

# After the Global Crisis, Which Models of Growth

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# **The Innovative Choice as an Exit Crisis Strategy**

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*“The long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is past the ocean is flat again »*

*(Keynes 1923)*

# The innovative choice: a sequence perspective

- Everybody agrees that exiting the crisis requires an innovative choice both at micro and macro level.
- However, one does not start from the scratch. The future does not determine univocally the present. The short term determines what the long term will be.
- One cannot imagine stimulating innovative choices as if the crisis had never existed, and simply going back to the recipes carried out during the previous decades, which have some responsibility in the outbreak of the crisis.

# The on-going crisis: which view?

- The on-going crisis can be viewed as a black swan – a temporary deviation or a friction along an equilibrium path – with the consequence of leaving unchanged the basic principles of modern economics that mainly focuses on the role of incentives.
- In this perspective, full competition on good markets, deregulation of labour markets, a sophisticated finance system are aimed at favouring innovative choices
- However, it should be clear that full employment, a high growth rate of productivity and stable prices in the US economy have masked the existence of a structural disequilibrium that threatened its viability

# The on-going crisis: which view?

- The on-going crisis can also be viewed as a moment along an out-of-equilibrium path generated by structural changes (in technology, in preferences, in the distribution of income)
- Finding the way of innovation to growth requires understanding why previous structural changes have ended in a great contraction, and how to exit from the crisis
- This change of perspective shifts the focus from the (immediate) financial causes of the crisis to its real causes, that is, to the sequence of imbalances over time that are at the core of any structural change.
- Coordination issues should be considered instead of focusing on incentive issues and policy consensus could well fall apart.

# From an equilibrium to an out of equilibrium analysis

- An economy travelling on an equilibrium path is fully adjusted (coordinated). Given properties of ‘technical’ functions (production and utility functions) are sufficient for determining the trajectories followed by this economy
- An economy that is not fully adjusted travels on an out-of-equilibrium path whose evolution depends not only on ‘fundamentals’, but also on complex interaction mechanisms between heterogeneous agents aimed at rendering this path viable.
- Focusing on co-ordination mechanisms implies to recognize that the short term actually determines what the long term will be, that supply conditions and demand conditions interact with each other.

# The innovation process

- Any innovation process , whatever its origin, means the breaking on a given equilibrium.
- Coordination problems arise: they are due to the fact that errors have been fossilised both in fixed capital and in human capital.
- Different outcomes may be associated with a given technological advance, depending on agents' reaction to disequilibria, that is, on viability conditions.
- The main dimension of the economic process is the existence at each moment of involuntary stocks, both real and financial (including unsustainable leverage), which are the channel of transmission of disequilibria.

# Which kind of modelling?

- Agent based Computational Economics is the framework required for analysing out-of-equilibrium growth paths.
- Heterogeneous agents are firms that invest and consumers that consume, but also production processes of different ages and belonging to different technologies.
- Instead of formulating an intertemporal target and then forcing the economy to follow the selected path
- The aim is to select a broad band of acceptable economic performance and to identify policies that are able to keep the economy within this stability corridor.

# A new production analysis

- Production processes must be build before being used. This does not matter if the economy is in equilibrium because, in this case, the construction phase is always in harmony with the utilisation phase. It is not the case out of equilibrium
- In the latter case, production function provides a bad description of the production phenomenon. We propose to substitute for it the Neo-Austrian production model (Hicks 1970, 1973; Amendola et Gaffard 1988, 1998, 2006)

# The core of the innovation process

- Within this framework, there is a population of production processes. Each production process has a life cycle. Each given behaviour of the economy is sustained by a productive capacity characterised by a given age structure of the production processes.
- While an equilibrium path is sustained by a constant age distribution of production processes, out of equilibrium this distribution changes in continuity as an effect of path dependency and of agents' reaction to real and financial constraints (disequilibria)

# A simple case

- Let us consider the simple case of the introduction of a new technology characterized by higher construction costs (and lower utilisation costs), as it is typically the case with new information and communication technologies or with clean technologies.
- This causes a dissociation in time of costs from proceeds. The higher costs come earlier, and hence cannot be financed out of current production.
- A distortion arises in the structure of productive capacity, which is nothing but a mismatch between investment and consumption. The structure of productive capacity is no longer able to sustain a steady state.

# Inflation and unemployment

- Unemployment and inflation are the outcome of this structural shock during the transition path
- Unemployment is the result of the temporary fall in final output that follow a fall in investment in capacity due to higher construction costs and, in many cases, to the mismatch between the demand and the supply of skills
- Inflation occurs, when banking credit allows increasing the level of investment, because the goods in which the wages will be spent cannot be provided out of the product of the labour which is newly employed, for that is not yet ready

# Viability conditions

- Re-establishing a balanced structure of productive capacity requires facilitating credit to investment, carrying out loose monetary policy and accepting temporary inflation pressures
- It also requires price and wage stickiness that prevents the fluctuations from becoming too strong so as to represent a threat to the viability of the economy

# Which lessons for economics?

- Advance in technology and the extent of the market are not sufficient conditions to growth
- Investment and consumption must be coordinated
- Growth strategies are mainly strategies that solve these coordination problems
- As we shall see they consist in creating the conditions for smooth adjustments to the disequilibria that are inherent to any innovative choice

# Back to the on-going crisis

- Rather than maintain that the same recipes prevailing before the crisis (market deregulation, targeting balanced budget and zero inflation) should be applied again.
- The on-going crisis should invite us to point policy mistakes that have prevented economies from being fully adjusted to structural changes, associated with technical progress and with the extension of international trade,
- The crisis is far from being over and we need pointing out its main dimension, which is a divorce between investment and consumption.

# The US crisis

- Financial markets have allowed investments in new technologies to be easily financed. But too much money has been invested. And as stock prices rose, they began to feed on themselves and the 'internet' bubble burst.
- Financial system has favoured indebtedness of households belonging to poor and middle classes, which has compensated the huge increase in income inequality that should have had a negative effect on final demand (and on the potential growth rate).
- The arising disorder in the structure of productive capacity has opened the way to cumulative disequilibria (both real and financial, domestic and foreign). It has resulted in a financial crash and in a great contraction

# The crisis in Europe

- Large European countries have experienced a lower growth rate that has ended in increasing budget deficits. This has been the result of a restrictive monetary policy that has prevented inflationary pressures, but also adequate investments in new technologies from being quite large.
- From the beginning 2000 onwards, a strong imbalance between investment and domestic consumption has arisen in Germany. Decreasing interest rates in the euro zone and available funds have fuelled housing bubbles specifically in Spain and Ireland, where a symmetric distortion has arisen: domestic consumption was no longer in line with investment in new productive capacity.

# The China situation

- In China, the excessively low level of income of the largest part of the population has made it necessary to carry out an export led growth strategy that resulted in a huge accumulation of savings.
- Given the huge investment driving the fast growth carried out, only increased exports of goods have allowed to absorb the resulting supply. If this pattern of growth is to be reversed, the growth of investment must fall well below that of GDP and consumption must be dramatically augmented

# The real dimension of global imbalances

- The global imbalances that result from the prevailing relations between advanced and emerging countries take the form of national current-account surpluses and deficits offset by net capital inflows.
- What has happened is that, in deficit countries, financial resources thus made available have actually been devoted to finance increased current consumption and unproductive investment (housing). As a consequence, a huge imbalance has appeared between consumption and sound investment, which is not sustainable. This is an example of the paradox of thrift.

# The challenge

- Focusing on the distortions between investment and consumption as the engine driving the evolution, and identifying them as one of the main causes that pushed economies out of their stability corridor, help to better understand the intrinsic complexity of the situation.
- This also reveals how difficult is to elaborate exit strategies. Re-establishing a better co-ordination between investment and consumption will take time.

# Short term and long term policies

- Governments should be able both to smooth short-term fluctuations, and, in the same time, to favour a restructuring of the economy.
- It would then be a mistake to focus on fiscal consolidation and to ask to implement structural policies (oriented to more flexibility on the markets) as if the only problem were to re-establish a balanced public budget and to prevent cyclical unemployment from turning structural.

# The required transition

- The transition paths should take place in such a way to correct existing distortions, which means obtaining greater reliance on investment in some countries, on consumption in other ones.
- In both cases, this requires adjustments in the structure of the productive capacity and eventually in the distribution of income and wealth.

# About the role of time

- It would be too simple (or naïve) to focus on expectations (right or wrong) as the main factor leading the recovery from the present crisis: as if the present were, univocally, determined by our perception of the future.
- We have in fact to recognize that the past constrains the present as well as the present constrains the future. Current as well as future values of economic magnitudes are not free variables. They are the expression of a path dependency.

# A political problem

- We cannot abstract from the nature of current disequilibria and from what will happen along the way while these disequilibria are transmitted from one period to the next.
- Nor we can abstract from the political dimension of the problem.
- Particularly, in the euro zone, conflicts of objectives and interests are increasing between the different nations, which makes it necessary to obtain political conditions that would allow carrying out the arbitrages involving more solidarity.