

**THE MARSHALL PLAN AND THE SPANISH AUTARKY:
A WELFARE LOSS ANALYSIS**

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The Marshall Plan and the Spanish autarky: A welfare loss analysis

José Antonio Carrasco Gallego^{*}

Abstract

This paper uses historical fact as a natural experiment to measure a country's welfare loss from shifting from an allowed to a restricted trade situation, based on international trade theory. A welfare loss of 8% of GDP is found. The evolution of domestic import and export prices in Spain for 1940–58 fits international trade theory assumptions. The main autarky years are not those commonly considered, but 1947–55, marked by the exclusion of Spain from the Marshall Plan and the Madrid Treaty between Franco's Regime and the US. The upper-bound welfare loss for 1947–55 is 26% of GDP.

JEL classification: F00, F14, N74.

Key Words: autarky, international trade, Marshall Plan, welfare loss, Spain, US, Europe.

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I. Introduction

International trade theory calculates a country's gains obtained from international commerce, comparing the welfare in an equilibrium, with restricted or no trade, with the welfare that the country achieves after opening up to trade and reaching a different sort of equilibrium. In the comparative advantage literature, there are many theoretical papers that explore the commonly accepted hypothesis that opening up to free commerce raises the welfare of the nation.¹ However, from the empirical point of view, this issue has been little explored. Because comparative advantage is established on the basis of relative autarky prices, which are not usually known, most empirical papers have related autarky prices to more visible measures, such as technological differences or differences in factor supplies. In doing so, the majority of these papers have failed to explain the contribution to the country's welfare created by the comparative advantage and the specialization of the economy when it opens up to trade.² However, there are some recent exceptions. One of these is Bernhofen and Brown (2005), who studied the contribution made to Japan's income by its opening up to free trade during the nineteenth century. They obtained an upper-bound estimate of the gains from trade of about 8% to 9% of Japan's GDP.

As some eminent economists have pointed out,³ an economy where trade has not been allowed should be contrasted with one where trade has been allowed to measure the gains from trade. It seems likely that if the opposite situation occurs, that is, if a country shifts from an allowed-trade equilibrium to a restricted-trade one, there will be some losses in welfare. Taking this idea, Irwin (2005) has analysed the welfare loss that the US economy suffered because of the trade embargo that President Jefferson imposed from 1807–9, during the Napoleonic Wars, prohibiting all US ships taking any cargo to foreign countries and foreign ships from entering US ports. Irwin's calculations showed that this embargo negatively affected US GNP by about 5% in 1807.

Similarly, we find another example, or natural experiment, of a country shifting from an allowed-trade position to a situation where trade was quite significantly restricted: the case of Spain during the so-called autarky period. Spain suffered a Civil War, 1936–9, followed by the dictatorship of

¹ See Corden (1984) for a survey of the main theoretical aspects of comparative advantage.

² Most empirical studies in this field of literature have focused on identifying the reasons for international commerce. See Harrigan (2003) for a review of the main papers.

³ Helpman and Krugman (1985), p. 39.

General Franco. During the first part of this regime, as we will see later on, the country stayed out of the European Recovery Program (ERP), popularly known as the Marshall Plan, and those initiatives linked to it that were designed to open the European markets, such as the Organization for European Economic Cooperation (OEEC) and the European Payments Union (EPU). These exclusions imposed on Spain a period of isolation from the international political scene and a period of restricted international trade that extended from 1940 to 1958:

‘The undemocratic nature of the Franco regime caused Spain’s exclusion of all the initiatives at international cooperation after World War II. The institutions which resulted from these initiatives embodied the sort of welfare capitalism responsible for one of the fastest and most solid patterns of economic growth, social consensus, and democratic political stability which Western Europe has ever enjoyed. The main consequence of exclusion from this institutional set was thus to condemn the Spanish population to a lower standard of living than would have been the case had Spain not become a political *rara avis* among its peers.’⁴ The aim of this paper is to analyse the influence of the restrictions on trade in Spain on the welfare of that country and to measure the welfare loss during those years.

Previous works have provided different versions of the importance of the trade restrictions. During the Franco era, some papers claimed that the international isolation that lasted until 1953 was the main factor behind Spain’s slow recuperation after the Civil War.⁵ On the other hand, some authors who were critical of the dictator have argued that the boycott was not very severe and that international commerce was an opportunity for Franco more than a restriction.⁶ This paper aims to contribute to the debate with a measure of missed welfare during those years.

From the international perspective, it is interesting to understand the experience of Spain as the sole Western Europe country that stayed out of the Marshall Plan, a highly successful foreign aid programme, in order to understand the consequences of exclusion from international recovery plans, and to apply the conclusions to other future aid programmes. As an example of the negative consequences of exclusion from the ERP, Jean Monnet advised the US before the Marshall Plan was devised, that without financial aid, French recovery would take longer and that France would operate within a closed economy. This was finally the case for Spain. This country could serve as an example of how a nation could suffer by staying out of these kinds of plans. While Western European countries continued their recovery, Spain was on the verge of international bankruptcy. The ERP provided \$13 billion of financial aid to Europe to enable the import of capital goods that would have a positive influence on the whole economy. In addition, it

⁴ Guirao (1998), p. 189.

⁵ Velarde (1963) and Paris (1965).

⁶ Esteban (1976).

provided a boost in terms of the international and political relations among European countries. Spain, being isolated from these arrangements, deprived its economy of the necessary margin to accelerate recovery and modernization. Thanks to recent data series, such as those of Carreras and Tafunell (2005) and Prados de la Escosura (2003), the task of measuring the resulting welfare loss can be undertaken more easily and more confidently.

The welfare measure used here considers only the static gains from trade, computed in each year, following international trade theory.⁷ It is beyond the scope of this paper to construct, parameterize, and analyse a dynamic model of the effect of staying out of the Marshall Plan. However, this could be an interesting task for the future.

In the next section, I present some historical background that is necessary to understand the period that is the object of the study. Section 3 provides the theoretical framework to analyse the change in welfare resulting from the shift from a situation of allowed trade to one of restricted commerce. Section 4 sets out some economic hints that will be useful in calculating the welfare loss. In Section 5, the main calculations are presented, which indicate that the net welfare loss adds up to 8% of the total Spanish GDP from 1940 to 1958. The last section concludes the paper.

II. Historical main facts

To develop a welfare study, first we need to examine the history of the relevant years to understand the links between economics and politics and their implications.

During the years of First World War, Spain was a parliamentary monarchy with a young king, Alfonso XIII, on the throne. The political system was the heritage of the nineteenth century. During the confrontation, Spain stayed neutral and, from the point of view of the economy, it benefited from this situation. After the conflict, an economic and social crisis began, followed by a political crisis. The coup of General Primo de Rivera in 1923 installed a military dictatorship under the umbrella of the monarchy. However, at the end of the 1920s, the dictatorship was very weak. This regime finally ended in 1931 when the republican parties won the local elections and Alfonso XIII was exiled with the proclamation of the Second Republic.

⁷ Refer to the model developed by Grinols and Wong (1991) and the application by Irwin (2005).

From the 1939 onwards, the situation was marked by the post-Spanish Civil War period, World War II (WWII), and the post-WWII period. The Spanish Civil War, which occurred between 1936 and 1939, commenced with the coup of General Franco against the government of the Second Republic, ruled at that time by left-wing parties. After three years of war, Franco won and imposed a personal dictatorship, which continued until his death in 1975, when the monarchy was restored.

At the beginning of Franco's regime, most of the Western democracies did not recognize the new government because of its origin and its undemocratic nature. However, during WWII and the immediate post-WWII period, Europe needed Spanish supplies. During the war, this was because of Spain's position as a neutral power. After the war, European countries required a source of non-dollar supplies, given the generally low level of dollar earnings. Therefore, the political aspects of the Spanish regime were overlooked.⁸

However, after the commencement of European reconstruction, the political characteristics of Spain became more important. Public opinion was calling for stronger action against Franco's regime, which was viewed as the last bastion of the authoritarian regimes against which WWII had been fought. A blockade started when, on 12 December 1946, the General Assembly of the United Nations (UN) condemned Franco's dictatorship and recommended withdrawal of all embassies in Spain in its resolution 39(I). It represented a significant point in the isolation policy against Franco's regime.

In 1947, Spain was expelled from the Worldwide Postal Organization, the International Telecommunication Union, and the International Civil Aviation Organization. The lack of representation in these key international organizations for trade and the political isolation made participation in world commerce more difficult for Spain.

Even more important was the fact that Spain, though neutral in WWII, was punished by not being included in the ERP. The Marshall Plan was signed in Paris on 12 July 1947 by all the Western European countries except Spain and Finland. Finland declined to join the ERP because of its special status with respect to the USSR. Eastern countries and the USSR had previously rejected the invitation to join the Plan. Spain was the only country in Europe not invited to join.

The most important reason for excluding Spain from the Marshall Plan was the origin of Franco's dictatorship, rather than Spain's political system. Despite the fact that Greece and Portugal were

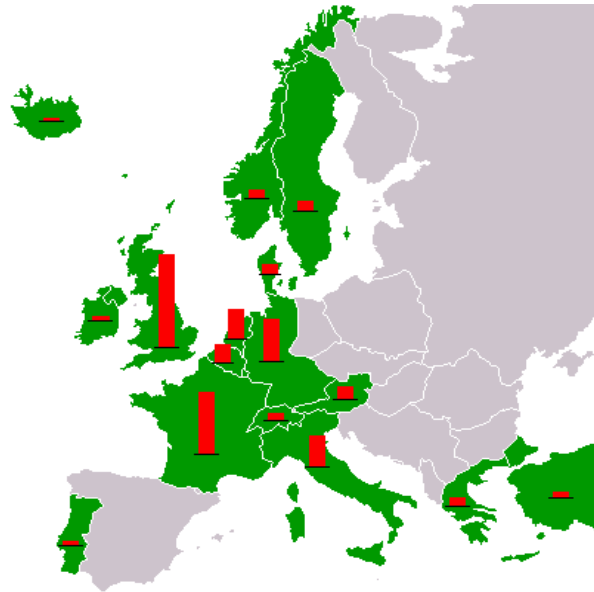
⁸ For a complete view of the links between politics and economics, the Marshall Plan, and the reconstruction of Spain during those years, see Guirao (1998).

dictatorships at that time, they were invited to join the ERP. However, the origins of their dictatorships were not as turbulent as the Spanish one. From the perspective of the US military, the Spanish strategic value was low. Nevertheless, in February 1948, Marshall declared that the US had no objection to Spain joining the ERP as long as the 16 ERP countries agreed. British trade unions and the British Labour Government's Foreign Secretary protested against that decision. The British government considered it politically impossible to cooperate with Spain within the Marshall Plan. The French proposal to the Three Power Conference of 27 June 1947 involved the participation of all European countries except Spain in the Marshall Plan.

The exclusion of Spain was carried out despite the disappointment of the last Spanish republican Prime Minister in exile, Juan Negrín, who was chief at that time of a socialist group, and held remarkably communist views. However, the exclusion of Spain was a condition for the success of the Plan.

The Marshall Plan provided economic aid of \$13 billion to the participating countries from 1947 to 1952. However, the importance of the ERP must be considered not only in terms of its nominal value, but also in terms of its role in enabling the import of some commodities that were very important for the reconstruction, such as capital goods from the US, despite the payment difficulties experienced by the participating European countries. The Organization for European Economic Cooperation (OEEC) and the EPU were created to support some aspects of the ERP. The OEEC was founded in 1948 with the task of organizing the distribution of Marshall Plan aid and implementing treaties for the liberalization of trade between European ERP-countries. The EPU, founded in 1950, was also designed to boost intra-European trade, by acting as a central clearing-house through which the 18 Marshall Plan countries could make all their trading payments, involving a system in which surpluses and deficits were balanced for each country with the whole group. Thus, Spain was not only excluded from ERP aid, but also from the international organizations that arose from the Marshall Plan.

Figure 1. Countries included in the Marshall Plan and amounts of aid



On the domestic political scene, the fascist elite of the Spanish regime embraced the ‘autarky ideals’ that Spain was forced to follow as a nationalistic way of improving the economy, under a demagogical campaign of self-supply. The foreign pressure on Spain was exaggerated to promote domestic political support of Franco’s personal power and to legitimate repression. The exclusion was the perfect excuse to implement even more nationalistic and interventionist policies, with its own resources. This period is named the ‘first Francoism’. As an example of this auto-supply policy, in July 1947, the Spanish legislation strengthened the limits on the contribution of foreign capital to capital formation, the balance of payments, and productivity, affecting all Spanish companies.⁹ These rules remained in place until 1957.

At that time, Spanish international commerce could not be considered as free due to those kinds of domestic policies and to the international isolation. However, it is necessary to note that Spanish commerce did not fall to zero. Spain signed bilateral agreements with some Western countries. However, staying out of the ERP and the related EPU deprived Spain of the benefits of that system, and it was a great obstacle to the expansion of its international trade. It is clear that this politically unfriendly environment in the world panorama and the self-supply policy imposed

⁹ Foreign holdings of more than 25% in Spanish firms were forbidden, as were the transfers of dividends and royalties.

some barriers and costs on Spanish growth, which had a negative impact on welfare, which will be measured later in this paper.

Some signs of international openness were visible in 1953, with the formation of some new international treaties. The first one was the Concordat signed between Spain and the Vatican. More important was the Madrid Treaty with the US (23 September 1953) that created collaboration in the defence and economic fields between those two countries. Thanks to the Madrid Treaty, \$589 million arrived in Spain to support several developments from 1955 to 1958.¹⁰

In the context of the cold war era, in 1955, Spain, a declared anti-Bolshevik country, was admitted as a member of the UN and afterwards was included in other international organizations including the International Monetary Fund (IMF), the World Bank, and the OECD.

The end of the isolation period for Spain in historical texts is considered to be 1959. This is due to various factors. In 1957, with a worsening economic situation (inflation, loss in the value of the peseta, and a high deficit in the balance of payments) and after two months of student protests, there was a very important ministerial change: a group of young technocrats, linked to the religious group Opus Dei, entered into the government. In 1959, this new government presented the Stabilization Plan, which abandoned the 'autarky ideals' and sought greater openness of the Spanish economy to international trade, foreign direct investment, and admittance to international economic institutions. A symbolic event certifying the end of Spain's international isolation was the visit of President Eisenhower on 22 December 1959, which occurred in the context of the block policy of the cold war. Thus, among historians, the agreed dates representing the Spanish autarky period are 1940 to 1958.

The analysis in this paper will centre on those years when free trade was not allowed, and will show the welfare loss that occurred as a result of the autarky period. To do this, the next section presents the theory that supports the subsequent calculations.

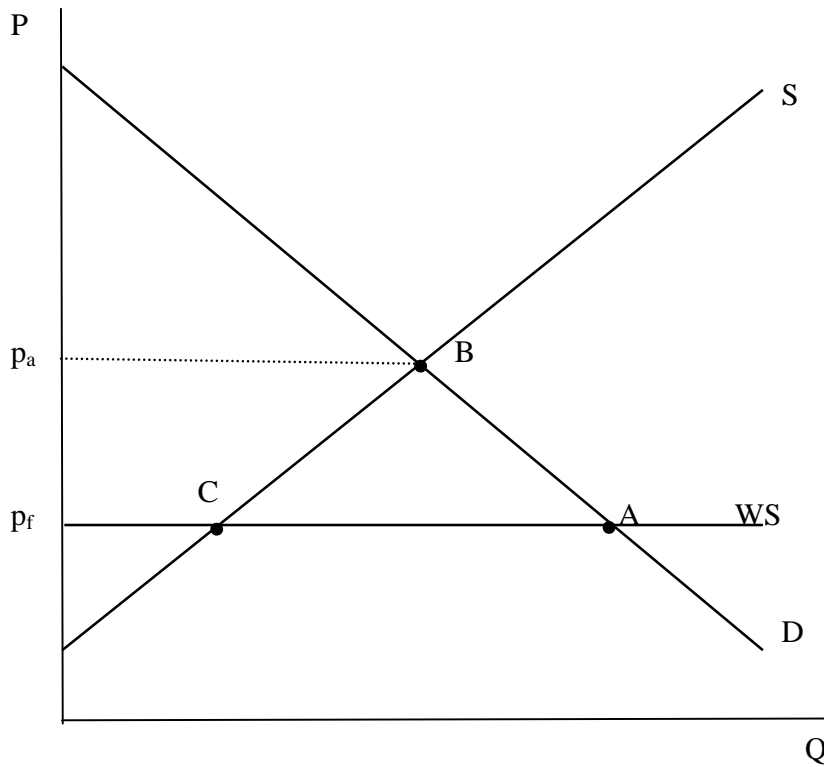
¹⁰ Martínez Ruiz (2003), p. 113.

III. Theoretical framework

International trade theory considers that if a country moves from an autarky situation to free-trade status, it will experience some gains in welfare. Thus, if the evolution occurs in the opposite direction, the country will experience losses in welfare. The objective of this paper is to measure this welfare loss. In order to achieve this aim, the model used is the same as Irwin (2005) utilized. This model provides a simple framework to easily understand the effects of international trade isolation. A further research can be developed to adjust more the results through specific functions for trade demand and supply. However, at this step of the work, the model used by Irwin (2005) is suitable because it let us to understand the way that the autarky harms welfare taking into account the usual aspects of changes in the trade pattern, such as export price modifications or substitution effect. A very simple graphical intuition is provided in the following figure.

Figure 2 represents a country that is open to free trade and is importing a determined good, with p_f being the world price for this good. In this situation, the equilibrium is situated at point *A*, when the domestic demand of the country (line *D*) crosses the horizontal world supply (line *WS*) at level p_f . If the country closes to international commerce, the price in autarky, p_a , will be fixed by the intersection of domestic demand and the domestic supply (line *S*). The net welfare loss caused by the new no-trade situation in the economy is represented by the area of the triangle defined by points *ABC*.

Figure 2. Welfare loss



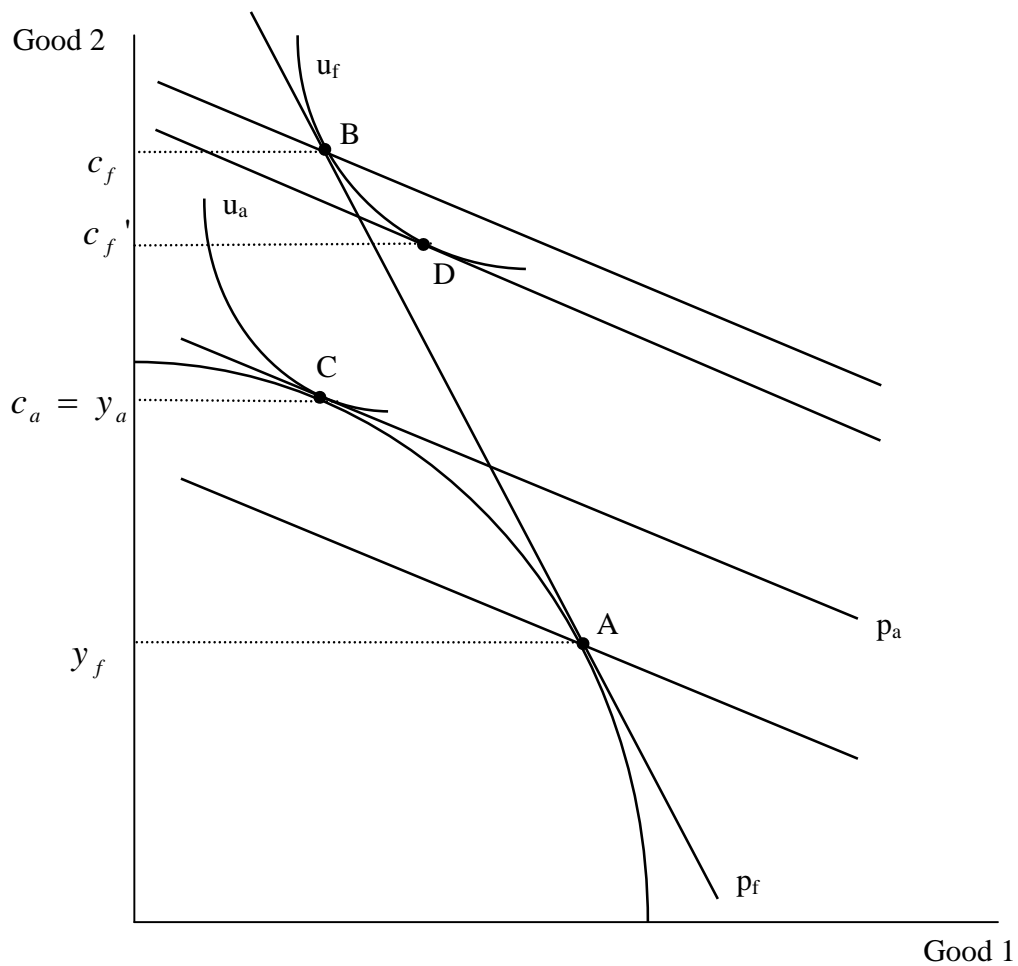
Using a simple general equilibrium background, following Grinols and Wong (1991), the dead-weight losses from the no-trade situation can be determined based on the difference in the utility levels of the allowed-trade situation and the no-trade situation, as follows.

$$\Delta W = e(p_a, c_a) - e(p_a, c_f). \quad (1)$$

This equation, in which subscripts a and f denote the autarky and free-trade situations, respectively, represents the difference between the utility level associated with the autarky consumption bundle, c_a , and the utility level associated with the free-trade consumption bundle, c_f . Both levels are computed at domestic autarky prices, p_a .

In Figure 3, we show the variation in welfare in a context of two goods, 1 and 2, when shifting to an autarky situation from a free-trade state, from the perspective of good 2.

Figure 3. Price and bundle variation



In Figure 3, the line p_f represents relative prices in the free-trade situation (p_1/p_2). Here, we are assuming that this economy has a comparative advantage in good 1 because relative prices under free trade are larger than relative prices under autarky, represented by the line p_a . In the free-trade situation, the level of production, y_f , is determined by the point at which p_f is tangent to the production possibility frontier: point A. Furthermore, the level of consumption is represented by c_f , when p_f is tangent to the indifference curve, u_f , point B. Then, in this situation, the economy is importing good 2 and exporting good 1.

When autarky is established, domestic prices are p_a . Now, the production and consumption levels, y_a and c_a , are situated at the point where p_a is tangent to the production possibility frontier and to the indifference curve, u_a , at point C. In the autarky equilibrium, the economy consumes only goods that it has produced itself and there are no exports.

If the economy goes from the free-trade situation to the self-supply state, relative prices change: the price of the exported good, in this case good 1, goes down, and the price of the imported good increases.

Taking into account equation (1), the welfare variation, ΔW , is the consumption bundle in autarky on the indifference curve u_a , c_a , evaluated at autarky prices, p_a , minus the optimum consumption bundle on the indifference curve u_f for prices in autarky, c_f' , evaluated at p_a . The last consumption bundle is represented by point D. In Figure 3, we can see that, from the perspective of good 2, $\Delta W = (c_f' - c_a) \cdot p_a$, and this can be broken down into the following equation.

$$\Delta W = (c_f - y_f) \cdot p_a - (y_a - y_f) \cdot p_a - (c_f - c_f') \cdot p_a. \quad (2)$$

The first term¹¹ represents the amount of net imports evaluated at autarky prices; the second one is the substitution effect in production that occurs as a result of the change in relative prices; and the last term is the substitution effect in consumption that occurs for the same reason.

As we already know from the previous section, trade in Spain in the autarky years was not totally reduced to zero. We need to add tariff revenues and net international transfers to the welfare effect. Using the definition of the expenditure function and following Grinols and Wong (1991), we can express $e(p_a, c_a)$ as follows:

$$e(p_a, c_a) \equiv p_a \cdot c_a = p_a \cdot y_a + (p_a - p_a^*) \cdot (c_a - y_a) + B_a, \quad (3)$$

where p_a^* is the world price vector during the autarky period, and B_a represents the net transfers or borrowing from abroad during the autarky period. Following Irwin (2005), the adjustment in welfare is:

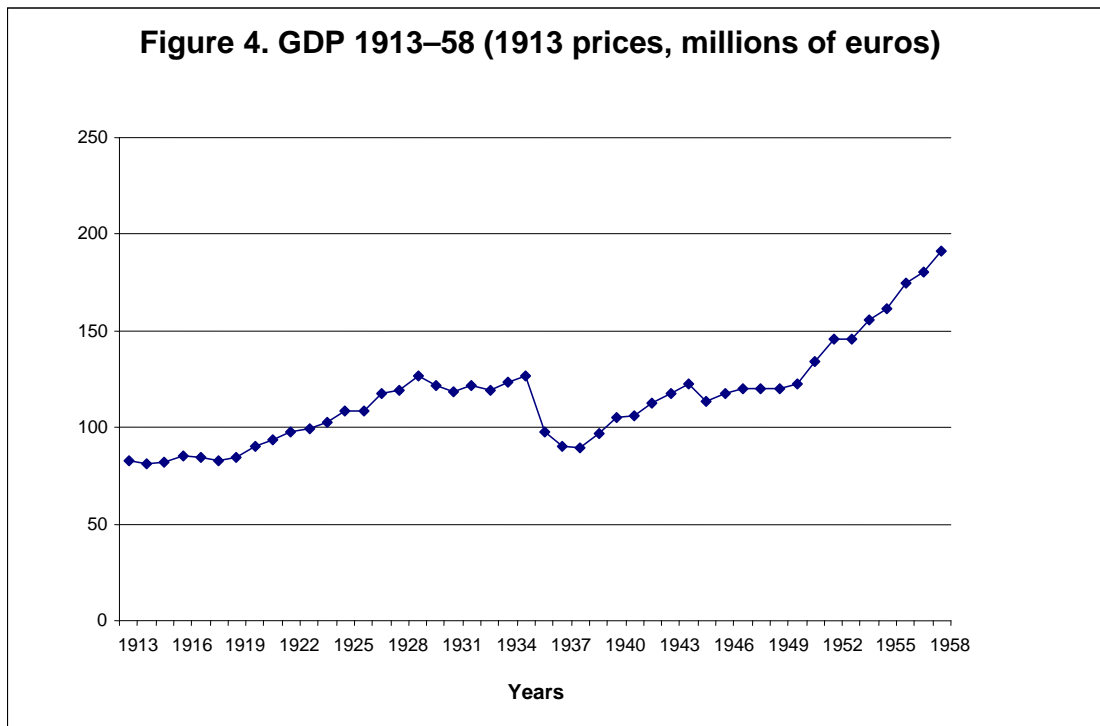
¹¹ One can easily study Figure 3 to decompose those elements: we need to calculate the distance on the vertical axis, from the good 2 perspective, between c_f' and c_f . This distance is the total, $(c_f - y_f)$, minus $(y_a - y_f)$ and $(c_f - c_f')$, all evaluated at p_a .

$$\Delta W = -(c_f - y_f) \cdot p_a + (y_a - y_f) \cdot p_a + (c_f - c_f') \cdot p_a + (p_a - p_a^*) \cdot (c_a - y_a) + B_a. \quad (4)$$

All welfare elements during the autarky period are presented in this equation: the first term is the welfare variation owing to the change in prices, valued at the amount of trade in the free-trade period; the next term is the substitution effect on production owing to the change in prices; then, the substitution effect on consumption is shown, also the result of the change in prices; the last two terms are tariff revenue; and, finally, net transfers. In Section 5, these terms will be used to calculate the welfare loss in the autarky years. First, however, in the next section, we check the characteristics of some of the economic data for the relevant period that are related to welfare and our calculations.

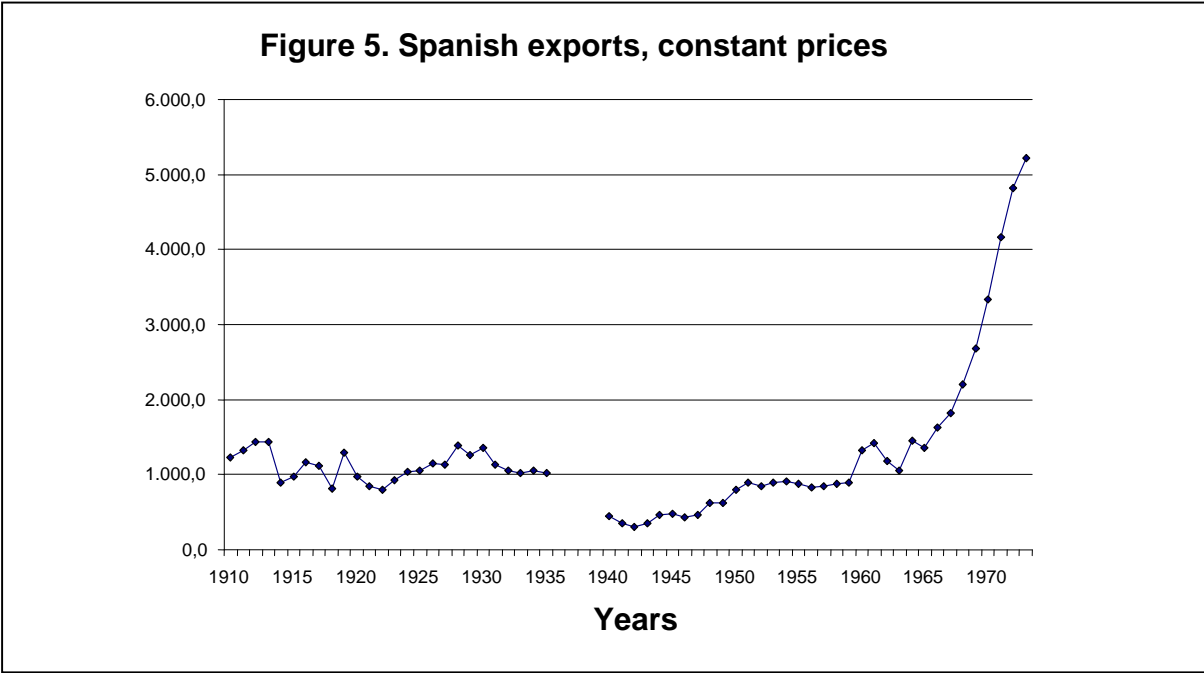
IV. Economic clues

As shown in Figure 4, Spanish GDP decreased from the mid-1930s to the years of our study. The Spanish Civil War (1936–9) was the primary cause of this reduction. It was not until the mid-1950s that Spain recovered the level of GDP it had achieved before the Civil War. To be precise, Spain did not achieve a level of production equivalent to the highest level of the pre-Civil War industrial production per capita until 1952. Other European economies that experienced greater destruction during WWII attained their pre-War production peaks much faster (Germany and Italy in 1949, France in 1951), only a few years after the end of the conflict. The length of the rationing for Spaniards was thirteen years after the Civil War. This long path to recovery from 1939 to 1952 was more difficult because of the influence of WWII on the Spanish economy and because of the welfare loss during the autarky period.

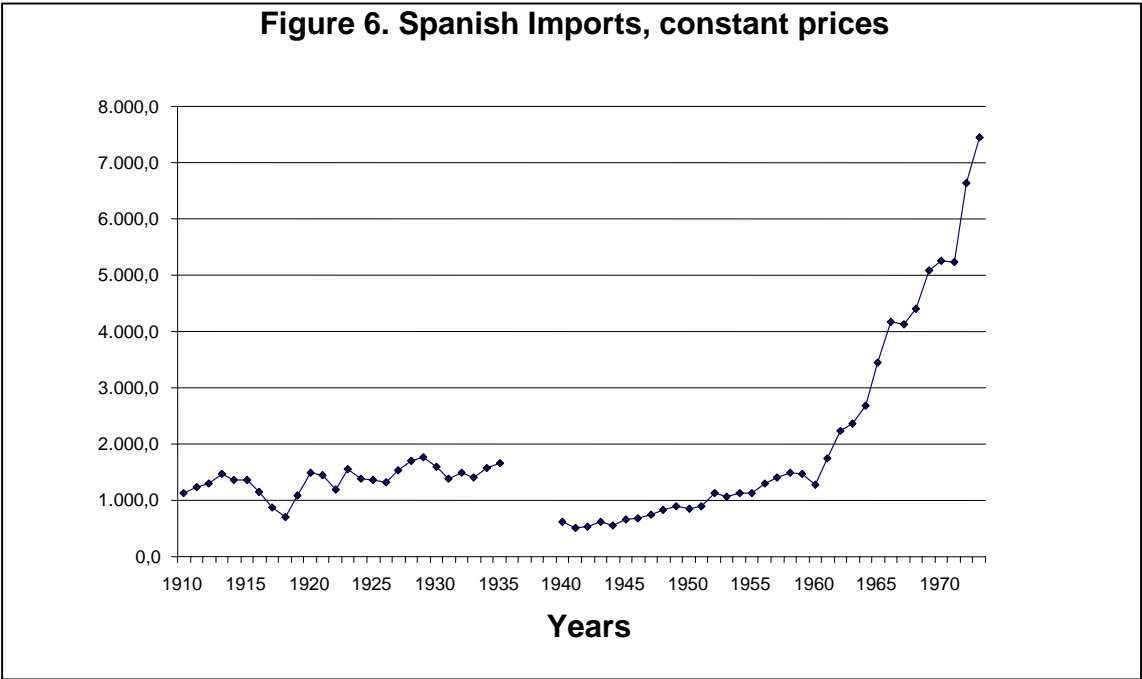


Source: Author's calculations, with data from Prados de la Escosura (2003).

The low level of international commerce in Spain during the 1940s and the 1950s is clearly shown in Figures 5 and 6. Both graphics indicate the big decrease that occurred in international trade in terms of both levels of imports and exports, compared with other years of recent Spanish history. The collapse of international commerce in the autarky period, 1940–1958, is remarkable. Exports and imports declined significantly compared with previous periods and they did not recover until the 1960s.



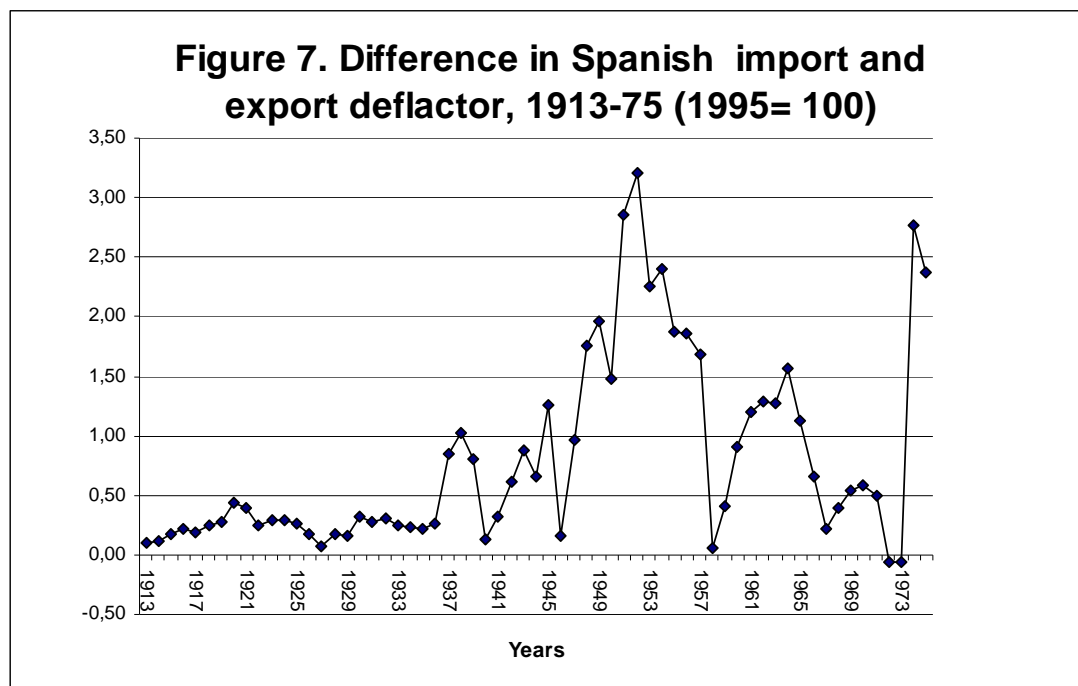
Source: Data from Tena (2005).



Source: Data from Tena (2005).

In a related study, Tena (2005) has shown import and export growth rates for several periods from 1821 to 2001.¹² He observed low, indeed negative, levels of growth in the period from 1935 to 1950, of -1.6% for exports and -4.3% for imports. In the following period, 1950–9, the values recovered somewhat, reaching 1.1% for exports and 5.7% for imports, but remained low relative to other periods.

Figure 7 shows the evolution of the difference between export and import deflators. A very striking fact is how this evolution reflects the historical facts that have been mentioned in Section 2.



Source: Author's calculations, with data from Prados de la Escosura (2003), Table A.13.6.

The mapped line increases slightly around the years of the First World War, but decreases at the beginning of the 1920s. In those years, countries were opened up to commerce and there were no great differences between export and import prices, in line with international trade theory. The year with the lowest difference is 1927. In 1930, there is a spike after the crash of October 1929.

¹² Tena (2005), Table 8.2.

Countries in those years stayed more closed to trade: the Hawley–Smoot Tariff Act of July 1930 increased US tariffs, and other countries all over the world followed suit by introducing more closed international commerce. The next spike corresponds to the years of the Spanish Civil War. At that time, for obvious reasons, it was more difficult to import, so domestic import prices were higher, and also more difficult to export, so export prices fell. Thus, the difference between domestic prices to export and to import grew. In 1940, the Civil War ended and prices returned to their previous positions. However, with WWII, another rise occurred, lasting until 1945. In those years, we observe a peak (1943) that is likely to reflect the difficulties of trading after the Civil War and during WWII, as well as the US oil ban to force the end of Spanish exports to Germany. The restrictions finished in April 1944 owing to lack of support by the British.

In 1946, the situation again returned to the position of the 1920s. It is important to note the evolution of the difference between the deflators because it reflects a situation described by Guirao (1998).¹³ This author explained that, from the summer of 1945 to the spring of 1947, despite the political nature of the Spanish regime, Spain's trade relations with Western European nations stayed strong, or even became stronger. Spanish trade took advantage of world food scarcity, wishes to obtain better standards of living, the liberalization of purchasing power after the war, and the dollar shortage. For European countries, importing from Spain was a way to obtain non-dollar supplies of foodstuffs and raw materials, contributing to improving people's diet and to economies' balance-of-payments deficits, and to the recovery of industrial production. All of those contributions were made independently of political circumstances, avoiding economic sanctions or a blockade against the Franco regime. Trading with Spain during 1946 had a positive effect on Western European countries.

However, in 1947, the international isolation of Spain and the Marshall Plan in the rest of Europe began. From 1947, differences in import and export prices in Spain became very large. Moreover, Spanish international trade decreased because Spain had serious difficulties with financial resources. An important obstacle to importing was the dollar shortage. Spanish exports fell with stronger competition from other European countries that were fostering domestic production, imposing imports restrictions, and distorting trade in agricultural commodities. Foreign capital was extremely limited. Spanish assets in the US remained blocked by the Truman administration and were not eligible to guarantee any bank credit. The Spanish Foreign Exchange Institute could not sell gold in several countries because it could not be proved that the gold had not been acquired from Axis powers. US officials declared that they would not grant any credit to Spain unless a change in its political regime took place. Spain relied on its own resources to finance any goods or raw material from abroad. Imports reduced significantly.

¹³ Chapter 1.

In any case, Spain was confident that US aid would restore pre-war levels of output and consumption and promote economic modernization. However, this financial support via the ERP never arrived.

Spain attempted to boost trade through bilateral agreements. However, financial limits represented the main obstacle to its expansion of commerce. Spain's exclusion from the EPU, originated through the ERP and in place from July 1950, constituted an enormous problem in terms of its relations with the institutionalized forms of economic interdependence. Spain was out of a system in which surpluses and benefits were balanced as a whole across trading partners. Again, Spain's exclusion from the Marshall Plan had terrible effects on Spanish trade.

These were the central years of autarky. The peak was reached in 1952 and, in 1953, the year of the Madrid Treaty, the difference between import and export prices took a downward trend. In 1958, the difference was at the same level as in the 1920s. Then, in the 1960s, another rise occurred, but it was not as large as in previous years and persisted for a much shorter time. The import–export price differential then fell again until the oil crisis of the 1970s. In any case, the biggest difference between import and export prices in the whole period, including the 1929 crash and the 1970s crisis, occurred in the autarky period.

Figure 7 shows that the evolution of domestic import and export prices in Spain confirms the international trade theory assumption, which is that, if the economy goes from free-trade status to an autarky situation, domestic export prices fall, whereas domestic prices for imported goods are driven up.

As the trend in relation to domestic import and export prices has been proven, we can now continue our economic analysis of the welfare impact of the autarky period. To do so, we need a reference year for the period of allowed trade. This is not an easy choice.

It is commonly considered that the level of Spanish protection was very high compared with other countries during the first third of the twentieth century, particularly after Cambó's trade act in 1922, and that it was higher for the industrial sector than for foods or semi-manufactured goods.¹⁴ However, some authors have claimed that protection in that period was decreasing in comparative terms with other European countries.¹⁵ Moreover, of course, it was lower than during the autarky period. For instance, the average degree of openness (exports plus imports as a

¹⁴ See Tena (1992).

¹⁵ For instance, Comín (1987) and Tena (1992).

percentage of GDP) between Spain and three European countries (Germany, France, and Italy) was 17.9% for 1920–9 and only 8.7% for 1940–58.¹⁶

After the 1929 crash, the European economies clearly became more closed to international trade, as did Spain.¹⁷ The 1929 Depression and the subsequent crisis, as well as the Spanish Civil War (1936–9), mean the 1930s would be a difficult period to choose as a reference period. Thus, the reference year should be selected from the period before 1929.

Furthermore, owing to the influence of First World War on the Spanish economy, the reference year needs to be sufficiently distant from this conflict. In addition, it needs to involve a sufficient degree of openness to be considered a reference for free trade. After studying the statistical series such as the difference between domestic import and export prices (see Figure 7), the year 1927 appears to be the best option for the reference year. This year has the lowest difference between export and import domestic prices for the period. Further, it is far enough from First World War and presents a good degree of openness, 14.8%¹⁸ (which is, of course, higher than the degree of openness during any of the autarky years). The level of exports and imports in this year is also remarkable.¹⁹ For all these reasons, 1927 is selected as the allowed-trade reference year for the calculations in the next section.²⁰

V. Empirical results

Equation (4), presented again below, is used to calculate the total welfare loss, given that the allowed-trade reference year is 1927, and the autarky period is 1940–58. I explain the calculations for each term of the equation, but all numerical results are shown in Table 1 together.

$$\Delta W = -(c_f - y_f) \cdot p_a + (y_a - y_f) \cdot p_a + (c_f - c_f') \cdot p_a + (p_a - p_a^*) \cdot (c_a - y_a) + B_a \quad (4)$$

¹⁶ Author's calculation, with data from Tena (2003).

¹⁷ Tena (2005).

¹⁸ Tena (2003), Table 8.3.

¹⁹ See Figures 5 and 6.

²⁰ Other possibilities were explored. One of them was to choose the period 1913–1929, a period considered to be more or less uniform by historians, and to calculate all the formulae for the allowed-trade numbers as an average. In doing that, we could avoid the effect of any particularity that occurred in 1927. I conducted the calculations but the results were not very different to those that will be presented in the next section.

The first element in this equation, $(c_f - y_f) \cdot p_a$, is the variation in welfare owing to the change in import and export prices (caused by the restriction in commerce) for each year, valued at the amount of trade during the free-trade period. This term is also known as the vector of trade. Here, exports are negative and imports are positive. In order to calculate it, I have normalized 1913 import and export deflators given by Prados de la Escosura (2003)²¹ to (1, 1) and multiplied the 1940–58 prices by the import and export quantities of the reference year at constant 1913 prices, based on Tena (2005).²²

Taking into account the fact that domestic prices for imported goods were driven up during the autarky period and that domestic prices of exported goods were driven down, the welfare loss indicated by the vector of trade is shown in the next figure.²³ There are welfare losses for all years except for the last one. Examining the figure, we see two periods of welfare losses, separated by the year 1946, when the vector of trade is closest to zero. The first period of welfare loss could be influenced by WWII. During this war, world commerce was more difficult, pushing export prices down and import prices up. The 1943 US oil ban to Spain could be reflected in this first period.

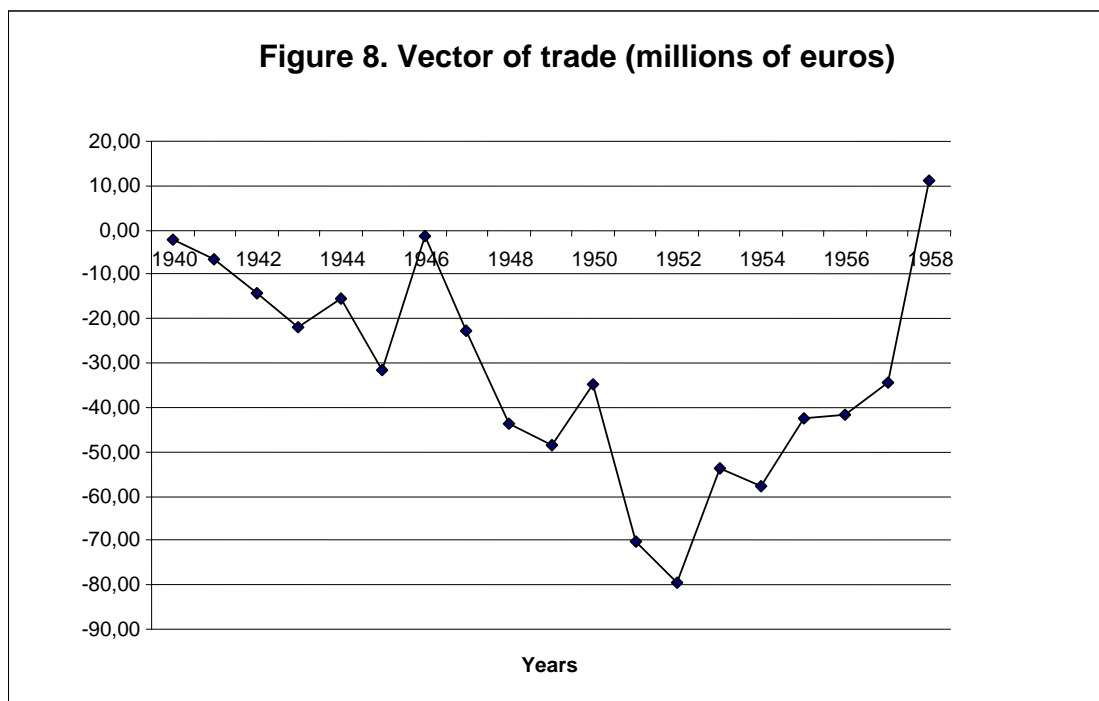
Both periods are divided by the year 1946. After the war, commerce was easier and the Spanish economy and trade were recovering. In Figure 7, we have already observed an evolution towards free-trade behaviour in prices. At the very beginning of the European reconstruction, European countries needed Spanish raw materials and foodstuffs. In the year 1946, the behaviour of import and export prices was closer to the usual situation, i.e., the situation without autarky, and import and export price levels were closer than in the other years.

However, in 1947, a negative trend started. This was the year of the Marshall Plan, international isolation, and the beginning of the self-supply domestic policy. Spain began to enter a restricted trade situation. This evolution is reflected in the increasing welfare losses from 1947. The peak of the welfare loss occurred in 1952, the final year of the Marshall Plan. In 1953, the year of the Madrid Treaty, a positive trend commenced, and there were some welfare gains owing to the vector of trade, which lasted until 1958, the last year of the autarky period. The second period was the result of international isolation and the demagogical autarky ideals of the regime. The subsequent trading difficulties for Spain caused the same evolution of export and import prices.

²¹ Table A.13.6.

²² Table 8.4, p. 604.

²³ All numbers in the following figures and in Table 1 are normalized to 1913 prices.



Source: Author's calculations.

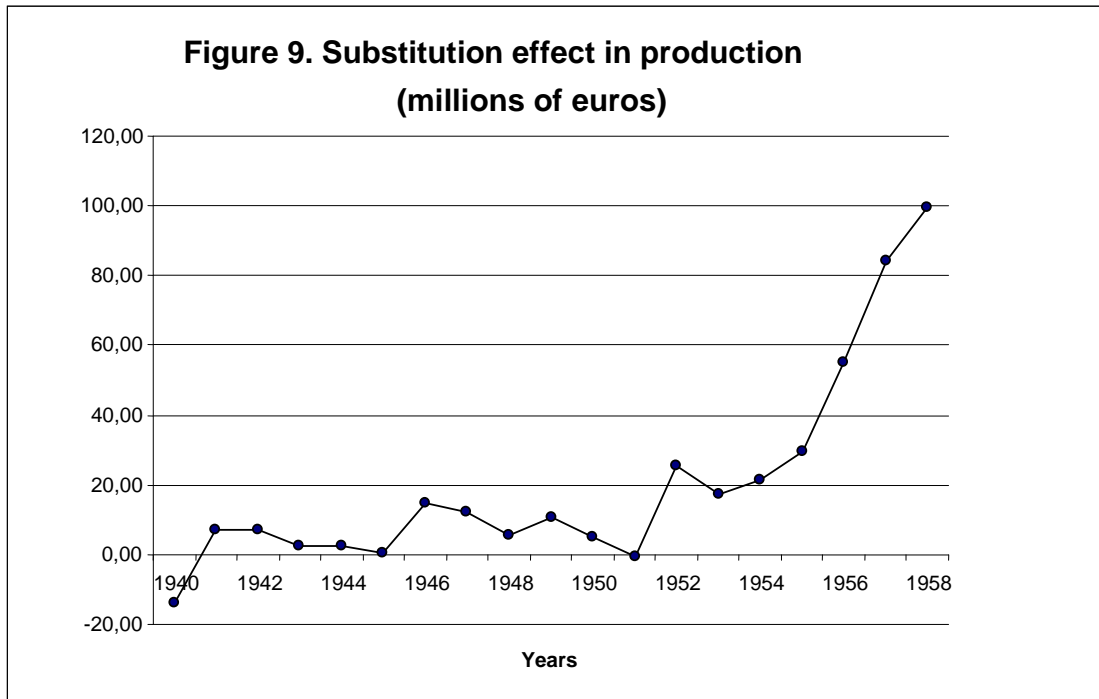
The second term of equation (4) represents the substitution effect in production, $Sp = p_a \cdot (y_a - y_f) = p_a \cdot y_a - p_a \cdot y_f$. It represents shifts along the domestic production possibilities frontier in order to produce more of the goods that were imported in the free-trade period and less of the goods that were exported. Following Irwin (2005), domestic firms could afford to substitute a percentage of the goods previously imported but they would have difficulty replicating some commodities²⁴ and raw materials. Viñas et al. (1979)²⁵ considered that, in the 1920s, raw materials accounted for 30% of the Spanish imports. Taking this into account, I assume that the Spanish economy could substitute around 70% of the goods previously imported. Therefore, the substitution effect is weighted with this percentage. This effect is shown in Figure 9 and in column 3 of Table 1, with data for the deflator coming from Prados de la Escosura (2003) and quantities from Tena (2005).

Examining Figure 9, one can observe that the first year is negative, probably reflecting the negative impact of the Civil War on the economic structure. Then, a smooth increase follows. In 1946, the recovery is larger, but then, from 1947, the year when the Marshall Plan commenced, a

²⁴ Guirao (1998), pp. 3–4.

²⁵ p. 25.

decrease begins, which ceases only in 1952. After hesitating for a couple of years, the recovery increases. This is normal in that the more time there is from the reference period, the more time there is to recover and to increase the substitution effect in production. However, the length of the recovery was especially long, as we saw before, in comparison with other European countries. In Spain, it was not until 1952 that the rationing ended and Spain achieved its pre-war level of GDP.

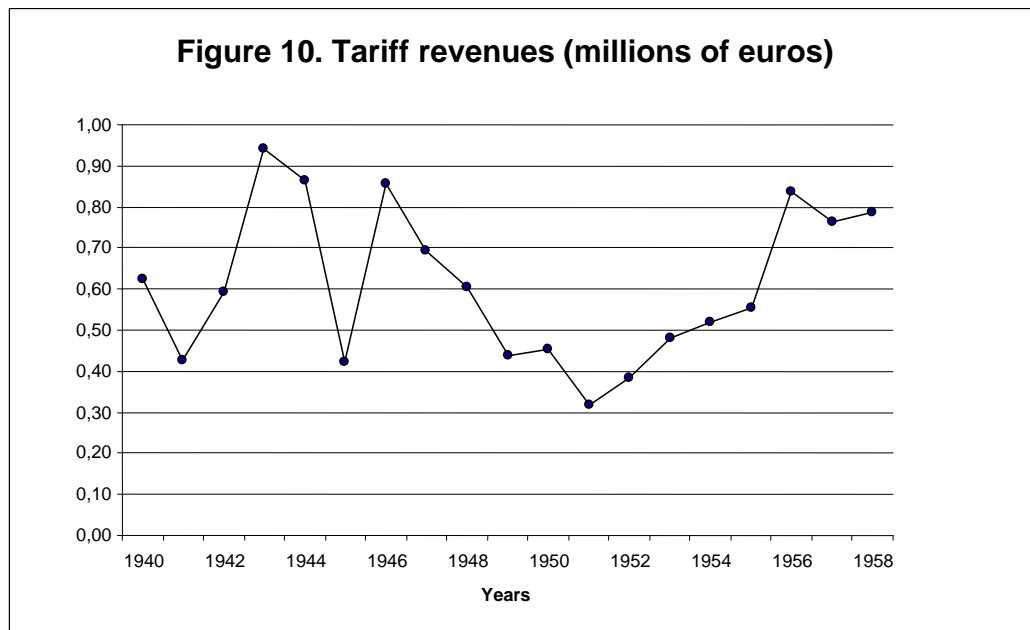


Source: Author's calculations.

The next term of equation (4) is the substitution effect in consumption, $Sc = (c_f - c_f') \cdot p_a$, that is the difference between the optimum consumption bundle in u_f with price p_f and the consumption bundle in u_f with price p_a , both evaluated at autarky prices. Grinols and Wong (1991) commented that 'the term for consumption substitution depends on any knowledge of utility and its contribution is bounded in many cases'. For this reason, they omitted the calculation of this effect, and, as far as I face the same problem, I follow the same option.²⁶ Therefore, I present an upper bound, in the way of Irwin (2005), of the losses in welfare during the autarky period.

²⁶ These authors did not calculate any substitution effect in consumption in their empirical example, but simply omitted it. I have tried some possibilities, including $(p_a - p_f) \cdot c_f$ and $(c_f - c_a) \cdot p_a$, without satisfactory results because of the bias that this effect causes in the results. For these reasons, and after several fruitless attempts to approximate it, I also omit it.

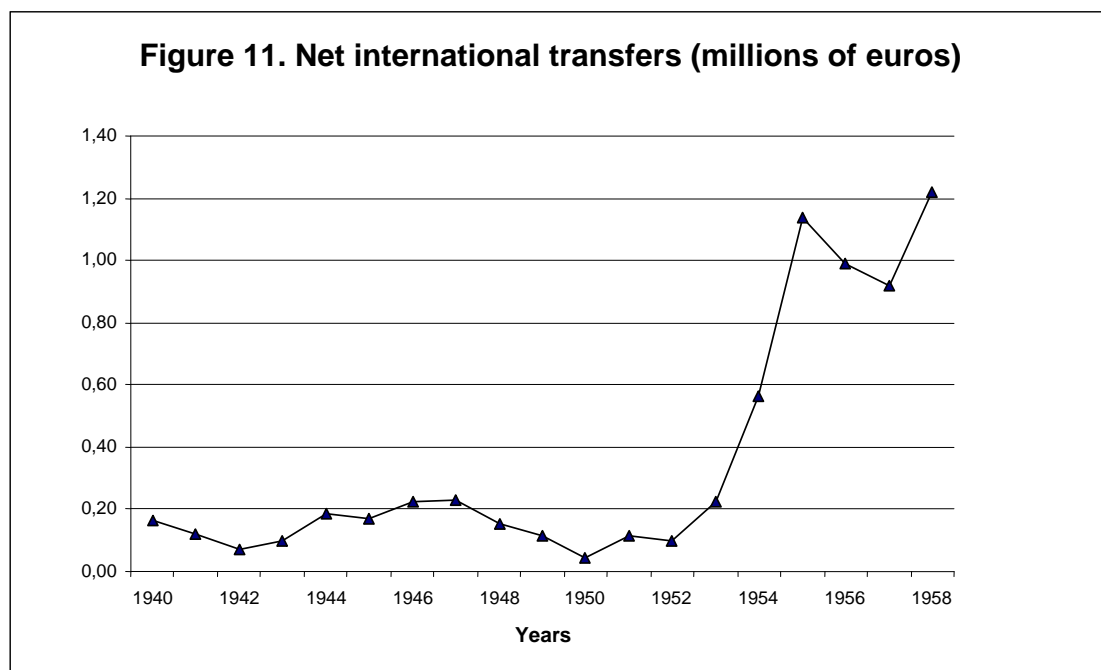
Another element of equation (4) is that of tariff revenues for each autarky year: $(p_a - p_a^*) \cdot (c_a - y_a)$. We can find data for the tariff revenues in Comín and Díaz (2005), but we need to normalize them, making 1913 prices equal to one. The data are shown in column 4 of Table 1. This element is not influenced by the selection of the free-trade reference period.



Source: Author's calculations, with data from Comín and Díaz (2005).

We can see in Figure 10 above that tariff revenues are very high in the central years of WWII. At the end of the war, they decline. In 1946, the beginning of the post-war reconstruction period, tariff revenues are high again, but in 1947 they start a negative trend. Then, after a large decrease, in 1952, the trend is reversed, with tariff revenues recovering to previous levels.

The last term of equation (4) is B_a . These are net transfers for each year. Data come from Martínez Ruiz (2003) for the autarky period and they have been normalized as well. As for the previous term, this element does not depend on the selection of the reference period.



Source: Author's calculations, with data from Martínez Ruiz (2003).

In Figure 11, we observe a decrease in net transfers from 1947, the beginning of the international isolation period. From 1946 to 1949, the majority of the capital transfers came from Argentina, which provided \$322.5 million to Spain.²⁷ Because of its characteristics, this aid did not provide a general basis for economic growth and development, despite its importance to the population in general. We see that, even with the Argentinian aid, there is a negative trend in net transfers from 1947. The trend becomes clearly positive in 1953, when the Madrid Treaty was signed and US aid began to be received. All of the increase observed is due to US aid. A peak occurred in 1955, thanks to the McCarran Amendment in the US Congress and, subsequently, the aid decreased.²⁸ Between 1955 and 1958, \$589 million arrived in Spain in the form of transfers from the US.

As Tena (2005) claimed, in the 1950s, the inflow of foreign capital to Spain was more influenced by Spain's reputation and economic policy than was the case for other European countries. Furthermore, the inflow of foreign capital did not start until the US changed its attitude to Spain and began to end the international isolation.

²⁷ Martínez Ruiz (2003), p. 112.

²⁸ More details are provided in Chamorro et al. (1975) and Martínez Ruiz (2003).

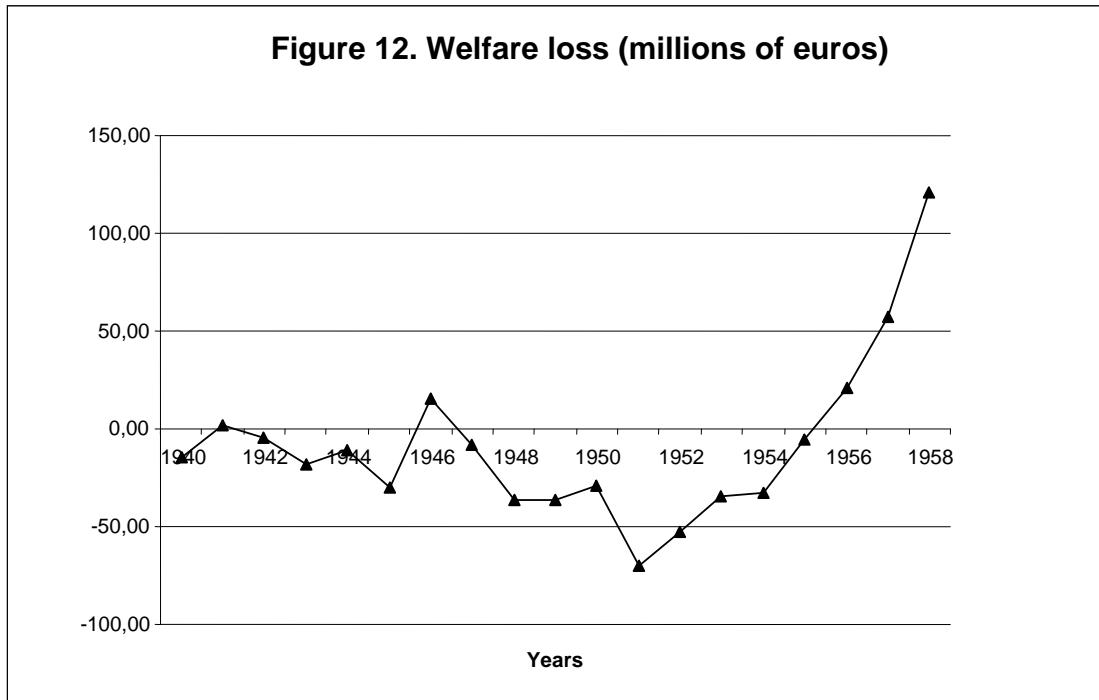
Table 1. Components of welfare loss (millions of euros)

Years	Tariff revenues ^a $(p_a - p_a^*) \cdot (c_a - y_a)$	Transfers ^b B_a	Vector of trade ^c $-(c_f - y_f) \cdot p_a$	Substitution production ^c $S p_a$	Loss of welfare ^c
(1)	(2)	(3)	(4)	(5)	(6)
1940	0.62	0.16	-2.22	-13.75	-15.18
1941	0.42	0.12	-6.47	7.08	1.15
1942	0.59	0.07	-14.21	6.88	-6.67
1943	0.94	0.10	-21.77	2.32	-18.41
1944	0.86	0.18	-15.30	2.60	-11.65
1945	0.42	0.17	-31.39	0.40	-30.40
1946	0.86	0.22	-1.40	14.89	14.57
1947	0.69	0.23	-22.55	12.26	-9.37
1948	0.61	0.15	-43.56	5.48	-37.32
1949	0.44	0.11	-48.51	10.73	-37.23
1950	0.45	0.05	-34.67	4.93	-29.24
1951	0.32	0.12	-70.19	-0.68	-70.43
1952	0.38	0.10	-79.54	25.49	-53.56
1953	0.48	0.22	-53.70	17.16	-35.83
1954	0.52	0.56	-57.88	21.60	-35.20
1955	0.55	1.13	-42.43	29.46	-11.28
1956	0.84	0.99	-41.60	55.31	15.54
1957	0.76	0.92	-34.28	84.26	51.66
1958	0.79	1.22	11.32	99.71	113.04

Sources:

- a. Author's calculations, with data from Comin and Díaz (2005).
- b. Author's calculations, with data from Martínez Ruiz (2003).
- c. Author's calculations; see the text.

This table collects calculations for the elements of equation (4) presented above and the welfare loss for each year in the last column, which is mapped in Figure 12.



Source: Author's calculations.

Summing up the total evolution of welfare during the official period of autarky in Spain, including positive and negative numbers, the net welfare loss adds up to 205.81 million euros.²⁹ This represents a welfare cost of 8% of total GDP from 1940 to 1958.³⁰

However, looking at Figure 11, the year 1946 separates two periods of welfare losses. The first period occurred from 1940 to 1945. Summing up the losses from 1940 to 1945 indicates that welfare losses amounted to 81.16 million euros or 12% of total GDP in those years. Clearly, this period is influenced by the effects of the Spanish Civil War and WWII, as both conflicts made free trade more difficult at that time.

In 1946, WWII ended and Spain experienced a gain in welfare. International commerce was easier and it seemed that the recovery had started. Europe needed Spanish foodstuffs and raw materials to recover.

²⁹ All numbers are in 1913 prices.

³⁰ Recall that these are upper bounds.

Then, in 1947, the year of the Marshall Plan, another period of welfare losses began. This period did not finish until the world isolation finished, after the Madrid Treaty was signed, and Spain was admitted to the UN and other international organizations, such as the IMF and the World Bank, in 1955. During those years, the western countries included in the ERP increased their GNP by one third; excluding the UK, the increase was about 70%.³¹ However, Spain suffered a welfare loss of 319.47 million euros between 1947 and 1955, amounting to 26% of the total GDP of those years.

Given these results, I consider that these years represent the real period of autarky for Spain. The first years of the 1940s are clearly marked by the end of the Spanish Civil War and WWII. Then, when Spain and other European countries started the recovery process, the international isolation and the autarky ideals of the regime appeared. Thus, 1947 is the beginning of the real autarky period, which was prolonged until 1955. Since then, the gains in welfare have been constant and increasing, thanks to the end of the autarky.

VI. Conclusions

This paper studies a special case in the world economic history of a country shifting from free trade to autarky, which can be used as a natural experiment to measure welfare loss based on international trade theory. The autarky period has been compared with a previous period when trade was allowed to address how the lack of international trade affected the wealth of this nation, Spain. This example fits the statement of international trade theory, which assumes that a shift to a more closed trade status drives up domestic import prices and drives down domestic export prices. Then, welfare loss can be calculated with this theory: during the period from 1940 to 1958, which defines the agreed Spanish autarky period, there was a negative total welfare loss of 205.81 million euros, 8% of the total GDP of that time.

This paper distinguishes between two sub-periods, divided by the year 1946. In this year, the situation was closer to one of allowed trade.

The first period, 1940–1945, was likely to be influenced strongly by the Spanish Civil War and WWII. During this period, the welfare loss in Spain amounted to 81.16 million euros, 12% of the total GDP of this first period.

³¹ Hogan (1987), p. 431.

In the second period, 1947–1955, the welfare loss was up to 319.47 million euros, or 26% of total GDP. I consider 1947–1955 to be the real autarky period in Spain. After 1955, there were gains from trade, and high standards of living were achieved. The international isolation and the autarky ideals embraced by Franco's regime characterize the period from 1947 to 1955. The most important facts in the 1940s and 1950s for Spain were its exclusion from the ERP (1947) and the implementation of the Madrid Treaty (1953), which marked the beginning and the final step at the end of the real Spanish autarky period, respectively. Welfare losses began to finish as a result of the end of the international isolation, with the Madrid Treaty between Spain and the US, and the admission of Spain into the UN and other important international organizations.

In the political field, the ostracism of Franco's dictatorship as a way to achieve a political change in Spain failed. It served only as an excuse to provide union and support to Franco against foreign intervention. The main consequence of that policy was that Spain was left one decade behind in the reconstruction process and economic liberalization. However, trade restrictions in Spain during those years were not only the result of external constraints, but were also caused by the commerce controls and interventions of the regime.

From the mid-1950s, the Spanish economy achieved a higher level of performance. I agree with some scholars³² who have argued that this performance should not be classified as poor, but in fact as the opposite. As this paper shows, from 1956, there were evident welfare gains. Those years cannot be considered as typical of an economy with an autarky regime. From then onward, and with the new government in charge, the goal of Spanish economic policy was to open up trade to Europe, and to give up any self-supply objective. In any case, if Spain had been included in the Marshall Plan, it would have avoided a decade of retardation in growth and the welfare losses measured here.

This paper shows the high price paid by the Spaniards for being isolated, for internal and external reasons, from international trade. The autarky period remains in the memory of many Spaniards as one of the most difficult periods in recent history.

³² See, for instance, Prados de la Escosura (2003), Table 5.5, or Tena (2005), Table 8.2.

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