

Is Everything You Hear About Macroeconomics True?

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Suggested hashtag for Twitter users: **#LSEmacro**

LSE events



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Introduction

Why this lecture?

- Macroeconomics has problems \Rightarrow
Macroeconomics needs to be criticized
- Criticism often reveals an utter lack of knowledge & understanding of what is being done in macroeconomics \Rightarrow
such criticism is put aside by profession \Rightarrow
No improvement in macroeconomics

Introduction

Plan of this lecture

- Discuss misunderstandings and counter often heard criticisms
- Present my views on the weaknesses of macroeconomics
- Suggest some ways forward

My Background



DSGE stands for

- **D**ynamic: world does not last for 1 period
 - **S**tochastic: world is not deterministic
 - **G**eneral **E**quilibrium: macroeconomic feedback effects
- GE** does **not** necessarily mean

- demand = supply
- stability

DSGEs

Narrow & Broad Interpretation

Narrow interpretation:

- Prototype Real Business Cycle (RBC) and New Keynesian (NK) models without bells and whistles

Broad(er) interpretation:

- All modern macroeconomic models with
 - i. Rational expectations
 - ii. Optimizing agents

Large-scale Keynesian models of 60s/70s:

- Relied on empirical relationships that were
 - i. not constant through time and in particular
 - ii. did not remain the same in response to policy changes
- Agents expectations were backward looking/passive
⇒ agents ignored (consequences of) policy changes until it hit them
- Black box
- Not consistent with Kaldor's growth facts

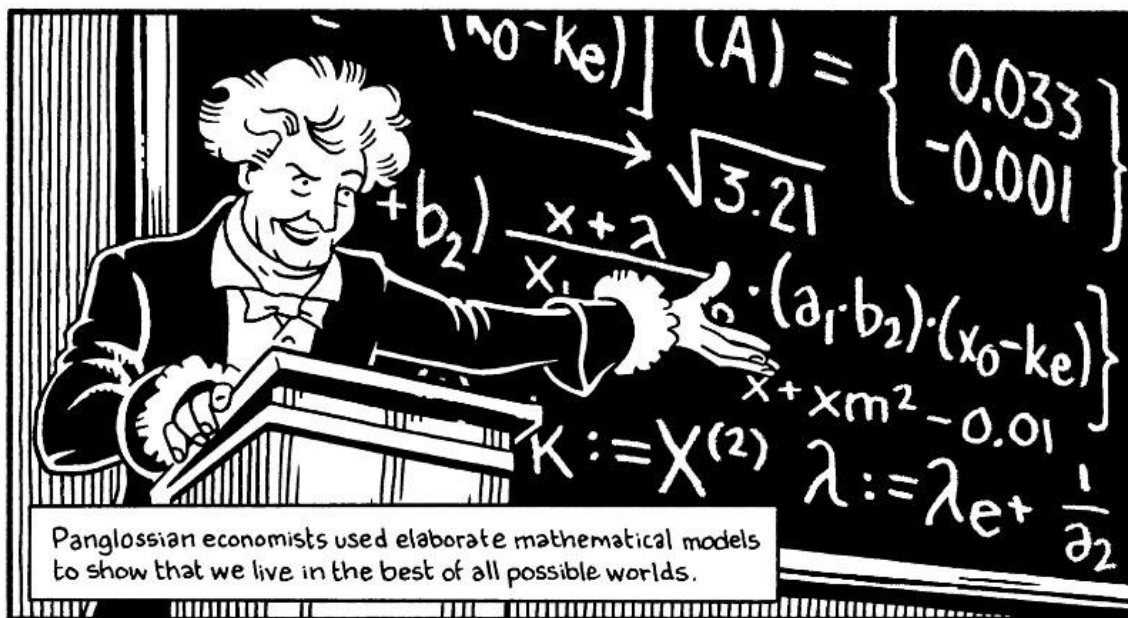
Origin of DSGE

DSGE models dealt with these problems by

- Smaller models
 - ⇒ no black box
- Rational expectations
 - ⇒ forward looking agents
- Starting with preferences, technology, & market environment
 - ⇒ model does not require “ad hoc” relationships to complete model
- Restrictions on preferences and technology
 - ⇒ Kaldor’s growth facts are satisfied

DSGE and Math

Modern macroeconomics is indeed math intensive:



Source: Krugman New York Times September 2nd 2009

Reasons for Math in DSGEs

- **Fixed point functions:** Behaviour today depends on expectations of future behaviour
- **Interaction:** Optimal government policy takes into account behaviour private sector, which in turn depends on government policy
- **Information heterogeneity:** Optimal government policy when workers/firms have private information
- **Signal extraction problems:** signals can lead to greater uncertainty and increased disagreement among agents
- **Higher-order beliefs:** Models in which expectations of others matter
- **Model uncertainty:** Agents do not know the actual model
- **Rational inattention:** Agents can only deal with a limited amount of information
- **Heterogeneity and incomplete markets:** The whole wealth/income distribution matters

Is this a Panglossian view of the world?

Is this because economists have physicists envy?

Development over last 30 years

DSGE is **much more** than

- the prototype RBC taught to first-year MSc/PhD students and
- the prototype NK model taught to first-year MSc/PhD students!

There is not **THE** macroeconomic model of the world

- and that is for good reasons

Things That Are Said About DSGE Models That Are Simply **NOT** True

DSGE does **not** mean:

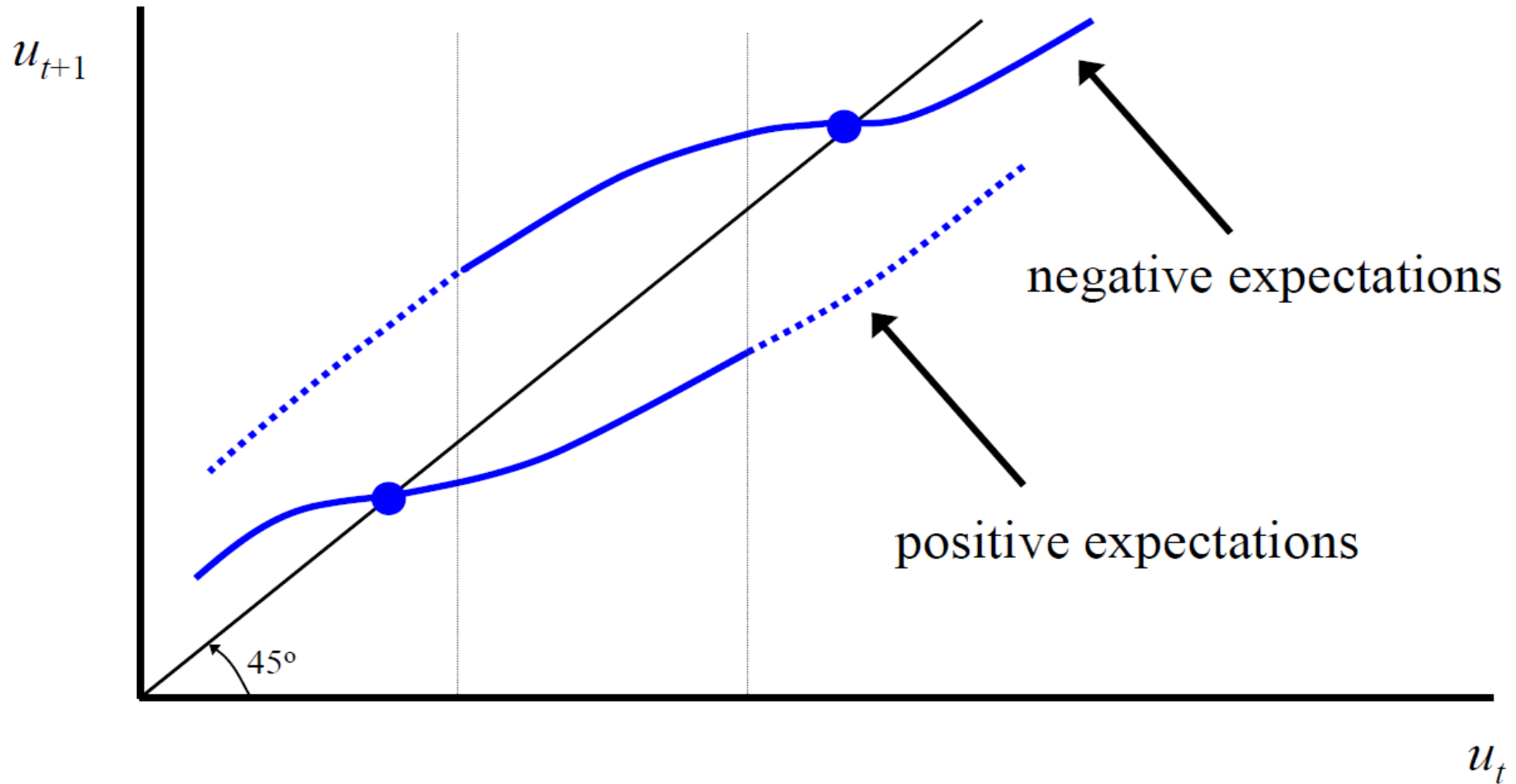
- **Representative agent:**
Try *DSGE heterogeneous* on Google Scholar
- **No inequality:**
Try *DSGE inequality* on Google Scholar
- **Recessions are not bad:** “...*the idea that recessions are bad things had been rejected by many freshwater economists*”*

* Source: Krugman New York Times September 2nd 2009

DSGE does **not** mean:

- **Unique solution:**
Even simplest possible NK model allows for multiplicity
- **No herd behaviour / No self-fulfilling beliefs:**
Even simplest possible NK model allows for self-fulfilling beliefs
- **Economy returns back to same point after shock:** DSGE
Models can generate poverty traps and hysteresis

DSGE does **not** mean “unique attractor”:



DSGE does **not** mean

- **Macroeconomics and finance are separated**

Look at the work done by members of the Macro Finance Society

- **“free-market orthodoxy”**

- **No frictions in (financial) markets**

Try *frictions DSGE* on Google Scholar

- **No financial crises/crashes**

Try *sudden stop* on Google Scholar

DSGE does **not** mean

- **Complete markets**
- **Efficient markets:** “... *economists were seduced by the vision of a perfect, frictionless market system*”.*
- **No bubbles / asset prices only driven by fundamentals:**
These are not necessarily ruled out by rational expectations
Try *rational bubbles* on Google Scholar

What is meant with efficient markets?

There is confusion about two quite different types of efficient markets

1. **Pareto efficiency**: markets allocate resources efficiently.
2. **Efficient Market Hypothesis (EMH)**: Excess returns are not predictable, except for a term reflecting compensation for risk.

Pareto Efficiency vs EMH

Statement from two former LSE MSc students:

[emphasis mine]

“The three basic assumptions of the EMH are:

- markets allocate resources most efficiently
- liberalized markets will enhance the overall welfare of society, and
- given the opportunity, market actors will converge on the "correct" economic outcome

... **the EMH comes in a variety of flavours. Weaker versions** of the theory claim that rational stock picking will not on average outperform the market because the market already incorporates all the relevant information about the value of companies into the stock price. In other words, it's very hard to beat the market averages, unless you're very lucky or Bernie Madoff (too soon?).

Stronger versions of the theory claim that **market prices accurately reflect the fundamental values of corporations and thus cannot be improved upon.**”

EMH does **not** mean

1. Market prices always reflect fundamental values
2. Most/all market participants are rational

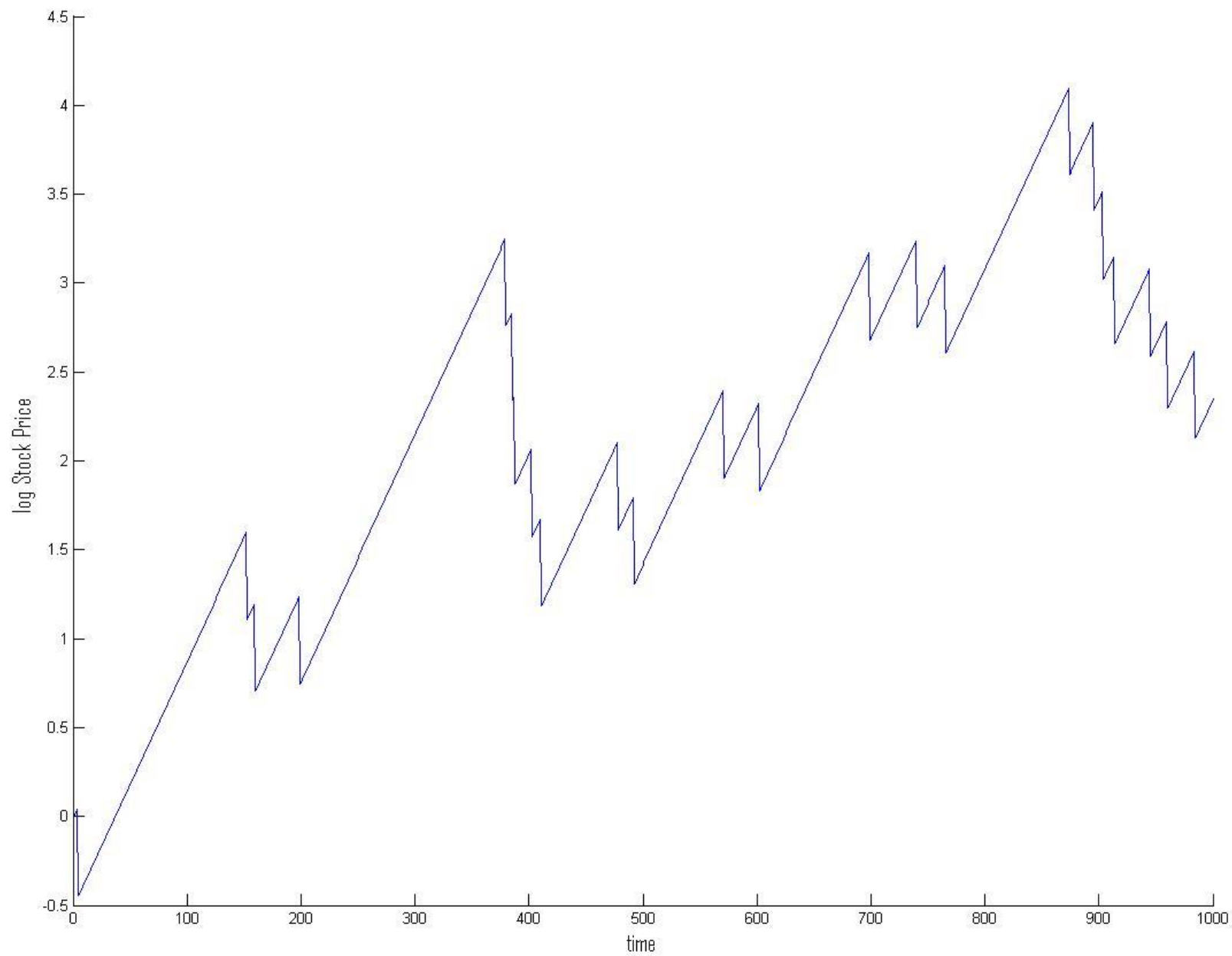
EMH **does** mean that you cannot systematically make money from stupidity and/or deviations from fundamental values

DSGE does **not** mean “no bubble”

Simple example of rational bubble

- Risk-neutral investor
- No change in fundamental value at all
- Excess return on equity, R_{t+1} given by

$$R_{t+1} = \begin{cases} + 1\% \text{ with probability } \frac{19}{20} \\ -19\% \text{ with probability } \frac{1}{20} \end{cases}$$



DSGE does **not** mean

- **Fiscal policy has no effect**

Try *distortionary taxes DSGE* on Google Scholar

- **Fiscal policy has a small effect**

See literature on fiscal policy at the zero lower bound

Reasons for Misrepresentation

- Lazy commentators?
- Failed disgruntled academics?
- Media enjoy controversy, truth is less important?
- Being vocal and critical raise speaker fees?
- Someone has to be blamed for the crisis?
- Commentators really are not aware; there is just too much knowledge to keep track of?

Development over last 30 years

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So What Is Wrong with Macroeconomics?

Possible problems

One dominant paradigm

Why?

Not open to alternative approaches?

- Somewhat true
- Alternative approaches would get more attention if
 - they use main stream language
 - they realize they understand better what the challenges are

The challenges are **not** to develop models that:

- can generate a crash
 - The challenge is to do so while imposing discipline on choosing parameter values
- can generate volatile asset prices
 - The challenge is to do so while imposing discipline on choosing parameter values
- Are better than proto type RBC/NK models taught to first-year MSc/PhD students
 - New models should be compared with the rich set of DSGE models that do incorporate frictions in markets, have nonlinearities, have sunspot solutions, have heterogeneous agents, etc.

Possible problems?

- Did not predict crisis
 - Quoting Blanchard and Lucas on “the state of macro” is misleading; Macroeconomists **did** worry about crises, but didn’t realize one was so near
- No financial sector
- Benchmark problems are the wrong starting point
 - Could very well be. We should look for alternatives.
- Low standards
 - numerical accuracy of solution methods
 - statistical tests typically not corrected for data mining
 - small sample properties of recent Bayesian estimation techniques not known

Too much math?

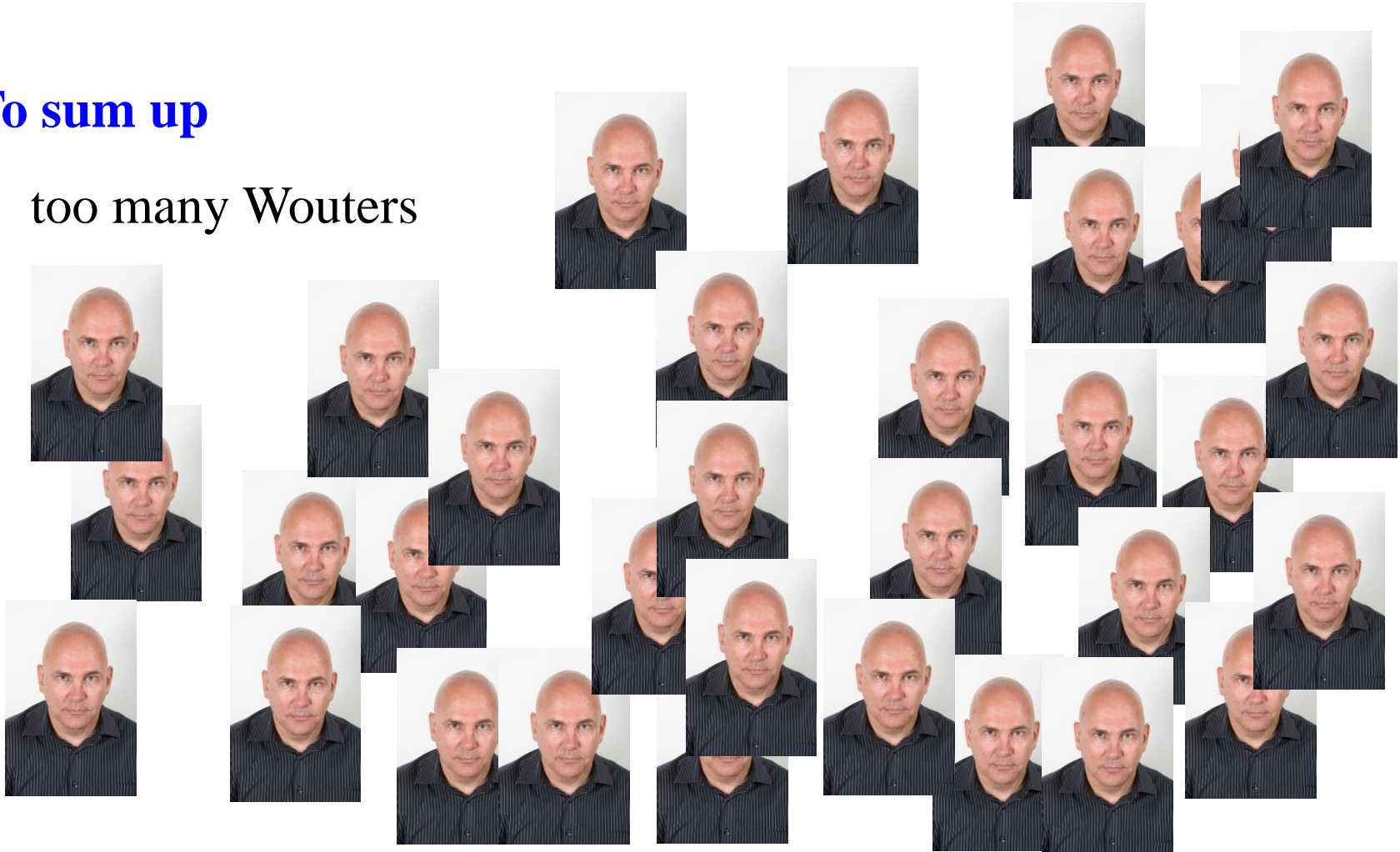
We don't have the right balance

- not enough attention for economic history
- not enough attention for institutional detail / politics / social norms
- models suitable for policy get not info attention especially when it gets down to nitty-gritty policy choices.

Problems With Modern Macro

To sum up

- too many Wouters



Can it be fixed?

Some Words of Caution

- There will not (never ?) be the one framework that is suitable for all questions / time periods/ countries.
 - Prototype complete markets NK model did reasonable job describing **advanced economies during normal times**
 - it was not meant to do more than that
- Even the best model of the economic world will be seriously wrong
 - So what is the purpose of an economic model?

What I would like to see

Correcting the balance

- More applied work
- More attention to institutional detail / politics / social norms
- More attention to micro data
- More attention to economic history
- **More attention to concrete policy decisions**
- If this means less abstract theory, then so be it
- If this means publishing less, then so be it
- More focus on poverty/growth/crises/climate/health and less on business cycles

How to Get There?

- Allow (require?) parts of PhD dissertations to be more descriptive
 - Possibly part of internship at policy institution
- Better recognition/reward for policy work
 - **Gold/Silver/Bronze Medals** from policy institutions for academics with direct policy influence
 - Grants from science foundations (ESRC, ERC, NSF) to do policy work
 - Academic leave to do policy work
 - Less weight on publications in research assessment exercises

To Sum It Up

J.M. Keynes in his 1924 article in the Economic Journal about the life and works of Alfred Marshall:

“... the master-economist must possess a rare combination of gifts. He must reach a high standard in several different directions and must combine talents not often found together. He must be mathematician, historian, statesman, philosopher-in some degree. He must understand symbols and speak in words. He must contemplate the particular in terms of the general, and touch abstract and concrete in the same flight of thought. He must study the present in the light of the past for the purposes of the future. No part of man's nature or his institutions must lie entirely outside his regard. He must be purposeful and disinterested in a simultaneous mood; as aloof and incorruptible as an artist, yet sometimes as near the earth as a politician.”

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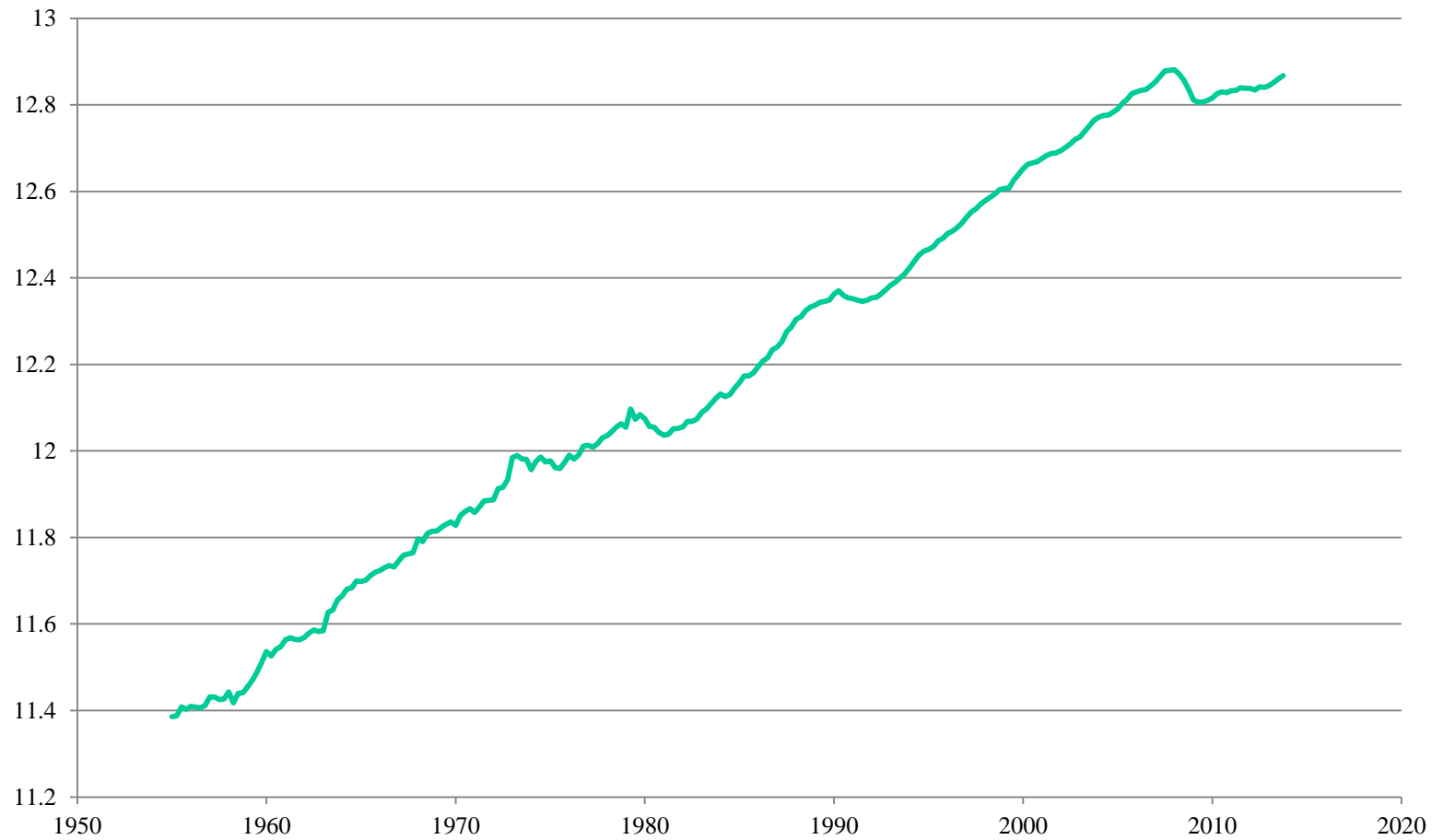
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UK GDP



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