"Changes in Volatility of Economic Activity at the Micro and Macro Levels"

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I want to discuss two things in turn

$\boxed{\textbf{Background, results and suggestions}}$

International evidence

Why do we care about the Great Moderation?

Economists typically believe volatility is bad for welfare

- For example, Ramey & Ramey (1995) show that output volatility has a large negative association with growth

The surprising result in the paper is that obvious mechanism for volatility to reduce growth – by lowering investment – does not seem to be the main driving force

One explanation could come from the micro-to-macro productivity growth literature (e.g. Foster, Haltiwanger & Krizan, 2004)

The cause of the Great Moderation is still in debate

The stylized fact is output volatility has fallen since mid 1980s

- Blanchard and Simon (2001) suggest there has been a downward trend since the 1950s
- Stock & Watson (2003) suggest there was a break around 1983/84

There are a wide number of suggested reasons, for example:

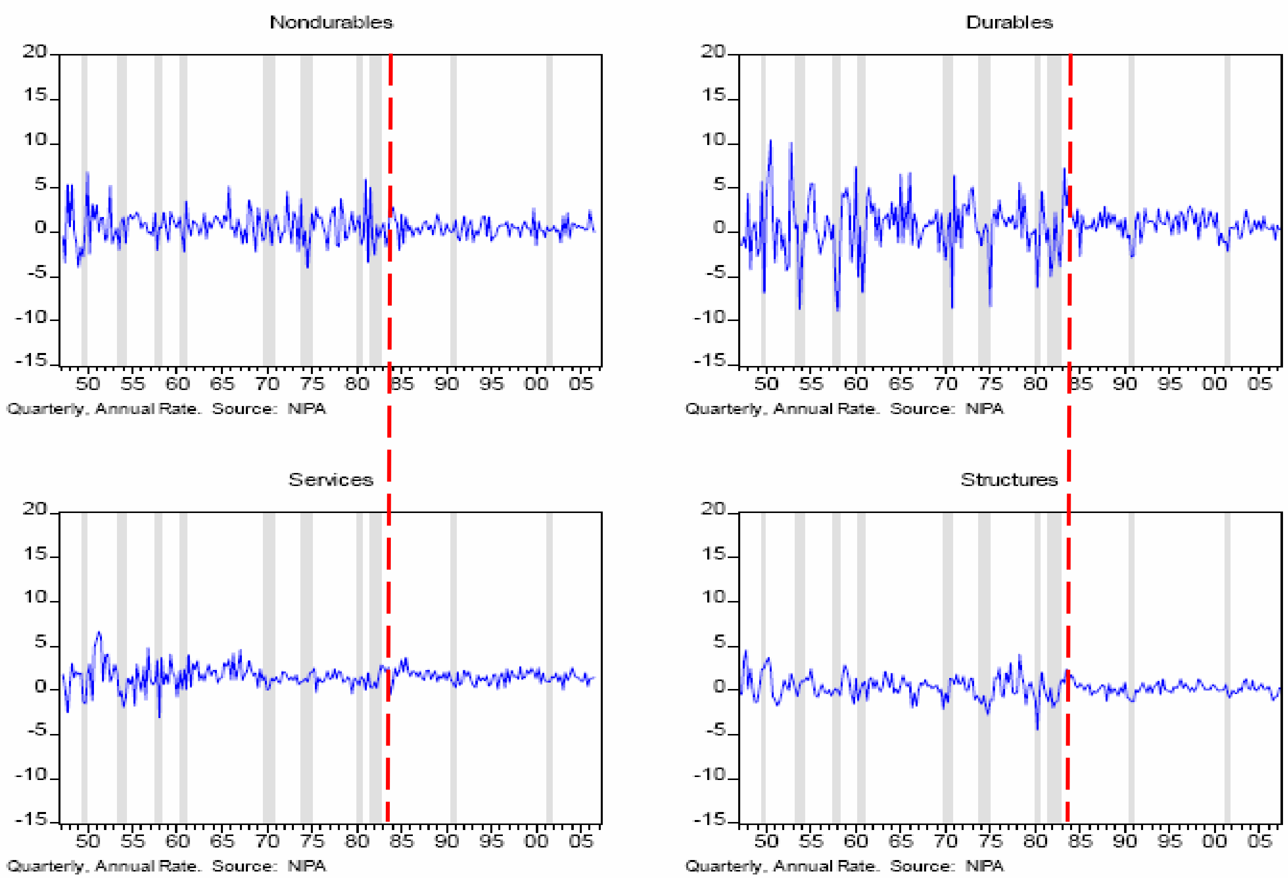
- Better monetary policy
- Compositional changes
- Financial markets (mortgages, consumer credit, debt)
- Demographics
- Change in the cyclical behavior of productivity
- Good luck

So it is a puzzle as to why there is any volatility left at all…

They present some interesting stylized facts (1/2)

1 The decline in output volatility is within broad sectors
   - In particular the shift to services explains ≈ 10% of the fall

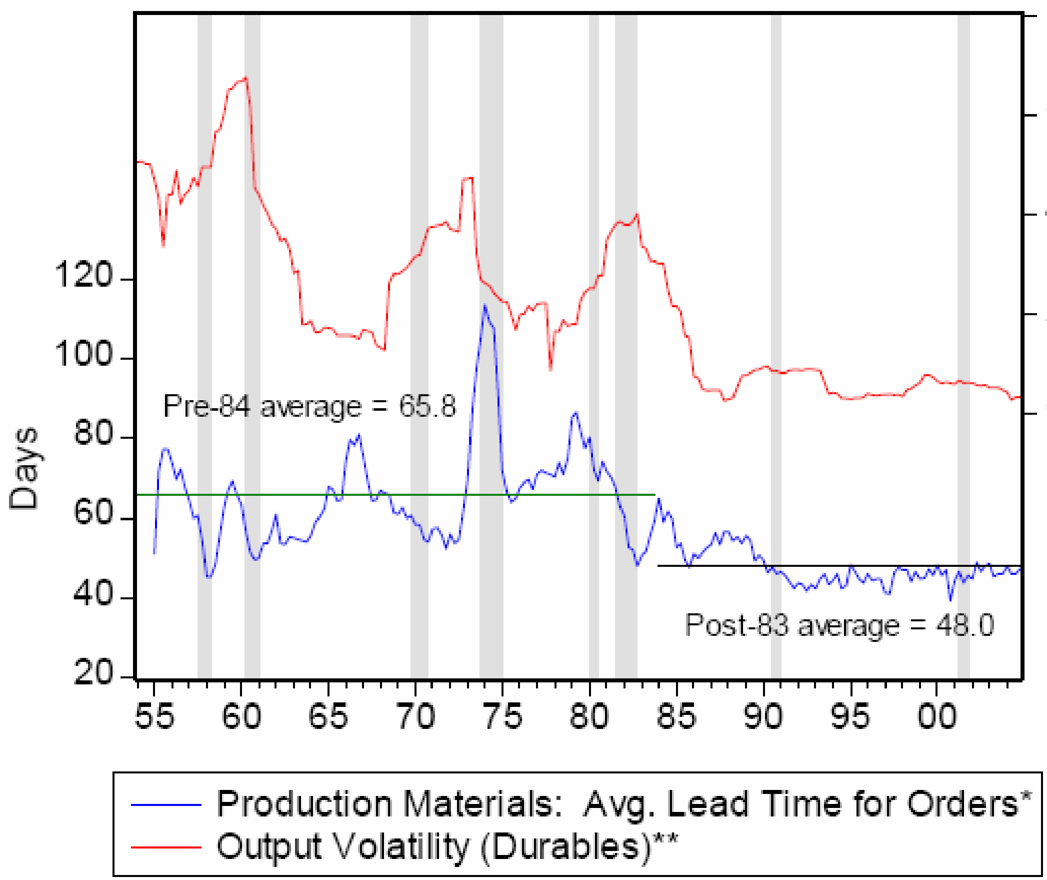
2 Durables account for the majority of this decline, because they account for the major share of overall volatility



They present some interesting stylized facts (2/2)

3 The decline in durables volatility occurs primarily in production rather than sales

4 This decline in durables volatility has been accompanied by a decline in order lead times for production materials



The paper builds a nice inventory control model to explain the fall in durables output volatility

Stylized idea is firms can predict future sales better and/or order inputs with less of a time lag

As a result production is less volatile – no large build-ups of unfilled orders to generate production spikes

Sales will also be slightly less volatile – offsetting effects occur (can respond to sales shocks more easily, but sales is less affected by stock-out shocks), with net effect mildly negative

Suggestions (1/3): It would be good to see more robustness on the durables story

The current paper, like Blanchard & Simon (2001), looks at 1-quarter growth rates: log(x(t)/x(t-1))

Other papers, such as Stock & Watson (2003), look at 4-quarter growth rates: log(x(t)/x(t-4))

The difference does matter in this case

NIPA <u>1-quarter</u> growth rates of durables are correlated with their lagged value at -0.12, while non-durables, services & structures are correlated at 0.19, 0.30 and 0.36 respectively

Suggestions (2/3): It would be good to see more micro evidence for the inventory story of durables

An alternative explanation could be a shift across consumer durables towards products with lower production volatility

- Like to see trends within more narrow sectors

The model also has cross-sectional implications – if firms vary in their ability to implement Just-in-Time technology, then will see cross-sectional correlations in a range of factors, including:

- Production volatility & sales volatility
- Inventory levels and production response lag to sales changes

Suggestions (3/3): It would be good to see more evidence for the order-lag story of inventories

Another (linked) explanation is firms using modern manufacturing techniques are more flexible across products

- Switching production across narrow product lines reduces the impact of demand shocks variance on production

Alternatively, Just-in-Time techniques have shifted volatile production & inventories components upstream out of durables

- Volatility now realized in other sectors and abroad

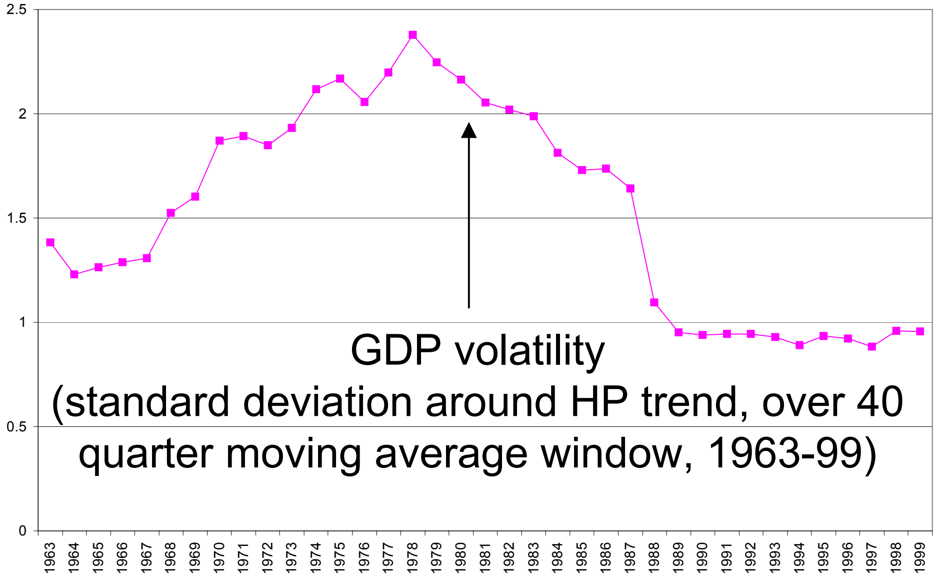
Or, as Ramey & Vine (2004) show for automobiles it may be the interaction of less persistent sales shocks and non-convex production costs

Background, results and suggestions

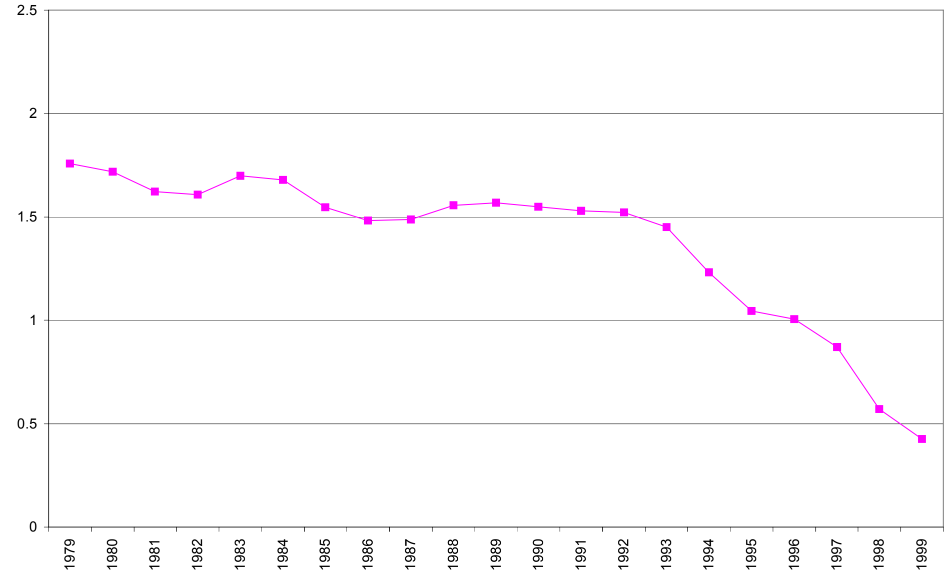
International evidence

Countries have different GDP volatility time profiles

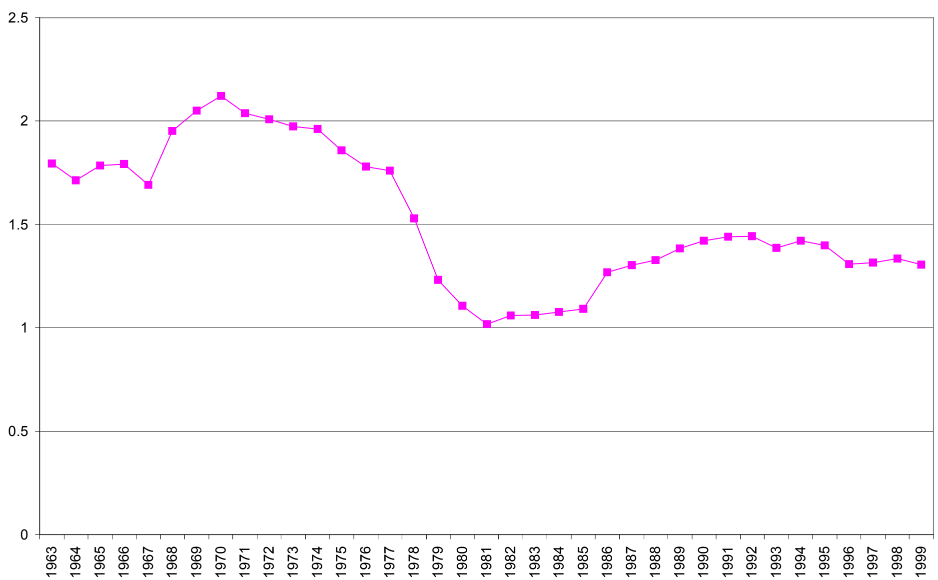
U.S.



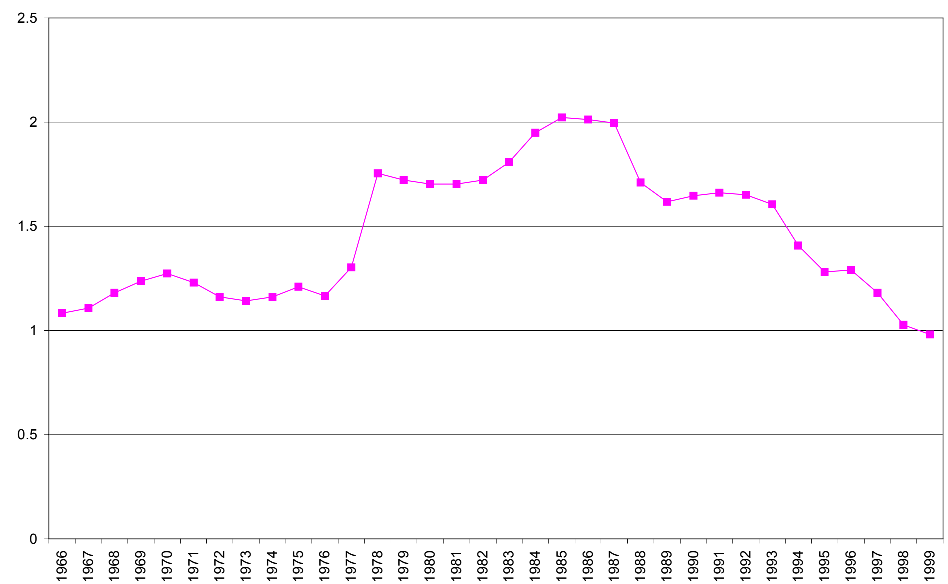
Great Britain



Japan



Canada



Source: Jaimovich and Siu (2007)

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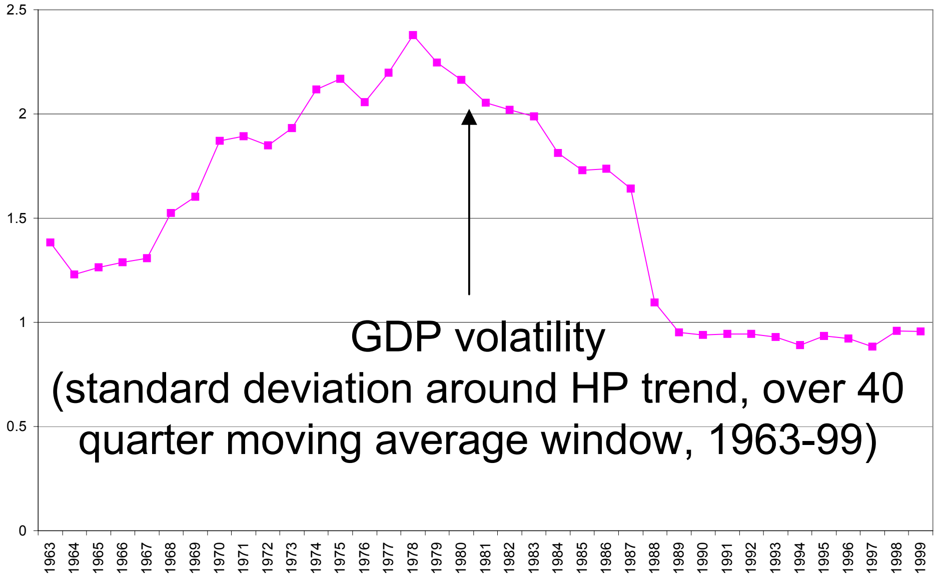

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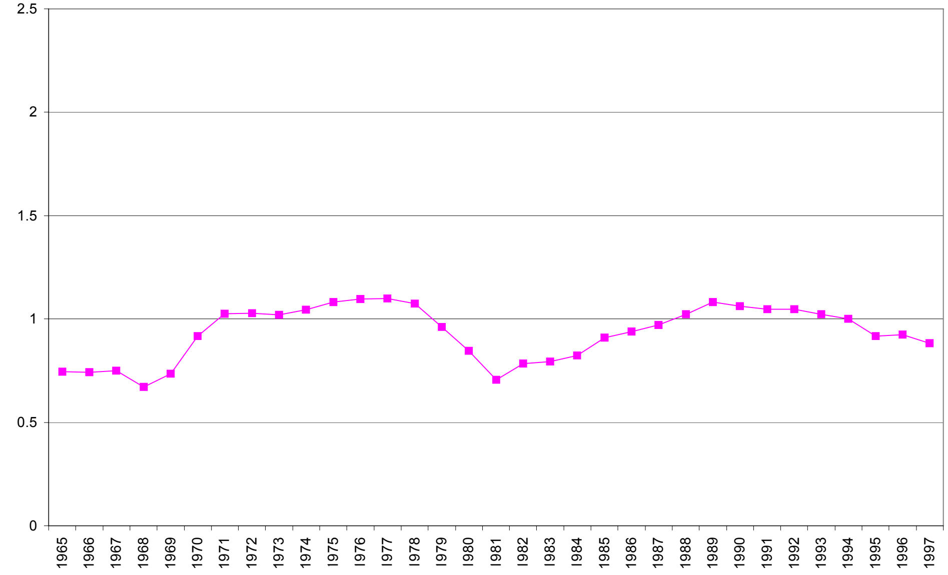
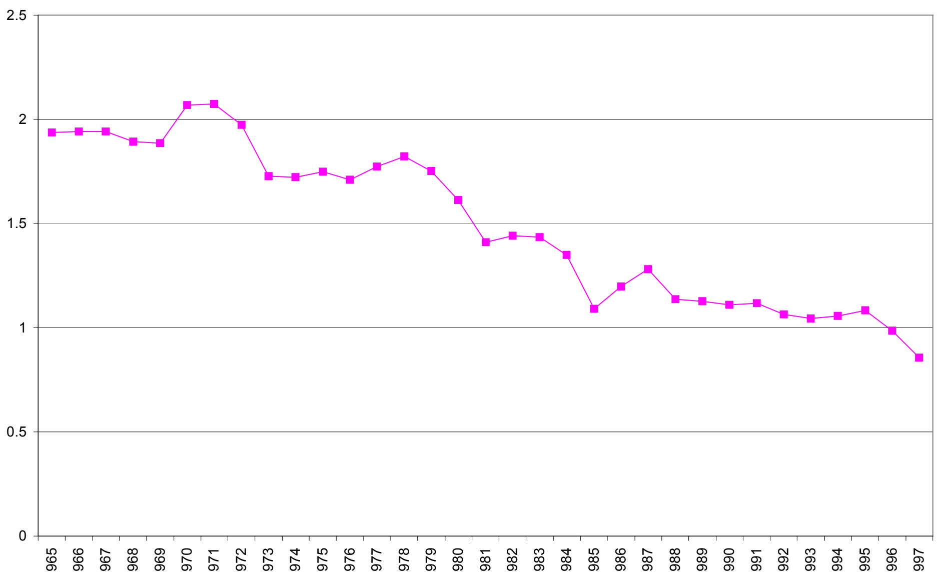
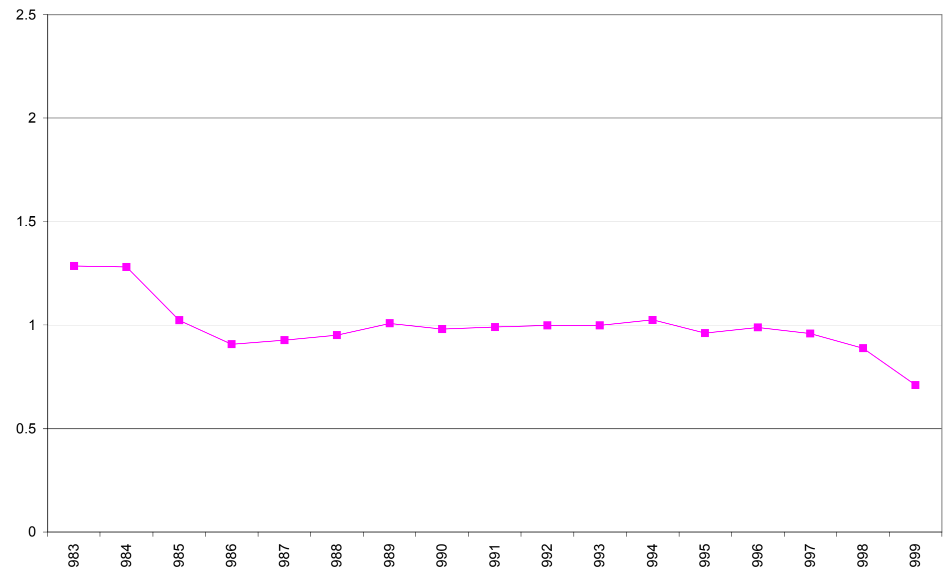


Italy



Germany



Source: Jaimovich and Siu (2007)

Demographics appears to explain about 1/3 of this

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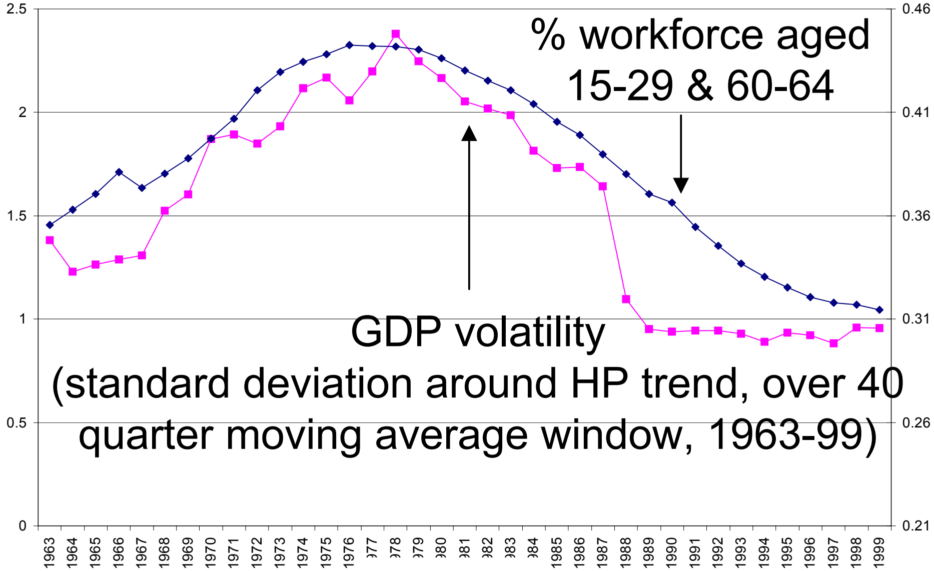

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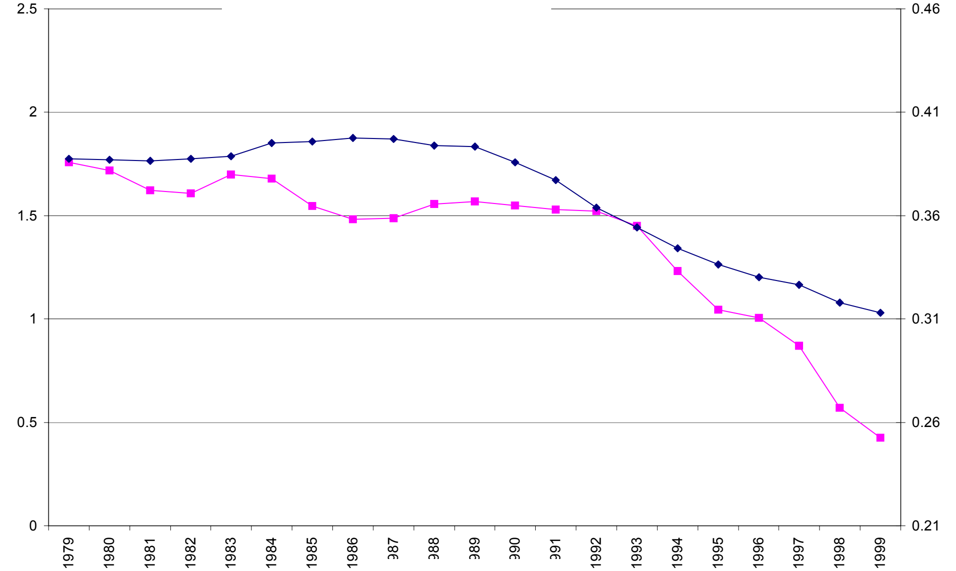

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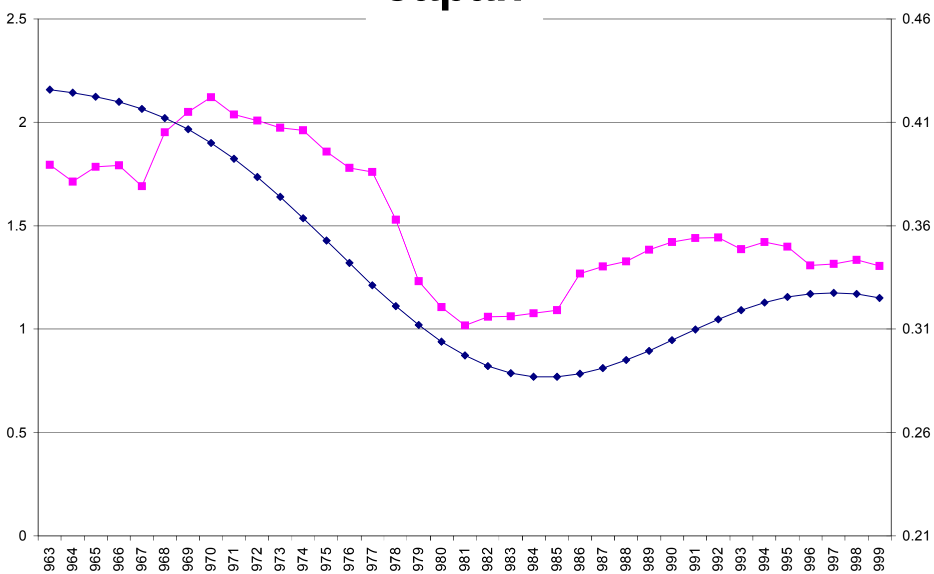

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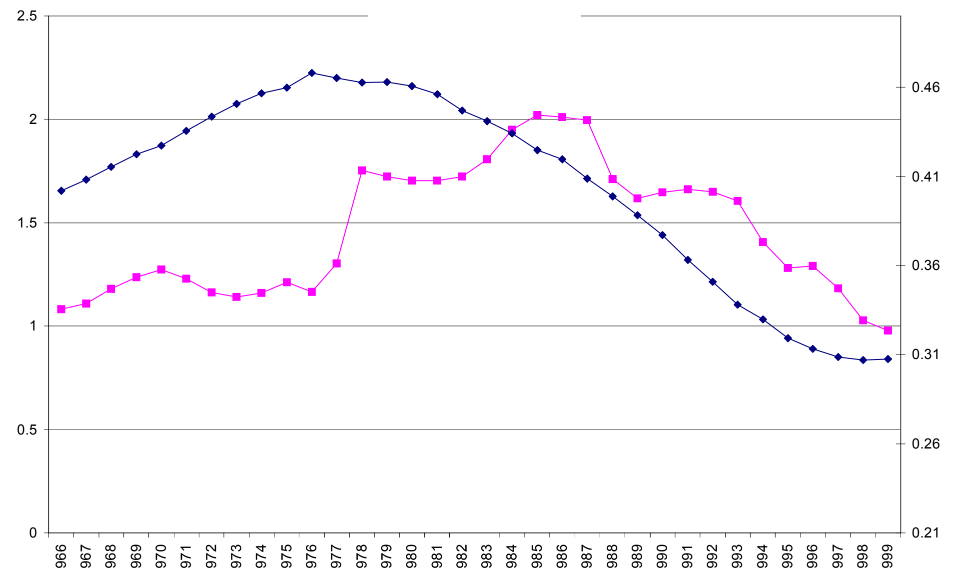

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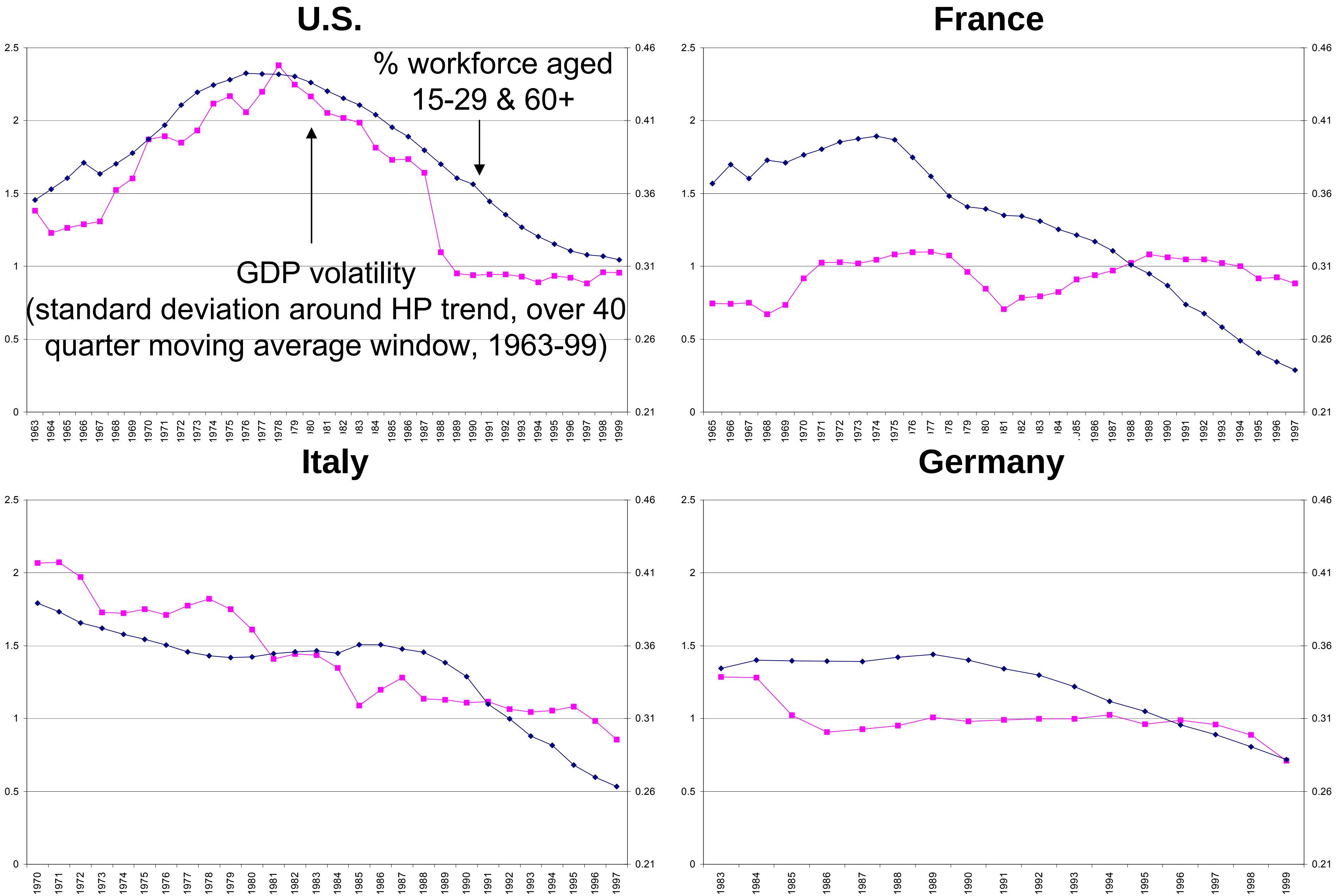

Source: Jaimovich and Siu (2007)

Conclusion

Paper is working on a fascinating and important topic

Has contributed some interesting stylized facts to help understand the Great Moderation, and a neat model for thinking about these

I look forward to seeing this fleshed out with more micro data