5. SCHUMPETER’ CONTRIBUTION TO GROWTH ECONOMICS

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At the beginning of the 20th century, the dominant doctrine was the neoclassical economics

- Alfred Marshall, British economist at Cambridge University with his book “Principles of Economics from the year 1890”, had great influence on the development of economic thought with theories of costs, value, distribution through the introduction of the concept of marginal utility.

A major change to the dominant neoclassical theory is due to Joseph Alois Schumpeter with his book “Theory of Economic Development” 1934: He was member of the German Historical School in Vienna.

Schumpeter main contributions by introducing:
- the role of the entrepreneurship (through their large companies) in the neoclassical economic theory
- the role of technical progress as the function of the entrepreneur’s capacity.

Schumpeter is then considered the father of entrepreneurship and of growth theories.
Schumpeter main issues

• Multinationals (MNCs) are powerful players in the global markets, mainly in commodities

• Radical innovation in the production process are needed to expand enterprises and to improve their productive capacity

• Entrepreneurs as innovators:
  – are pushed to introduce innovations to face the competition and thereby to generate additional profits
  – create profit opportunities by devising new products, new production processes or new marketing strategy
Schumpeter role of the entrepreneurs

• Innovations are considered as the most important drivers of the economy
  – innovation leads to an increasing productivity, fundamental source of wealth in a society

• Since the social returns of innovations exceed the private returns innovation, any innovation strategy is of the crucial importance to policy makers in any of market economy

• Entrepreneurs are motivated by the temporary monopoly profit:

• It is important to distinguish between:
  – invention -> only a new idea
  – innovation -> ideas applied successfully in practice

The key to an innovation strategy is to allow firms to appropriate more of the social benefits of their new products or processes through intellectual property rights
Schumpeter distribution and impact of innovation

- Innovations are not continuously distributed over time as they proceed by leaps which upset the existing equilibrium in markets and generate irregular economic growth.
- Innovative transformation are relatively slow and can generate social conflicts.
- Therefore innovations:
  - are typical of any entrepreneurial activity (separate from the administrative function of manager).
  - but, generate cycle’s fluctuations: i.e. supply shifts based on uneven technological changes.

In the Schumpeter’s economic system, business cycles waves are the major determinant of an unstable the economic growth.
Entrepreneurs create radical innovations in order to become more competitive in the market.

Different typologies of business cycles are proposed according to their periodicity, so that particular cycles could be identified only after they have been discovered.

Although Schumpeter’s theory on business cycles could not always explain the dynamic of the economy, there is no doubt that the technology has a large impact on the economy and on the welfare.

The ongoing technology revolution (ICT innovation) is the demonstration!
Schumpeter 
evidence on the role of technological progress

- By comparing the trend of GDP with R&D expenditures, it can be noticed that since the oil crisis shock in the mid 1970s the growth of R&D expenditures in the industrialized countries has been approximately double than the growth of GDP.
- This trend accelerated during the two decades following the globalization, the 1990s and the 2000s.
- The revolution of the communication & information technology (ICT) could be considered as an uneven innovation evolution of the Schumpeterian way of thinking.
Schumpeter approach to innovation diffusion

Two different approaches motivate the adoption of an innovative technologies:

– entering into new market niches. Entrepreneurs challenge the market and competing companies existing markets thanks to the introduction of innovations

– key role of large firms. Innovation process need R&D and this, in turn, will lead to market concentration
Creative destruction is a process associated with an innovation introduced by entrepreneurs entering into unexplored market where there are low entry barriers for new comers

• According to Schumpeter, the "gale of creative destruction" describes the "process of industrial mutation that radically change the economic structure from within, destroying the old one technology and creating a new one"

• Creative destruction is a microeconomic process by itself even if it has important macroeconomic implication for the growth:
  – It creates economic discontinuities, and by doing so, it generates an entrepreneurial environment favorable to the introduction of innovative processes and then helping firms to earn temporary monopoly profits.
  – Competition is a self-destructive mechanism that normalizes profits when the innovation effects are evanishing along the time.
MNCs:

- dominate global commodity markets by providing world-class technologies and logistics
- are important partners for local entrepreneurs
- use monopoly power to create high barriers to entry of competitors
- have a large impact on industry life cycles and market structure

Creative accumulation is then associated with institutionalized innovation undertaken by MNCs that carry out innovation along established technological trends and even try to prevent the entrance of newcomers.
Schumpeter creation vs destruction: some evidence

- In the early 90s, Finland was hit by serious crisis in the bank industry and about 20% of the firm population was lost. During the crisis the positive entrepreneurial event was the unexpected global success of Nokia.

- Two decades later Nokia collapsed as newcomer discovered similar technologies by showing the evidence of creative destruction.

In the some EU countries, structurally in economic difficulties because of the high public debt, the Schumpeterian shock strategy may be the best solution as the MNs natural behavior are motivated not only to increase their own profits but also those of smaller companies as to improve the society wellness.
Schumpeter
creative accumulation: further evidence

Large firms use their creative accumulation in order to appropriate innovative knowledge that small innovators develop through in-house research activity

• Thomas Edison (1847-1931) owned over one thousand U.S. patents:
  – himself was a pioneer investor creating technological breakthroughs.
  – In the 1890s he established General Electric (GE).
  – GE was among the first ones organizing creative accumulation built on its proprietary knowledge stocks through well-organized R&D departments, including lighting, transportation, power transmission, and medical equipment.
  – GE is still existing today exploring and different innovative processes
Relying on historical experiences, the strategy process is the key managerial innovation by which large firms integrate the core elements of vertical production system and create a value chain.

But, the capacity of MNs to stimulate growth would be reducing overtime because of the heterogeneity of industries could stimulate a wide companies diversification.

Large firms with integrated manufacturing and R&D can be successful in generating radical product and process innovations although MNCs frequently adopt the “escape competition” strategy in the global patent race.
Schumpeter
Innovation and human capital role

The introduction of innovations opens the door to a deep transformation of the society

• Schumpeter strongly believed in *human incentive* coming from innovation dynamics as crucial factor of development
• This brilliant intuition would haven been recovered many decades later by the theorist of the role of Human Capital:
  – Robert Lucas in the ’80s (first theorist of the endogenous growth) would recovered and further developed these intuitions
  – Following the notion of increasing return to scale, Paul Romer (1989) claimed that every generation underestimate their potential role for finding new ideas

Technology is not a mysterious outside force as economists thought in the past, but an internal force that have to be cultivated to faster growth. Recalling Schumpeter, we can say: “The emerging economy is based on ideas more than objects”.

The greatest innovations are likely to occur from the cross-fertilization among sectors and professions. For example, artists/ scientists and businessmen work-models are interrelated even if they remain different one from the other