AIMS OF THE PAPER

This paper aims to underline that the key problem of the economic growth in Europe is the recovery of innovation and investments in the private and in the public sector and the adoption of a “new industrial policy”.

This policy could be much more effective than the policies of “quantitative easing”, of “budget austerity” and of “structural reforms”.

The economic recovery of the European economy can be pulled by an increase of the internal demand and private and public investment.

The investments should be oriented to the productions which aim to respond to the increasing needs by the European citizens of new modern goods and services and of better infrastructures, especially in the largest European cities.

Investment policies in Europe should be addressed to fill wide gap between the demand and the supply in the following modern productions and markets: 1) housing, 2) mobility, 3) health and education, 4) leisure and culture, 5) energy and environment, 6) advanced manufacturing productions, which produce intermediate goods and are driven by those final productions.

TWO OPPOSITE APPROACHES IN THE CURRENT POLICY FOR THE ECONOMIC RECOVERY

The "conservative" view:

Economic policies should aim first to insure the financial stability as financial stability may be the precondition for growth

The "progressive" view:

Economic policies should aim first to promote investment and innovation as economic growth is the precondition for financial stability
TOO LITTLE INVESTMENT

- The fall of the price of oil and of raw material has decreased the export revenues and has had a negative impact on the GDP growth of the emerging countries.

- The process of trade globalization has stopped and the reshoring of productions seems to become increasingly important. The domestic demand is also becoming increasingly more important than distant foreign markets.

- The ratio of world trade on global GDP has decreased, while before the GDP elasticity of world trade was very high.

- The decrease of the price of oil and of raw materials have sharply decreased the value of the export/import flows.
Even China had a decrease of its exports to all countries in the world both toward the emerging and the developed economies. It is hard to imagine that European countries could be more competitive and dynamic than China in exports.

“The ongoing recovery remains driven by domestic demand and in particular, by private consumption” (Source: European Economic Forecast, Winter 2016)

Growth is determined by the internal demand and not by exports

The forecast of a higher GDP growth depends on a future increase of the investment

The GDP growth rate is very low and a long term stagnation characterize many European countries.
• The slowdown of the economy and the decrease of the price of oil and raw materials has had a negative impact on the rate of inflation. Since many years, the European Central Bank is not capable to achieve the official target of an average inflation rate of 2%.

• Low inflation leads both firms and households to postpone the investment in machinery and housing.

• The economic stagnation has an high social cost.

• The enormous gap between saving and investment in Europe is due to the deleveraging process occurring in the balance sheets of the non financial companies, of the banks, of the governments and also of the households.
The great liquidity in the financial markets sustains the financial speculations and is leading to the increase of the income and wealth disparities between the managers and the bankers and the normal people.

Table 1 - The decrease of investment has determined the low GDP growth

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Euro area (12)</td>
<td>Gross domestic product at market prices</td>
<td>9,550,965.0</td>
<td>9,614,856.6</td>
<td>0.67%</td>
<td>63,892</td>
<td>100.0%</td>
<td>100.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Euro area (12)</td>
<td>Household and NPISH final consumption expenditure</td>
<td>5,258,233.7</td>
<td>5,283,874.5</td>
<td>0.27%</td>
<td>25,641</td>
<td>55.0%</td>
<td>55.1%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Euro area (12)</td>
<td>Final consumption expenditure of general government</td>
<td>1,894,120.4</td>
<td>2,040,831.3</td>
<td>1.54%</td>
<td>146,711</td>
<td>21.2%</td>
<td>19.8%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Euro area (12)</td>
<td>Gross fixed capital formation</td>
<td>2,190,564.2</td>
<td>1,921,213.0</td>
<td>-2.82%</td>
<td>269,351</td>
<td>20.0%</td>
<td>22.9%</td>
<td>-12.3%</td>
</tr>
<tr>
<td>Euro area (12)</td>
<td>Exports of goods and services</td>
<td>3,659,656.0</td>
<td>4,366,495.2</td>
<td>7.40%</td>
<td>706,839</td>
<td>45.4%</td>
<td>38.3%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Euro area (12)</td>
<td>Imports of goods and services</td>
<td>3,518,062.4</td>
<td>3,987,781.4</td>
<td>-4.92%</td>
<td>469,719</td>
<td>-41.5%</td>
<td>-36.8%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Germany</td>
<td>Gross domestic product at market prices</td>
<td>2,598,378.4</td>
<td>2,782,594.7</td>
<td>7.09%</td>
<td>184,216</td>
<td>100.0%</td>
<td>100.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Germany</td>
<td>Household and NPISH final consumption expenditure</td>
<td>1,430,220.4</td>
<td>1,532,471.9</td>
<td>3.94%</td>
<td>102,252</td>
<td>55.1%</td>
<td>55.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Germany</td>
<td>Final consumption expenditure of general government</td>
<td>457,273.1</td>
<td>529,053.5</td>
<td>2.76%</td>
<td>71,780</td>
<td>19.0%</td>
<td>17.6%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Germany</td>
<td>Gross fixed capital formation</td>
<td>521,206.1</td>
<td>558,413.6</td>
<td>1.43%</td>
<td>37,208</td>
<td>20.1%</td>
<td>20.1%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Germany</td>
<td>Exports of goods and services</td>
<td>1,089,103.9</td>
<td>1,350,942.3</td>
<td>10.08%</td>
<td>261,838</td>
<td>48.5%</td>
<td>41.9%</td>
<td>24.0%</td>
</tr>
<tr>
<td>Germany</td>
<td>Imports of goods and services</td>
<td>916,499.9</td>
<td>1,153,583.5</td>
<td>-9.12%</td>
<td>237,084</td>
<td>-41.5%</td>
<td>-35.3%</td>
<td>25.9%</td>
</tr>
</tbody>
</table>
In Italy the GDP has decreased by 139 bln and the most important factor has been the decrease (-109 bln) of investment.

The positive effect of exports on GDP is balanced by the almost equal negative effect of import.

Moreover, the increase of the external trade balance determines an increase of the surplus of saving on investment (S - I = X – M) and in the long term the low investment decreases the growth of the internal production capacity.
A MODEL OF INTERNAL DEMAND LED GROWTH:

if \( m > \frac{k_1}{k_2} \)

invest in the local sector

This paper indicates that an appropriate distribution of investments between the exporting and the domestic sector can determine both an increase of GDP and an equilibrium of the balance of payment.

THE EQUATIONS

The structure of the economy may be described by the following model:

\[
\Delta Y = \Delta Y_1 + \Delta Y_2 \tag{1}
\]

\[
\Delta Y = \Delta C_1 + \Delta C_2 + \Delta G + \Delta I + \Delta X - \Delta M \tag{2}
\]

\[
\Delta C = c(\Delta Y - \Delta T) \tag{3}
\]

\[
\Delta C_1 + \Delta G = \Delta Y_2 \tag{4}
\]

\[
\Delta C_1 = \Delta C - \Delta C_2 \tag{5}
\]

\[
\Delta I = \Delta I_1 + \Delta I_2 \tag{6}
\]

\[
\Delta I_2 = s \Delta I \tag{7}
\]

\[
\Delta I_1 = (1-s) \Delta I \tag{8}
\]

\[
\Delta Y_2 = k_2 \Delta I_2 \tag{9}
\]

\[
\Delta X = k_1 \Delta I_1 \tag{10}
\]

\[
\Delta M = m \Delta C_1 \tag{11}
\]

\[
\Delta Y - (\Delta C_1 + \Delta C_2) + (\Delta T - \Delta G) - \Delta I = \Delta X - \Delta M \tag{12}
\]

\[
\text{IRR} (\Delta I) = r^* + \text{risk premium}^* \tag{13}
\]

\[
\text{IRR} = f \{\text{R&D, education, project design}\} \tag{14}
\]
**EQUATION 1: THE GDP MULTIPLIER OF INVESTMENT**

\[
\frac{\Delta Y}{\Delta I} = \frac{1 + (1-s) k_1 + m k_2 s}{(1-c + mc)}
\]

**EQUATION 2: BALANCE OF PAYMENT DEPENDS ON INVESTMENTS**

\[
\frac{\Delta X}{\Delta I} - \frac{\Delta M}{\Delta I} = k_1 (1-s) - m c \left[ 1 + (1-s) k_1 + m k_2 s \right] / (1-c + mc) + m k_2 s
\]

The sign of the derivative of both equations with respect to \( s \) (\( I_2/I_1 \)):

\[
\frac{\delta (\Delta Y/\Delta I)}{\delta s} = m k_2 - k_1 > = < 0
\]

\[
\frac{\delta (\Delta X/\Delta I - \Delta M/\Delta I)}{\delta s} = m > = < k_1/k_2
\]

**The rationale of the model**

Investments operate both on exports \((I_1)\) and on the production of the domestic sector \((I_2)\).

The paper highlights that if the production of the domestic sector \((Y_2)\) increases, then consumption \((C_2)\) of the domestic good increases, while the domestic consumption \((C_1)\) of the export good and its import \((M)\) decrease and both the GDP and the surplus of the balance of payment increase.

\[
m > k_1 / k_2 \quad (a \, new \, law)
\]

If this condition is satisfied, an increase of the share \((s)\) of investments in the domestic sector \((I_2)\) has a positive impact both on the balance of payment and on the GDP.

---

**THE POLICY RELEVANCE OF THE MODEL (1)**

The theory of Thirlwall \((\Delta X = (m c) \times \Delta Y)\) is not valid and the growth of GDP is not determined by the exports \((X)\) and the propensity to import \((m)\), while it may be increased by the investment either in the export or in the domestic sector. In particular:

- **The growth of the exports** \((X)\) **is not exogenous**, but it is determined by the national investment in the export sector \((I_1)\).
- **The growth of imports depends on the investment** in the domestic sector \((I_2)\).

The GDP growth depends on the distribution of investment decided by the companies or by the policy-makers between the two alternatives:

a) increase the investment in the export sector \((I_1)\): an export led strategy,

b) increase the investment \((I_2)\) and the production in the domestic sector \((Y_2)\) and decrease the imports \((M)\): an import substitution strategy.

It is convenient to invest in the domestic sector \((I_2)\) if \(m > k_1 / k_2\) or:

a) if the productivity of capital \((k_2)\) is high in the domestic sector and

b) if the propensity to import \((m)\) the export good is very high and

c) if the investment in the export sector \((I_1)\) has a low productivity \((k_1)\) or impact on the volume of exports.
THE POLICY RELEVANCE OF THE MODEL (2)

The model indicates **two basic instruments of industrial policy**, which may be used by the government:

a) the use of various **fiscal subsidies and coordination measures** which may affect the **sectoral distribution (s) of investment**, which goes to increase the production capacity in the domestic or in the exporting sector;

b) various programs aimed at **increasing the investment in R&D, education and project design and planning effort**, as that **immaterial investment** affects the flow of innovation and knowledge, which **increases the productivity of capital (k₁ and k₂)** or the **profitability (IRR)** of the **fixed investment** by the private firms in the various sectors.

In fact, a greater immaterial investment in R&D, education and project design and planning leads to greater innovation and a greater financial return of investment and that increases the propensity to invest by the firms.

INNOVATION AND THE CHOICE OF THE NEW SECTORS

The choice of the “smart specializations” and of the sectors where to invest

Economic growth depends on the investment choice between different sectors and on the selection of **new “smart specializations”**. These depends not only on the **international demand**, but also on the actual national production capacities and also on the internal potential demand or on the emerging needs by the citizens.

The true drivers of growth in a new industrial policy are knowledge, investments, new preferences of the users and the governance of the changes and of the relationships between actors.

In fact, the economic growth depend on a **dynamic process where both the demand and the supply drive the growth of new productions**.

Italian productions are almost all in a phase of maturity or decline in the product life cycle, where there is no need of major investments for the expansion of production capacity, but only labour saving investments.

Mature firms should have the entrepreneurship capabilities to do spin-off, acquisition of new innovative firms and **diversification into new “smart specializations”**.
The development stages (Engel law) in the consumption patterns

<table>
<thead>
<tr>
<th>Consumption items less developed in Italy with respect to Germany</th>
<th>Consumption items less developed in Italy with respect to UK</th>
<th>Consumption items with increasing share in Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual rentals for housing</td>
<td>Actual rentals for housing</td>
<td>Actual rentals for housing</td>
</tr>
<tr>
<td>Medical products, appliances and equipment</td>
<td>Alcoholic beverages, tobacco and narcotics</td>
<td>Imputed rentals for housing</td>
</tr>
<tr>
<td>Hospital services</td>
<td></td>
<td>Electricity, gas and other fuels</td>
</tr>
<tr>
<td>Purchase of vehicles</td>
<td>Purchase of vehicles</td>
<td>Hospital services</td>
</tr>
<tr>
<td>Transport services</td>
<td>Transport services</td>
<td>Transport services</td>
</tr>
<tr>
<td>Postal services</td>
<td>Audio-visual, photographic and information processing equipment</td>
<td>Postal services</td>
</tr>
<tr>
<td>Telephone and telefax services</td>
<td>Other major durables for recreation and culture</td>
<td>Recreational and cultural services</td>
</tr>
<tr>
<td>Audio-visual, photographic and information processing equipment</td>
<td>Other recreational items and equipment, gardens and pets</td>
<td>Education</td>
</tr>
<tr>
<td>Other recreational items and equipment, gardens and pets</td>
<td>Recreational and cultural services</td>
<td>Catering services</td>
</tr>
<tr>
<td>Newspapers, books and stationery</td>
<td>Newspapers, books and stationery</td>
<td>Accommodation services</td>
</tr>
<tr>
<td>Social protection</td>
<td>Education</td>
<td>Social protection</td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
<td>Insurance</td>
</tr>
<tr>
<td>Financial services n.e.c.</td>
<td></td>
<td>Financial services n.e.c.</td>
</tr>
</tbody>
</table>

Source: Eurostat, data on 2000-2013 period

- The shift of consumer demand from goods to services and the shift from individual to collective services

Figure 2 – The development of new lead markets for the diversification of the national economy
- These lead markets are linked between themselves and they are complementary in the use and also in the production. Therefore, it is important the development of horizontal and vertical integration between the various firms and sectors.

Opportunities for investment
Intense flows in the city
Large unused rail areas in the city

- High congestion determines the loss of many working hours and requires major investment in the improvement and expansion of transport infrastructures
A environmentally sustainable urban environment requires major investments in the cities and leads to the development of many new modern productions.

The sequence of many different innovation waves as indicated by the product life cycle model determines a continuous increases of labor productivity, of wages and incomes and therefore also of the internal demand.

However the development of these new sectors requires major investments and various forms of financing: public and venture capital in early stage, equity and bank credit in the development phase.

Corporation have to decide whether rationalize existing productions and to disinvest or to create spin-off and reconvert to new productions, which require more investments.

Innovation drives profitable investment but also innovation requires investments.
A NEW ECONOMIC POLICY FOR EUROPE AND ALSO FOR THE REGIONS

A new industrial and regional policy is needed. In this phase of evolution toward a new model of industry, the lack of industrial and regional policies is the factor which explains the persistence of the economic stagnation in Europe. Monetary and fiscal expansionary policies are not sufficient.

From the aid to individual firms and crisis sectors to the relaunch of investment and the enhancement of a “smart” diversification of the national and regional production system.

From the support of the supply side through new technologies and labour competencies to the response to the new needs of the consumers/citizens and to the creation of new “lead markets”, which may represent new development opportunities.

Investments should be pulled by the six “lead markets”: 1) housing, 2) mobility, 3) health and education, 4) leisure and culture, 5) energy and environment, 6) new advanced manufacturing.

From the international demand to the internal demand. Rather than aiming to develop new productions, which may not find a corresponding demand in the international markets, the new productions should first be developed in those sectors where there is already a large local latent demand.

Traditional regional development policies have focused on spending public funds (Keynesian approach) and on promoting unprofitable investments by private firms. New industrial policies should focus on innovation as the key factor an enhancing productive investment.

The new industrial policies require a good governance of the relationships based on collaborative approach, thrust relationships and strategic alliances, between the various actors, which may have complementary competencies, such as the firms and also many other external actors. These actors may have a crucial role in a joint action and in the various phases of the design, construction and management of investment and may affect both the supply and the demand of the new productions.

The geographical proximity or technological relatedness of the new productions allow to exploit the external economies or the opportunities for better integration with other firms in the supply chain or in the local production system and with the local consumer/citizens. That will increase the economic return and the market values of the firms and facilitate the turnaround of firms in crisis. Cities should be the strategic poles of innovation and investment.

There is the need of a new type of collective entrepreneur, different from the traditional individual entrepreneur in the industrial smes and also from the manager of the large multinational companies. He may be represented by a “special purpose vehicle” or an organizations capable to work on large and medium-long term projects having a collective character and to combine the creation of new knowledge and innovation with the fundraising in the international capital markets.

These new organizations could be the European Bank of Investment, the various National Banks of development (KFW and the Caisse des Depots), which should receive credit at negative rates from the ECB as the commercial banks, task-forces and interdisciplinary think tanks, competence centres, regional development corporations, special financial funds investing in the bonds and equity of SMEs and Public Utilities.

In conclusion, the new industrial and regional policy should be capable to respond to the following key questions:

• What: to promote systemic innovation, investment, greater productivity of the economy and the recovery of the internal aggregate demand. Monetary and fiscal policies are not sufficient.

• How: good governance of the innovation networks between the firms and allow the active participation of trade unions, associations of citizens, research centres. Less public finance and more private capital and partnerships between the industrial firms and the banks and the other financial intermediaries.

• Where: focusing the investments in the urban areas which represent the geographic, economic and cultural hubs of the european economy;

• When: adopting a medium-long term strategic perspective and an evolutive or experimental approach, promoting the sequence of tecnological and production waves and focusing the attention on the various phase of project design, project construction and management of the final services.

• Who: identify the new actors, such as “special purpose vehicles”, who can play an collective entrepreneurial role, different from large industrial corporation and from state organizations and capable to combine the link to the new knowledge with the access to modern investment banking.
THANK YOU FOR YOUR ATTENTION

Paper available on: https://uniroma2.academia.edu/RiccardoCappellin

Contributions of the Discussion Group “Growth, Investment and Territory”


Contributi di: Leonardo Bocchetti, Marco Bellandi, Patrizia Banchi, Andrea Bolino, Roberto Camagni, Roberto Capello, Riccardo Cappellin, Stefano Causi Benvenuti, Enrico Ciceri, Romeo Danieli, Alfredo Del Monaca, Sergio De Stefani, Marco Frey, Sandrine Labory, Enrico Marelli, Marco Mutinelli, Alessandro Perretti, Francesco Prato, Eros Rullani, Alessandro Sterlacchini, Gianfranco Venti.

Cappellin, R., Baravelli, M. Bellandi, M., Camagni, R., Ciccori, E. E. Marelli, E. (2015), Investimenti, innovazione e cittadinanza: una nuova politica industriale per la crescita, Milano: Egea
