Digitalisation and organisational innovation

Lesson 2. From liberal capitalism to fordism and post-fordism

What did we cover in the previous lesson?

- **The evolution of innovation studies**: the contribution of economics and sociology (we introduced some ideas that we will revisit in the next lessons).
- **Common elements of the sociological perspective**: innovation is directly connected to the transformations of the capitalist system; it offers an integrated view of the economic, social (networks and culture), and political (institutions, public policies, and the welfare state) dimensions.
- **Analytical perspectives and levels**: different approaches such as network analysis, neo-institutionalism, Varieties of Capitalism, and Growth Models, applied at sectoral, national, local, and global value chain levels.
- **Definition of innovation**.
- **The five characteristics of innovation**: it is processual (linear and chain models), relational, different from change and from invention, and does not always produce positive outcomes.
- **Types of economic innovation**: product, process, organizational, and marketing; incremental (risk-based) and radical (uncertainty-based).
- **The role of technological revolutions**.

Structure of the Lesson

- In the first part, we will examine the ideas of Joseph Schumpeter, an economist who was not only a pioneer in the study of economic innovation but also opened his analysis to other social sciences, introducing non-economic dimensions into his reflections.

- The second part will explore the features, evolution, and crisis of the Fordist system. Fordism, in fact, represents the foundation for understanding the transformations of the capitalist system and the successive waves of innovation that have emerged over time.

Schumpeter (1883-1950) and the economy of innovation

- Although Schumpeter was trained within the Austrian School of economics and shared several assumptions of neoclassical theory, he was also influenced by the **historical school** and by **Marxist** and **sociological perspectives**.
- These multiple influences led him to pay close attention to the **non-economic factors** of development.
- The importance of these social and institutional elements already appears in ***The Theory of Economic Development*** (1912), where he explains economic growth by placing the **entrepreneur** at the centre of the explanation.
- In doing so, Schumpeter distanced himself from traditional neoclassical economics, which he saw as **static** and unable to explain the **key driver of capitalist development**: **innovation**.

- The essay begins with a description of the “**circular flow of economic life**”, a situation of **market equilibrium** that determines the quantity and price of the goods produced.
- In this context, economic **growth** is based on established **routines** and **habits**. The changes that occur are continuous, marginal, and incremental, and they do not significantly alter the overall structure of the system (the framework of “given conditions”).
- However, this static theory cannot fully explain the processes of **development**.

*“Is not only unable to **predict the consequences of discontinuous changes** in the traditional way of making things; it can neither explain **the occurrence of such productive revolutions** nor the phenomena which accompany them […]*

***Development** in our sense is a distinct phenomenon, entirely foreign to what may be observed in the circular flow or in the tendency towards equilibrium.*

*It is spontaneous and discontinuous change in the channels of the flow, disturbance of equilibrium, which forever **alters and displaces the equilibrium state previously existing**. (Schumpeter 1912, 62–4)*

- Traditional economic analysis cannot explain the **radical changes** that drive development and the **cyclical evolution** of capitalist economies.

- For these changes to occur, **innovation** is needed in the way of the "materials and forces" of production are combined: in other words, "***new combinations of productive means must be introduced***".

- These innovations can include: (1) the creation of new goods unfamiliar to consumers; (2) new methods of production or marketing; (3) the opening of new markets; (4) the discovery of new sources of raw materials or semi-finished products; and (5) the reorganisation of an industry, for example through the creation or destruction of a monopoly.

- **Entrepreneurs** are the ones who create these innovations, offering a creative response to the challenges they face.

- Schumpeter sees innovation as a **social phenomenon** that drives economic development. Unlike the neoclassical economists of his time, he does not consider changes in market equilibrium as the result of **external factors**.
- Capitalism is essentially dynamic and must be understood through **endogenous forces**: the new economic elements introduced by "**new men**" through "**new firms**."
- This dynamism does not come from price competition between companies, but from **technological** and **organisational** competition: from "doing things differently" in the realm of economic life.

- ***Development*** *takes place through* ***industrial change*** *that* ***incessantly*** *revolutionises the economic structure from within, incessantly destroying the old one and incessantly creating a new one. It is this process of '****creative destruction****' that characterises* ***capitalism*** *in such a specific way*.

- When innovation succeeds, it brings profits to entrepreneurs, but these profits are temporary, because competitors soon imitate the new idea or product.

- Schumpeter clearly distinguishes **innovator-entrepreneurs** from **managers**, who only handle administration and daily routines, using existing knowledge and established practices.

- Entrepreneurs are usually not the owners of “means of production” or financial capital. For this reason, the financial credit system plays a key role in providing them with the resources they need.

- Entrepreneurs are also different from **inventors**. Their task is not mainly to discover new things, but to introduce innovation into the **economic spher** and overcome the **social** and **psychological resistance** that it often provokes.

- To overcome this type of opposition, entrepreneurs need a particular **type of personality**, marked by energy, determination, and intuition.
- Another important quality is **leadership**: the ability to inspire and creating consensus for a project, even when its results are highly uncertain.
- The logic behind **entrepreneurial action** is very different from the utilitarian, profit-maximizing logic used in traditional economic theory to describe the “economic man.”
- Entrepreneurs do not have enough information to make fully rational cost–benefit calculations, because their actions are not guided by established routines. Their motivation is not purely rational or focused on hedonistic nature.

The rise, crisis and transformation of the Fordist model

- In the years after **World War II**, **large mass-production** companies had very positive growth prospects.

- These firms were able to take advantage of "**economies of scale**", producing large quantities of consumer goods, such as cars and household appliances, at lower costs.

- "**Fordism**" or "**Fordist–Taylorist**" was then based on **three principal characteristics**:

1. Firms were vertically integrated

- Companies began to include different productive stages, which were previously carried out by different firms.

- This process extend to **backward**, giving firms control over raw materials and key components, to ensure a **stable** supply of inputs for production. In many cases, this backward integration also included **research and development** services.

- Integration could also extend to **forward integration** into distribution, to handle maintenance and customer assistance, and to strengthen control over the market.

- As production became more complex, firms faced greater risks, coordination problems, and higher financial needs — all of which led to a general growth in the **size of firms**.

2. Firms were committed to mass production

- The production focused of **standardized goods**, using special-purpose machines.

- This helped them to reduce their costs by taking advantage of **new technologies** that increased **economies of scale**. As production volumes grew, the cost per unit of product decrease.

3. Production was carried out by a relatively semi-skilled labor

- Labor was organized according to the Taylorist model: it was then highly **fragmented** and **specialized**. The work itself was sub-divided into simple and repetitive tasks, limiting workers' autonomy.

- The division between **conception** and **execution** was clear-cut and rigid, and the firm functioned like a large **bureaucratic organization**, based on **hierarchical control**.

- **Management** played a central role, coordinating, integrating and controlling all production activities.

- There was thus a separation between the **ownership** of the firm (often families or shareholders), and the **management**, which was entrusted to professional managers.

- Over the last century, this new model of productive organization became much more widespread. This can be explained by several factors.

- First, **electricity** spread as a low-cost and easy-to-distribute source of energy.

- Second, major improvements in **transport** and **communication** played a key role. Better transport made it possible to create and supply mass markets, while new communication technologies was essential to coordinate the flux of traded goods.

- However, this was not possible for **all types of production**.
- The **new technologies** were very expensive, and firms had to invest in special-purpose machines, designed for specific products.
- Economies of scale could only work where there was a **large and stable market**, which made it possible to recover the high costs of these investments.
- There was still demand for “**non-standardized goods**”.

1. The demand for **high-quality consumer goods** — although smaller because of their higher cost — could not be met by the Fordist model.
2. Moreover, other types of goods, influenced by changing **tastes** and **fashions**, created a variable and unpredictable demand.

- In sectors such as textiles, fashion, furniture, and other industries, with **fragmented** and **shifting markets**, smaller firms operating under more traditional models, continued to play an important role.

3. In addition, mass production needed **specialized (non-standard) machines**.

- This type of **limited** and **customized demand** created opportunities for small and medium-sized firms, which could supply the required machine tools and special machinery.

4. Finally, another variation involved small firms that large companies used to to **cover cyclical variations in demand**.

- This created a **decentralized production system**, where small firms worked as **subcontractors**, while the large firms marketed the final products.

- In other cases, **cost savings** also encouraged decentralization, as simpler and more labor-intensive production stages were outsourced to reduce expenses.

- For all these reasons, Fordism should be seen as an **ideal-type**.
- In reality, it **coexisted with other sectors** — or parts of the same sector — that were organized differently, and with many small and medium-sized enterprises (**SMEs**) that operated using traditional methods such as personal entrepreneurship, multipurpose machines, and non-Taylorist or more skilled forms of labor.
- In addition, the same **national market** could be more or less favorable to mass production, as a result of the differentiation of tastes and lifestyles, and thus of **social stratification** and **national cultures**.
- These features emerged clearly when American, European and also Japanese experiences were compared.

Social and economic tensions during the seventies

- In the **1970s**, several factors quickly and unexpectedly weakened economic growth and social stability in advanced capitalist countries: new industrial conflicts, rising inflation, lower growth rates, and higher unemployment.
- These changes challenged the main ideas and policies of **Keynesianism**, which seemed inadequate to deal with the combination of high inflation and high unemployment — a situation later called "**stagflation**."
- The **perverse effects** of the Keynesian welfare state became clearer by the late 1960s.
- At the **micro level**, lower unemployment was linked to higher inflation, while at the **macro level**, it became difficult to control public spending as social protection systems expanded (as stabiliser).
- These problems were later reinforced by other factors (**structural** and **contingent**).

- Some of these problems were **structural**.
- As markets became **saturated**, the space for mass production narrowed. For example, in the United States, 99.9% of families owned a television in 1970, compared to only 47% in 1953. Almost every family had a refrigerator and washing machine, and the number of cars reached almost one for every two residents.
- **Competition** also increased, creating new challenges for firms in advanced countries as **newly industrializing countries** — especially in Asia — entered in global markets.
- Thanks to effective **state-planned policies**, these countries pursued industrialization strategies and grew rapidly, especially in **low-skilled mass production**, using low labor costs as a competitive advantage for exports to developed economies.

- Other factors were more **contingent**, but they still contributed to the worsening economic and social situation.

1. Mass production had profited from the low costs of energy. In **1973**, this situation suddenly changed when **oil-producing countries** formed a cartel to control exports, leading to a sharp rise in prices. In the short term, this created serious problems for advanced economies, especially those dependent on oil imports, and triggered strong inflation.

2. In **1971**, facing a growing balance-of-payments deficit, the United States suspended the **dollar’s convertibility into gold** and devalued the currency, shifting from fixed to floating exchange rates. This caused instability and uncertainty, further increasing the difficulties of mass production firms.

- Together, these developments undermined the Fordist model, making its **decline unavoidable**.

- But the whole process was also linked to **social** and **cultural** changes that conditioned the strategies of firms at the micro level. In richer countries, demand became more diverse and shifted toward **higher-quality goods**.
- This trend was supported by **incomes growth** but above all by the formation of **new** and **better-educated social groups** developing new lifestyles and consumption patterns.
- As a result, firms found new opportunities to produce more **diverse** and **customized high-quality goods**.
- Often it was these same firms which **oriented consumers** towards these goods, as a strategy for dealing with the difficulties of more traditional fordist production.

- A second factor encouraged the shift toward more diversified and higher-quality production: the introduction of **new electronic technologies**.
- The use of computers in production had major effects. Machines could now be programmed to perform different tasks and produce various products. In other words, new technologies could be reprogrammed simply by changing their software.
- This made **flexible production** much cheaper. Firms could produce small batches of high-quality, non-standard goods at lower costs.
- Both large firms upgrading their mass production and smaller artisan firms expanding their quality production benefited from these new techniques.

- Changes in markets and technology allowed firms to respond with more flexibility, product diversification, and higher quality. This helped them avoid direct competition with **low-wage countries** in mass production.
- However, this did not mean that mass production and the Fordist model disappeared completely in advanced economies.
- Alongside flexible and quality-based strategies, some firms reorganized the Fordist model and continued to serve mass markets in both developed and developing countries (more often in the latter).
- From this perspective, two main trends emerged: the use of new technologies to reorganize Fordism ("**neo-Fordism**") and the expansion of **multinational companies**.

- The first strategy, often called “**flexible mass production**,” aimed to increase product variety without changing the basic production model. It kept the separation between design and execution, as well as the rigid organization of work.

- **Product development** remained centralized, though firms tried to save time by using new technologies. **Subcontractors** remained highly dependent, and production units had little autonomy from headquarters.

- The main innovation was “**programmable automation**,” with the widespread use of robots and other automatic machines. This reduced labor needs but also limited retraining opportunities and worker involvement, leading some to describe it as “**computerized neo-Taylorism**.”

- In other cases, large mass-production firms invested directly abroad, especially in **developing countries**, through multinational strategies. This allowed them to recreate the favorable conditions once found in advanced economies — expanding markets and lower labor costs.

The comparative political economy

- How were the tensions that led to both high unemployment and inflation during the 1970s ‘explained’? At first, researchers focused mainly on the causes of inflation, using a **macroeconomic perspective**.
- Later, especially in the **1980s**, attention shifted to competition among firms and the internal dynamics of **different capitalist systems**.
- As a result, **macro-level** analyses began to combine with **micro-level** approaches, focused on firms and regions, examining the transformation of Fordism and the rise of **flexible production models**.
- These perspectives will develop in two different strands: in the 2000s, the VoC approach (which we will look at tomorrow) and, more recently, the growth models approach (which we will look at later).

Thanks for the attention

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