The Cambridge Trust for New Thinking in Economics

Proposed theoretical foundations of 'New Economics': values, resources, money, growth and policy

Terry Barker

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Outline

- “Whole-system” crises in the global economy
- Inadequacies of the traditional economic analysis
- Foundations of a ‘New Economics’:
  - Institutional and evolutionary economics
  - Keynesian economics without equilibrium (Kaldor, Robinson)
  - Post Keynesian theory
  - Complexity theory
  - Feminist economics
- Human motivation
- Role of money
- Demand-side growth
- Economic policy and externalities
- Representing the system in models

Background: The Great Recession and Global Warming

- Both arise out of the pursuit of self-interest
- Both are market failures associated with systemic risk and, arguably, both are the greatest market failures the world has ever seen
- Both are highly nonlinear systems' failures leading to extreme events (economic and climatic)
- Both threaten the economy with catastrophic collapses
- Both require strong regulation for efficient economic outcomes

The Great Recession and Global Warming

- **Differences**
  - **Timing:** The Lehman bank collapse happened in a day (15 September 2008), arguably the consequences last years, or even two decades; global warming is a centuries-long process
  - **Risks:** financial risks are to trust in money and global deflation; global warming risks are wild weather and floods/droughts
  - **Solutions:** the financial crisis requires and supports an immediate solution (banks' reputations are damaged) although new regulations take longer; global warming solutions can be delayed and subverted more easily by special interests

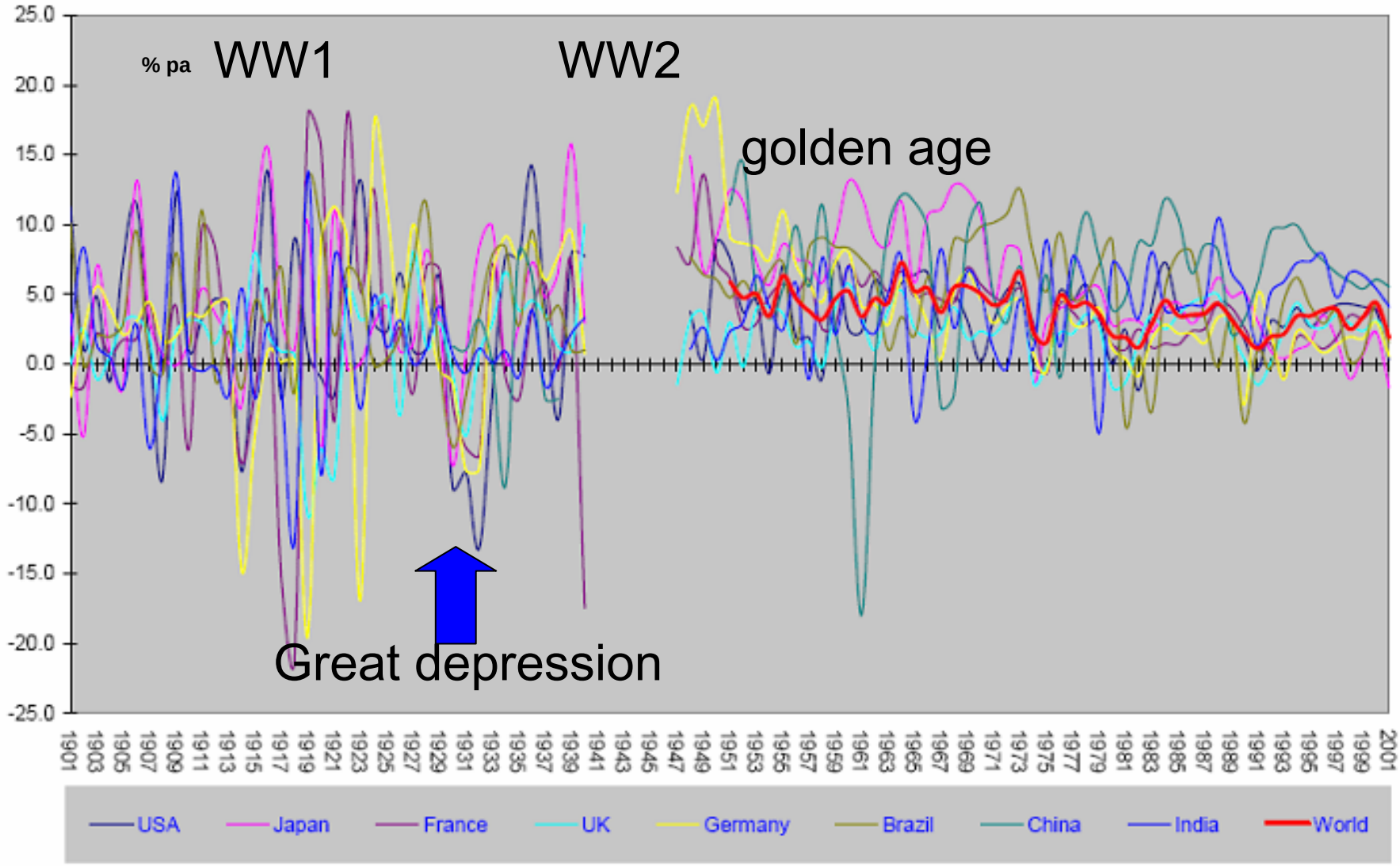
Traditional economic theory and the crises

- The “free market” approach of an optimal outcome without active policy has been discredited
- The lack of treatment of systematic risk in the traditional models is exposed
- Traditional theory is also found wanting
  - New Consensus Macroeconomics’ denial of role for fiscal policy for managing the economy has been rejected in favour of Keynesian stimulus packages
  - Computable General Equilibrium models used for climate change mitigation have been criticized for assumptions of perfect competition, constant returns to scale, etc
  - With financial instability, the existence of equilibrium at full employment in any economy seems implausible
  - The growth rate is obviously affected by the collapse in demand, so that the theory that it is entirely determined by supply-side factors becomes more open to question

New economics as a whole-system approach

- Aim: to understand the long-run and short-run development of the global economy and its component regional economies …
- as an evolving open system…
- interacting with the environment (air, water, land)…
- susceptible to financial crises…
- requiring government and policy to avoid chronic unemployment or inflation

Historical growth rates, 1901-2001 (Maddison's dataset)



Resources: institutional and evolutionary theory

- **Resources, including institutions, evolve in social processes**
  - **Resources:** people, institutions, knowledge as well as products (collections of goods and services)
  - **Institutions:** habits, procedures, ways of being, objectives, motivations and laws
- **Human evolutionary drives: curiosity and desire for comfort, security and enjoyment i.e.“fitness”**
- **Institutional evolution of money, accounting, limited liability and other “social technologies”**
- **Conditioned by path-dependence and irreversibilities, economies of specialization and scale, limits on the environment’s capacity to absorb and recycle waste safely**

Economic growth is an emergent property of the complex system of the world economy with component economies increasingly linked together:

- **increasing trade**
- **urbanization**
- **networks**
- **information**

Economics without equilibrium

- Keynes' short-period equilibrium with involuntary unemployment was not the neoclassical "general equilibrium" but a stable outcome
- Equilibrium in traditional economics is required for a unique, determined solution ignoring deep uncertainty
- It can be replaced by the desired set of outcomes for policy analysis or the expected set
- The stability of the outcome can be itself be desired by policymakers

The development of Post Keynesian thought

- **Four fundamental Post Keynesian features (Holt, 2007) :**
  1. **Understanding the real world**
  2. **Economic activities take place in historical time, with path-dependence**
  3. **Uncertainty (versus probability calculations)**
  4. **Institutions**

What can be added?

- **Location: brings in system boundaries, externalities**
- **Structure and complexity: interaction of national and global industries**
- **Well-being and gender**

"new economics" intersection of Post Keynesian, feminist economics, complex systems, evolutionary and institutional economics

Holt, R. (2007) "What is Post Keynesian Economics?" in *Post Keynesian Macroeconomics: Essays in honour of Ingrid Rima*, edited by Mathew Forstater, Gary Mongiovi and Steven Pressman, Routledge.

Post Keynesian Assumptions

- We know what “money” or “liquidity” is
- We can reasonably restrict the analysis to an aggregated producer-consumer-banks economy in multiple time periods
- … in the context of general uncertainty and inability to convert all risks to certainty equivalents
- Non-ergodicity, “history has effects”
- Institutions matter and can change

Key Post Keynesian Results

- The formation of expectations is critical to the system
- Money is normally demand-led via creation of bank liabilities
- Portfolio choices by wage earners, commercial banks and central banks are critical and inconsistencies can lead to collapse
- Monetary and fiscal policies should be inter-related and flexible to accommodate “events”

Extending Post Keynesian theory

- Extending the scope of the models to include government and trade in the economic systems
  - E.g. add national economies, governments, investment banks, and non-bank financial companies dealing in assets
- Including many diverse consumers, producers, governments, prices, wage rates, monetary assets and interest rates in a complex system
- Governments make laws, tax and spend to provide leadership and other public goods
- More emphasis on (or expected fitting to) macroeconomic and structural data and problems of economic policy
- Including empirical measures of trust or uncertainty in the system (volatility over time of various market rates – stock prices, exchange rates, commodity prices, interest rates)

Traditional and new economics

Critical differences	Traditional economics	New economics
ethics and society	**Utilitarian:** optimising rational self-interested individuals	**Observed:** satisficing conditional co-operators and altruistic punishers in evolving social groups
time and equilibrium	**Full employment forever:** policies leading to higher GDP growth ruled out by assumption in CGE models	**Path-dependency:** many unused resources and new business plans in response to threats
uncertainty	**Normal:** distributions derived from the past; use of “certainty equivalence”	**Non-linear:** catastrophic surprises are inherent in complex systems
technology	**Exogenous:** CGE and growth models have typically no feedbacks via technology	**Induced:** by investment incentives and prices (e.g. a carbon price for climate policies)

A pluralist approach to values

- The debate on the economics of climate change has shown that many issues of economic policy are primarily ethical in nature
  - Value of human life
  - long-term discounting of costs and benefits for future generations
- Utilitarianism: market forces do not necessarily lead by themselves to intrinsically good outcomes (Foley, 2006)
- Justice can be an important alternative to utility in guiding economic policy
- Intrinsic values are distinct from monetary values and should not generally be converted to them

Money in the economic system

- **A resource created by human society, with a set of characteristics that are embodied in different combinations in monetary assets**
  - **‘*the symbol of the spirit, forms and thought of modern civilization*’ Georg Simmel, *New Palgrave*, Vol. 4, p. 333**
- **Forms: notes and coin in circulation, sets of monetary assets, and wealth in general**
- **Critical feature of modern economies, necessary for endogenous economic growth**
  - **Circulates giving information**
  - **Needed to allocate resources in the system**
  - **Allows consumers the illusion of translating real future satisfactions into money-valued current convertible assets**

Money in well-behaving economies

- Given stable expectations, all social groups can plan their use of money in an orderly way, and respond to signals appropriately
- The finance ministry and central bank can manage the economy via signals and incentives, such that money is created as demanded
- Conclusions:
  - Monetary aggregates are purely informational
  - Money (not interest rates) can be ignored in an analysis of the real economic system without affecting its explanatory power
  - When an economy becomes ill-behaving, the policy rules become misguiding and perverse; money matters again

The evolution of money

- No monetary asset has all the characteristics of perfect money
- New forms of money (e.g. credit derivatives of the 2007- financial crisis) can be created with new combinations of characteristics
- Such innovation for speculative purposes leads to financial crises

Explaining economic growth: the demand-side approach (1)

- **Generalising consumption**
  - as per capita incomes grow, consumers spend more, but on a wider variety of goods, so that quality increases
  - effective demand grows through private & public consumption and exports, assuming that the growth in demand will be met by a growth in supply, depending on whether suppliers have correctly projected demand
- **Specialising production**
  - increasing trade leads to more currency unions, lower trade barriers
  - global branding and life-styles
  - markets increase in numbers, scale and specialisation with associated reduction in costs

Explaining economic growth: the demand-side approach (2)

- **Market clearing**
  - utilisation of capacity, waiting lists, prices and quality will all adjust to match supply to demand
  - long-term outcome comes from short-term path-dependent responses
  - Instability in expected prices and output will reduce investment and growth
  - growth dependent on finance for investment being available
- **Competitive innovation & obsolescence**
  - new products encourage consumption
  - information costs falling rapidly
- **Money is the critical resource allowing separation of consumption and production across locations and over time**

Economic policy

- Central government has a leading role in proposing and implementing economic policies
- Portfolios of policies are necessary (monetary, fiscal, regulation) for multiple objectives:
  - managing externalities (e.g. global warming)
  - resolving macroeconomic inconsistencies
- Uncertainties imply that outcomes for policy portfolios should be tested for robustness in relation to the approach, assumptions, reliability of parameters

Models based on new economics theory: E3MG (global), E3ME (EU), MDM-E3 (UK)

- Recognises path-dependence and critical role of technology in historical studies of growth
  - Maddison (2001), Denison (1967, 1985), Wolff (1994a & b)
- Post Keynesian theory
  - Kaldor's cumulative causation (1957)
  - Scott's gross-investment as the basis of growth (1989)
  - Uncertainty and expectations are crucial features
  - Demand-led growth
- Assumptions
  - increasing returns in some sectors
  - market power varies across sectors
  - behaviour of social groups, not representative agents
  - parameters are location- and time-specific

Features of these models

- Structural, econometric, dynamic, non-equilibrium, simulation energy-environment-economy (E3)
- Use of cointegration techniques to identify long-run trends from annual cross-section data
  - E.g. E3MG: 20 world regions, 21 energy users, 12 energy carriers, 41 industries, 14 atmospheric emissions, estimated 1973-2004
- Allowing induced technological change
  - Anderson & Winne (2004) model of induced change with learning
  - Technological Progress Indicators (TPI) (incl. R&D) in many equations e.g. in 420 energy-use and 820 export equations
- And for sector markets to have regional prices
  - except for those for oil and other world commodities

Notable macroeconomic model outcomes

- GHG mitigation policies can lead to higher employment and growth
  - Provided revenues from taxes etc are recycled
- More stringent policies can reduce costs sufficiently to cause system-change via technological change
- The model generates an endogenous long-term investment-led cycle

Conclusions

- New economics is arguably the new mainstream for policymaking and business. It acknowledges
  - deep uncertainty as well as risk
  - the need for interventionist fiscal and monetary policies
  - the importance of institutions
- The debate over the economics of global warming has highlighted why intrinsic values should be recognised alongside monetary values
- Institutional approaches address the issues of the pivotal role of money and banking in the economy
- Demand-side growth theory, allowing for technological change embodied in investment, provides a more convincing explanation of growth
- Fiscal and monetary policies are increasingly being integrated

Summary: Treatment of values

traditional

- individual independent preferences
- monetized social welfare
- an optimal solution
- value of human life from economic theory and observation

new

- values formed by social groups
- multiple values and multi-criteria analysis
- no optimum
- value of human life from social consensus depending on context

Treatment of location effects

traditional

- no treatment of place in elementary theory
- all activity at points in space
- no transport costs
- no diffusion effects

new

- globalization and transmission of effects over distance is critical
- Economic growth is affected by size of market
- Falling transport and IT costs support the widening of markets

Treatment of temporal effects

traditional

- existence of equilibrium assumed
- no treatment of time lags in elementary theory
- static analysis
- implicit symmetry in timing, and reverse flows if costs change

new

- non-linear systems assumed with possibility of chaotic behaviour
- time and duration of effects is intrinsic to economic policy
- dynamic analysis
- irreversibilities (through accumulation of stocks)

Representing the economic system: long term

traditional

- Computable General Equilibrium models
- Typically one year's data for 10-100 year projections
- Technological change exogenous
- Search for welfare optimum
- Uncertainty: certainty-equivalence and net present values of solution

new

- Simulation of behaviours and outcomes
- Panel data provides basis for trend relationships
- Technological change induced by policy
- Models inform a range of social choices
- Assessment of robustness of policies under uncertainty