

An Economic Analysis of the Portuguese Fisheries Sector 1960-2011

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Working Paper No. 22/13

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The project is financed over the basic funding from The Research Council of Norway

INSTITUTE FOR RESEARCH IN ECONOMICS AND BUSINESS

ADMINISTRATION

BERGEN, August 2013

ISSN 1503-2140

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Abstract

This paper undertakes an economic analysis of the Portuguese fisheries sector and fish markets for the period 1960-2011. In this period the Portuguese economy has undergone a transformation as well as been subject to numerous external shocks. These include the revolution of 1974, substantial emigration as well as immigration, membership of the European Union in 1986 and adopting the Euro in 1999. The fisheries sector was exposed to a major shock of its own: the introduction of 200 mile Exclusive Economic Zones in 1977 essentially lead to the demise of Portugal as a Distant Water Fishing State. As a consequence of these shocks, the Portuguese fisheries sector and trade have undergone tremendous changes. It is remarkable that the overall supply of fish (tonnes) into Portugal, measured as domestic landings + exports – imports, was around 500,000 tonnes annually in the early 1960s, reaching a peak of 627,000 tonnes in 1967. Due to the macroeconomic shocks, it subsequently fell to a bottom level of 246,000 tonnes in 1979. By the mid 1980s, supply started increasing and in 2007, total supply was estimated at 655,000 tonnes, the highest level ever recorded.

Acknowledgement

The authors thank Dra. A. Brasão and Dr. M. Vasconcelos for helpful and insightful comments.

0. INTRODUCTION

The purpose of this paper is to undertake an economic analysis of the Portuguese fisheries sector and fish markets for the period 1960-2011. The analysis includes landings as well as trade and consumption. In the past 50 years the Portuguese economy has undergone a transformation as well as been subject to numerous external shocks. These include the “Carnation Revolution” of 1974, very substantial changes in population size, membership of the European Union in 1986 and adopting the Euro in 1999.

In addition to these macroeconomic perturbations, the fisheries sector was exposed to a major shock of its own: the introduction of 200 mile Exclusive Economic Zones in 1977, as a consequence of Extended Fisheries Jurisdiction (EFJ). As described by Bjørndal and Munro (2012), EFJ involved a massive reallocation of natural capital from Distant Water Fishing States (DWFS) to coastal states, with winners as well as losers. EFJ meant Portuguese fishermen were excluded from distant water fishing grounds and essentially lead to the demise of Portugal as a DWFS.

As a consequence of these shocks, the Portuguese fisheries sector and trade has undergone tremendous changes. These changes, as well as the reasons underlying them and their consequences, will be analysed in this article.

The current research is based on annual time series from different sources and thus covering different periods of time. Data on fish landings are available from 1960-61 onwards as are aggregate import and export quantities. On the other hand, trade statistics, in terms of import and export values, are available only from 1976. Moreover, comparison of pre- and post-revolution data should be done with some caution due to the very substantial geographic and demographic changes that occurred.

All monetary values are nominal. It should be noted that landing weight of domestic catches is likely to be different to corresponding product weights of imports and exports, therefore not presenting an exact comparison of volumes. However, for this report the volumes analysed allow for a general comparative analysis to be made.

This report is organised as follows. The macro-economic development in Portugal from 1960 to the present is analysed in section one, with an emphasis on macroeconomic “shocks”. Fish landings are described in section two, while imports

and exports are analysed in section three. Section four describes the market for fish while the research is summarised in the final section.

1 MACRO-ECONOMIC DEVELOPMENT IN PORTUGAL FROM 1960 - 2011

In the last half a century Portugal made a remarkable transition from an agrarian society to an industry- and service-based economy, but the country was still not able to successfully move on to a knowledge-based economy. During this time frame Portugal experienced a number of macroeconomic shocks and structural changes.

Portugal entered the 20th century as one of the poorest countries in the Western world and with one of the highest emigration rates (Baganha, 1994; Lains 2003a). The monarchy was at that time declining, because the country was left almost in bankruptcy while the monarchs were still living sumptuously (Mónica, 2010). During the First Republic (1910 to 1926), emigration occurred due to opportunities on the other side of the Atlantic: to Brazil and also to the US. Many people from Northern Portugal, mainly from Oporto and Minho, went to Brazil. This was due to socio-economic particularities such as small land ownerships that were inherited only by the eldest son of large families. Accordingly, the ‘excess’ of young men were excluded from land ownership and were forced to emigrate (Coelho 2004, Pinheiro 2008). Emigrants to the US had the opportunity to work particularly in the textile and fabric factories on the east coast and in agriculture, as well as in animal rearing and fisheries in California (Warrin and Gomes, 2001).

The dictatorship regime (known as *Estado Novo*) that lasted from 1933 to 1974 took control of the chaotic finances and enabled Portugal to be neutral during World War II. The regime was able to recover from the negative balance of trade, particularly by exporting to both sides of the conflict and by reducing imports dramatically (belligerents were producing less at that time due to the war) (Malefakis, 1992; Maravall, 1997; Rocha, 2009).

Portugal was predominantly an agrarian society with most of the population living in rural areas. The structure of the Portuguese economy had not changed much until 1950, when the country began to industrialise. By that time the regime opened to foreign capital and investments were done particularly in the chemical, metal-mechanic and energy industries. Other sectors also developed later (Lains, 1994). In this period hundreds of thousands of people left their occupations in the countryside and flocked mainly to coastal cities. Lisbon and Oporto received most of the people

in search of urban and industrial jobs and consequently metropolitan areas developed; alternatively they emigrated (Silva *et al.*, 2012).

Due to industrialisation in the mid 1950s, the Portuguese GDP per capita accelerated significantly and increased throughout most of the period from 1960 till 2007 (figure 1). However, the growth rate fluctuated a lot over time.

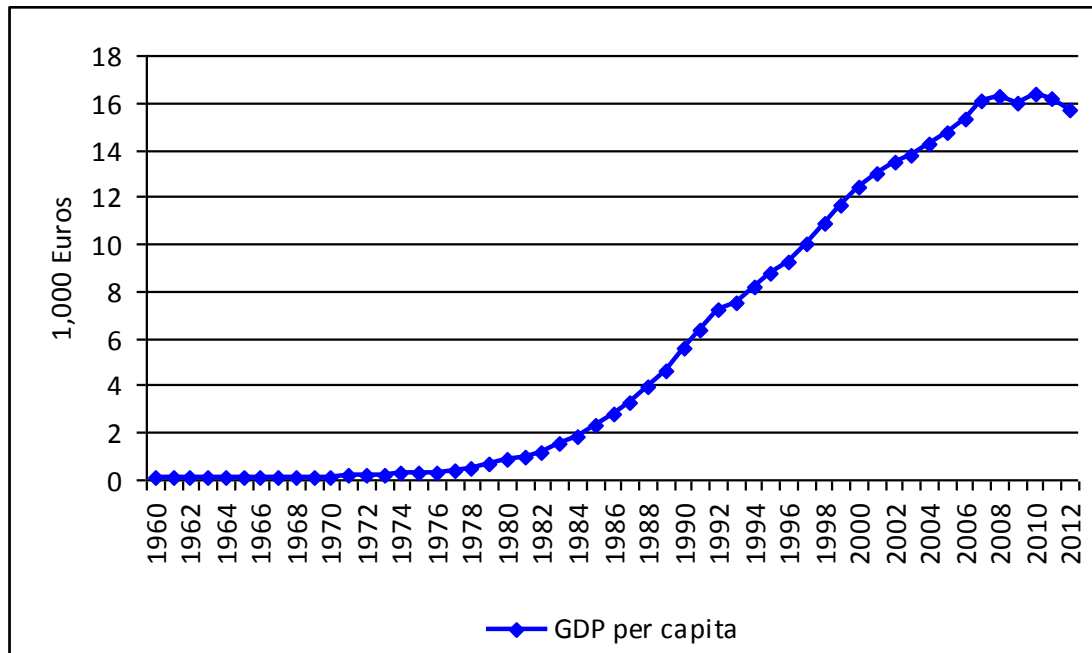


Figure 1. GDP per capita 1960 – 2012.

Source: Pordata (2013).

From 1960 to 1973 the Portuguese economy was booming, reaching one of the highest growth rates in the world (figure 2). This growth created opportunities for real integration with the developed economies of Western Europe. Individuals and firms changed their patterns of production and consumption through emigration, trade, tourism and foreign investment, leading to a structural transformation. Simultaneously, the increasing complexity of a growing economy raised new technical and organisational challenges, stimulating the formation of modern professional and management teams (Leite, 2006).

The *Estado Novo* regime maintained a policy of corporatism that resulted in the placement of a large part of the Portuguese economy in the hands of a number of strong conglomerates.

During the period 1959 to 1973 the growth rate of Portuguese merchandise exports was notable – 11 % per annum. In 1960 the bulk of exports was accounted for

by a few products – canned fish, raw and manufactured cork, cotton textiles and wine. In the early 1970s (before the 1974 military coup), Portugal's export list reflected significant product diversification, including both consumer and capital goods. Several branches of Portuguese industry became export-oriented, and in 1973 over one-fifth of Portuguese manufactured output was exported.

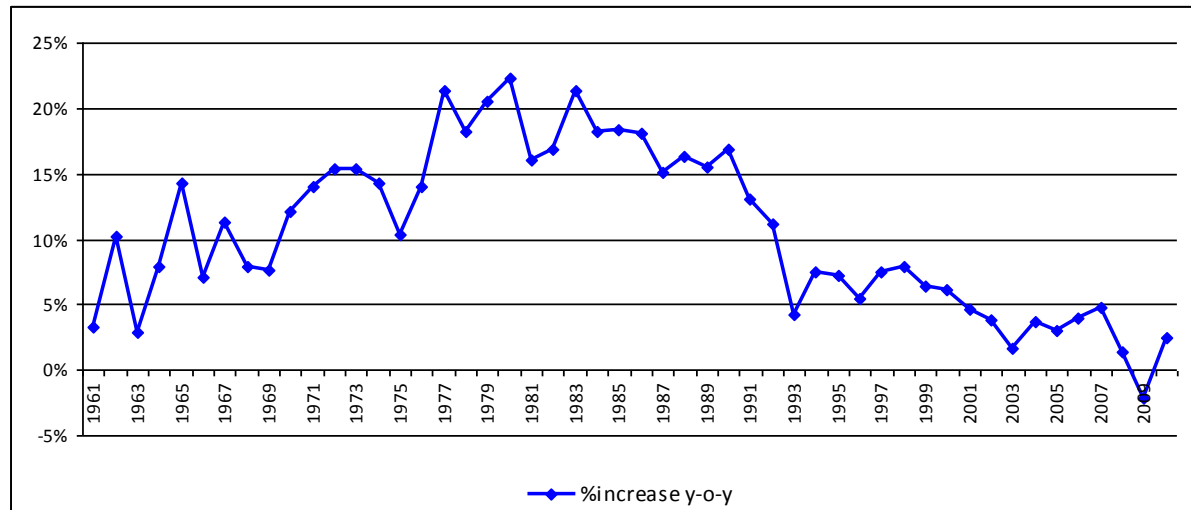


Figure 2. GDP per capita – percentage change year on year.

Source: Pordata (2013)

Economic growth slowed down after 1974, partially due to the political and economic instability that followed the arrival of democracy but also due to lower foreign demand caused by the first “oil shock” and the subsequent recession. The post Carnation Revolution period was characterised by chaos and negative economic growth as industries were nationalised, skilled workers emigrated and the negative effects of decoupling of Portugal from its former territories were felt. Heavy industry came to an abrupt halt. All sectors of the economy - manufacturing, mining, chemical, defence, finance, agriculture and fishing - went into free fall.

Despite foreign direct investment being legally exempt for nationalisation, many firms under foreign control dramatically reduced their investments also because of the imposition of very restrictive labour laws. This “reverse” macroeconomic policy gave up the former objectives of price stability and budget equilibrium, and the role of the state in the economy increased dramatically (Confraria 1999, p. 281).

Portugal changed overnight from being a Western European country with the highest growth rate to the lowest – in fact it experienced several years of zero or

negative growth from 1974 to 1984. The International Monetary Fund (IMF) was called to intervene twice during this period, first in 1977 and a second time in 1983.

The slowdown in the economic growth was amplified by the mass emigration of skilled workers and entrepreneurs due to political intimidation, and the costs of accommodating in Portugal thousands of refugees from the former overseas provinces in Africa (mostly from Portuguese Angola and Mozambique) and Portuguese Timor – the *retornados*. During the Colonial War (1961-1974), a lot of men emigrated or went to the long distance fishing fleet to avoid being drafted into the army and came back after the establishment of democracy. The total number of refugees who arrived in Portugal from May 1974 to the end of the 1970s is not clear: estimates range from 500,000 to one million (Time Magazine, Monday, 7 July 1975; Carrington & De Lima 1996). The development in population is highlighted in figure 3.

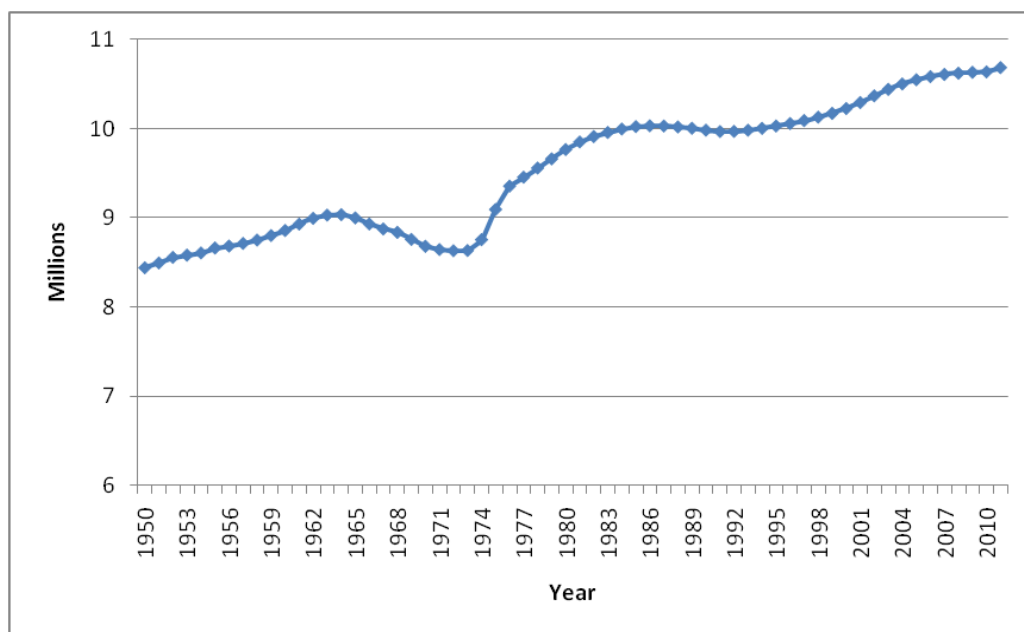


Figure 3. Population 1950-2011.

Source: OECD.

The *retornados* increased the Portuguese labour force by roughly 10 % in just a few years and had a strong adverse effect on Portuguese wages. As a result, between 1973 and 1986, Portuguese real per capita income moved apart from the European core at a rate that oscillated around 0.5 % per annum.

In 1986, the economic growth trend accelerated after Portugal's accession to the European Economic Community which saw a wave of institutional reform, an ambitious agenda of economic liberalisation and the privatisation of several of

Portugal's major companies. Membership of the European Community resulted in increased trade ties and an inflow of funds allocated by the European Union to improve the country's infrastructure. By the early 1990s Portugal was praised for its economic successes (European Commission 1992), for its economic miracle (Mateus, 1998; Neves 1994) and for its speed of convergence (Barry 2003).

However, acceleration of the economic growth was short-lived. After a recession in 1993, the economy grew at an average annual rate of 3.3%, well above EU averages but well behind the growth of the Portuguese economy before the military coup of 1974.

The Portuguese economy began to display several structural problems, especially with regards to productivity, as well as substantial fiscal and external imbalances. In the following decade the Portuguese economy stagnated, even though Portugal joined the European Monetary Union in January 1999.

In the 2000s, the Czech Republic, Greece, Malta and Slovenia overtook Portugal in terms of GDP per capita. The global financial crisis of 2007 amplified the situation. GDP per capita growth in 2008, at 1.3%, was the lowest not just in the European Union, but in the entire Europe. Unemployment increased from about 270,000 in 2002 to about 450,000 in 2007, an increase of 65%.

As shown in this introduction, it is possible to link economic trends in Portugal with major historical events, and identify those that caused relevant changes in the trends themselves.

2 PORTUGUESE LANDINGS 1960 –

Annual Portuguese fish landings for the period 1961-2007 are presented in figure 4.

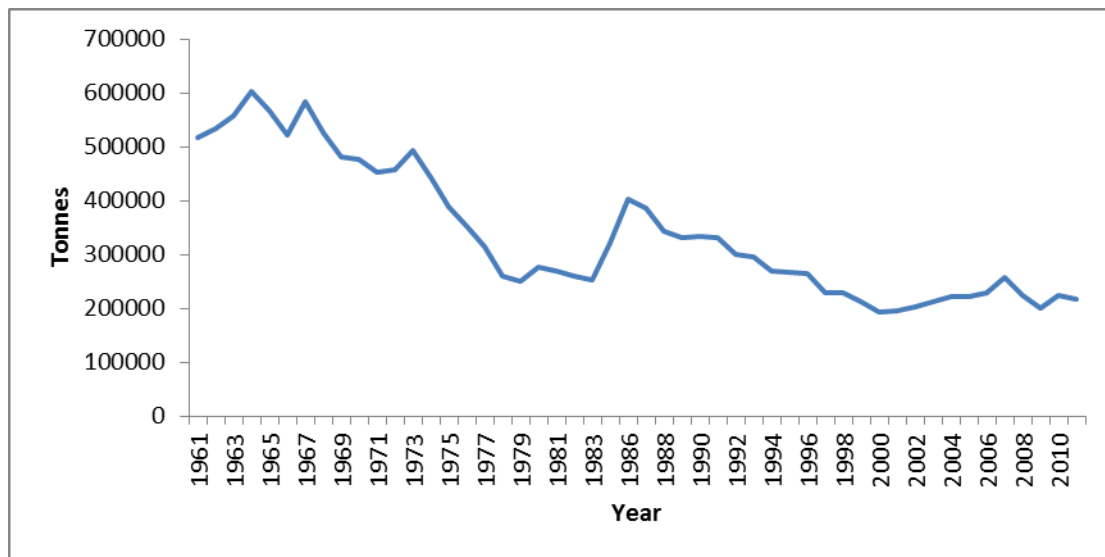


Figure 4 Portuguese fish landings 1961 – 2011. Tonnes.

Source: FAO Global Capture Production.

<<http://www.fao.org/fishery/statistics/global-capture-production/en>

> accessed 12/04/2013.

Landings increased from 502,000 tonnes in 1961 to a peak of 578,000 tonnes in 1964, the highest quantity recorded. Subsequently landings were in decline but with a peak of 563,000 tonnes in 1967 and another peak of 479,000 tonnes in 1973. After the 1973 peak, there was a substantial drop in landings starting in 1974, mostly related to consequences of the Revolution in terms of economic conditions and demography. In the following years landings flattened out at an annual level of around 250,000 tonnes for the period 1978-1983. In 1986, the year Portugal joined the European Union, there was a substantial increase to 407,000 tonnes, after which there was a gradual decline to a bottom level of 198,000 tonnes in 2000. In recent years, catches have increased, with 256,000 tonnes recorded for 2007, subsequently declining to 216,000 tonnes in 2011.

Portuguese cod catches increased from about 19,000 tonnes in 1985 to 47,000 tonnes in 1986, to be reduced to 23,000 tonnes in 1987. One explanation is that after Greenland leaving the then European Economic Community (EEC) in 1985 and Spain and Portugal joining in 1986, the Common Fisheries Policy faced a challenge concerning size and structure of the EEC's fleet capacity and had to adapt to this new situation. One particularity of this situation was the cod fishery, available off the

Greenland coast in the NAFO convention area and targeted by Spanish and Portuguese fleets (Horsted, 2000). Another explanation may be related to an overestimation of the exploitable biomass of Northern cod in 1985 (Hutchings and Myers 1995: 76-7). The perception of stock size overestimation only occurred in 1988 (Baird *et al.* 1991). The increase in landings in 1986 was mainly due to the negotiation process between the then EEC and third parties. According to Lane (2008), in the period 1984-94, most of the cod stock harvested in the Grand Banks NAFO Regulatory Area (NRA) was in decline and Portugal was somehow forced to a shift in catches. Whereas traditionally almost exclusively targeting cod in this area, this changed soon after 1986 to multispecies catches and afterwards targeting redfish during the 1990s and early 2000s.

Karagiannakos (1996, pp. 240-1), when referring to cod, says that “In general terms the recommended TACs (Total Allowable Catch Quotas) appear to be reasonably close to agreed TACs (...) The first divergence (20,000 tonnes) occurred when TACs were first legally established by Regulation 171/832 in 1983. Since then the oscillations in scientific advice were followed by the agreed TACs with the exception of 1986, where the Community's TAC was 40,000 tonnes more than the recommended level. During the decade 1983-92, the TACs followed a downward sloping pattern since they were reduced from the 1983 level of 240,000 tonnes to the 1993 level of 101,000 tonnes.”

The increase of 40,000 tonnes in the TAC for cod in 1986 probably resulted from the adhesion of Spain and Portugal to the EEC.

The 10 species caught in the greatest volume in 1960 were analysed to observe trends in volume caught during the period up to 2011 (figure 5). Without exception, there is an overall decline in volume of the 10 most important fish species caught in 1960.

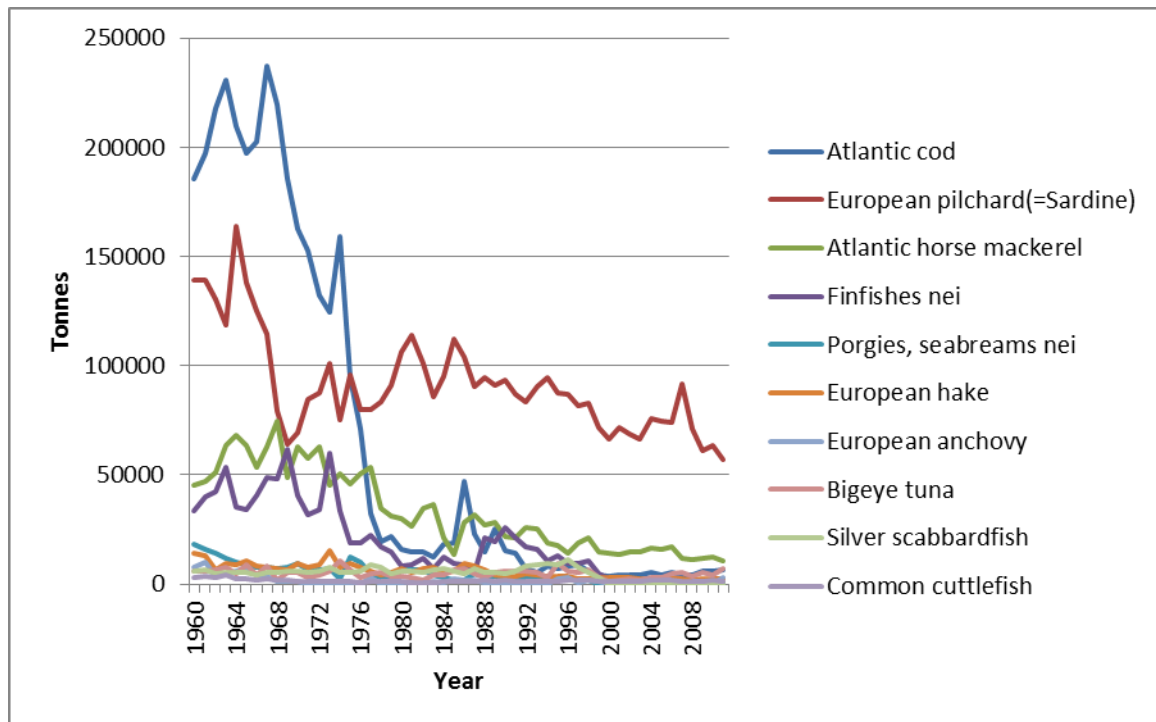


Figure 5. Greatest 10 fish species of Portuguese landings in 1960 - Trends in volume caught over time 1960-2011 (tonnes).

Source: FAO (2012).

Traditionally, Portugal was a Distant Water Fishing State (DWFS). The Portuguese long distance fleet operated mainly in the North and southeast Atlantic, targeting mainly cod and hake, respectively (Martos and Peralta 1995). However, with the advent of the 200 mile EEZs by coastal countries in the latter part of the 1970s, countries with distant water fleets such as Portugal suffered from this change (Souto 1994). Due to the combined effects of Extended Fisheries Jurisdiction and of international open access fisheries, the oil shock and the aftermath of the Revolution, the fishing sector faced tremendous difficulties (Coelho, 2000).

It was the distant water operations that explain why, in 1960, Atlantic cod was the most important species for Portuguese fishermen with a volume of 186,000 tonnes (Cole 1990). Landings increased to a peak of 231,000 tonnes in 1963. After a dip, landings increased to 238,000 tonnes in 1967, the highest level ever recorded. Even in year after Portuguese catches in the NAFO area were quite high when in comparison with other fleets (Baird et al. 1991). Subsequently landings were in decline. Landings were more than halved from 71,000 tonnes in 1976 to 32,000 tonnes in 1977, the year that saw the introduction of Exclusive Economic Zones, and then to 20,000 tonnes in 1978. The development in the mid 1980s has already been analysed. After 1987, cod

landings declined further in the following years, with 6,400 tonnes recorded for 2011. Thus, essentially Portugal is no longer a DWFS.

European pilchard was the second most important species with 139,000 tonnes harvested in 1960, after a dip increasing to a peak of 164,000 tonnes in 1964. After another dip, annual harvest was in the range 75-114,000 tonnes for the period 1972-96. Subsequently there were ups and downs; in recent years the harvest declined from 92,000 tonnes in 2007 to 57,000 tonnes in 2011.

In 1960, cod represented 35-40 % of total landings with European pilchard 25-30 %.

Similar patterns of decline to cod are seen in other species that were important in 1960.

Table 1. Catches of the 10 Most Important Species in 2011. Tonnes.

| Species | Quantity |
|-----------------------------|----------------|
| European pilchard (sardine) | 57,286 |
| Chub mackerel | 33,237 |
| Blue shark | 14,075 |
| Atlantic horse mackerel | 10,955 |
| Atlantic redfishes nei | 10,025 |
| Common octopus | 7,199 |
| Bigeye tuna | 7,108 |
| Atlantic cod | 6,409 |
| Blue jack mackerel | 5,078 |
| Black scabbardfish | 4,861 |
| Total | 156,233 |

Source: FAO Fishstat.

Table 1 lists the 10 most important species in 2011. Combined they represented 72 % of total harvest, with European pilchard alone representing 27 % followed by chub mackerel (15 %).

Of the 10 most important species caught in 1960, four were also among the 10 greatest species in 2011 (European pilchard, Atlantic horse mackerel, bigeye tuna and Atlantic cod). Quantities harvested are, however, in all cases substantially lower.

3 IMPORTS AND EXPORTS OF PORTUGUESE FISH PRODUCTS

Aggregate Imports and Exports

Although there were substantial variations from year to year, import quantity was on an upward trend from 117,000 tonnes in 1961 to 223,000 tonnes in 1972. In 1973, imports fell by more than 50% to 111,000 tonnes and remained at a depressed level up to 1982. In 1983 imports were 225,000 tonnes, roughly double of the 1982, and have exhibited an increasing trend ever since to 625,000 tonnes in 2007.

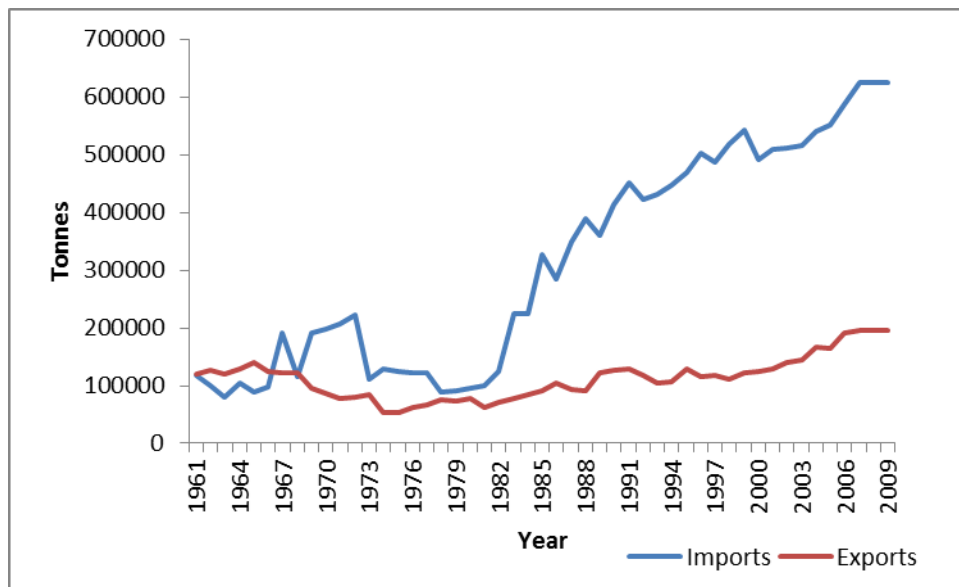


Figure 6. Total volume (tonnes) of Portuguese fish and fish product imports and exports 1961-2007.

Source: FAO Fisheries production and Trade 1976-2009

<<http://www.fao.org/fishery/statistics/global-commodities-production/en>>

The export volume in 1961 was 121,000 tonnes, increasing to 140,000 tonnes in 1965. Subsequently it declined to 83,000 tonnes in 1973. There was a marked drop to 54,000 tonnes in 1974-75; then exports increased in 1976 starting a positive trend. In 2007, exports amounted to 196,000 tonnes.

Data on value of imports and exports are only available from 1976 onwards. Aggregate data are presented in figure 7.

The total value of fish and fish product imports to Portugal has shown a significant increase during the period 1976-2009, from \$ 110 million in 1976 to a peak of \$ 1,889 million in 2008, falling to \$ 1,585 in 2009 (figure 7). Although there has been a positive trend throughout the period, there have been fluctuations from year to year.

The value of exports doubled from \$ 65 million in 1976 to \$ 130 million in 1980. After falling to \$ 94 million in 1983-84, the trend has been positive with peak export value of \$ 735 million in 2008, falling to \$ 631 million in 2009.

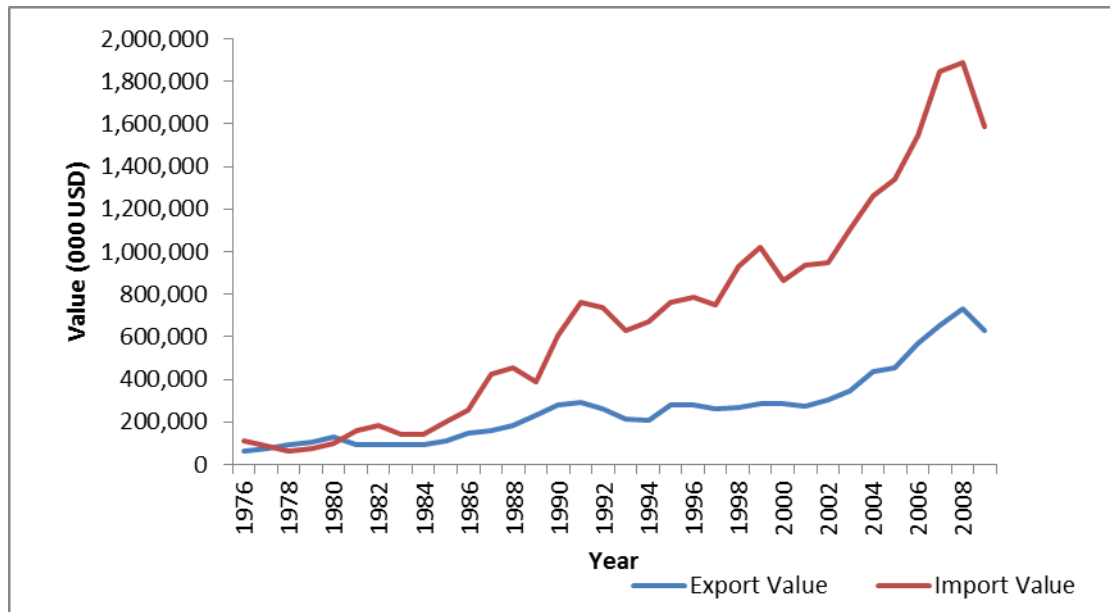


Figure 7. Total value (1000 US\$) of Portuguese fish and fish products imports and exports 1976-2009.

Source: FAO (2012).

It is noteworthy that while net imports were close to zero in 1976-80, they have increased over time and represented \$ 954 million in 2009. In other words, Portugal has become more and more dependent on imports for its fish consumption.

The macroeconomic developments in Portugal that were analysed in section 1 largely explain the development in imports and exports in the 1970s. Prior the 1974 Revolution, economic policies were characterised by progressive liberalisation and public finances were viewed as highly sustainable, with public debt representing a very small fraction of GDP. In the period after the Revolution (1974 to 1979), there were dramatic changes in the economy as outlined above (Courakis *et al.*, 1990). Due to high political instability, economic growth and investment was drastically reduced (figure 2). Imports and exports declined rapidly (das Neves 1994). Policy priorities changed, and the sustainability of public finances was considered less important (Bação and Duarte 2011). Trade policies were protectionist and several new measures were introduced.

In 1976 around 85% of imported products were taxed by specific duties, and the tariff rates of many products doubled (tariffs on EEC manufactured goods

decreased while those from third countries remained high). Measures imposed included import deposits, import surcharges with a high incidence in consumer goods, and quotas for consumer goods that were fixed annually in the local currency (escudo). The restrictive effect of trade led to a currency devaluation (Courakis *et al.*, 1990). The revolutionary period also led to an increase in labour costs and a reduction in exports, while imports decreased as a result of the postponement of investment decisions due to economic uncertainty (Coppolaro and Lains, 2009).

Imports

The top 10 import products are illustrated in figure 8. In 2009, frozen Atlantic cod (37,000 tonnes), salted cod (25,000 tonnes), jack and horse mackerels (18,000 tonnes), and salted & dried cod (18,000 tonnes) were the four most important import products. As highlighted in section 3, while Portugal was a Distant Water Fishing State, cod was the most important species in terms of landings. As a consequence of greatly diminished access to this resource, imports have increased (Coelho, 2000).

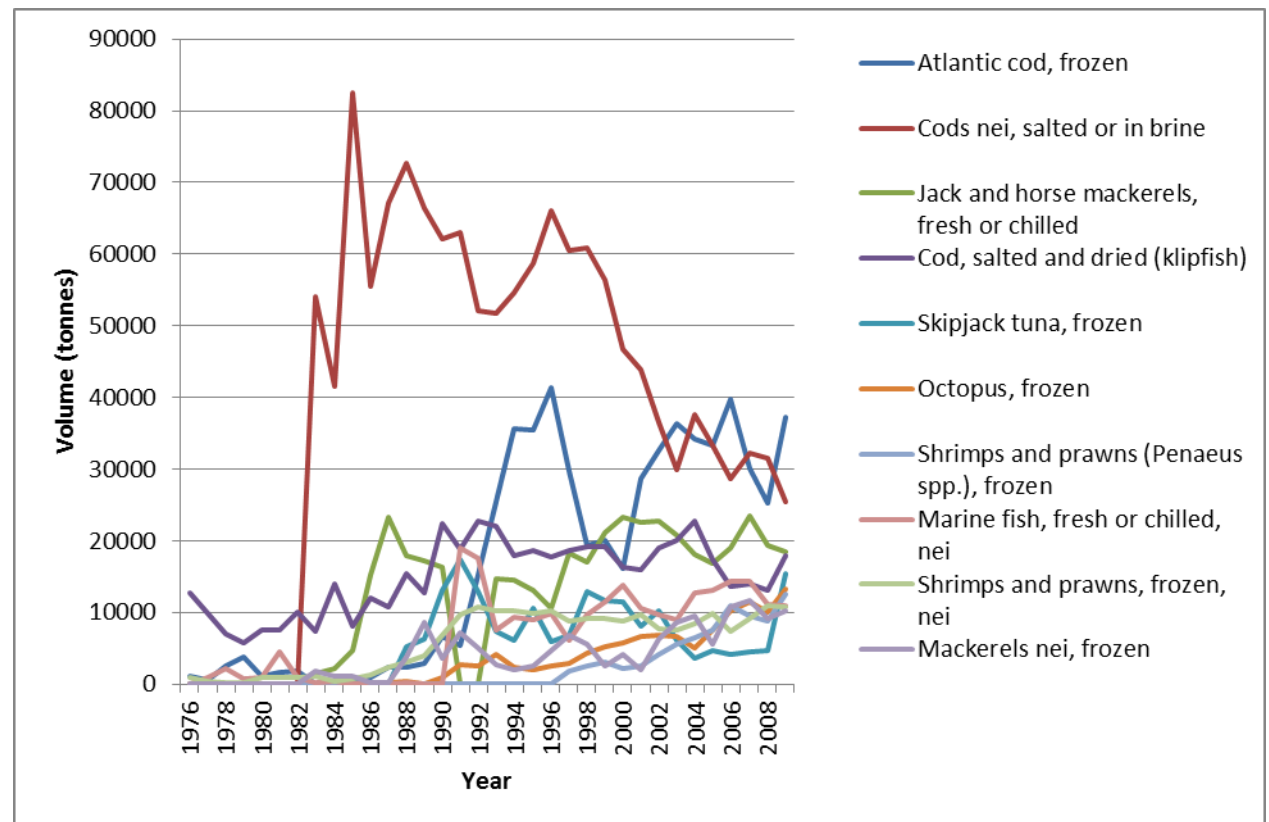


Figure 8. Imports of Main Fish Products 1976-2009. Tonnes.

Imports of frozen cod were negligible up to 1990. Imports of salted cod started in 1983 with a quantity of 54,000 tonnes; this has remained at a high level although lower in recent years. Frozen cod is salted and dried in Portugal while salted cod is dried. Thus, the market for salted & dried cod has changed over time.

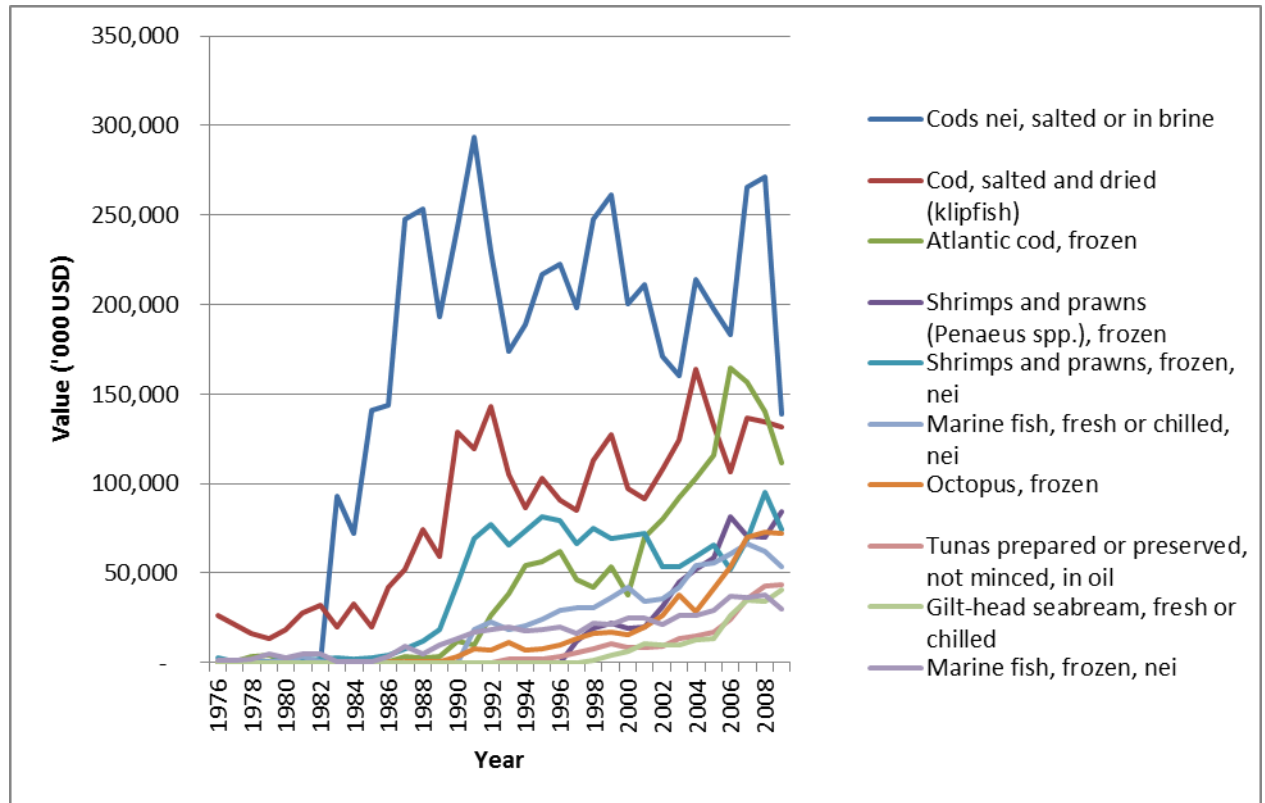


Figure 9. Most Important Fish Products in Terms of Value 1976-2009. \$ '000.

Overall there has been a steady rise in the import value of the greatest Portuguese fish species in 2009 (1000 US\$) (figure 9).

Various product forms of cod are most important in terms of value. The 2009 import value of cod, salted or in brine, represented \$ 139 million. This was followed by salted & dried cod with import value of \$ 132 million and frozen Atlantic cod at \$ 112 million. Combined these product forms represented 24 % of import value in 2009. While the import value for cod, salted or in brine, may have levelled off, there is an upward trend for the other two product forms although substantial annual variations are noted.

After cod, follow two product forms of frozen shrimps and prawns with respective import values of \$ 84 and \$ 74 million in 2009.

Exports

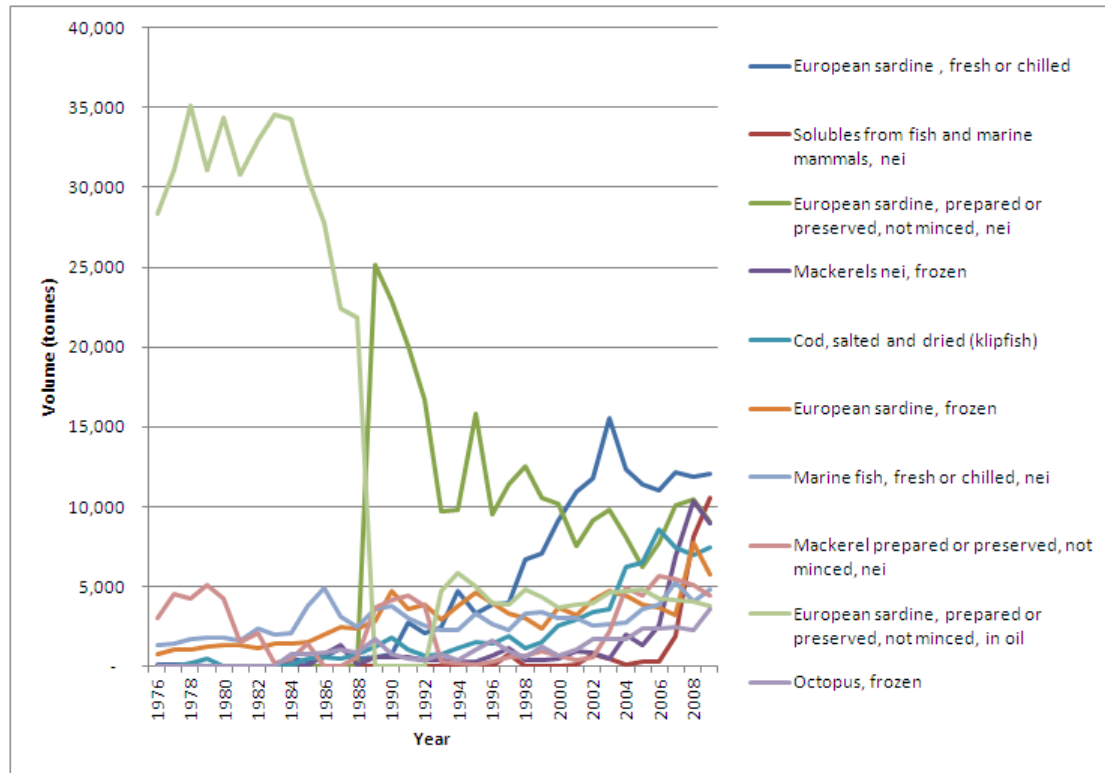


Figure 10. The 10 Most Important Portuguese Fish Product Exports 1976-2009. Tonnes.

European sardine, fresh or frozen, was the most important export commodity in 2009 with exports of 12,030 tonnes. Despite a crisis in terms of sardine recruitment in the early 1990s (*Stratoudakis et al.*, 2003), it is interesting to note that exports of this product were negligible at the beginning of the period under consideration and really only started picking up after the early 1990s. Tinned sardine (European sardine, prepared or preserved, in oil), showed the opposite development: in 1976, this was the most important export product with more than 28,000 tonnes, increasing to 34-35,000 tonnes. In 1988, exports were still 22,000 tonnes, however, they dropped to zero in 1989.

Of the 10 most important export products in terms of quantity, four (solubles from fish; European sardines, prepared or preserved; frozen mackerels; frozen octopus) were not exported at all in 1976; in addition, only 10 tonnes of salted & dried cod were exported.

In terms of value, salted & dried cod was most important with an export value of \$ 59.9 million in 2009, followed by prepared or preserved European sardine at \$ 47.6 million (figure 11). Four of the 10 most important products in 2009 were not exported at all in 1976 (prepared or preserved European sardine; frozen shrimps and

prawns; frozen octopus; not frozen shrimps and prawns). In addition, exports of salted & dried cod as well as fresh or chilled European sardine were negligible in 1976 with export values of \$ 23,000 and \$ 62,000, respectively.

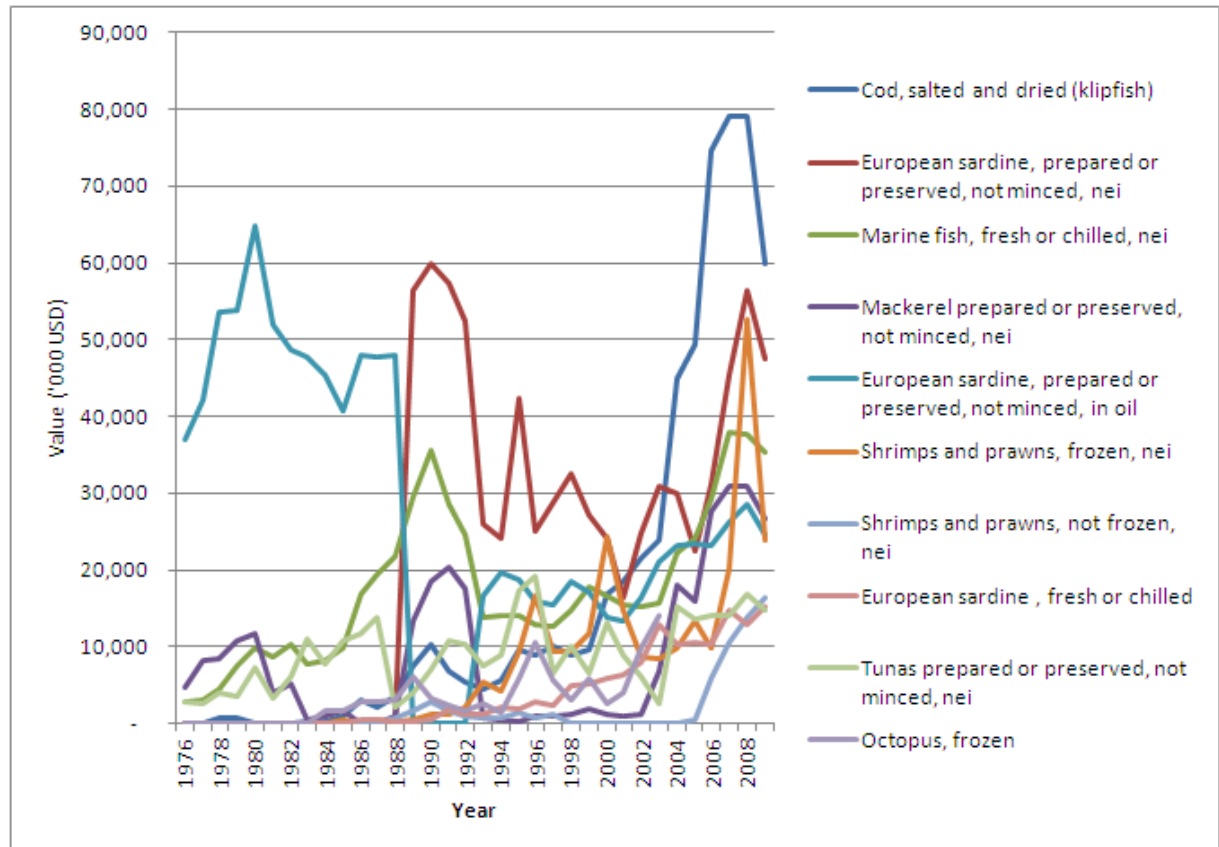


Figure 11. The 10 Most Important Portuguese Fish Product Exports 1976-2009 in Terms of Value. \$ '000.

4. MARKETS FOR FISH AND FISH PRODUCTS

Portugal has the highest per capita fish consumption in Europe and one of the highest in the world. Figure 12 shows annual per capita fish consumption (kg/capital) for 1961-2009. It is based on a food balance sheet of fish and fishery products in live weight.

In 1961, fish supply stood at 55.7 kg/capita. It remained at about this level until increasing to a peak of 71.4 kg in 1967, the highest level ever recorded. Prior to the revolution, in 1973-74, fish supply represented 52 kg/person. It subsequently fell dramatically to a nadir of 25.4 kg in 1979. After flattening out, fish supply started

increasing and reached 54.8 kg in 1985, i.e., the pre-revolution level was restored after 11 years.

Fish supply has ever since been at a high level. For the last three years, 2007-09, fish supply has been about 62 kg/capita.

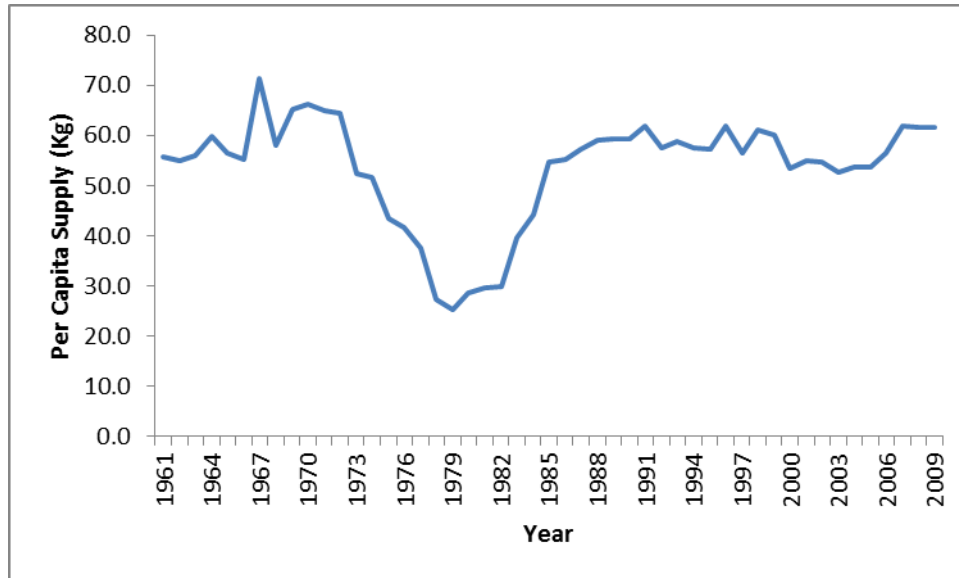


Figure 12. Per capita supply (kg) 1961-2009.

5. SUMMARY

The Portuguese economy in general, and the fisheries sector in particular, has undergone tremendous changes in the last half century. Overall the supply of fish into the Portuguese market has shown substantial change over the past 50 years. Moreover, the origin of this supply has changed markedly. Nevertheless, it is quite remarkable that, despite all these changes, aggregate supply at the end of the 50 year period under consideration is fairly similar to what it was at the outset.

Although domestic fish landings peaked at 578,000 tonnes in 1964, there were indications of a declining trend. After a smaller peak of 479,000 tonnes in 1973, there was a substantial reduction in landings starting in 1974, the year of the Revolution, bottoming out at an annual level of around 250,000. Landings remained at a lower level ever since, except for an increase in 1986, the year Portugal joined the European Union. In 2011, landings of 216,000 tonnes were recorded.

As for trade, imports fell by more than 50% in 1973 to 111,000 tonnes and remained at a low level up to 1982. Subsequently imports increased, reaching

625,000 tonnes in 2007. Exports were also reduced in the early and mid 1970s but subsequently increased, although at a much lower rate than imports.

The overall supply of fish (tonnes) into Portugal, with a crude net volume measured as domestic landings + exports – imports, was around 500,000 tonnes annually in the early 1960s, reaching a peak of 627,000 tonnes in 1967. For reasons explained above, it subsequently fell to a bottom level of 246,000 tonnes in 1979. By the mid 1980s, supply started increasing. In 2007, total supply was estimated at 655,000 tonnes, the highest level ever recorded.

As this article clearly highlights, there have been substantial changes also in fish trade, both regarding fish imports and exports and, implicitly, domestic processing. As a consequence, the composition of the market has changed. This is an interesting topic for further research.

REFERENCES

- Bação, P., & Duarte, A. P. (2011). Accession to the European Union, interest rates and indebtedness: Greece and Portugal. *Estudos do Grupo de Estudos Monetários e Financeiros*, 4.
- Baganha, M. I. (1994). Portuguese emigration trends in the twentieth century and their impact on the national economy. *Análise Social* 29(4), 959.
- Baird, J. W., Bishop, C. A., and Murphy, E. F. (1991). Sudden changes in the perception of stock size and reference catch levels for cod in northeastern Newfoundland shelves. *NAFO Sci. Counc. Stud.*, 16(11), 111-119.
- Barry, F. (2003). Economic integration and convergence processes in the EU cohesion countries. *JCMS: Journal of Common Market Studies*, 41(5), 897-921.
- Bermeo, N. (1987). Redemocratization and transition elections: a comparison of Spain and Portugal. *Comparative Politics*, 19(2), 213-231.
- Bjørndal, T., and Munro, G.R. (2012). *The economics and management of world fisheries*. Oxford University Press.
- Carrington, W. J., & De Lima, P. J. (1996). The impact of 1970s repatriates from Africa on the Portuguese labor market. *Industrial and Labor Relations Review*, 330-347.
- Coelho, M. (2000). Situação e perspectivas de desenvolvimento das pescas portuguesas: a Política Comum de Pescas. In Kovács, I., Moniz, A. B., & Godinho, M. M. (2000). *Pescas e Pescadores*, 123-149. *In Portuguese*.
- Coelho, V. A. (2004), “A Europa e as Europas. A grande emigração europeia, 1840-1930”, in: Coimbra, Artur F., ed., *Migrações: história, economia e encontro de culturas*, Fafe, Câmara Municipal, p. 21-48. (in Portuguese).
- Cole, S. C. (1990). Cod, God, country and family: The Portuguese Newfoundland cod fishery. *MAST. Maritime anthropological studies*, 3(1), 1-29.
- Confraria, J. (1999). Portugal: Industrialization and backwardness. *European Industrial Policy: The Twentieth-Century Experience*, 268.
- Coppolaro, L. and Lains, P. (2009). Openness protected: Portugal and European integration, 1947-1992.
- Courakis, A. S., Roque, F., & Fontoura, P. (1990). The impact of protection on the evolution of the Portuguese pattern of trade: 1974-86. Faculdade de Economia, Universidade Nova de Lisboa.
- FAO (2012). Global Statistical Collection <<http://www.fao.org/fishery/statistics/en>>

Hamann, K. and Manuel, P. C. (1999). Regime changes and civil society in twentieth-century Portugal. *South European Society and Politics*,4(1), 71-96.

Horsted, S. A. (2000). A review of the cod fisheries at Greenland, 1910-1995. *Journal of Northwest Atlantic Fishery Science*, 28.

Hutchings, J. A., & Myers, R. A. (1995). The biological collapse of Atlantic cod off Newfoundland and Labrador. The North Atlantic fisheries: successes, failures, and challenges. Island Institute Studies, Charlottetown, Prince Edward Island. Canada, 37-94.

Karagiannakos, A. (1996). Total Allowable Catch (TAC) and quota management system in the European Union. *Marine Policy*, 20(3), 235-248.

Lains, P. (1994). O Estado e a industrialização em Portugal, 1945-1990. Análise Social, 923-958. *In Portuguese*.

Lane, D. (2008). Fishing in the NAFO regulatory area: integrated modeling of resources, social impacts in Canada and EU fleet viability. *J. Northwest Atl. Fish. Sci.*, 39, 119-145.

Leite, J. C. 2006. Instituições, Gestão e Crescimento: Portugal, 1950-1973. Aveiro University, Economics Working Papers no. 38, March 2006. *In Portuguese*.

Malefakis, E. (1992). Southern Europe in the 19th & 20th centuries: an historical overview. Estudios/Working Papers (Centro de Estudios Avanzados en Ciencias Sociales), (35), 1.

Manuel, P. C. (1996). *The challenges of democratic consolidation in Portugal: political, economic, and military issues, 1976-1991*. Praeger Publishers.

Maravall, J. M. (1997). Regimes, Politics and Markets: Democratization and Economic Change in Southern and Eastern Europe. Oxford University Press, USA.

Martos, A. R., & Peralta, L. F. (1995). Biology and fisheries of North-west African hakes (*M. merluccius* *M. senegalensis* and *M. polli*). In Hake (pp. 89-124). Springer Netherlands.

Mónica, M. F. (2010). A queda da monarquia: Portugal na viragem do século. Dom Quixote. *In Portuguese*.

Neves, J. L. C. (1994). O crescimento económico português no pós-guerra: um quadro global. Análise Social, 1005-1034. *In Portuguese*.

Pinheiro, T. (2008). Emigration, immigration and interculturality: the meaning of the European Year of Intercultural Dialogue in Portugal. *Eurolimes*, (6), 63-75.

Pinto, F. M. R. D. F. (2011). A integração de Portugal nas Comunidades Europeias. *In Portuguese*.

Pordata (2013). Base de Dados Portugal Contemporâneo.
Available from: <http://www.pordata.pt/> [accessed 24 July 2013]

Rocha, A. L. M. (2009). As pressões dos Aliados e a evolução da política externa portuguesa entre 1942 e 1943: da neutralidade à colaboração. *Revista de História*, (161), 113-145. *In Portuguese*.

Silva, F. B., Marques, T. S., & Delgado, C. (2012). Processos de expansão urbana e mudanças na paisagem: Ensaio Metodológico (1950-2000). *Geografia: Revista da Faculdade de Letras*, (1). *In Portuguese*.

Souto, H. (1994). A vida dos homens: A pesca – condicionalismos e evolução. In Brito, R. (1994), *Portugal Perfil Geográfico*, 180-201. *In Portuguese*.

Stratoudakis Y., Bernal M., Borchers D. L., Borges M. F. Changes in the distribution of sardine eggs and larvae off Portugal, 1985–2000. *Fisheries Oceanography* 2003 12:49-60.

Warrin, D., & Gomes, G. L. (2001). Land, as far as the eye can see: Portuguese in the old West (Vol. 21). Arthur H Clark.

This paper undertakes an economic analysis of the Portuguese fisheries sector and fish markets for the period 1960-2011. In this period the Portuguese economy has undergone a transformation as well as been subject to numerous external shocks. These include the revolution of 1974, substantial emigration as well as immigration, membership of the European Union in 1986 and adopting the Euro in 1999. The fisheries sector was exposed to a major shock of its own: the introduction of 200 mile Exclusive Economic Zones in 1977 essentially lead to the demise of Portugal as a Distant Water Fishing State. As a consequence of these shocks, the Portuguese fisheries sector and trade have undergone tremendous changes. It is remarkable that the overall supply of fish (tonnes) into Portugal, measured as domestic landings + exports – imports, was around 500,000 tonnes annually in the early 1960s, reaching a peak of 627,000 tonnes in 1967. Due to the macroeconomic shocks, it subsequently fell to a bottom level of 246,000 tonnes in 1979. By the mid 1980s, supply started increasing and in 2007, total supply was estimated at 655,000 tonnes, the highest level ever recorded.



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