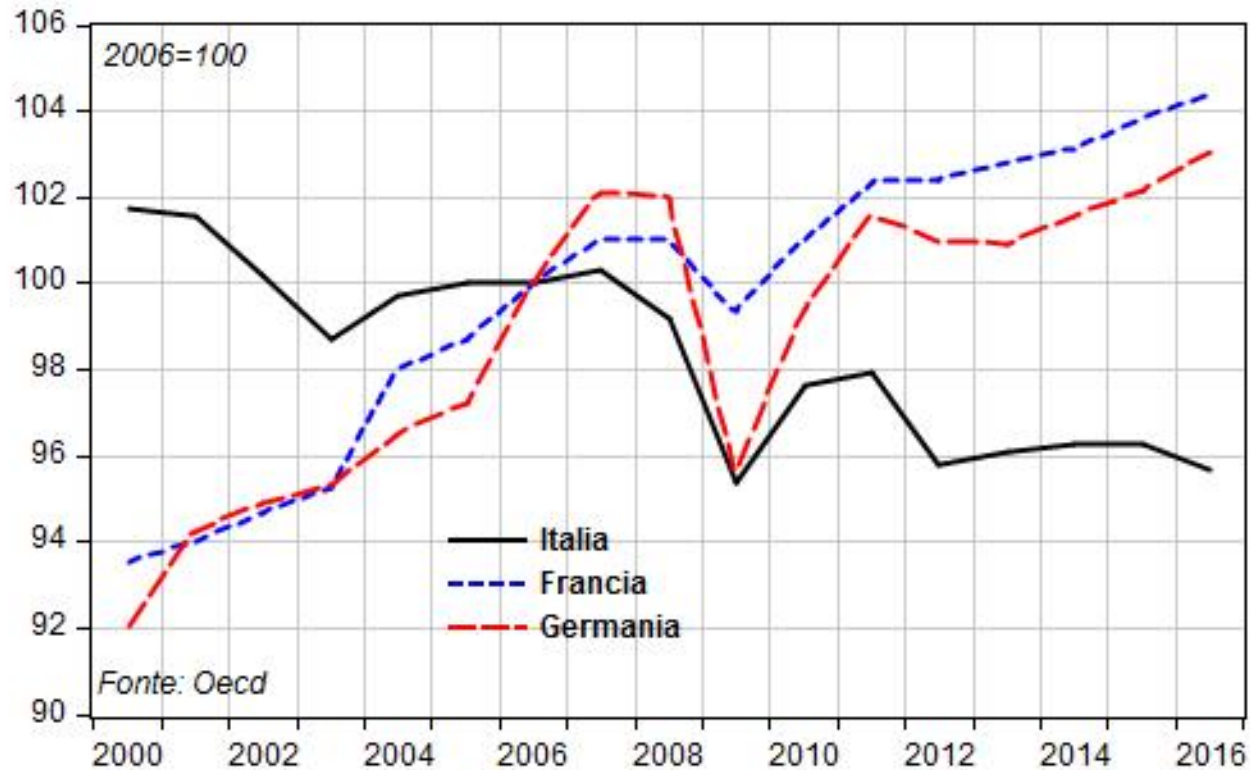
Must imply some CA surplus countries

Given the CA, government deficit targeted to the desired accumulation of financial wealth by the private sector

$$\text{NAFA} = S_p - I = \text{Def} + \text{CA}$$

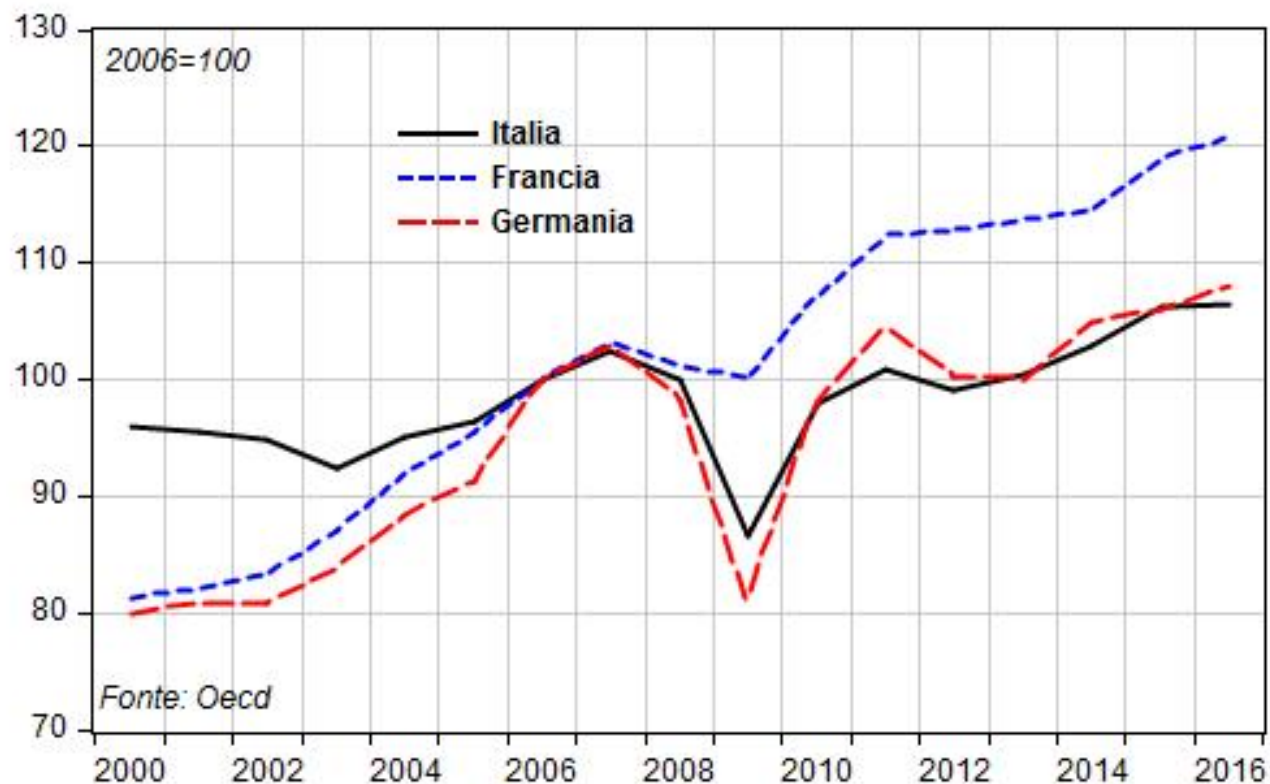
The Italian slow-down

Valore aggiunto per occupato, prezzi costanti

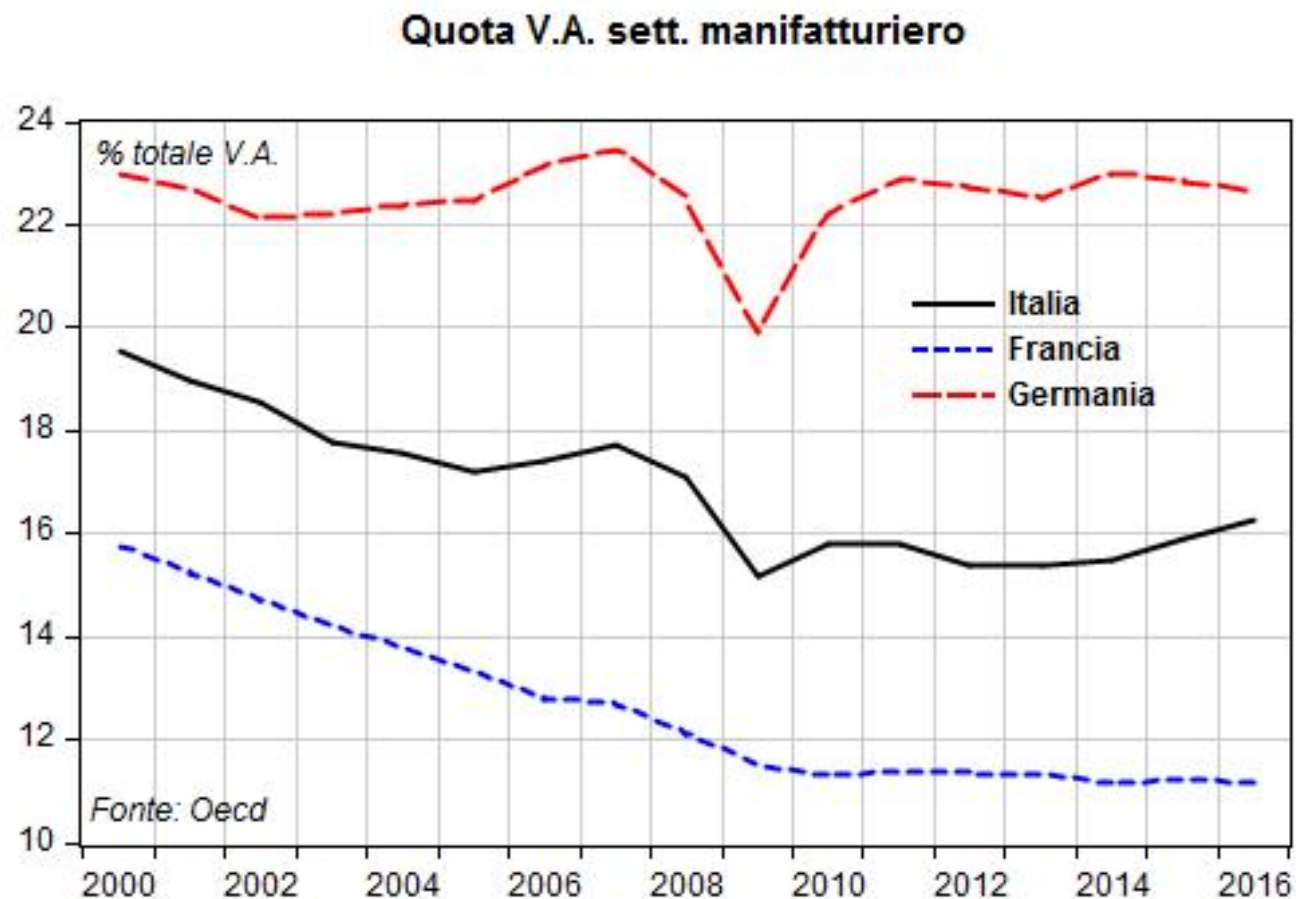


The Italian slow-down #2

V.A. per occupato, prezzi costanti. Manifatturiero



The Italian slow-down #3



To conclude...

Should we fear secular stagnation?

An open question, but certainly not interesting for developing countries, or for countries which are drowning in debt