



# Explaining Italy's economic growth: A balance-of-payments approach with internal and external imbalances and non-neutral relative prices



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## ARTICLE INFO

### Article history:

Accepted 15 April 2014

Available online 14 May 2014

### JEL classification:

C32

E12

H6

O4

### Keywords:

Internal and external imbalances  
Price and income elasticities of external trade  
Equilibrium growth rates  
3SLS system regressions  
Supply constraints

## ABSTRACT

Thirlwall's Law (Thirlwall, 1979) considers that growth can be constrained by the balance-of-payments when the current account is in permanent deficit. The law focuses on external imbalances as impediments to growth and does not consider the case where internal imbalances emerging from budget deficits or public debt can also constrain growth. The recent European public debt crisis of peripheral countries (including Italy) shows that when internal imbalances are out of control they can constrain growth and domestic demand in a severe way. Recently, Soukiazis et al. (2013) developed a model – henceforth the SCA model – that takes into account both internal and external imbalances and where relative prices are not neutral in the pace of economic growth. The SCA model proved to be accurate in explaining economic growth in Portugal. The aim of the present paper is to apply the SCA model to Italy and check its precision for explaining the growth path in this country. Italy is an interesting case study of a larger economy with a lack of growth in the last decade facing serious internal imbalances caused by high deficit and public debt. Our empirical analysis shows that Italy grew at a slower rate than its potential capacity due to supply constraints. Policies designed at increasing external competitiveness and lowering the costs of financing the economy are shown to be effective strategies to achieve higher growth.

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## 1. Introduction

Thirlwall (1981) developed a simple model that determines an economy's long-run growth rate consistent with the balance-of-payments equilibrium, by establishing the simple rule that actual growth can be predicted by the ratio of exports growth to the income elasticity of demand for imports.<sup>1</sup> According to Thirlwall's Law, no country can grow faster than its balance-of-payments equilibrium growth rate. The exception occurs when a country can continuously finance external deficits through capital inflows; however this is not a sustainable solution in the long-run perspective. Therefore, when the balance-of-payments disequilibrium on the current account cannot be permanently financed by available foreign resources, it works out as a serious obstacle to promote higher growth. As a consequence, growth

is constrained by external demand and it is income and not relative prices that adjust to bring the economy back to equilibrium.

There is a vast literature on checking the validity of Thirlwall's Law and criticisms about its basic assumptions, namely those related to constant relative prices in the long-run and an initially balanced current account. McCombie (1989), Moreno-Brid (1989–99), McCombie and Thirlwall (1994) and recently Blecker (2009) are valuable contributions on the discussion and basic implications of the law.

Although the hypothesis of relative prices constancy has been criticized widely in the empirical literature,<sup>2</sup> in most studies relative prices are shown to be statistically insignificant and even when they are significant the price elasticities are very low when compared to the income elasticities, thus indicating that imports and exports are less sensitive to price than to income changes. Moreover, Blecker (2009) stressed that in longer time periods it is more likely that relative prices remain constant.

The empirical evidence largely supports the idea that it is income that adjusts to equilibrate external imbalances, meaning that growth is actually constrained by the balance-of-payments. In addition, increasing capital inflows relax the balance-of-payments constraint only temporarily; in fact, they do not permit a country to grow at the export-led cumulative growth rate in the long-term.

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<sup>1</sup> Thirlwall's Law is given by  $y = \frac{\epsilon}{\pi}$  or alternatively by  $y = \frac{\epsilon y^*}{\pi}$ , where  $y$  is the growth of domestic income,  $\dot{x}$  is the growth of real exports,  $\pi$  is the income elasticity of the demand for imports,  $\epsilon$  the income elasticity of the demand for exports, and  $y^*$  the growth of foreign income. The underlying hypotheses are that relative prices are constant and the balance-of-payments on the current account is in equilibrium or has a constant imbalance in absolute term (it should be noticed, however, that owing to economic growth, the ratio of any constant imbalance to GDP will vanish in the long-run). For an application of this Law to Portugal see Soukiazis and Antunes (2012).

<sup>2</sup> See, at this respect, McGregor and Swales (1985, 1991), Alonso and Garcimartín (1998–99) and López and Cruz (2000).

Although Thirlwall's model has been extended to include capital flows and foreign debt, the role of public imbalances as an additional constraint on growth has not been accounted for. The recent experience of public debt crises in some peripheral European countries (including Italy) is the motivation to deal with this issue. In fact, the use of an expansionary fiscal policy to expand growth and reduce unemployment does not always achieve the desirable goals. When budget deficits are financed by monetary expansion or by public borrowing, the adoption of such an expansionary policy could contribute to increase public debt and interest rates, thus crowding out private investment, raising inflation and jeopardizing medium-term growth (Pelagidis and Desli, 2004).

The discussion about the attractiveness of budget deficits is not plain and depends on how government borrowing is being used (i.e., to finance government consumption or investment in infrastructure), the sustainability of such a deficit and how it is financed. Moreover, the hesitation of many policy makers – especially in Europe – to rely more aggressively on fiscal policy contraction to keep their public finances relatively balanced may lead to the maintenance of a vicious cycle between slow growth and high public deficit.<sup>3</sup> Less economic growth associated with higher unemployment levels result in lower tax revenues and higher social benefits paid by the government, which in turn aggravate the public deficit. Indeed this is the situation we are recently assisting in two peripheral countries, Greece and Portugal, as a result of the implementation of the austerity measures under the supervision of the so-called “troika”.

Our paper aims at contributing to this debate by using an alternative growth model, in line with Thirlwall's Law, that takes into account not only external, but also internal imbalances caused by budget deficits and public debt. We also assume that relative prices can play a significant role on economic growth. Our model shows that the growth of domestic income is explained essentially by trade competitiveness and external demand. Fiscal tightening rules and higher costs of financing the economy can affect economic growth negatively. The theoretical model is tested for the Italian economy, which has been recently facing difficulties with financing its public debt. The country was forced to adopt austerity measures, which are expected to have negative repercussions on growth in the following years.

Following the previous considerations, and in order to fulfill the proposed goals, the paper is organized as follows: in Section 2 we present the theoretical growth model that takes into account internal and external imbalances and assumes that relative prices are not neutral. In Section 3 we apply the model to the Italian economy in order to assess the main determinants of growth. A scenario analysis is presented in Section 4 focusing on the variables that could foster growth. The last section summarizes the main findings.

**2. The extended growth model with internal and external imbalances and non-neutral relative prices**

The growth model recently developed by Soukiazis et al. (2013) determines the reduced form of income growth which, among other things, depends on internal and external imbalances and where relative prices play a non-neutral role. This approach, although in line with the balance-of-payments constrained growth hypothesis, displays three particular differences: (i) it considers not only external imbalances (captured through current account deficits) but also internal imbalances emerging from public deficit and debt; (ii) it separates the import contents of the components of

domestic income; and (iii) relative prices<sup>4</sup> are introduced explicitly into the growth model.

The growth model involves the following equations:

*2.1. The import demand function*

We use the components of domestic income to explain import flows, unlike the conventional specification that considers real aggregate domestic income as the main determinant of the demand for imports. Moreover, we assume that relative prices play a significant role and that in the long-run they can affect economic growth. According to these assumptions, the import demand equation is specified as follows, with all variables expressed in growth rates<sup>5</sup>:

$$\dot{m} = \pi_c \dot{c} + \pi_g \dot{g} + \pi_x \dot{x} + \pi_k i \dot{n} v + \delta_m (\dot{p}^* + \dot{e} - \dot{p}) \tag{1}$$

In this equation, the growth in demand for imports  $\dot{m}$  depends on the growth rates of private consumption  $\dot{c}$ , government expenditures  $\dot{g}$ , exports  $\dot{x}$  and investment  $\dot{i}n$ , respectively. Additionally, the growth of imports depends on the growth of foreign and domestic prices,  $\dot{p}^*$  and  $\dot{p}$  respectively, and the variation of the exchange rate  $\dot{e}$  over time.<sup>6</sup> In the same equation,  $\pi$  represents the elasticity of imports with respect to each of the components of demand. These elasticities are all expected to be positive since all components of demand have import content. In addition, the relative price elasticity of demand for imports is expected to have a negative sign,  $\delta_m < 0$ . A devaluation of the domestic currency is expected to reduce the demand for imports turning them more expensive in domestic market.

*2.2. The export demand function*

The growth of foreign income and the growth of relative prices are conventionally the main determinants explaining the growth of exports. The export demand function is given as:

$$\dot{x} = \varepsilon_x \dot{y}^* + \delta_x (\dot{p}^* + \dot{e} - \dot{p}) \tag{2}$$

where  $\dot{x}$  is the growth of real exports,  $\dot{y}^*$  the growth of real foreign income, and  $\dot{p}^*$ ,  $\dot{p}$  and  $\dot{e}$  are defined as before. It is explicitly assumed that exports competitiveness is based on non-price and price competitiveness captured by the income and price elasticities of the demand for exports, respectively. Specifically,  $\varepsilon_x > 0$  is the income elasticity of demand for exports capturing the non-price characteristics of the exported goods associated with quality, design, reliability, variety, etc.<sup>7</sup> In the same equation,  $\delta_x > 0$  is the relative price elasticity of export demand, with an expected positive sign. A devaluation of the domestic currency is expected to increase the demand for exports turning them more competitive in external markets.

<sup>4</sup> The hypothesis that relative prices remain constant in the long-term is debatable, despite its use in some studies, justified by simplification of exposition. There are studies showing that relative prices are important in international trade to explain a substantial part of growth, but this occurs especially in developing countries. As an example for a European country, Garcimartín et al. (2010–2011) argue that the slowdown of the Portuguese economic growth was due to the overvaluation of the domestic currency (loss of price competitiveness) when the country joined the Euro zone.

<sup>5</sup> The time index  $t$  is not attached to the variables for the sake of simplification.

<sup>6</sup> Exchange rate ( $e$ ) is defined as the price of foreign currency in terms of domestic currency units. Therefore when  $e$  increases it shows a currency depreciation of domestic currency.

<sup>7</sup> We assume that the income elasticity of demand for exports captures the quality characteristics of the produced goods. However, we acknowledge that changes in relative prices can also be due to changes in relative quality.

<sup>3</sup> For different points of view on this policy see Alesina and Perotti (1996) and Perotti (2011).

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