

# Introduction to Evolutionary Economics

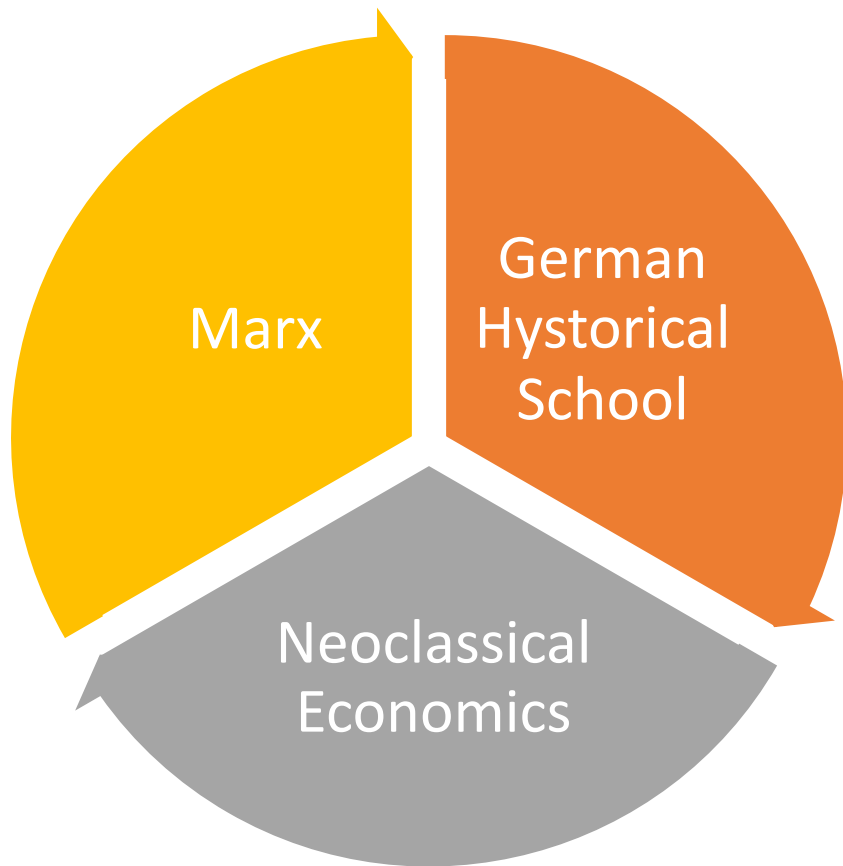
Economics of Innovation – LM Economia, Mercati e Management

# Joseph Scumpeter



- Austrian economist. Born in Moravia,
- Finance Minister of Austria in 1919.
- In 1932, he became a professor at Harvard University where he remained until the end of his career
- He has been the academic protagonist for an evolutionary approach to long run capitalism development

# Schumpeter's influences



- **Marx:** economic evolution is a distinct process generated by the economic system itself
- **Historical School:** economics is the result of careful empirical and historical analysis instead of logic and mathematics
- **Neoclassical:** focusing on the determination of goods, outputs, and income distributions in markets through supply and demand

*«Schumpeter from the very start was a methodological pluralist that believed who believed different approaches to be relevant for different problems»*

# Schumpeter's Synthesis

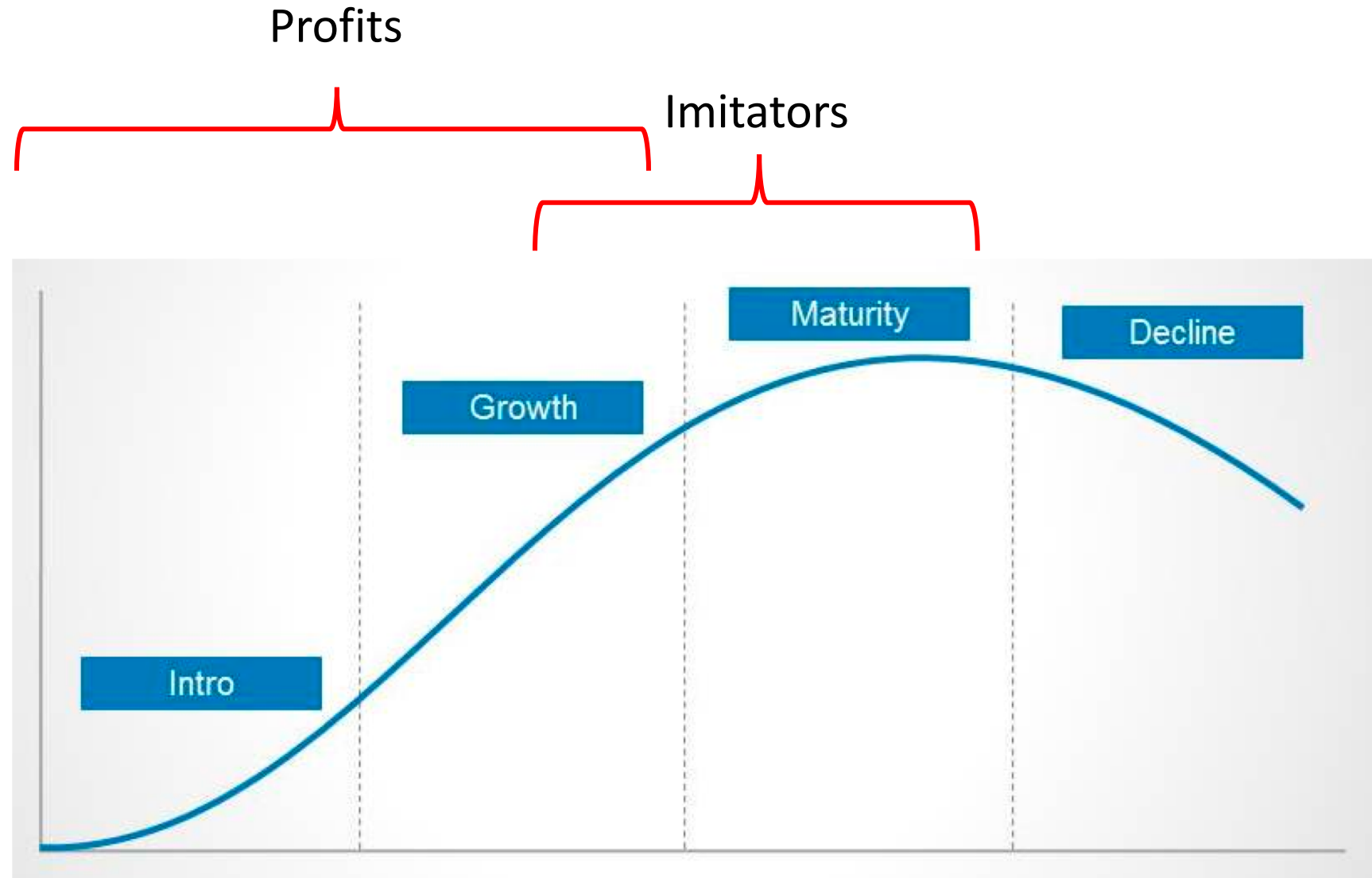
- Static economic system → changes occurs for some reason and can only be taken as given
- Evolutionary economic system → changes occurs and can be understood and acted upon → Innovation
- S. most famous concept → creative destruction

# What is innovation?

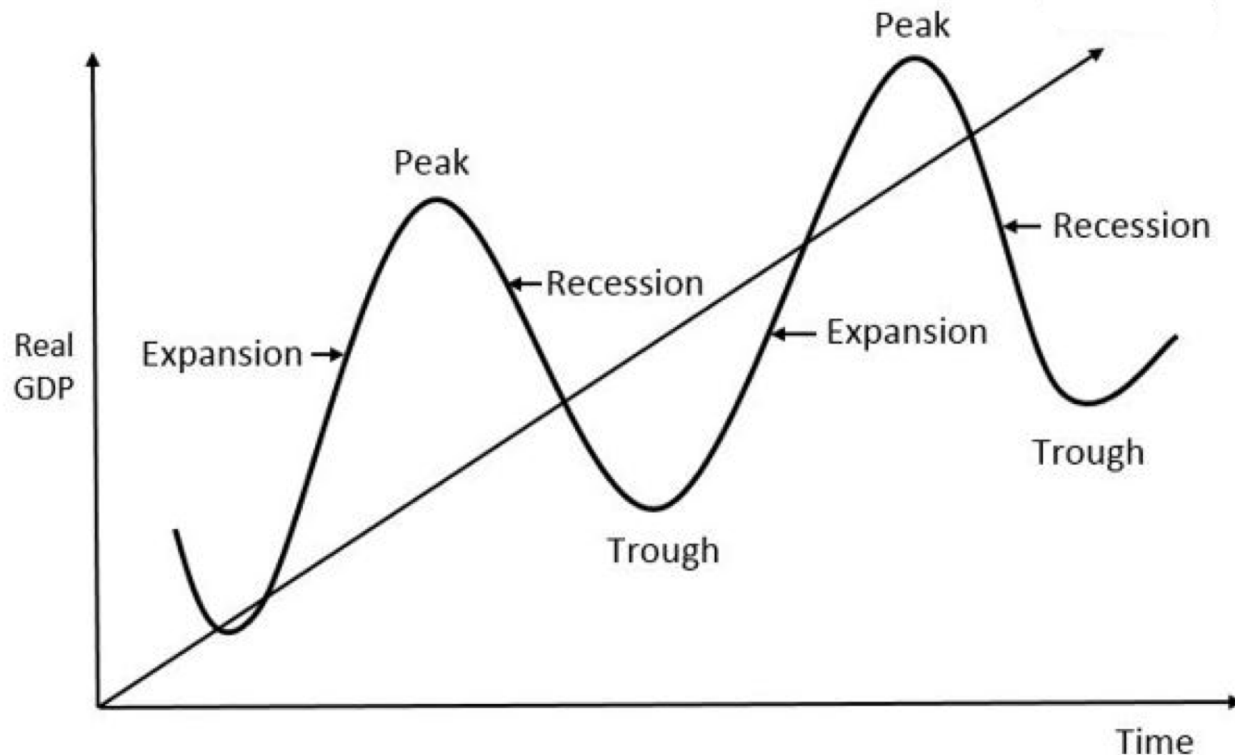
- He takes from Marx the idea that capitalist evolution is driven by technological competition between firms
- For aggregate economy this would imply that capital accumulation and rising productivity would go hand in hand
- For S. this (technological) type of competition was the true nature of capitalist competition, in contrast to the so-called “price competition”
- He introduces a broader notion of innovation including product and organizational other than product

# Product life cycle & profits

- Innovation is transitory in nature
- Sector growth thanks to the innovators as well as the imitators
- Derived effects in other fields (systemic interdependencies)



# Business cycle & innovation



- Innovation tends to cluster in certain sectors that may for a while grow faster than the economy as a whole.
- There might be a tendency towards a cyclic development of such “clusters”, and – following Schumpeter – this cyclic pattern may contribute to “business cycles” of varying lengths
- “Long waves” in economic activity

# Entrepreneurship

- Innovation= new combinations of existing resources, equipment and so on... → entrepreneurial function
- Innovation  $\neq$  Invention → need for a commercial purpose
- Entrepreneur  $\neq$  Capitalist/Financer/Manager
- Bounded rationality (see Nelson & Winter, 1982)
- Special quality of the individual entrepreneur
- Implications:
  - There might be different ways to organize the entrepreneurial function in different societies
  - These can be understood only with a case oriented historical perspective
- Competitive and trustified capitalism



# Schumpeter's contribution

- What he set out to do, and also to a large extent succeeded in doing, was to develop an understanding of how innovation, explained as a social phenomenon, shapes economic evolution.
- Innovation was portrayed as the outcome of a constant struggle between devoted individuals, endowed with a vision of new and better ways of doing things, and an inert social environment with a strong preference for “business as usual”
- Power of the old ideas, beliefs and routines, which through repeated practice had been “as firmly rooted in ourselves as a railway embankment in the earth”

# Schumpeter neglected aspects

- Innovation increasingly goes on in groups and other organized contexts, and this means that a theory of innovation must include the organizational dimension.

# In the 1960s...

- Formal equilibrium model had little to say about qualitative economic changes in time
- S. thoughts revive after acknowledgement that patterns of trade differs from those predicted by standard equilibrium (Heckscher – Ohlin model)
- Innovation constantly disrupts the equilibrium forces, so that the observed patterns of international trade reflect the interaction between innovation and diffusion of technology at a global scale rather than some given distribution of natural and/or man-made assets across different countries or regions
- Innovation was assumed to be the **primary factor** behind long-run differences in specialization patterns, trade and economic performance

# In the 1960s...

- Fagerberg (1987, 1988b) suggested an empirical model based on Schumpeterian logic that included innovation, imitation and other efforts related to the commercial exploitation of technology as driving forces of growth.
- Catch-up or convergence is by no means guaranteed, but depends on the balance of innovation and imitation, how challenging these activities are and the extent to which countries are equipped with the necessary capabilities.
- According to Verspagen (1991) poor countries with a low “social capability” are the ones at risk of being “trapped”.

# In the 1970s...

- Economic slump at the beginning of the decade focuses researcher interest on finding alternative explanations of growth
- Mensh (1976)
  - Innovation comes in bunches
  - Resistance to novelty
  - Depletion of potential for further growth
- Freeman, Clark and Soete: system perspective in which the process of innovation-diffusion is studied as an inter-related whole.
- Perez: emergence of a key factor

# In the 1980s...

- Integration of social, institutional and political factors → territorial dimension of innovation
- Lundvall: an innovation system is an economic system characterized by dense and enduring relationships between firms, customers and suppliers
  - The economic structure of a country evolves slowly through time and – although subject to change – has a strong, enduring character
  - Common culture, language and institutions, which arguably facilitate interaction between firms and their environments and, hence, affect learning positively
- However...boundaries of such systems cannot be assumed a priori to follow national borders

# In the 1980s...

- Humans, it is argued, are simply not able to calculate the consequences of all possible actions and choose between them in the way neoclassical economists usually assume.
- Satisficing vs optimizing behaviour: actors will stick to a certain behaviour as long as this will lead to a satisfactory outcome
- Nelson and Winter (1982):
  - Although most firms may be quite satisfied with the way in which they are doing things, some firms will at any point in time be engaged in a search for new and more efficient routines
  - Search: innovation & imitation