

**The Italian Economic Decline in a Kaldorian Theoretical
Perspective**

Guglielmo Forges Davanzati, Rosario Patalano and Guido Traficante

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The Italian Economic Decline in a Kaldorian Theoretical Perspective

Abstract: This paper analyses the Italian economic decline in a Kaldorian theoretical framework. On the theoretical ground we propose an interpretation of the Italian economic decline based on the continuous decline of domestic demand and the constant reduction of the rate of growth of labour productivity. This interpretation is consistent with the concept of decline, which involves a long-run perspective. We also consider the role of the banking sector as a factor driving aggregate demand and, in turn, labour productivity. We estimate a VAR for the period 2002-2015 to analyse jointly the evolution of public consumption, real GDP, private investments, credit supply, labour compensation and productivity. Our main empirical finding is that aggregate demand and credit supply significantly affect the path of labour productivity, consistently with Kaldor's second law.

Keywords: Kaldor, Italy, aggregate demand, labour productivity

JEL classifications: B52; E6; E12

Guglielmo Forges Davanzati
University of Salento
guglielmo.forges@unisalento.it

Rosario Patalano
University of Naples Federico II
rpatalan@unina.it

Guido Traficante
European University of Rome
guido.traficante@unier.it

1 - Introduction

The reduction of labour productivity, coupled with high unemployment, has been considered one of the most important variables driving low growth and the massive increase of unemployment in Europe in the last Great Recession. Italy is one of the countries that has been suffering more from that vicious circle. The dominant view is that the Italian crisis ultimately depends on its high public debt. The argument is that high public debt has to be repaid via taxation, and that (current or expected) taxation reduces consumption and therefore domestic demand. Moreover, it is stressed that high public debt depends on high public expenditure and that this ‘crowds out’ private investment, with negative effects on economic growth (see Giavazzi and Pagano, 1990, 1996; Alesina and Perotti, 1995, 1997; Alesina and Ardagna, 1998, 2010). Consequently, the suggested policy prescriptions consist of the reduction of public spending – insofar as this strategy is supposed to stimulate both private consumption and investment – and the implementation of “structural reforms”, mainly via labour market deregulation.

This paper aims at providing a different interpretation of the Italian economic decline, based on a Kaldorian theoretical framework. In particular, it will be argued that the constant decline of domestic aggregate demand and labour productivity, which started in the 1990s, can be interpreted as a vicious circle of cumulative causation involving perverse interactions between aggregate demand and aggregate supply. We provide evidence of a decline of aggregate demand spilling over into labour productivity. This interpretation will be encapsulated in the more general context of the concept of decline, which, as will be shown, involves a long-run perspective.

The Kaldorian framework that we propose is enriched by the presence of credit supply. There are two main reasons that spur us to use an augmented version of Kaldor's second Law. First, as known, Kaldor supported an endogenous money view and, although he did not explicitly address this topic in formulating this Law, it seems legitimate to consider the role of the banking sector in affecting the path of labour productivity, thus unifying two fundamental aspects of Kaldor's work. Second, the augmented second Kaldor Law appears very useful for interpreting the Italian economic decline, insofar as the Italian economy is populated by small firms with low internal funds, dependent on the banking sector for financing their investment. The joint contribution of credit supply, labour productivity, consumption and investment is assessed empirically using the vector autoregression (VAR) methodology. The analysis covers the period starting from the euro changeover, while, in the specification including credit supply, the estimation starts from 2003, in order to use the bank lending survey, which started to be released in that year.

Our empirical analysis shows that higher output, investment and/or consumption increase labour productivity. In a richer model with credit supply, we confirm the latter evidence and

we highlight the role played by credit supply in the transmission of shocks from demand to labour productivity. We do not claim to have established a clear-cut one-dimensional direction of causality since the VAR evidence confirms that the transmission channel also works from labour productivity to demand. Our results show that a Kaldor interpretation of the relationship between aggregate demand and labour productivity is equally plausible.

The exposition is organized as follows. Section 2 provides a reconstruction of the Italian economic decline in a long-run perspective. Section 3 focuses on what is called Kaldor's Second Law, providing a revision of its standard formulation. Section 4 provides evidence and section 5 concludes.

2 – At the origins of the Italian economic decline: the 1990s

For the last two decades the performance of the Italian economy has been viewed with pessimism: low growth, insufficient investment and demand, inadequate technical training, and inept management have been familiar parts of the debate for this whole period. These perceived problems have been viewed as a symptom of the decline of the Italian economy¹. Economic decline is a concept of the long term and for this reason, it is possible to identify only a current tendency towards economic decline, by comparing the contemporary Italian experience of the last two decades with previous historical events occurring in the second half of the 17th century.

According to Carlo Maria Cipolla, the first Italian economic decline was characterized by the following factors (Cipolla, 1993: 191-192, see also Olson, 1982):

- a. drastic decline in exports;
- b. prolonged process of disinvestment in manufacturing;
- c. obsolete method of production and organization;
- d. high pressure of taxation;
- e. low labour productivity;
- f. preponderance of *rent seeking*.

The effects of all these factors caused the contraction of economic activity and production and the fall of average real living standards for the population.

Many of these factors and effects are present in the current Italian economic stagnation. Evidence shows that among advanced economies, Italy is undoubtedly one of the worst performers in the last two decades. Since the beginning of the 1990s, the performance of the Italian economy has been viewed with pessimism: low growth, insufficient investment and

¹ A (partial) list of this debate includes Ciocca (2003); Boeri et al. (2005), Daveri and Jona-Lasinio (2005), De Cecco (2012); Saltari and Travaglini (2006), D'Ippoliti and Roncaglia (2011).

demand, inadequate technical training, and inept management have been familiar parts of the debate for this whole period (Toniolo, 2013).

In the three decades from 1961 to 1990, Italian economic growth outperformed the three largest world economies. However, since the early 1990s, the performance has changed drastically: the real GDP per capita growth slowed down initially, and then started decreasing.

The key factor in Italian stagnation is the poor performance of labour productivity in the last two decades. The high level of productivity between 1970 and 1980 is imputed to the predominance of big firms operating in the manufacturing sector (as shown by Fuà, 1976, Fuà, 1977, Graziani, 2000 and, more recently, Lucidi and Kleinknecht, 2010). In recent decades, the average firm size has further declined: in 2008 the average number of workers in Italian firms was half the average of the five leading EU countries (Toniolo, 2013). This downsizing of large firms has caused a reduction of investment in research, making the Italian industrial structure vulnerable in terms of technological innovations (Toniolo, 2013).

Following Graziani (2000), the implementation of restrictive fiscal policies at the beginning of the 1990s has exacerbated the structural crisis of the Italian economy. Two factors motivated this choice: 1) the attempt to reduce the high public debt/GDP ratio in order to respect the Maastricht treaty, 2) the idea that public spending was almost entirely wasteful.² As will be shown in the next section, the reduction of public spending combined with increased taxation (especially on low-income households) generated a decline of aggregate demand, due to the standard Keynesian mechanism, but also a drop of the labour productivity growth, due to the operation of Kaldor's Second Law.

3 – Kaldor's Second Law and the Italian economic decline

This section is devoted to rationalizing the idea that the Italian economic decline basically depends on the interaction between fall of aggregate demand followed by reduction of aggregate supply and rate of growth of labour productivity. We will use (and test in the next section) a revised version of Kaldor's Second Law.

It is well known that Kaldor refers to the positive relation between output growth and labour productivity in the manufacturing industry, with causality running from the former to the latter, due to the increase in firm size, the increase in worker specialization and the presence

² Graziani also refers to two fundamental political facts: the judicial investigation into corruption in the Italian political class (known as Tangentopoli) and the implementation of severely restrictive fiscal policies. The crisis of legitimation of the political parties led to two “technical” Governments, with Prime Ministers Giuliano Amato (1992-1993) and Carlo Azeglio Ciampi (1993-1994).

of increasing returns to scale.³ In other words, he develops his theory of economic growth based on the ‘accelerator’ effect. Kaldor named this effect “the Verdoon Law”, in his Cambridge Inaugural Lecture in 1966. It is also known as the Kaldor-Verdoon Law or Kaldor’s Second Growth Law:

“... the growth of real incomes was not determined by the growth of ‘factor supplies’ because, on account of increasing returns, higher rates of production growth were invariably associated with higher rates of growth of productivity” (Kaldor, 1989, p.87).

And:

“the growth of productivity will be greater the more technological change is ‘activated’ through new investment” (Kaldor, 1989, p.28).

The last quote represents what the author calls the “technical production function”. The revised version of Kaldor’s Second Law proposed here (and tested in the next section) is based on the role of the credit channel in affecting the relationship between aggregate demand and labour productivity. The argument is the following: a reduction in credit supply limits the possibility of investing for firms, which that will react by cutting labour demand. As a result, with more unemployed people, aggregate consumption will be lower, for a given wage. If we also consider the relationship between the wage rate and the unemployment rate, lower labour demand by firms will decrease wages and concur to reduce consumption further. Similarly, a credit reduction to the private sector will act as a negative demand shock. Therefore, lower credit supply will determine lower investment and consumption, reinforcing the usual transmission channel relating aggregate demand and labour productivity.

This effect is particularly severe in Italy, whose production system is mainly populated by small firms, which operate in ‘mature’ productive sectors⁴ and are more dependent on bank credit than big companies.

Evidence shows that, starting from the 1990s, Italy has been experiencing a constant decline of aggregate demand and a continuous drop in labour productivity. The restrictive fiscal policies implemented to reduce public debt reduce aggregate demand. With respect to labour productivity, OECD (2015) reports that the growth rate of labour productivity in Italy in the period 2001-2010 is about 0%, while, on average, EU27 countries experienced a growth rate of about 2% in the same period.

³ In this respect, Kaldor criticizes the Neoclassical view that as output increases this implies an increase of the *number* of firms. As markets are not perfectly competitive, the *existing firms* react to the increased output by increasing their size in order to increase their market shares. Kaldor also criticizes Marx’s view that it is competition which stimulates innovations, arguing that, as a norm, they are produced in oligopolistic market structures.

⁴ As an example of mature productive sectors, ISTAT (2014, 2015) mentions agribusiness and luxury.

Relying on the presumed idea that “small is beautiful”, during the 1980s, Italy did not implement industrial policies, reducing public spending with the aim of reducing public debt and systematic deficits in the balance of trade.

The outcome of these decisions has been twofold, and counterproductive for economic growth. First of all, cutting public spending (and raising tax) has not been a successful strategy in reducing the ratio of public debt/GDP, which has kept growing. Secondly, the drop in internal demand has reduced firms’ profits, leading to further shrinkage in their average size and to a drop of investment. This, in turn, has been followed by increased unemployment – especially among the young and the highly educated individuals⁵ – reduction of profit margins and/or bankruptcies, lower investments and consequently a lower rate of growth in labour productivity. Moreover, the decline of aggregate demand reduced firms’ solvency and, as a result, rendered it less convenient for the banking sector to accommodate firms’ demand for credit (Forges Davanzati, 2016).

Importantly, policies of labour market deregulation, introduced by what is called Treu’s Law in 1997 (and subsequently by Biagi’s Law in 2003), contributed to accelerate this dynamics, negatively affecting wages and private consumption. OECD (2015) reports that, in Italy, the Employment protection legislation index fell from 3.57 at the beginning of the mid-1990s to about 1.5 in 2014 and that the labour share significantly declined in that period.

More specifically, labour market deregulation reduces workers’ bargaining power and, as a consequence, wages and consumption. This effect is reinforced by the fact that workers’ propensity to consume is likely to depend on the degree of labour market deregulation. The rationale for this is based on the assumption that *i*) workers aim at maintaining their consumption constant over time; *ii*) flexible labour contracts are expected to increase workers’ effort (the so-called discipline effect); *iii*) flexible labour contracts increase workers’ uncertainty.⁶ As a result, two conflicting effects are present. On the microeconomic level, firms find it profitable to hire with flexible labour contracts, insofar as, due to the ‘discipline effect’, they expect that workers will increase their effort, with the consequent increase in labour productivity and profits. By contrast, from the macroeconomic point of view, flexible labour contracts, insofar as they increase workers’ uncertainty, push workers to increase their precautionary savings. Labour market deregulation allows firms to compete via wage cutting and, thus, discourages innovation. To that extent, the drop of consumption and innovation contribute to the reduction of both aggregate demand and the growth of labour productivity.

⁵ Cingano et al. (2010) find that Italian firms react to the decrease of demand by limiting firing and not hiring. This may depend on two phenomena: first, labour hoarding, normally in the cases of innovative firms; second, disguised unemployment for firms (extremely numerous in Italy, and particularly in Southern Italy) which employ relatives, involving a psychological cost of firing.

⁶ As Stockhammer and Ramskogler (2007) point out, *i*) in a capitalist economy, uncertainty is not evenly distributed among social classes and *ii*) workers, in particular, suffer from higher levels of uncertainty, due to job insecurity.

Accordingly, the so-called Italian economic decline can be imputed to the constant reduction of aggregate demand and the consequent reduction of labour productivity, amplified by credit restriction. In the next section we will evaluate these issues on the empirical ground.

4 – Estimation strategy and main results

In this section we assess the relationship between aggregate demand and labour productivity. Among the components of aggregate demand, we investigate the way private investment and consumption contribute to labour productivity. Moreover, we will also evaluate the transmission mechanism from the credit channel to investment and labour productivity.

The main issue in analysing the Kaldor's law lies in the assumption of the GDP exogeneity and consequently in its effects on labour productivity. The idea is that higher GDP determines an increase of labour productivity. The methodology followed by post-Keynesian economists – such as Millemaci and Ofria (2014) – consists of reduced-form regressions where GDP is exogenous to labour productivity.⁷ This assumption is very strong, because it is difficult to rule out the transmission mechanism going in the other direction: while economic growth determines higher labour productivity, it is equally likely that higher labour productivity spurs economic growth. In order to overcome the endogeneity issue, we apply a reduced-form VAR model, which is appropriate for an analysis of the relationships between labour productivity and demand components without making a priori assumptions on their structure. We use quarterly data for the period going from the first quarter of 2002 to the third quarter of 2015. We take out the trend to variables using the Hodrick-Prescott filter. Moreover, we find that the Cholesky ordering does not affect the transmission of the shocks in the economy.⁸

Therefore, our VAR specification will be structured in the following way:

$$X_t = c + \sum_{k=1}^{t-1} b_k X_{t-k} + e_t$$

where X_t is a vector of endogenous variables, b is a squared matrix of slope coefficients that are to be estimated for each lag distance k , and ε is a vector of disturbances.

⁷ Coad et al. (2011) estimate a reduced-form VAR to analyse the joint evolution of employment growth, sales growth, growth of profits and labour productivity growth of Italian manufacturing firms for the period 1989-1997, finding evidence of Kaldor-Verdoorn effects.

⁸ Details about the Cholesky ordering are available on request.

The first VAR that we analyse is a two-variable VAR with labour productivity and real GDP. As for the lag length, standard analysis and tests suggest the use of two lags⁹. Figure 1 shows the effects of an unexpected increase in each of the endogenous variables on the others. Each column presents the dynamics after each shock: the first column considers the effect of a shock in labour productivity, while the second column presents the results of an unexpected increase in output. The graph shows that the transmission mechanism goes in both directions, with an increase in output inducing higher productivity and vice versa.. Since the dynamic transmission of shocks is independent of the Cholesky ordering, it is necessary to use a structural model to be more explicit about the causality.¹⁰ Both shocks appear to be significant for about six quarters. Labour productivity jumps significantly and exhibits the same hump-shaped reaction of real output, consistently with Verdoorn's specification that labour productivity is increasing in output. While the previous relationship is usually considered to hold in the long run, here we find that it holds in a shorter time period. We interpret this result in favour of a cyclical response of labour productivity to output: policies that stimulate output will also spur labour productivity and, in turn, economic growth, creating a virtuous circle. On the other hand, a shock to labour productivity determines a significant increase in real output, with a smaller reaction than what is observed when labour productivity responds to an increase in output.

⁹ Also for the following VAR estimations two lags is the lag length that emerged from standard tests.

¹⁰ The graphs with the other Cholesky ordering are available upon request. All the following impulse responses are not dependent on how we order the variables.

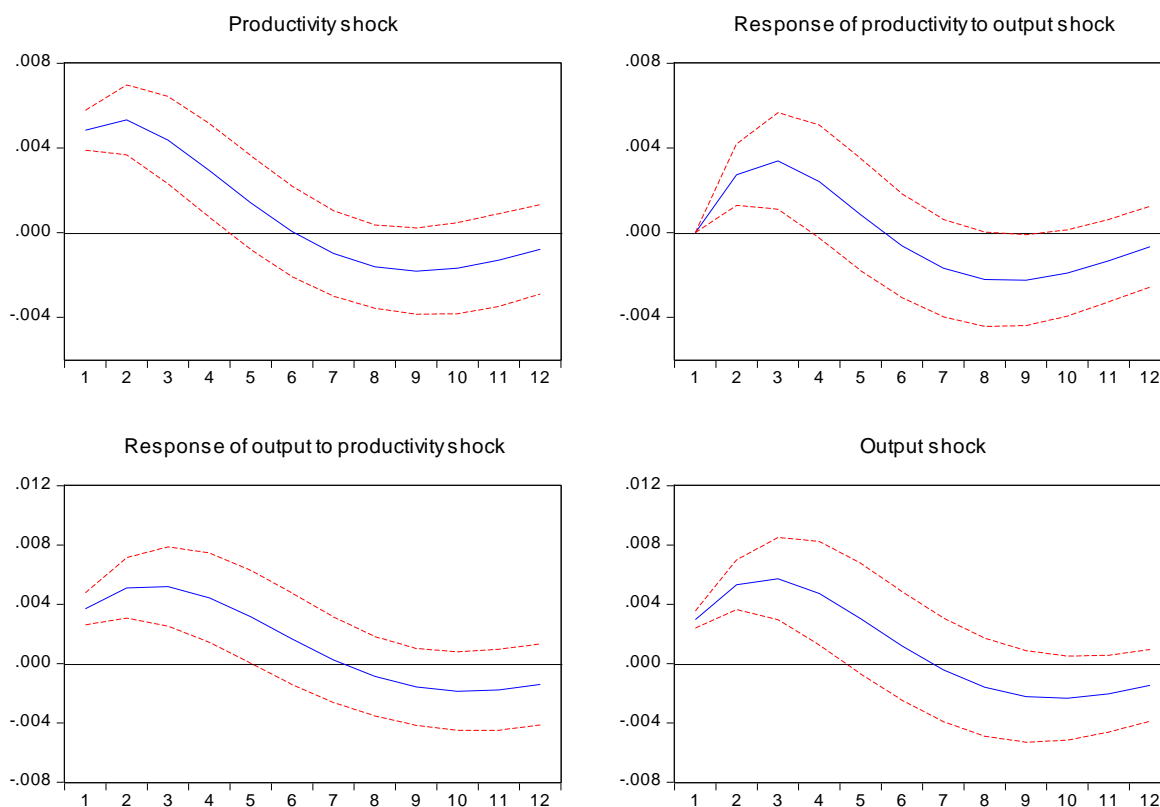


Figure 1: Impulse response functions in a VAR with real GDP and labour productivity.

As argued in the previous section, two demand components are crucial in explaining labour productivity: investment and consumption. Figure 2 and 3 present the impulse response functions for a VAR with labour productivity and private investment and labour productivity and private consumption as endogenous variables respectively. These graphs confirm that the transmission of the shocks work in both directions. After a positive shock in private investment, labour productivity jumps significantly for five quarters, while a shock to labour productivity determines a significant increase in investment for about three quarters. As to the results for a VAR including consumption and productivity, figure 3 shows that labour productivity responds significantly and in the expected direction: an increase in private consumption – typically driven by higher wages – spurs labour productivity. More specifically, labour productivity keeps growing even after the consumption shock has lost its statistical significance, showing that the transmission to productivity is persistent. On the other hand, we find that consumption rises only for one quarter after a productivity shock before following a flat path that is not statistically significant. This graph explicitly shows how the Kaldorian transmission mechanism should at least be taken into account in explaining the relationship between demand and labour productivity.

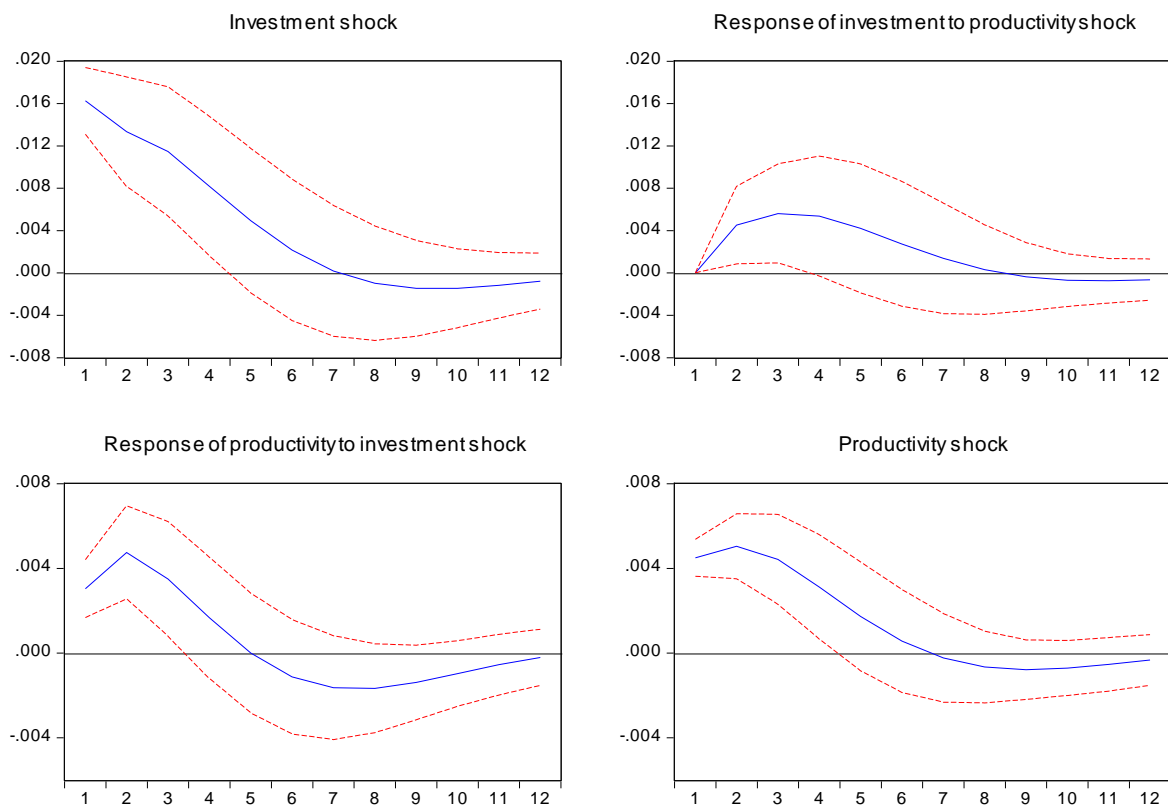


Figure 2: Impulse response functions in a VAR with private investment and labour productivity.

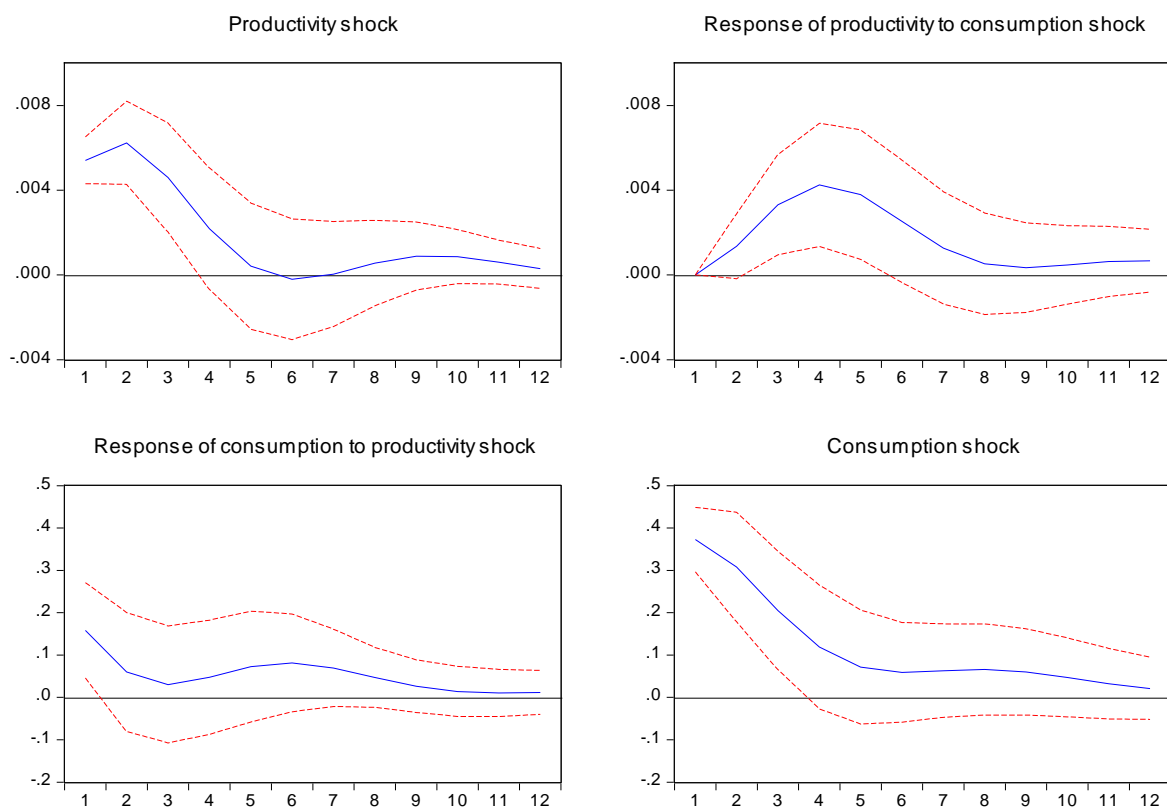


Figure 3: Impulse response functions in a VAR with private consumption and labour productivity.

The previous analysis confirms that a VAR analysis, without imposing any structural relationships, is unlikely to discard the shock transmission in both directions, from demand to productivity and vice versa. In the rest of our empirical analysis, we try to find evidence of Kaldor's second law in the Italian economy considering a richer model, where credit and wages play a significant role. As explained in section 3, we interpret Kaldor's second law in terms of wages and bank credit: higher wages bolster private consumption, while an increase in credit supply determines an increase in firms' investments. Both effects concur to raise labour productivity. We use the bank lending survey (BLS) as a proxy for the credit supply in Italy. This survey was launched in 2003 for the euro area with the objective of enhancing the Eurosystem's knowledge of financing conditions in the euro area. The survey is designed to collect information on supply and demand conditions in the euro area credit markets and on the lending policies of euro area banks. This analysis is conducted by interviewing senior loan officers of a representative sample of euro area banks four times a year. The sample group participating in the survey comprises around 140 banks from all euro area countries and takes into account the characteristics of their respective national banking structures. We will consider the first question of the questionnaire, which asks, in net percentage over the past three months, if the banks have tightened or eased the conditions at which they

approve loans and credit lines to enterprises.¹¹ The net percentage is given by the difference between the percentage of answers indicating the variation with a particular sign – such as “strengthening” of conditions – and the percentage of the answers with opposite sign such as “easing” of conditions. The index varies in the [-100, 100] interval. The answer to this question can be “tightened considerably”, “tightened somewhat”, “remain basically unchanged”, “eased somewhat” and “eased considerably” and it is possible to distinguish along the firm size and loan duration.¹²

We perform a VAR analysis in credit supply, wages, private consumption and labour productivity. Also in this case the VAR model allows us to treat the variables involved in the most suitable way without making any assumption about the transmission of shocks. For example, while Kaldor's law postulates that higher wages (via high consumption and aggregate demand) determine higher labour productivity, it can be also the case that when labour productivity is higher, firms innovate more, generate revenues and are willing to pay higher wages. Similarly, high wages stimulate aggregate demand, investments and bank loans, but another plausible transmission channel goes through the banks' selection of more productive and innovative firms. Moreover, variations of credit supply affect the path of consumption both directly, via private indebtedness, and indirectly, via its effect on investment, employment and wages.

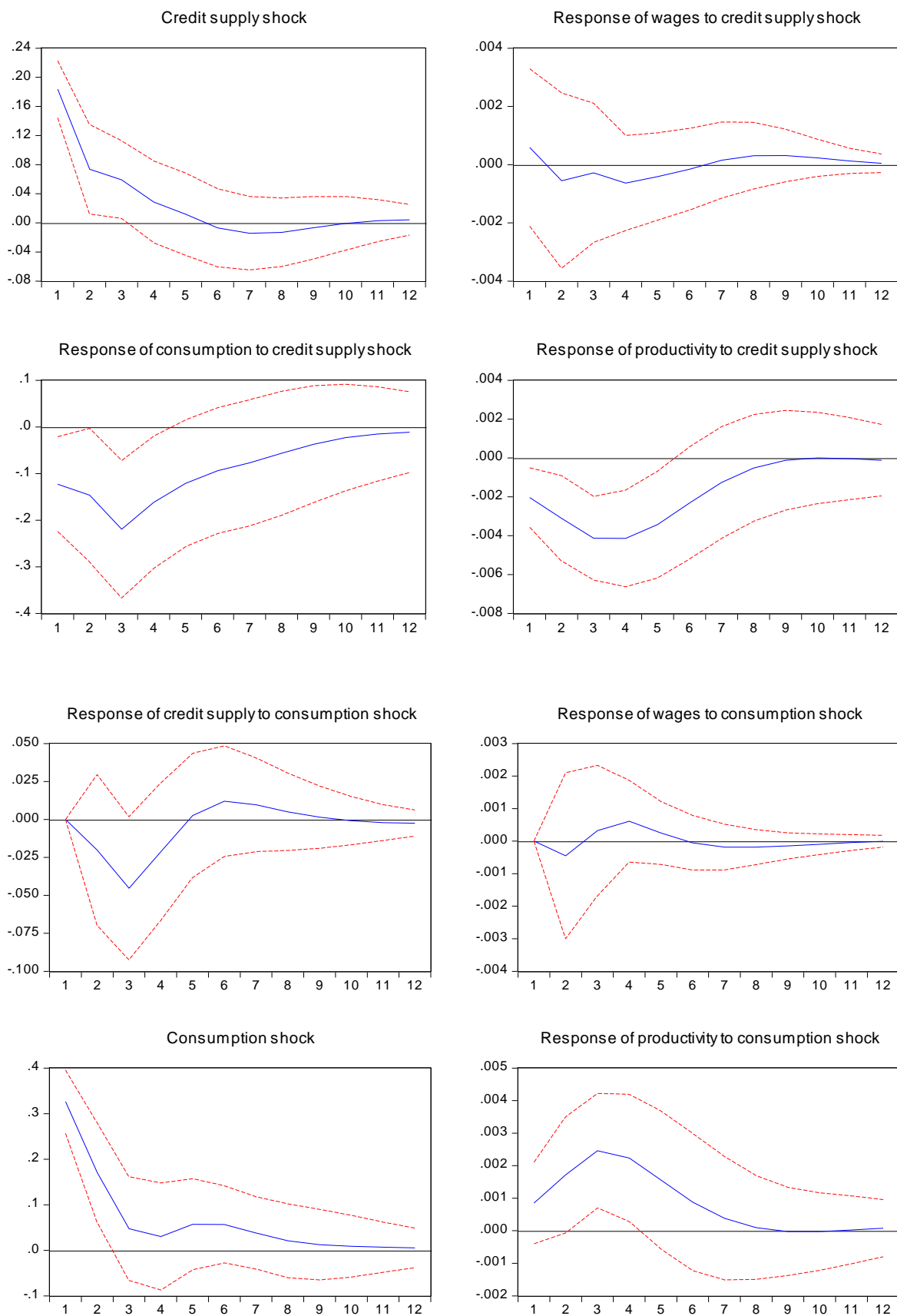
We have presented the results from the impulse response analysis in figure 4. In the first panel we show that when banks tighten the conditions at which they approve credit lines (our proxy for lower credit supply), labour productivity declines significantly and persistently (about 7 quarters). This can be interpreted using Kaldor's second law: when banks reduce loans, there is a negative effect on private investment, consumption and, in turn, a reduction in labour productivity. The second panel shows the effects of a consumption shock, with a significant effect on labour productivity, as already highlighted in figure 3. In the third panel we present the effects of an unanticipated shock in wages. This shock appears transitory, since wages go back to their steady-state level in two quarters. Labour productivity increases significantly for about the same number of quarters during which the shock is well above its steady state value in a statistically significant way. Consumption does not react significantly, probably reflecting the very temporary increase in wages, while credit supply to firms does not respond significantly. Finally, the fourth panel presents the effects of a positive productivity shock. We show that wages rise significantly for two quarters, so that the positive relationship between productivity and wages works also in the transmission from the

¹¹ The exact question is “Over the past three months, how have your bank’s credit standards as applied to the approval of loans or credit lines to enterprises changed? Please note that we are asking about the change in credit standards, rather than about their level.” Notice that there is also a similar question related to the future three months. These data are not HP filtered.

¹² Since the fraction of small and medium enterprises in Italy is high, we consider the overall path of this variable.

former to the latter. Credit supply decreases, even if this result is statistically significant between the third and fifth quarters after the productivity shock hits the economy.

Finally, the evidence just presented holds similarly in a VAR with private sector investment instead of wages. As documented in figure 5, which shows the impulse responses of this VAR, we find that investments diminish after a restriction in credit supply, as expected. Hence, the reduction in consumption can be fuelled directly or indirectly, through lower investment and hired workers.



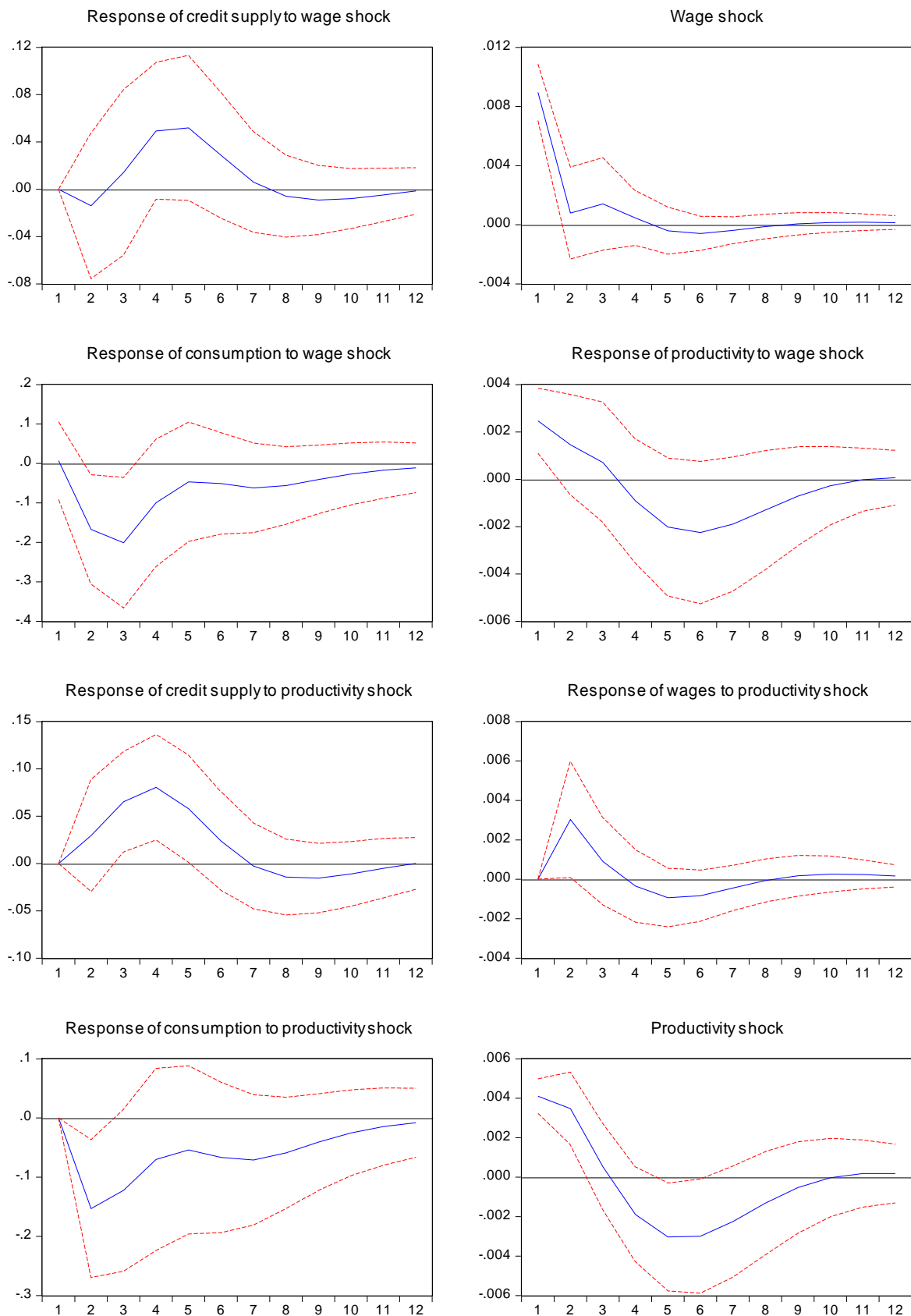


Figure 4: Impulse response functions in a VAR with credit standards, wages, private consumption and labour productivity.

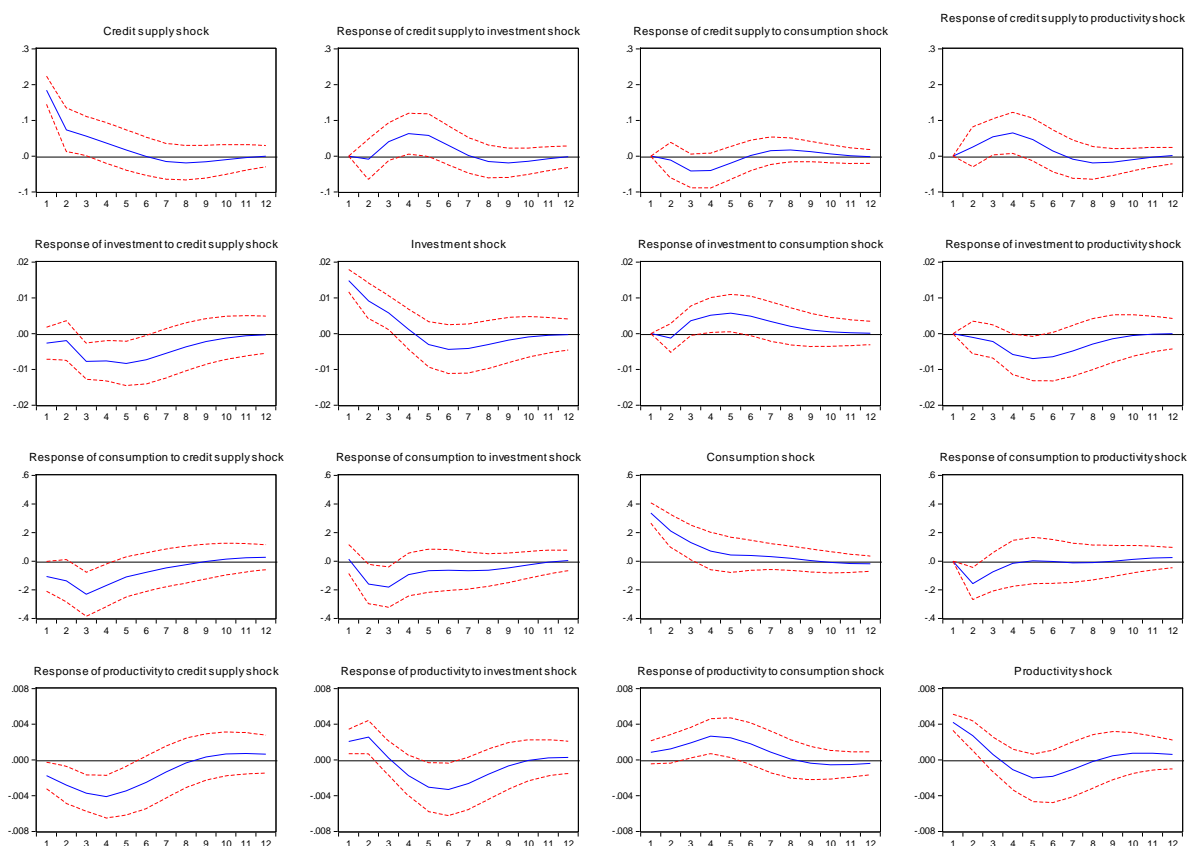


Figure 5: Impulse response functions in a VAR with credit standards, investment, private consumption and labour productivity.

Concluding remarks

This paper deals with the Italian economic decline in a Kaldorian theoretical framework. On the theoretical ground, the interpretation of the Italian economic decline proposed is based on the continuous decline of domestic demand and the constant reduction of labour productivity, starting from the beginning of the 1990s. These stylized facts have been interpreted using a Kaldorian framework, with private consumption and investment moving in lockstep with labour productivity. Using an unrestricted reduced-form VAR, we provide evidence that labour productivity grows after an increase in investments and private consumption. We also add credit supply to our analysis, showing that it plays a crucial role in affecting aggregate demand and, in turn, labour productivity. Specifically, we document that when banks tighten the conditions at which they lend, firms will decrease investments and households will reduce their consumption path. Both effects concur to a reduction to labour productivity.

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