

MACROECONOMICS: ECONOMIC GROWTH*

SESSION 1:

**Introductions,
Course Overview
and
a Review of Modern Macroeconomics**

*Many thanks to Gideon du Rand, Dawie van Lill and Monique Reid for allowing me to use and adapt their material for this introductory session.

Introductions: Me

Hylton Hollander

- Appointments by email: hylton.hollander@uct.ac.za
- Available immediately after lectures.

Broad Research Interests:

<https://sites.google.com/view/hyltonhollander/home>

Sténia Cossa (Teaching Assitant)

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Introductions: You

Some polling questions:

- Where are you from?
 - Cape Town | Rest of SA | Rest of Africa | Rest of World
- Focus in Economics?
 - Macro | Micro | Finance | Development | I/O
 - Theory | Empirics
 - Academic | Public Sector | Private Sector | Undecided
- Comfort level: Uncomfortable | Intermediate | Comfortable
 - Mathematics
 - Writing
 - Taking Exams

Introductions: You

Some experience/opinion questions:

- Financial Crisis 2007/8 | European Debt Crisis | Covid-19
 - Still important?
 - Policy successful?
 - Regulatory response enough?
 - Response from economics?
- South African Political/Economic situation
- What do you feel is the most important politico-economic problem
 - In South Africa
 - Africa
 - Globally

Course Overview: what I will cover

- Today: Broad overview of the current state of macroeconomics (mostly my opinion and reading of the situation)

Part 1: Growth

- 6 Lectures:
 - Session 1: Current State of Macro
 - Session 2: Stylized Facts & Solow-Swan Growth model
 - Session 3: Ramsey-Cass-Koopmans (RCK) model
 - Session 4: Diamond (Over-Lapping Generations) model
 - ~~• Session 5: Cross-Country Income Differences~~

Course Overview: what you will do

Lectures

- Readings and class participation

Problem Sets

- Starting next week, due every tutorial session
 - Unlike bad habits, math cannot be taught or caught... you must practice... it's the only way to master a skill

Course Overview: strategies

In general:

- view as a personal constrained optimization problem

In class:

- Focus is to learn, not to impress anyone
- Do the readings, ask questions
- Do the problem sets honestly
- Reassess conventional wisdom, appraise heterodox ideas

In assessments:

- Focus is to get marks
- Be strategic, prepare mentally, physically
- Reading and Writing strategies
 - McCloskey, D. *Economical Writing*; Cochrane, J. *PhD tips for writing*

The goal of macroeconomics?

- Macroeconomics is the study of the economy as a whole...
 - Growth theory
 - Business cycles
- In growth theory, we focus on two fundamental questions:
 - 1) Why are some economies richer than others?
 - 2) Why do countries grow, and what accounts for the huge increases in real incomes over time?
- Models and techniques are used extensively ...
 - ... but they are [or should only be?] tools for gaining insight into important issues, not as ends in themselves.
- “Let the *question* determine the method.”
 - More often: we see the method [technique or data] determine the question.

Scathing critique – Paul (not David) Romer



Paul Romer
(ex-Senior Vice President of the World Bank)

Econtalk: [Romer on Growth, 27 August 2007](#); [Romer on Charter Cities, 26 April 2010](#); [Romer on Urban Growth, 16 March 2015](#)



David Romer
(the guy who wrote your textbook.
Married to Christina Romer.)

[Many others podcasts on Growth available here](#)

Scathing critique – Paul (not David) Romer

- “Post-real models”
 - Micro-foundations – successful?
- “[Phlogiston](#)” (imaginary shocks)
 - “the measure of our ignorance.” – Abromovitz (1956)
 - “recessions [are] exogenous decreases in phlogiston.”
- “Sticky price lipstick... RBC dogma”
 - Role of money
- “Facts with unknown truth value” (FWUTV)
 - “Back to square one” – Canova and Sala (2009)
 - Identification problems (assumptions)
 - Restrictions on simplest supply and demand
 - m^2 scaling problem (& uncorrelated errors)
 - Expectations

Balanced critique – Caballero (2010)

“The Pretense of Knowledge” – F.A. Hayek (1974)

“What does concern me about my discipline, however, is that its current core [...DSGE...] has become so mesmerized with its own internal logic that it has begun to *confuse the precision it has achieved about its own world with the precision that it has about the real one*. This is dangerous for *both methodological and policy reasons*.” [emphasis mine]

- Methodology:



“broad-exploration” mode, not “fine-tuning” mode

- Policy:

“... illusion that a minor adjustment in the standard policy framework will prevent future crises.”

“we are too far from absolute truth to be so specialized.”

Alternatives...

- “... leaving the real world problems mostly to informal commentators and “policy” discussions, is not very attractive either, for the latter often suffer from an even deeper pretence-of-knowledge syndrome than do academic macroeconomists.” – Caballero (2010, p. 87)
- [Trump’s trade advisor Peter Navarro](#)  
 - “...My function, really, as an economist is to try to provide the underlying analytics that confirm [the President’s] intuition. And his intuition is always right in these matters.” – Navarro (2018)
- **Econtalk:** [Easterly on Benevolent Autocrats and Growth, 30 May 2011](#)

Alternatives...

- Integration
 - Periphery & Core
 - Periphery: Counterintuitive, not easily accessible, source of next “big breakthrough”
 - Core: Common language, understandable themes, foundation of human capital
 - Facing and embracing economic complexity vs. fundamentally reductionist
- From micro to macro... and back to micro:
 - “fundamental tension ... between the enormous complexity of its subject and the micro-theory-like precision to which we aspire.”
 - Caballero (2010)

The ultimate goal of macroeconomics

Simply: “... to understand the mechanisms that drive the real economy.”

Specifically: “... to explain and model the (simultaneous) aggregate outcomes that arise from the decisions made by multiple and heterogeneous economic agents interacting through complex relationships and markets.”

Caballero (2010, p. 87)

- Is this possible?
- If so, what do we want this understanding for?
 - We care about understanding the goal in itself
 - What does this knowledge allow us to do?
 - Welfare, power, control, management, policy, perspective?

The goal of macroeconomics

“The ultimate goal of macroeconomics is to explain and model the (simultaneous) aggregate outcomes that arise from the decisions made by multiple and heterogeneous economic agents interacting through complex relationships and markets.”

Caballero (2010)

- Is this possible?
 - Only partially, but progressively more so...
 - Unlikely that a “grand theory of everything” is feasible
 - Too complex? Information Revolution a solution? Does methodological complexity provide clarity?
 - The goal is to have something as reliable as possible at each moment
 - Changes/problems must be proven ... is this possible *ex ante* or even *real-time*?

The goal of macroeconomics

“The ultimate goal of macroeconomics is to explain and model the (simultaneous) aggregate outcomes that arise from the decisions made by multiple and heterogeneous economic agents interacting through complex relationships and markets.”

Caballero (2010)

- What do we want this understanding for?
 - There are economic outcomes “we” do not like
 - In a world with powerful centralized governments with access to many resources, macroeconomic policy on a large scale is possible...
 - How can these resources be used to “fix problems”?
 - To answer this question, we need to understand exactly where the problems come from
 - And to make sure that “solutions” do not make the problem worse (unintended consequences)

That said: my biggest ideological concern... “If You Can't Measure It, You Can't Manage It”

“Measurement is a religion... If we can slap a metric on something, by God, we're going to do it. We love to measure things, because it makes us feel as though we're really doing something. Look at my report card, Mom! I got three Bs and two As. Am I a good girl? Am I smart?.”

“We can measure every keystroke, comma and particle until the measurement overtakes the action and we end up (if we are not already there) spending more time measuring our work than we spend planning or producing it.”

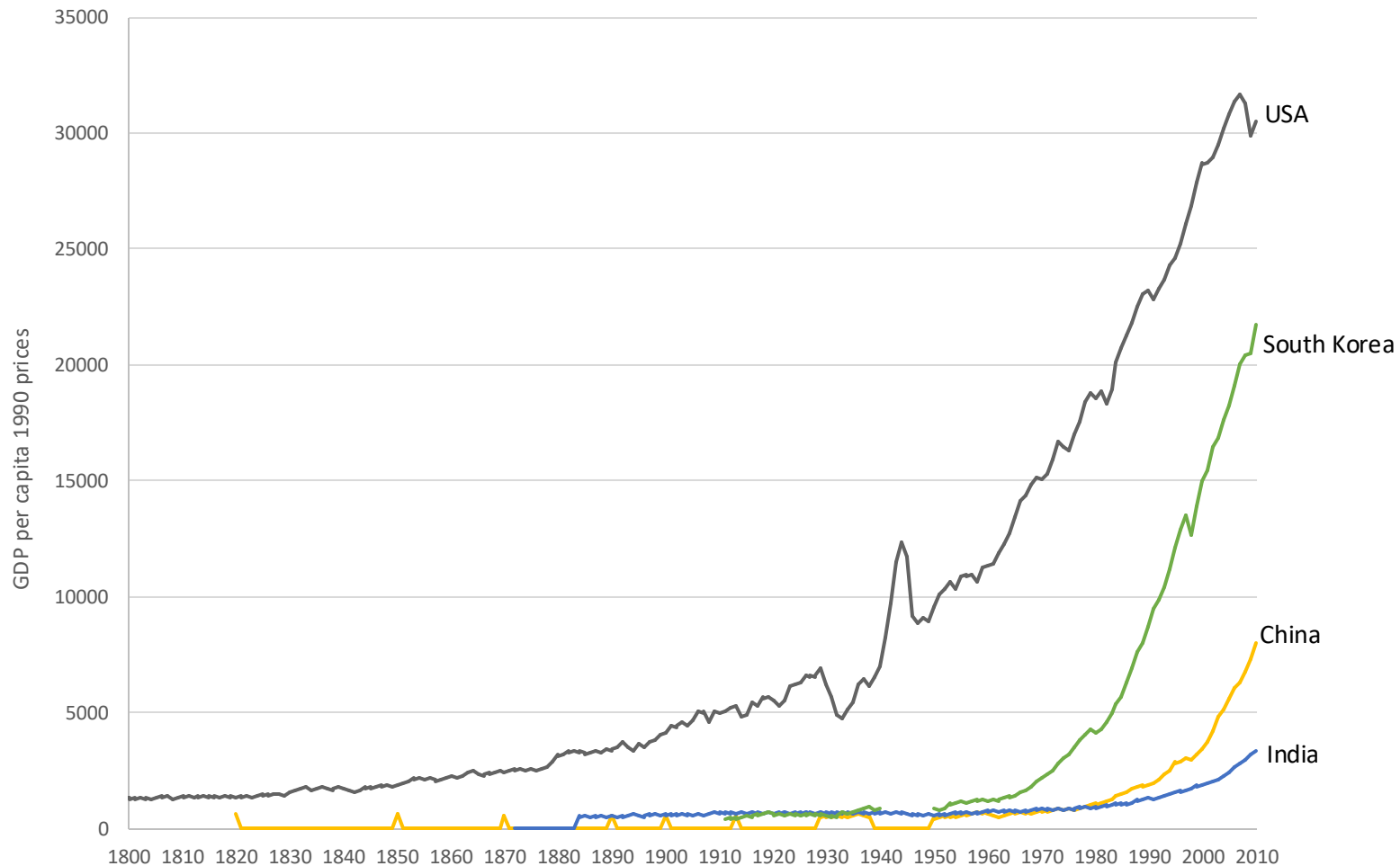
[Liz Ryan \(Forbes, 2014\)](#)

The goal of macroeconomics

- Even so: a useful way of thinking about it is using a simple consumption—production function framework:
 - Main macroeconomic object of study: welfare from consumption
 - Origin of consumption goods: production processes that employ labour and capital
- ∴ Maximum welfare requires: optimal utilization of resources over short and long run
- Whenever we identify situations in which this does not happen, economics has an opportunity to explain the source (e.g. market failure) and suggest a solution.
- But it is not a simple story: unemployment in SA?

Review of recent economic outcomes

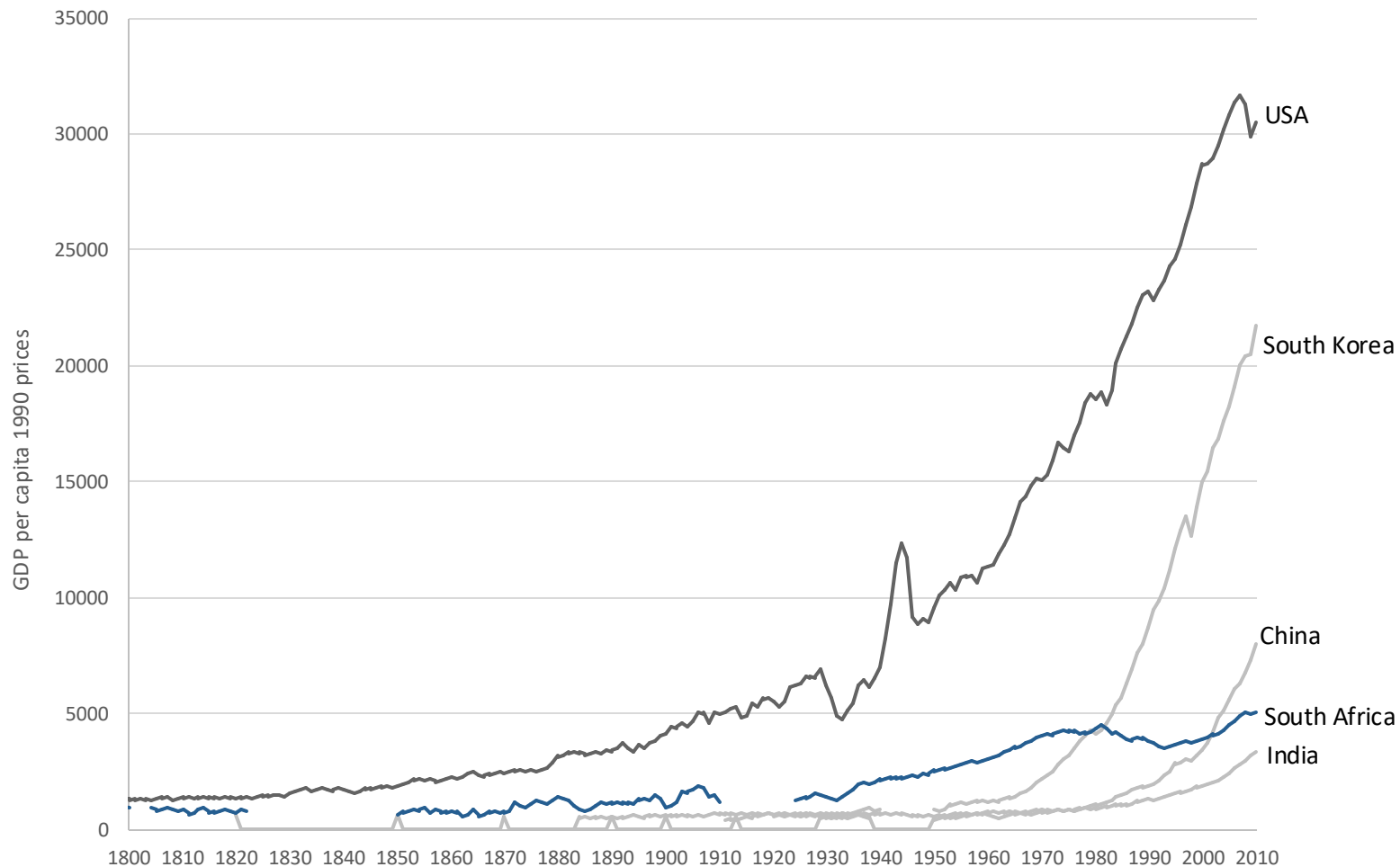
Near exponential **growth** for many countries,
(with cycles around the trend)



source: Maddison Project (<http://www.ggdc.net/maddison/maddison-project>)

Review of recent economic outcomes

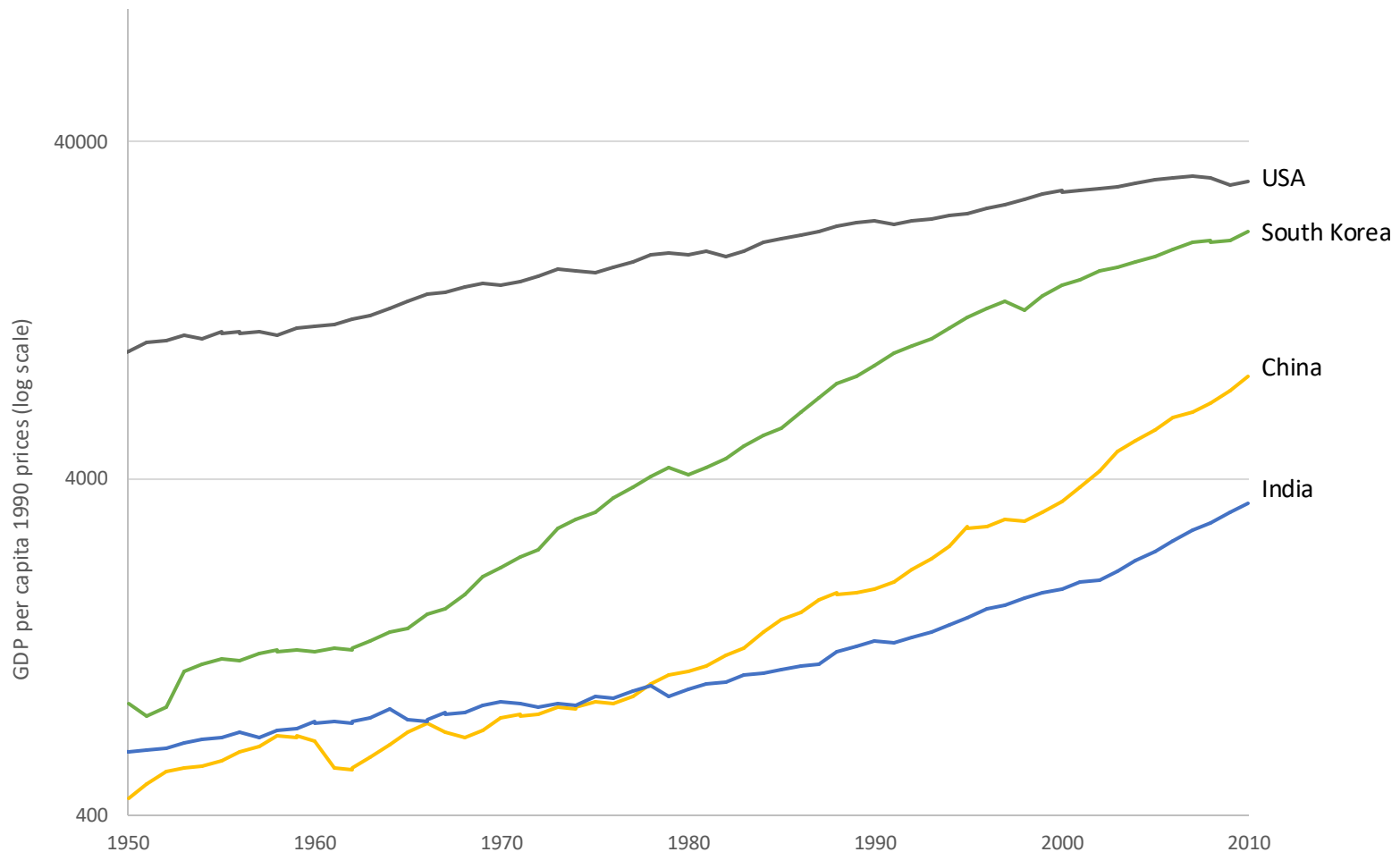
But not all...



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Review of recent economic outcomes

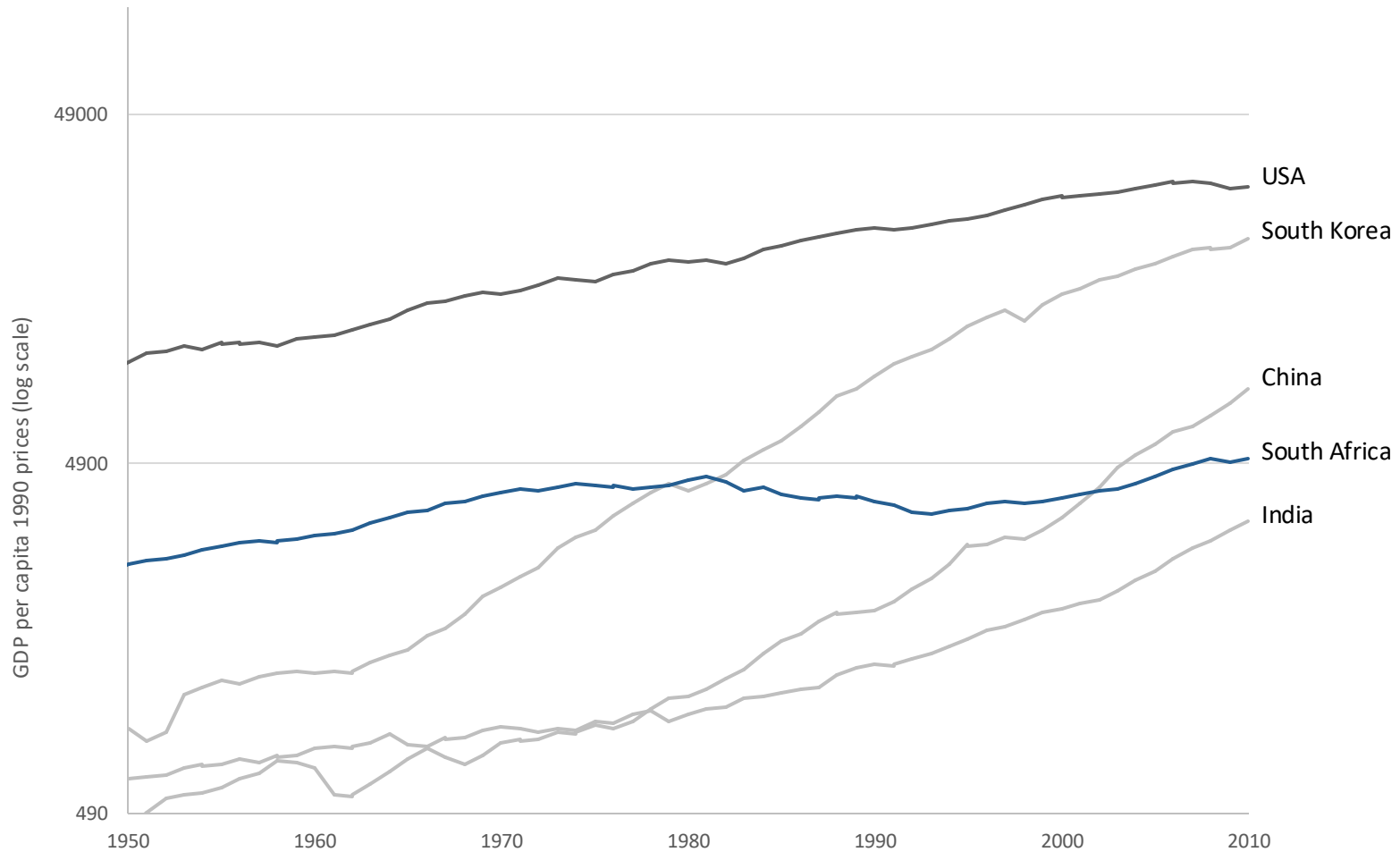
Convergence: many poor countries are catching up



source: Maddison Project (<http://www.ggdc.net/maddison/maddison-project>)

Review of recent economic outcomes

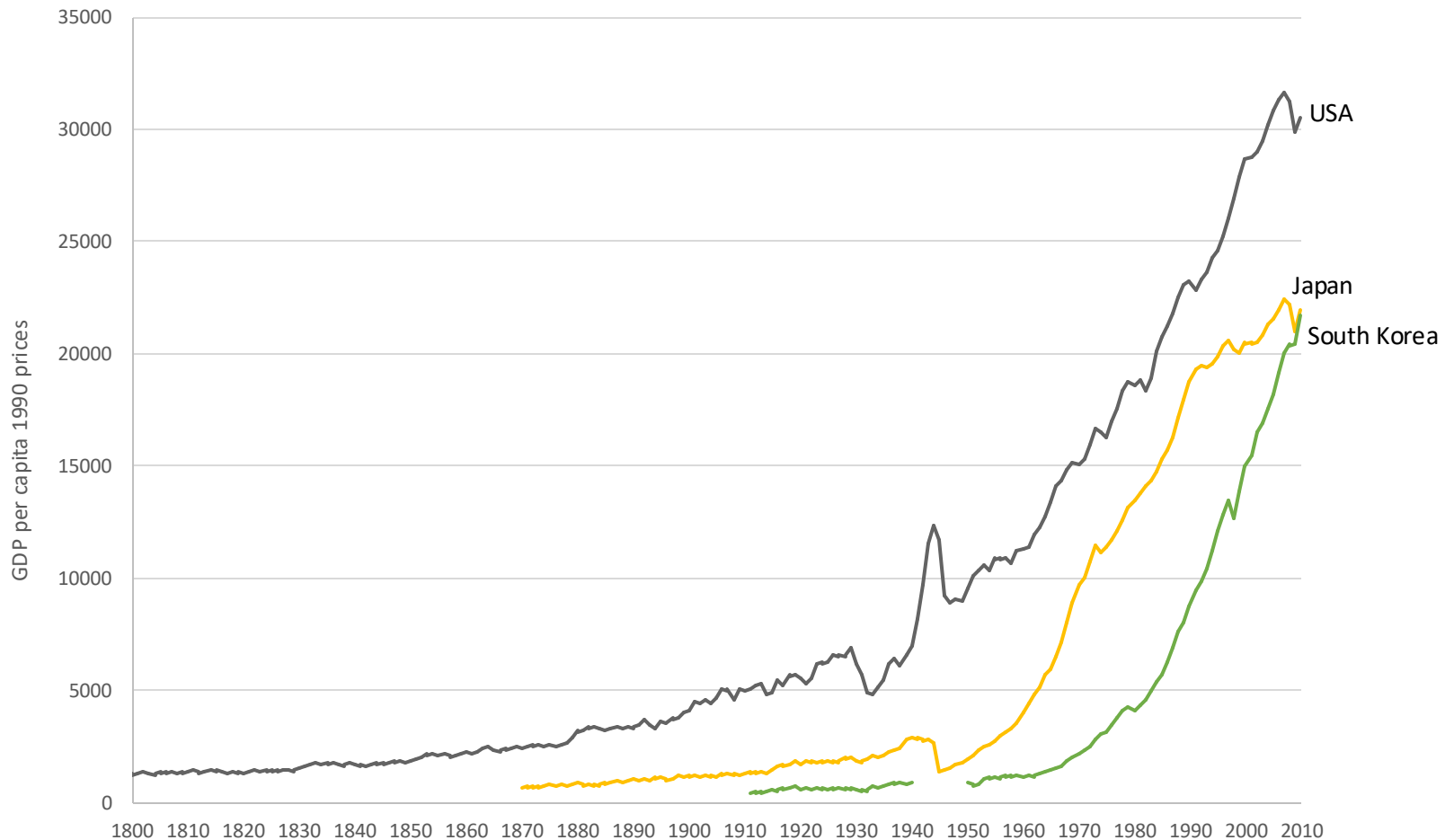
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Review of recent economic outcomes

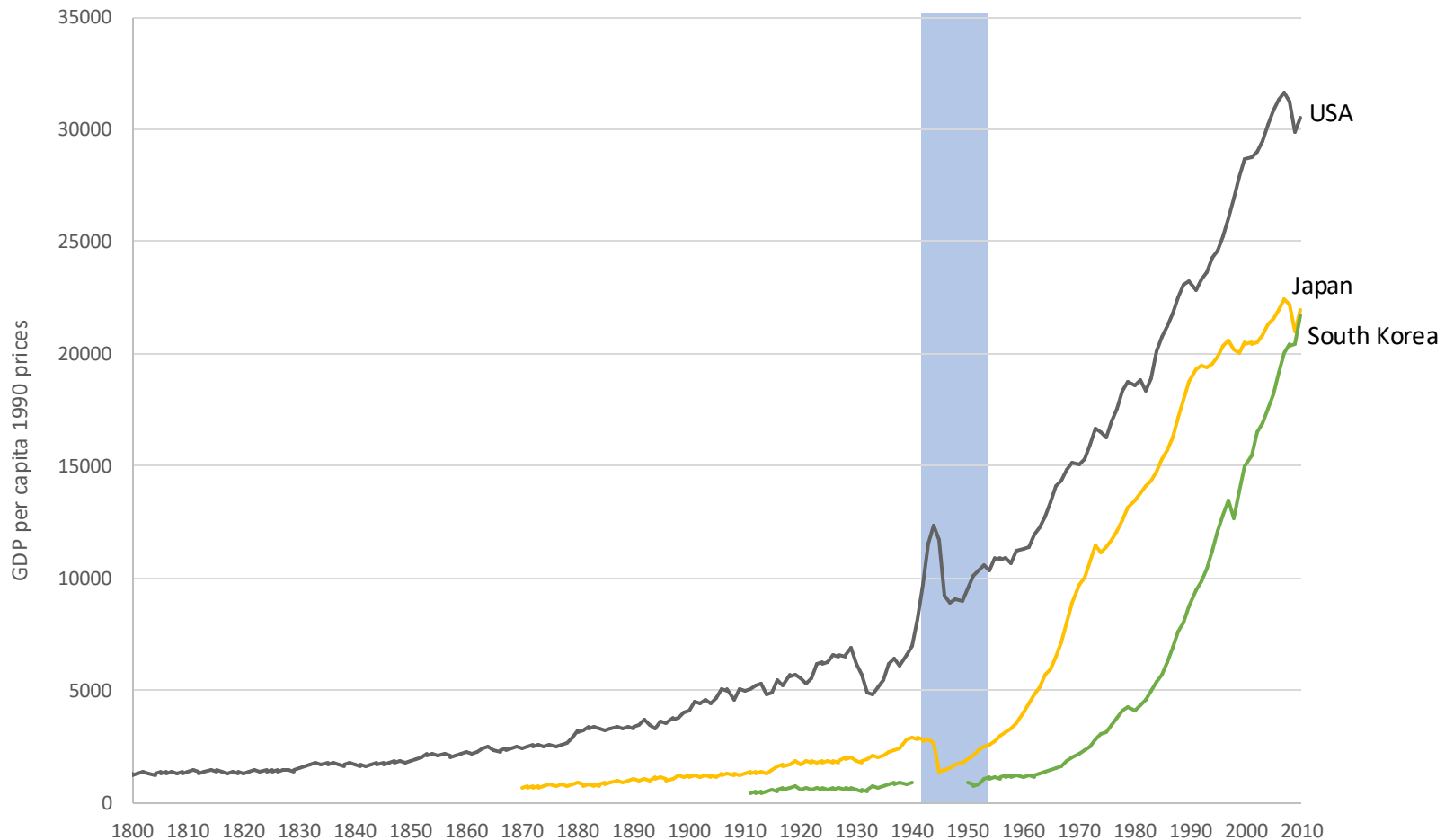
And even rich, developed economies may stagnate, fall behind



source: Maddison Project (<http://www.ggdc.net/maddison/maddison-project>)

Review of recent economic outcomes

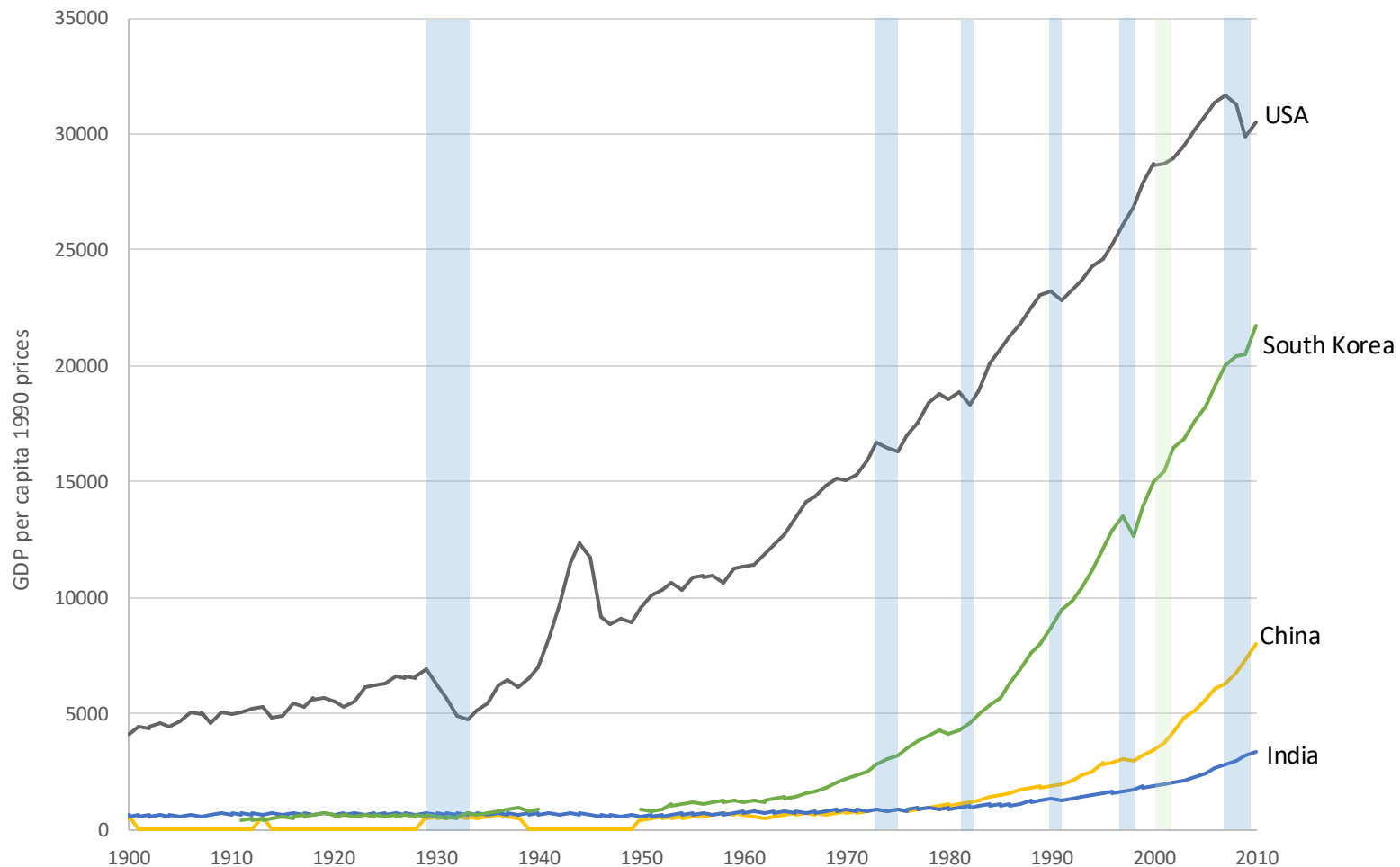
Wars distort, and are destructive (to victor and vanquished?), probably more so than economics crises



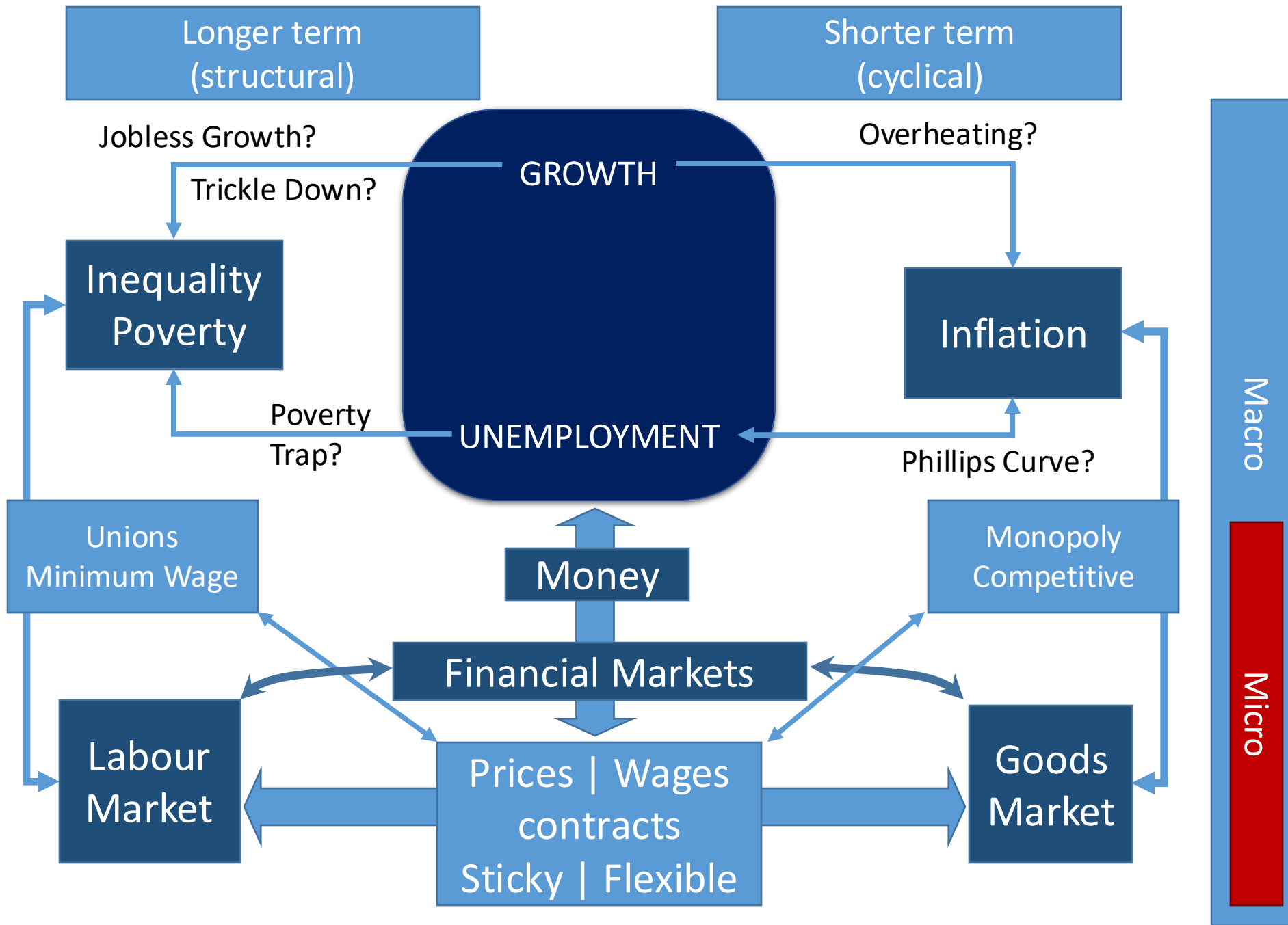
source: Maddison Project (<http://www.ggdc.net/maddison/maddison-project>)

Review of recent economic outcomes

The progress is not smooth, and large disruptions can occur even without wars:



source: Maddison Project (<http://www.ggdc.net/maddison/maddison-project>)



The great recession and the crisis in macro

“The standard macroeconomic models have failed, by all the most important tests of scientific theory. They did not predict that the financial crisis would happen; and when it did, they understated its effects.”

Joseph Stiglitz (2011)

Rethinking macroeconomics: what failed and how to repair it

“The recent financial crisis has damaged the reputation of macroeconomics, largely for its inability to predict the impending financial and economic crisis. To be honest, this inability to predict does not concern me much.

...

What does concern me is that ... its current core ... has become so mesmerized with its own internal logic that it has begun to confuse the precision it has achieved about its own world with the precision that it has about the real one.”

Ricardo Caballero (2010)

*Macroeconomics after the crisis:
time to deal with the pretense-of-knowledge syndrome*

The great recession and the crisis in macro

- We will get back to Stiglitz and Caballero's opinions, and I will share my own
- First – let's review where the “core” comes from
 - Crises are not new, and they are usually the cause of reform
 - Not always for the better, but not as nostalgic as described by Stiglitz and Romer
 - Recommend Caballero and Reis papers
 - I agree on some of the symptoms, not all the solutions.
 - Context is king.

The evolution of macroeconomics

	The World	Macroeconomics	
1900	Free Trade Labour and Capital Mobile Gold Standard Recurrent Banking Crises	Classical, Laissez Faire Topics: Money and Business Cycles Walras, Jevons Not integrated: macro issues studies independently	
1914	World War I: Factor mobility ends Trade progressively restricted Hard money policies abandoned		
		The Core	The Periphery
1930s	Great Depression Massive falls in production, employment Deflation, Financial System Collapse	Classical Laissez Faire	Keynes: Unified scheme (M,Y,P,I,L) Nominal Rigidity Insufficient Demand
1940s 1950s	World War II USA expands rapidly (military spending) European production capacity destroyed Reconstruction begins Bretton Woods System,	Keynesian: Short Run, Active Fiscal Policies drive demand	Classical Long Run Growth Pigou,

	The World	The Core	The Periphery
1940s 1950s	<p>World War II</p> <p>USA expands rapidly (military spending) Europe destroyed Recovery begins Bretton Woods System,</p> <p>Kuznets creates National Accounts, Empirical macro becomes possible for the first time</p>	<p>Keynesian: Short Run, Active Fiscal Policies drive demand</p>	<p>Classical Long Run Growth Pigou</p>
1960s	<p>USA experiences longest (to date) expansion, Economic Advisors suggest “fine-tuning” economy, Massive Government Expenditure Exploiting the Phillips Curve (trade-off between inflation and unemployment)</p>	<p>Neo-Classical Keynesian Synthesis:</p> <p>Short Run is Keynesian</p> <p>Long Run is steady state</p>	<p>Monetarism: Friedman: Monetary Policy drives demand in short run, but causes inflation in long run</p>

	The World	The Core	The Periphery
1960s	<p>USA experiences longest (to date) expansion, Economic Advisors suggest “fine-tuning” economy, Massive Government Expenditure Exploiting the Phillips Curve (trade-off between inflation and unemployment)</p>	<p>Neo-Classical Keynesian Synthesis:</p> <p>Short Run is Keynesian</p> <p>Long Run is steady state</p>	<p>Monetarism: Friedman: Monetary Policy drives demand in short run, but causes inflation in long run</p>
1970s	<p>Energy Crises (Oil Price Shocks 1973/8)</p> <p>Economy Stagnates, Inflation surges (Stagflation) as Friedman predicted, Philips curve dead, Gov Debt large.</p> <p>West adopts monetarist policies, exploiting the presumed stable money demand function, rather than fiscal.</p> <p>But money demand also unstable, monetarist experiment soon abandoned</p>	<p>Monetarism:</p> <p>Short Run is determined by Stable Money Demand function</p> <p>Long run easy money affects only prices</p>	<p>Rational Expectations: Muth, Lucas: Cannot exploit an empirical regularities based on previous status quo. Consumers change behaviour. Expectations must be modelled</p>

	The World	The Core	The Periphery
1970s	<p>Energy Crises (Oil Price Shocks 1973/8)</p> <p>Stagflation</p> <p>Brief monetarist experiment</p>	<p>Monetarism:</p> <p>Short Run is determined by Money Demand</p>	<p>Rational Expectations:</p> <p>Muth, Lucas: Expectations must be modelled</p>
1980s	<p>Stock Market Volatility</p> <p>World begins to open up again, especially capital markets</p> <p>Many adopt flexible currencies,</p> <p>Passive Fiscal policies (automatic stabilizers)</p> <p>Volker appointed to tackle high USA inflation. Long contractionary monetary policy. Succeeded by 1983, at cost of long recession</p>	<p>New Classical:</p> <p>Short and Long run modelled together</p> <p>Expectations Rational</p> <p>Representative Agent</p> <p>Aggregate policies ineffective in long run</p>	<p>Real Business Cycle:</p> <p>Nelson, Plosser</p> <p>Business Cycles can be explained by only technology shocks</p> <p>All business cycles are optimal</p> <p>Aggregate policies always welfare reducing in long run</p>

	The World	The Core	The Periphery
1990 -2007	<p>Longest expansion in US history</p> <p>Great Moderation in developed world</p> <p>Crises small, quickly recovered from</p> <p>Many large crises in developing world</p>	<p>New Keynesian:</p> <p>RBC but with nominal and real frictions</p>	<p>Vast, Varied:</p> <p>Heterogeneous Agent Macro</p>
2007	<p>Lehman Brothers Fails</p> <p>Global Financial Crisis</p> <p>Great Recession</p>	<p>Representative Agent DSGE core modelling approach</p>	<p>Financial Intermediation</p> <p>Credit Cycles</p>
2010	<p>European Sovereign Debt Crisis</p> <p>Financial System on verge of collapse</p> <p>Unconventional Monetary Policy:</p> <ul style="list-style-type: none"> - zero/negative interest rates - Large scale expansion of CB balance sheets - Forward guidance 	<p>Monetary Policy aimed at stabilization</p> <p>Fiscal Policy aimed at short run stimulus</p>	<p>Learning (non Ratemex)</p> <p>Bounded Rationality based on limited information</p> <p>Network Linkages</p>
2017	<p>Signs of recovery</p>	<p>Long Run Growth viewed as structural</p>	

What's wrong with the core?

- Representative Agent Dynamic Stochastic General Equilibrium Models
 - Single agent: no mistakes, disagreements, information asymmetries
 - Single technology: no selection effect – public and private sector equal
 - Rational Expectations = Rationality + Perfect Information
 - Perfect information is the problem
 - Risk vs Uncertainty
 - Representative Agent General Equilibrium
 - No bankruptcies possible
 - No panics possible
 - All variability must fundamentally come from “exogenous shocks” to demand, tech,
- Solutions? Not obvious – models are complicated
 - Need endogenous cycles/crises
 - Need bankruptcy risk and outcomes
 - Need heterogeneous agents, information, beliefs

How do we respond?

- Describing the History of Economic Thought in terms of “Schools of Thought” or “Camps” makes for a satisfying historical narrative
- Not a useful guide to research decisions, not accurate in real-time
- What should you do?
 - Find the economic issues that most **interests** you
 - Find an **important** unanswered question in that area
 - Find the **best** approach (not the most popular) to answer the question
 - Find a way to fit it in to an **existing strand** of literature
- The last point is negative: it is our disciplinary “budget constraint”.
 - Creating a revolution is rare, and thus risky to attempt
 - The larger the discipline, the harder it gets

Conclusion: *quo vadis, macro?*

- Theory
 - Will always be necessary
 - Will always be analytic, and heavily mathematical
 - Each crisis, macroeconomic surprise has driven important nudges to the core paradigm and inspired the periphery
 - Core models will remain important – useful in normal times
- Empirics
 - Will always challenge, inform and be informed by theory
 - Will always be difficult and contentious – we have one observation with no counterfactuals
- Policy
 - Will always be messy, incorporating political reality and more than theoretical and empirical results
 - Will always be practical, sufficing (satisfying demands) rather than scientific
 - Must always be scrutinized, criticized.
 - Is the only truly aggregate welfare implication of macro (policy analysis has independent welfare implication for macroeconomists)
 - Practical response (unconventional) – jury still out about the long run

Conclusion: *quo vadis*, macro?

- The tools we have are incomplete and imperfect
- Even the totality of current macro, core and periphery
- To understand the problems with core, and to critically engage with suggested solutions, you need to understand what is there...
- This requires that we start with the core in detail, and this will take the entire course
- This course will focus on the tools as they stand currently
 - We will consider some policy implications, but, for better or worse, the tools require a lot of work to build
 - We therefore focus on those tools
 - Masters course assumes you have the tools, and then engages critically with the real world of scope and risks of policy