ECONOMIC INTEGRATION AND LABOUR FLOWS
THE EUROPEAN SINGLE ACT AND ITS
CONSEQUENCES

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Abstract:
The study of the joint decision to work and/or to emigrate enhances our knowledge of the allocation of time within the person's life-cycle.

This study is particularly relevant when the barriers against migration of workers are going to change as will happen in the countries joining the EEC.

Using data from Portugal an empirical model is estimated which shows that wages in the destination countries strongly influence emigration levels and the supply of labour.
I - Introduction:

There is a vast literature on the economics of the decision to supply work, either by men, women and within the family.¹ The decision to work in an environment with emigration has recently attracted more attention.² The person (or family) has to decide not only if he/she (family member) is going to supply work but also if he/she is going to emigrate, that is to supply his labour force elsewhere. In this paper we present evidence on the economic determinants of the decision to participate in the labour market and/or to emigrate, seen as a single process. We present new results on the effects of changing wages in the home country and abroad on the decision to work and/or emigrate.

The study of the joint decision to emigrate and to work enhances our knowledge of the allocation of time within the person’s life-cycle and our ability to predict what emigration and labour supply will be when barriers to workers mobility are removed.

This analysis seems particularly relevant to the study of the consequences of the "European Single Act" whereby most barriers against the economic flows -including the barriers against the migration of workers- across EEC member states are to be abolished, starting in 1993. It is simple common sense to acknowledge that the EEC member states are far from an homogeneous set of countries and yet it can only be surprising that the flows of workers among those EEC countries for which there are no artificial barriers is so small. However one can identify a set of countries, the new entrants Greece, Spain and Portugal, whose 

workers do face meaningful artificial barriers when they do want to (e)migrate for a more developed EEC country. And all these countries do have recent histories of exporting labour force to some of the older members of the Community. This phenomenon of intra Europe migration was virtually interrupted after the first oil shock in 1973/74 but these flows can start again after the removal of the above mentioned barriers as a consequence of the European Single Act. The economic determinants of emigration do deserve careful attention.

In this paper we start our study (section III) with a simplified version of a microeconomic model of labour supply incorporating the possibility of emigration. This model is specified in order to help the formulation of a macroeconomic model to estimate the probability of a worker to participate in the labour market in the home country or to emigrate.

In this procedure we use data from Portugal, the least developed among the "new" EEC countries and a country having an history of important emigratory flows towards some of the "old" EEC countries. Also, Portugal was perhaps the most open economy among those we could consider in this study. When it is known that trade in goods is, in a sense, a substitute for trade in factors it is desirable to control, as far as possible, for the reduction in trade barriers, to study the economic determinants of emigration.

Because the facts pertaining to the portuguese economy may not be so well known to a foreign reader we include a special section (section II) where the portuguese macroeconomic behaviour during the sample period is described, as well as, in this section, we include some comments on the emigratory flow originating in Portugal.

Emigration is a phenomena with long historical roots in Portugal. Destinations were the overseas empire, until the mid nineteenth century, and those countries that were former colonies, like Brazil, afterwards. Since the 50's the main destinations for the portuguese emigrants have been the north and central european countries and the U.S.A.. This more recent emigration is the one that will be studied in this paper.

Portugal is now - and since 1986 - a member of the EEC and,
it may be worth mentioning at this point, that the portuguese emigrants went basically to France, Germany, Belgium and Luxemburg, that is to EEC countries.

Emigrants to Europe came, basically, from the portuguese mainland while emigrants to America originated fundamentally from the Islands of Açores and Madeira.

South Africa is another country with a large portuguese community but, in this case, most of the emigrants came from the Islands or from the former portuguese african colonies of Angola and Mozambique.

Focusing our attention in Europe, we are led to believe - in spite of the relative unreliability, and contradictions, of the available statistics - that the stock of portuguese emigrants in EEC countries is, at the present, more than one million persons, representing about 25% of the current employment in Portugal.

It is also important to notice that these are only about half of the portuguese "registered" emigrants.

Most of the portuguese emigrants in the EEC are of working age. We are led to believe that around 75% of the portuguese legal emigrants have ages between 20 and 55.

Since the mid-fifties the emigration from Portugal to the other EEC countries increased slowly until 1962/1963 when it accelerated markedly to a much higher figure and then, in 74/75, it virtually stopped. Between 1965 and 1973, more than 100 thousand people emigrated each year to the EEC countries. The precise destination of these emigrants is difficult to know because there has always been a large flow of migrating persons who did not apply for an emigrant passport. From 1969 to 1971, most of the emigration was illegal in the sense above (see figure 1).

Although one of the reasons for this flow of ill

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1,063 thousands estimated using data from the State Department for Emigration and Portuguese Communities or 906 thousands in the Eurostat estimate for 1986).
emigrants was the colonial war, when some people tried to avoid army enrolment, we believe that the main reason was to by-pass evade the costs of going through the bureaucratic process.

With respect to the sex ratio of the portuguese emigrants we could not find any systematic and meaningful bias. Common wisdom has is that portuguese emigration to Europe was essentially male in the first decade or so, then mixed and later essentially composed of females and children, where families joined the "breadwinners".

It is a clear impression that when the authorities of the destination countries began to worry about controlling immigration they started to make difficult the entrance of working-age males while they accepted the families joining those already there. This happened after the oil shock of 1973.

The change in the immigration policies of the destination countries and at the same time the revolution in Portugal explains the large decrease in the emigration that happened after 1974.

At the present the sex ratio of the stock of portuguese emigrants seems to be similar to that of the resident portuguese population of the same age.\(^4\)

In figure 2 is presented the portuguese emigration by year and sex decomposition.

With respect to professional qualifications it seems that the larger group is composed of non-qualified manual workers, followed by the group of qualified manual workers.\(^5\)

The average duration of the period of emigration time is about 12 years.\(^6\)

In section IV the data and the estimation procedures are

\(^4\) In France 1982 there were 53% of males in the total of 7664,800 portuguese emigrants - data from the 1982 French Census.

\(^5\) 43% non-qualified manual workers in 1982 French census.

presented. Next, in section V, we show the econometric results and our interpretation of those results.

In section VI we describe the structural evolution of employment since 1974.

We end this paper with a conclusion where we discuss what implications one can expect for the Portuguese labour market of the European Single Act.
II- A note on the Portuguese macroeconomic experience, 1958-88

The objective of this section is to provide an interpretation of what may be the "conventional wisdom" about the Portuguese macroeconomic experience in the period under consideration. One will attempt to highlight the crucial role that, at least according to the mentioned conventional wisdom, labour market institutions and behaviour play in the explanation of what is considered the bad macroeconomic performance of Portugal in the post-OPEC, post-revolutionary years.

During the late 50s, the 60s and the early 70s, that is during the part of the sample period before the combined OPEC-led and Revolution-led shocks, the general pattern of the dynamics of the Portuguese economy was one of a strong output growth with low rates of unemployment and inflation. Growth of output and prices was increasing in the later years of this sub-period.

The output growth was felt mainly in industry with services trailing not very far behind while agriculture essentially stagnated. Conventional wisdom has it that industrial output growth was export led while services output growth was led by the rapid increase in personal incomes consequent to the growth of the domestic economy and the remittances of the emigrants. In fact one may say that output growth was quite pro-trade biased when exports increased from 17.4 per cent to 26.3 per cent of GDP from 1954 to 1972 and imports, also as a percentage of GDP, increased from 21.2 per cent to 31.4 per cent, in the same period.

Despite the deficit in the trade balance, which increased from 3.8 per cent to 5.1 per cent of GDP, the current account of the balance of payments was kept in surplus due, mainly, to the private transfers of the emigrants and also because of the receipts from tourism.

During this period Portugal not only exported goods and especially labour intensive goods but also labour-force itself. In fact these years can also be characterised by an important emigrating flow that peaked around 172 thousand in 1970 and was of the order of 120 thousand in 1973. These emigratory flows however
were only one aspect of the migratory flows of the Portuguese population in the period. The other one was the flow from agriculture and rural areas to the towns and to industry and services.

These aspects were actually accentuated after 1961 by the increase in armed forces enrolment dictated by the war in the colonies. The consequences were an even higher growth rate of per capita GDP and a very low rate of unemployment. To evaluate this rate, when one wants to make international comparisons, due attention has to be paid to the quick changes in the productive structure that were taking place, in Portugal, at the time and that—as it is generally understood—induce a higher natural rate of unemployment. All these considerations refer to the rate of measured unemployment since one can presume the existence of an, eventually large, pool of under-employed in agriculture and family craft sectors.

The labour market conditions were, therefore, generally tight and one can think of this market as being in equilibrium if not supply constrained. Real wages were growing fast but the share of labour in value added was roughly constant. Trade unions, in the modern sense, were non existent because of the corporatist organisation of the state and the workers’ bargaining power resulted almost solely from the general conditions prevailing in the labour market. This was considered to be a highly flexible one in a generally stable economic environment.

Krugman and Macedo (1979) described synthetically the Portuguese macroeconomic situation in 1973 as one of excess demand in the labour market and surplus in the current account. Output was then above potential and the real wage was below its “warranted” level, that is the real wage compatible with the natural rate of unemployment and equilibrium in the external accounts.

Yet, already in 1973, the first signs of some of the forthcoming troubles became apparent. With respect to the economy it was in late 1973, as is by now well documented, that happened the first oil shock that adversely affected all western economies. In April 1974 a political and social Revolution took place and that lasted for the rest of 1974 and most of 1975.
The oil shock and the Revolution determined to a large extent a substantial change in the economic picture in the years 1974 and 1975. During these years the Portuguese economy was indeed subjected to a peculiar combination of internal and external shocks not only economic in nature but also political, social and institutional.

There were two related types of external shocks. The first amounted to a very significant deterioration of the terms of trade as a consequence of the increase in import prices and the second was the recession in most O.E.C.D. countries. For a small open economy like the Portuguese, when 80 per cent of its exports were sent to that area, the recession and consequently the reduction in the growth rate of international trade determined increasing difficulties in the access of Portuguese exports to foreign markets.

This recession was also important in explaining the reduction in the emigratory flow that coincided with the period of the Revolution. The net emigratory flow, exclusive of the return of settlers from the former colonies, is 70 thousand in 1974 and 45 thousand in 1975.

The internal shocks were, in its many forms, direct or indirect consequences of the Revolution. Besides the economic importance of those shocks, in themselves, it is important to note that their effects were, at least partly, the result of the interaction of the consequences of the Revolution with a generally unfavourable economic environment. In fact, one of the consequences of the Revolution, at least in its timing, was the independence of the colonies and this meant the loss of important markets. The proportion of the exports to the former colonies in total exports decreased from 15 per cent in 1973 to 8 per cent in 1975 and from 3.9 per cent to 1.6 per cent of GDP, between the same years.

Given the generally difficult access of the Portuguese goods and services to the international markets, the combined result was a decrease in the value of exports of 15.6 per cent in 1975.

The independence of the colonies resulted also in the return of more than 400 thousand settlers. This is an increase in resident population of about 5 per cent in two years. The increase
in civilian labour force was more than proportional to that increase in population because the armed forces recruitment was substantially reduced.

The political instability of the revolutionary years also had negative effects on private transfers and receipts from tourism.

Internally there was a marked increased in the bargaining power of the unions and other forms of workers' organisation that were able to get large increases in real wages. The increases in product wages were even more important as, on average, the prices of imports increased faster than the prices of domestic output.

Unions and the labour movement in general were also able to impose important institutional changes as the legal prohibition of firings and dismissals but for the most extreme cases. The reorganisation of the unions from craft to industrywide contributed to the shifting of bargaining away from the firm level and towards the industry level.

In Figure 3 is presented a simple graphical description of what happened in the labour market during these two years.

Sticking to the bare essentials we may note a rightwards shift in the labour supply schedule due to the increase in the potentially active population while the labour demand schedule shifted leftwards due to the increases in uncertainty and risk, the increase in labour's stock adjustment costs, the deterioration of the terms of trade and the unfavourable productivity shocks. All this led to a decrease in the equilibrium real wage, and, one might speculate, to an increase in the natural rate of unemployment. At the same time the changes in the political scene and the consequent increase in the workers' bargaining power dictated the increase in the real wage. Synthetically one may say that a substantial "wage gap" was opened, see Barosa (1984).

1

There is not to our knowledge any estimate of the natural rate of unemployment for Portugal. The possibility of an increase in that rate after 1973 is therefore based on considerations and findings for other economies.
The result was, therefore, the evolution of the situation in the labour market from a position like a) to a disequilibrium position like b). The approximate constancy of employment was however a consequence of the increase in public sector employment resulting from political and bureaucratic considerations. Private sector employment decreased, if slightly, as a consequence of all these shocks.2

The combination of the real wage increase with the employment rigidity induced a jump in the share of labour in national income (inclusive of social security contributions) that was 51.5 per cent in 1973 to 66.3 per cent in 1975. Of course, for this last number contributed the drop in real GDP, in 1975, of 4.3 per cent.

This kind of development, in the short-run, can only be accommodated by a decrease in profits with the consequent negative influence on investment and, therefore, in the path of future output. This aggregate decreased, in real terms, 8.5 per cent and 45.3 per cent in 1974 and 1975 respectively. However the consequences for the future path of unemployment may be long lasting because of the incentives against the use of labour thereby introduced as Krugman (1982) clearly shows.

The compression of profits together with the fixity of labour and the extensive price controls introduced in 1975 with the objective of reducing the rate of inflation brought many firms to the verge of bankruptcy. In fact some of those firms technically went bankrupt but their closure was prevented either by the workers' taking over the management, the government extending credit or both.

The economic importance of uncertainty and risk should not be

2

Comparisons of total employment in 1973 and 1974 are difficult because the methodology of the enquiries from which those figures are derived changed in this period. Available evidence, however, points to a decrease in the private sector employment at least partly compensated by an increase in public sector employment. See Mateus (1979).
forgotten. Both increased substantially during the years of 1974 and 1975 as a consequence of the raw materials and energy price shocks, international recession and the Revolution. Yet, simultaneously, the possibilities for diversification of risks were reduced with the closure of the stock exchanges.

Employers and firms were eventually "closed" in their original sectors and activities. This may have helped the recovery of firms in expanding sectors as those producing goods for which demand was particularly strong, or for exporting sectors but it kept the other sectors under great pressure. The fact that firms in almost every sector became state controlled and consequently bankruptcy-proof contributed to reduce the financial strength of many private firms, especially so in contracting sectors.

Unable to see credit increase at the necessary rate many firms stopped paying taxes, especially the social security contributions. Some of them actually stopped giving to the state the social security payments they collected from their employees gaining access to free credit. This simple idea of non payment became, in time, more generalised as the public administration stopped or delayed paying to contractors or public sector firms and some firms stopped paying wages.

In 1976 and 1977 one notes a strong reaction to that situation. Fearful of the social and political consequences of a wave of bankruptcies the government increased substantially the credit growth in this period. Wage controls, some price liberalisation and faster devaluation were also characteristics of this period. Inflation soared in 1977.

While real wages were reduced investment increased as a consequence of the negative real interest rates (nominal interest rates were fixed by government decree) and of the added incentives for relatively capital-intensive investment provided by the fixity of the labour input. Firms initiated a process of capital deepening that may have long lasting effects for the path of employment. In the short run and given the high import content of investment goods it also contributed to further deteriorating the current account.

In October 1976 new legislation allowed for the hiring of new workers to be made on a fixed term basis thereby introducing some
flexibility in firm's employment decisions at least at the margin. Except for the newly nationalised firms almost every new hiring was made under these conditions. The importance of this legislation was not immediately apparent as most of the firms were not engaged in employment expansion programmes.

Economic policies and economic performance in 1978 and 1979 were dominated by the external financing constraint. Credit controls, further devaluations, real wage decreases and productivity increases together with a small improvement in the terms of trade, easier access to foreign capital markets and a surge in remittances and receipts of tourism provided the equilibrium of the current account in 1979. These were the times of the first adjustment programme accorded with the I.M.F..

Expansionary policies were followed in 1980 and 1981. In fact 1980 saw, for the first time since 1976 a marked increase in real wages. This was due to the control of inflation and a revaluation of the currency. Real wage growth was reduced in 1981 mainly as a consequence of the acceleration of prices. Employment also increased in the period from 1979 to 1981 after a decrease in the previous three years.

In the meanwhile the current account deteriorated again and macro-policies for 1982 and 1983 were again determined by the external financial constraint with further decreases in the real wage and employment, credit controls and devaluation. As the situation seemed to get out of control a second adjustment programme was accorded with the I.M.F..

This time, however, inflation increased as a consequence of the restrictive policies being adopted. The external constraint was clearly related to public sector borrowing requirements and an attempt to slash this resulted in increases in the prices of subsidized goods.

The real wages decrease resulted from the acceleration of prices but also from the pressures in the labour market. On the one hand unemployment kept growing, and measured unemployment does not even tell the whole story for 95 thousand workers were found, in a 1983 survey of the Ministry of Labour, to be wageless. This represents around 2.5 per cent of employment and may be largely interpreted as concealed unemployment. On the other hand the
proportion of workers that can be dismissed at short notice increased to 11.3 per cent of employment, in October 1983. Of course this pressure is not homogeneous across sectors but its efficacy is beyond doubt for the redistribution of bargaining powers between unions and employers.

Broadly speaking the post-1974 period is usually seen, relative to the previous years, to be characterised by a much increased instability in output and prices with a pattern like stop-go for output and go-go for prices. Of course, output growth was generally lower and inflation higher.

The output instability and the pattern of stop-go policies is considered to result partly from the interaction of internal political business cycles with the cycles in the foreign economies (essentially the O.E.C.D. ones) and the binding nature of the external financial constraint and partly from the rigidities in the labour market that prevent a smooth running of the economy.

Late in 1984 and in 1985 one assisted to a reversal of the picture. The oil shock was now a favourable one!

The portuguese economy, being a small and open economy, is very volatile and very sensitive to shocks. As well as in the earlier years it suffered from the negative shocks, this time it benefited a lot.

The through of the depression just mentioned seems to have happened in late 1984 or the first half of 1985. Later this year a new government took office. While the economy was accelerating as a consequence of the favourable developments in the price of energy and in the dollar exchange rate the government decided to pursue expansionary macroeconomic policies in view of prospective elections.

The combined results of all these developments was a sharp rebound of economic activity with real fixed investment increasing 9.4% and 19.5% in 1986 and 1987 against -17.0% and -13% in 1984 and 1985, respectively. Because of the favourable evolution of the terms of trade the country could also assist to a very clear improvement of its external accounts.

At the same time inflation was reduced substantially inducing a feeling that one could eat the cake and have it... The changes in the labour market were no less impressive. Despite the growth
of real wages, employment increased and so fast that the rate of unemployment decreased from 8.5% in 1985 to 7.0% in 1987 and further to 5.7% in 1988. Of course, most of this growth of employment took the form of short-term contracts. The share of workers with this kind of contracts increased from 12% in the first quarter of 1985 to 19.3% in the third quarter of 1988.

This very fast growth together a very tight labour market may be the cause of the acceleration of the prices and the deterioration of the external accounts that started in the second half of 1988 and that, with a substantial lag, induced the government to adopt, already in 1989, contractionary monetary policies, even reversing some of the liberalising measures it took in the money market.

Another important aspect to mention is the Portuguese accession to the EEC that took place with the start of 1986. As a consequence Portugal is benefiting from substantial financial support from the Community. As this support is directed towards the investment in human capital and in infrastructure its benefits can be expected to show-up in the future.
III - Theoretical Model

In this section is presented a model of the representative consumer in order to study the decision of emigration.

In the model there is time and another good. The other good is considered the numeraire.

The consumer can allocate his time to work, either in the home country or/and in the destination country, or leisure. The utility he gets from leisure depends on whether it is taken in the home country or in the destination country.

Leisure is a good and work is a bad. It is assumed that the workers distinguish between work in the home country and work in destination country. We assume that workers can easier communicate with people in his home country then with foreigners.

We define:

\[ l^d \] - leisure in the destination country
\[ l^h \] - leisure in the home country
\[ h^d \] - work in the destination country
\[ h^h \] - work in the home country

And the workers face the following time constraint

\[ l^d + l^h + h^d + h^h \leq T \]

where is the total amount of time available to the worker.

The worker can visit his home country while he is working abroad, therefore his utility depends on the number of trips he does.

We define \( N \) as the number of trips (\( N=0,1,2,\ldots \)) and \( t \) the cost of each trip.

The utility of the worker depends on the amount of consumption of the good and leisure at home and at the destination, the number of hours worked in the home country and at the destination country and the number of trips to the home country.

We assume the number of emigrants influence the utility of the leisure in the destination country.

The utility function of the worker is:

\[ U (x, l^h, M \times l^d, h^h, h^d, N) \]

where \( M \) is the stock of emigrants and \( x \) is the amount of the other good.
The worker is going to maximize the utility above subject to the time constraint, the non-negativity constraints and the budget constraint:

\[ x \leq A + w^{o} h^{o} + w^{d} h^{d} - N t \]

where \( t \) is the number of trips.

From the maximization above we get a labor supply function for the destination country. For some workers the non-negativity constraint is binding, meaning that they are not going to emigrate. For others \( h^{d} \) is greater than zero.

If we create an index number with the value of one for each worker whose \( h^{d} \) is positive and with value 0 for each worker whose \( h^{d} \) is zero, and multiply this index by the number of workers we obtain the number of emigrants.

We can divide this number by the population and obtain the emigration rate.

So far we considered a static model, but the worker's decisions imply choices over time. The worker decides not only to emigrate or not but also has to decide when to emigrate.

If we considered a dynamic model we would have a model where the supply of labour and emigration decisions are taken jointly, so both equations have the same arguments.

The arguments we suggest are the wages in the home and destination countries, some expectations of those wages, a measure of the stock of emigrants and of the wealth.

In what concerns the labour demand we use a conditional (derived) demand function where the arguments are the cost of labour for the employer (nominal wage), the cost of other inputs (price of oil and interest rates) and the quantity produced.

The participation rate varies systematically with wages in the home country. As wages increase there is a substitution effect meaning that more workers decide to work and there is no income effect if workers are considered isolated. There could be some income effect if the working decision was taken by the worker as a
family member.

The wages in the home country have an evolution in time, so the worker takes its decisions not only based on the wage in the moment but also in the predicted evolution of wages. Therefore we assume a function that gives the expectation formation of wages by the workers.

If we had micro data we could question not only the decision to participate but also the decision to participate in a particular year as Boulter and Rosenzweig (1984) did with the decision to marry.

Wages influence the decision to emigrate. When wages in the home country increase less people is going to decide to emigrate so we expect that the probability to emigrate is going to decrease. In an environment where there are imperfections in the capital markets it can happen that people has to accumulate some wealth before emigrating so it can happen that there is a positive relation between wages in the home country and the decision to emigrate in a first phase and then there is the negative effect we expect.

A second explanatory variable is the wages the worker can receive abroad. If wages are increasing abroad more people that decides to work is going to work in a foreign country and the participation rate decreases in the home country because the population that stays has a smaller probability to work. At the same time we can have an opposite effect if we think that people that want to emigrate see working at the home country as a first step in the process that leads to emigration (kind of signalling effect).

If the above is true we expect the wages abroad to have a positive influence in the participation rate and the expected future wages a negative influence.

The wages abroad influence positively the probability to emigrate because there is more people who are going to consider emigration as the best decision.

The stock of emigrants in the destination country has a positive influence in the emigration rate because as the stock of emigrants increases more and more the new emigrants are going to "feels at home" in the destination country.
The influence of the stock of emigrants in the participation rate in the home country can be in both directions. As more people emigrates the participation rate decreases but at the same time as more people plans to emigrate the participation rate increases.

The wealth has a negative effect in the participation rate because as people became richer less people decides to work (work is an inferior good). At the same time wealth can have a positive influence in emigration because as emigrants need some initial wealth to pay for the expenses of the process of migrating.

The labour demand depends on the nominal wage (negative effect), on the production level (positive effect) and the prices of the other goods used in the production.

We considered proxies for the price of energy (oil prices) and of capital (interest rate). The expected signs depend on the fact of labour and oil, and labour and capital being substitutes or complements.

We tried to keep the equations as simple as possible, therefore the equations we estimated are

\[
\text{lact} = \beta_1 + \beta_2 \text{lwh} + \beta_3 \text{lewh} + \beta_4 \text{lwd} + \beta_5 \text{lswd} + \beta_6 \text{lse} + \beta_7 \text{la} + \epsilon
\]

\[
\text{ltxem} = \gamma_1 + \gamma_2 \text{lwh} + \gamma_3 \text{lewh} + \gamma_4 \text{lwd} + \gamma_5 \text{lswd} + \gamma_6 \text{lse} + \gamma_7 \text{la} + \nu
\]

\[
\text{lpe} = \rho_1 + \rho_2 \text{lwhn} + \rho_3 \text{ly} + \rho_4 \text{lo} + \rho_5 \text{h} + \zeta
\]

where

li is the natural log of the variable i
act - activity rate (participation rate)
ixem - emigration rate
pe - employment

See Borges and Pereira (1985)
wh - present wage in the home country
whn - nominal wage in the home country
ewh - expected permanent wage in the home country
wd - present wage in the destination country
ewd - expected permanent wage in the destination country
se - stock of emigrants in the previous period
a - real wealth per capita
c - price of oil
ir - interest rate
ε, ν, ξ - random terms
IV - Data and Estimation Procedure

Most of data we used comes from publications of the INE (Portuguese Statistical Institute), Banco de Portugal (Portuguese Central Bank), IMF, ILO and State Department for Emigration.

Variables:

wh - we used the value obtained multiplying the real wage by the probability of employment.

ewh - we tried to use adaptative expectations with the past three periods but the results were not satisfactory. In this paper we use an average of the wage of the next three periods.

\[ \text{ewh}(t) = a_1 \text{wh}(t+1) + a_2 \text{wh}(t+2) + a_3 \text{wh}(t+3) \]

where

\[ a_1 + a_2 + a_3 = 1 \]

wd - we tried to use the expected wage in some of the main destination countries (France, Germany and USA). The result was not satisfactory. We think this happened because the average wage is not a good proxy for the emigrants wage and the same for the average employment rate. In this paper we use the real per capita income in the more developed countries as a proxy for this variable.

ewd - we did as for ewh.

a - real wealth as calculated by Cartaxo & Santos (1984).

se - calculated as the sum of emigrants less the sum of returns.

act - calculated as the active population divided by the total population.

txem - number of emigrants divided by the total population.

pe - total employment.

o - oil prices in escudos per barrel

ir - one plus the nominal interest rate.

We used the "Haussman" test (Haussman 1978) to see the importance of using two stages and three stages procedures. We rejected the hypothesis that the expected wages in the home
country can be considered exogenous in our model.

As there is a structural break in 1974 (see figure 1) we estimated the equations above allowing for the possibility of changes in the coefficients before and after 1974.

As pointed in the introduction the break is the result of the change of immigration policies of the destination countries and at the same time the result of new conditions of life in Portugal after the 1974's revolution.

This means we created variables that have the value one before 1974 and zero after 1974 (including 1974).

The variable \( x_d \) is create from variable \( x \) this way, i.e., \( lwhi \) is \( lwh \) till 1973 and zero after 1974.

We started estimating the following model:

\[
\text{lact} = \beta_1 + \beta_2 \text{lwh} + \beta_3 \text{lewhi} + \beta_4 \text{lwd} + \beta_5 \text{lwd} + \beta_6 \text{lse} + \beta_7 \text{la} + \beta_8 \text{d} + \beta_9 \text{lwhi} + \beta_{10} \text{lewhi} + \beta_{11} \text{lwd} + \beta_{12} \text{lwd} + \beta_{13} \text{lse} + \beta_{14} \text{lai} + \varepsilon
\]

\[
\text{ltxem} = \gamma_1 + \gamma_2 \text{lwh} + \gamma_3 \text{lewhi} + \gamma_4 \text{lwd} + \gamma_5 \text{lwd} + \gamma_6 \text{lse} + \gamma_7 \text{la} + \gamma_8 \text{d} + \gamma_9 \text{lwhi} + \gamma_{10} \text{lewhi} + \gamma_{11} \text{lwd} + \gamma_{12} \text{lwd} + \gamma_{13} \text{lse} + \gamma_{14} \text{lai} + \upsilon
\]

\[
\text{lpe} = \rho_1 + \rho_2 \text{lwhi} + \rho_3 \text{ly} + \rho_4 \text{lo} + \rho_5 \text{lir} + \rho_{11} \text{d} + \rho_{12} \text{d} + \rho_{13} \text{lwhi} + \rho_{14} \text{ly} + \rho_{15} \text{lo} + \rho_{16} \text{lir} + \zeta
\]

where \( d \) is a dummy variable that is zero before 1974 and 1 after (including 1974).

We tested the significance of all the parameters and deleted all that appeared not significantly different from zero (10% level) in all the estimations.

We arrived to the following equations:

\[
\text{lact} = \beta_1 + \beta_2 \text{lwh} + \beta_3 \text{lwd} + \beta_4 \text{lwd} + \beta_5 \text{lwh} + \beta_6 \text{lse} + \beta_7 \text{la} + \beta_8 \text{d} + \beta_9 \text{lewhi} + \beta_{10} \text{lwd} + \varepsilon
\]

\[
\text{ltxem} = \gamma_1 + \gamma_2 \text{lwh} + \gamma_3 \text{lwd} + \gamma_4 \text{lwd} + \gamma_5 \text{lwh} + \gamma_6 \text{lse}
\]

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\[ + \gamma_7 \text{ la} + \gamma_3 \text{ lewhi} + \gamma_5 \text{ lewhi} + v \]

\[ \text{Ipe} = \rho_1 + \rho_2 \text{ lwhn} + \rho_3 \text{ ly} + \rho_4 \text{ lo} + \rho_5 \text{ lir} + \zeta \]

As exogenous variables (instruments) we used:
\[ \text{lwd}, \text{lewd}, \text{lewdi}, \text{la}, \text{ls}, \text{lir}, \text{lo}, \text{t}, \text{t}^2, \text{le} \]

where
\[ \text{ir} \] - one plus the interest rate
\[ \text{o} \] - oil prices in Escudos
\[ \text{t} \] - time
\[ \text{e} \] - exchange rate

In the following section we present the results from the regressions of the above equations.

We used data from the period between 1958 and 1985.
V - Results of the estimation procedures.

Using the expectation of the wages as a weighted sum of future wages we estimated the following nonlinear equations.

\[ \text{LTXEM} = A_0 + \text{ALW} + \text{LWH} + \text{AELW} \]
\[ (L_1 \cdot \text{LWH}_1 + L_2 \cdot \text{LWH}_1 + L_2 \cdot \text{LWH}_2 + (1 - L_1 - L_2) \cdot \text{LWH}_1 + L_3) + \text{ALWD} \cdot \text{LWD} \]
\[ + \text{AELWD} \cdot (K_1 \cdot \text{LWD} + K_2 \cdot \text{LWD} + (1 - K_1 - K_2) \cdot \text{LWD} + L_3) \]
\[ + \text{AELWDD} \cdot (J_1 \cdot \text{LWD}_1 + J_2 \cdot \text{LWD}_1 + (1 - J_1 - J_2) \cdot \text{LWD}_1 + L_3) \]
\[ + \text{ALF} \cdot \text{LF}(-1) + \text{AL} \cdot \text{LA} \]

\[ \text{LACT} = B_0 + \text{BLW} + \text{LWH} + \text{BELWH} \]
\[ (L_1 \cdot \text{LWH}_1 + L_2 \cdot \text{LWH}_1 + L_2 \cdot \text{LWH}_2 + (1 - L_1 - L_2) \cdot \text{LWH}_1 + L_3) \]
\[ + \text{BLWD} \cdot \text{LWD} + \text{BELWD} \cdot (K_1 \cdot \text{LWD} + K_2 \cdot \text{LWD} + (1 - K_1 - K_2) \cdot \text{LWD} + L_3) \]
\[ + \text{BELWDD} \cdot (J_1 \cdot \text{LWD}_1 + J_2 \cdot \text{LWD}_1 + (1 - J_1 - J_2) \cdot \text{LWD}_1 + L_3) \]
\[ + \text{BLF} \cdot \text{LF}(-1) + \text{BLA} \cdot \text{LA} \]

\[ \text{LPE} = C_0 + \text{CLWHN} + \text{LWHN} + \text{CLY} \cdot \text{LY} + \text{CL} + \text{LO} + \text{CLIR} + \text{LIR} + \text{CD} \cdot \text{D} \]

The results of the non-linear three stages we obtained were the following: \( t \) values within brackets.

---

4

Standard errors computed from heteroscedastic - consistent matrix.
LTXEM = 0.415 + 2.001 * LWH - 16.023 * 0.653 * LWH1(+1) 
      (1.59)  (2.42)  (-5.61)  (4.55) 
      - 3.56 * LWH1(+2) + (1 - 0.653 + 0.356) * LWH1(+3) 
      (-1.77)  (2.61) 
      + 8.702 * LWD - 10.637 * 0.483 * LWD(+1) - 0.119 * LWD(+2) 
      (3.10)  (-4.49)  (2.02)  (-0.38) 
      + (1 - 0.483 + 0.119) * LWD(+3) + 15.101 * 0.572 * LWD(+4) 
      (1.31)  (6.73)  (4.91) 
      - 0.207 * LWD1(+2) + (1 - 0.572 + 0.207) * LWD1(+3) 
      (-1.25)  (2.5) 
      - 0.143 * LF(-1) + 1.055 * LA 
      (-0.18)  (4.11) 

\[ R^2 = 0.96 \]

LACT = 0.025 + 0.298 * LWH + 0.598 * 0.653 * LWH1(+1) 
      (1.02)  (4.88)  (3.04) 
      - 3.56 * LWH1(+2) + (1 - 0.653 + 0.356) * LWH1(+3) 
      (1.248)  (3.61)  (-0.119)  (-1.76) 
      + (1 - 0.483 + 0.119) * LWD1(+2) + 0.572 * LWD1(+3) 
      (-0.14) 
      - 0.207 * LWD1(+2) + (1 - 0.572 + 0.207) * LWD1(+3) 
      (-0.192)  (-0.195)  (-9.98) 

\[ R^2 = 0.99 \]

LPE = 0.15 + 0.140 * LWH + 0.154 * LY + 0.070 * LO - 0.116 * LIR + 0.082 * D 
      (4.13)  (-4.93)  (4.21)  (7.48)  (-1.34)  (8.05) 

\[ R^2 = 0.99 \]

( The actual and fitted values appear in figures 4 to 8 )

From the above estimations we see that:

1) Income in the destination country and emigration rate are positively related and a 1% increase in the income in the destination increases 8.7% the emigration rate (a very high elasticity). That means that when the opportunities abroad are better more Portuguese people decide to go there.

2) Expected future income abroad and the emigration rate are positively related till 1974 and negatively related thereafter. This shows first that there was a structural break in 1974, when the destination countries changed their immigration policies and the Portuguese revolution took place.

The positive relation can be explained as in point 1) and the explanation we see for the negative relation is as income were increasing abroad the emigrants could send more money to their families and in this way decrease the "desire" to migrate.
3) the emigration rate and the expected wage at home are positively related what can be explained as we did in section II as the result of imperfect capital markets and the participation effect.

4) expected future wages at home and the emigration rate are negatively related. As workers expect their situation in the home country to improve they will stay in their home country instead of emigrating.

5) in what concerns the activity rate equation all the coefficients appear with the signs we intuitively expect with the exception of the coefficient of the the income in the destination country. The explanation we have goes as follows: people who plan to emigrate will first enter the labour force and then migrate, first because of the capital constraint ( referred in 3 ) and also because it is easier to migrate after the worker as some working experience.

6) wealth influences negatively the activity rate and positively the emigration rate as we expected (see section II).

7) the stock of emigrants influences negatively the activity rate in Portugal. Our explanation is the money the emigrants send to their families that stayed in the home country. This point is left to further research.

8) the labour demand equation shows that labour demand is very rigid in what concerns the nominal wages and the substitutibity between labour and energy ( the coefficient of the oil prices is positive ). There is a strustructural break in 74 when the demand for labour increased as a result of the absorption of the workers returned from the ex-colonies (as self-employed or civil workers).

We simulated what the emigration would be if there was no strustructural change and achieve results that would imply an almost desertification of Portugal. This shows that the simulation requires a wage equation.
VI - Recent evolution of the labour market in Portugal (1974-1988)

In 1974, 35% of the Portuguese active population was still in agriculture, 33% in the industrial sector and 32% in services.

The evolution between 1974 and 1988 can be seen in figure 9. The percentage of workers in the primary sector decreases to 21% in 1988 and the increase is felt mainly in the services. The industrial sector only grows 2 percentage points.

Since 1983, the traditional industries, as wood and paper and textiles have maintained the relative weight in employment (see figure 10).

In the services we see there is an increase in the weight of the public administration that grows from 4% in 1974 to 7% in 1988 (see figure 11).

In figure 12 we compare the situation of services in 1974 and 1988 and we see the greatest increases in public administration, education and health. These are mainly civil servants and we can conclude there is an increase in the weight of the employment given by the State in the total of employment.

Since 1983 there is data available in the number of employed people who was a permanent contract and the number of people who was a short terms contract with the employer.

First we should note that only about 70% of the workers are not self-employed and the distinction between permanent and short terms contract only makes sense for these workers.

While the number of permanent contracts has been very stable since 1988, around 2,300 thousand people, the number of employees with a short terms contracts has changed drastically in the period 1983-1988, between a minimum of 377 thousand in 1985 and a maximum of 580 thousand workers in 1988 (see figure 13).

The number of short terms contracts represent between 15% in 1984-1985 and 25% in 1988 of the total number of working contracts, and between 9 and 14% of the total employment in the same years.

As we wrote above in section II the short terms contracts were a way of the employers adjust to the changes of economic
performance. We see that in figure 14.

In 1983 started a period of contraction in the portuguese economy and we see a great decrease short term contracts. In 1986 a recovery starts and we see an increase in number of short term contracts.

The performance of the labour market as a whole can be seen in figure 15. There we see the unemployment rate has a big increase in 1974 and after that there are large changes. The 1974 break corresponds in changing conditions resulting from the portuguese revolution and changing international policies concerning immigration.

As there are no studies about the natural rate of unemployment we can not state if 1974 represents a jump in that rate.
VII - Conclusions:

In recent years the Portuguese economy has not shown particular problems in absorbing the new entrants to the job market. Presently unemployment is not a problem has it was shown in a previous section.

Most of the new labour contracts were in a short terms basis, mainly for periods of 6 months although most of them were renovate once or twice at the end of that period. These short terms contracts give flexibility to the labour market and are a way to circumvent the law that forbids firings unless there is a strong motive.

We think that "underemployment" is a problem in because of the highly bureaucratic organization of administration and because of high costs of adjustment.

If the organization of the economy changes we believe there is a large potential for workers to be left to undertake new activities. However these workers are, in general, poorly trained and without special qualifications.

Comparatively low wages may attract investment to new industries that may increase the demand for labour.

As there is a potential of workers that are underemployed real wages will not increase rapidly if there are no changes in the imigrating policies of the other countries.

If the immigration policies do change and there is free mobility of labour we can forecast a build up of large emigration.

The emigrants are going to increase the labour supply of unskilled work in the other countries and, from this, it may result a decrease in unskilled wages in the destination countries.

At the same time in Portugal the available labour supply is going to decrease and wages will increase faster as the result of the new investments associated with the Single Act.

The result in the long run in terms of emigration depends how the portugueses are going to perceive the evolution of wages in the home country. If they believe the evolution is going to be fast they are going to stay in Portugal (as seen in section 3, expected future home wages decrease the emigration rate); if they
believe the evolution is going to take some time they are going to emigrate and may return back after the adjustment period.

So if there will be total freedom of labour we shall not expect new investments in industries that can only survive as a result of cheap labour because when those investments are mature there may be no cheap labour around.

If the imigrating policies of the other countries are going to be maintained we would expect investments in industries that gain from the use of cheap, unskilled, labour and have a short period of recovering of the investment.

The pressure in the labour market for qualified workers is going to be great even if there is no freedom of mobility because the level of qualification of the portuguese labour is very low when compared with the other countries of the EEC and the educational system is more tied. One may even expect some immigration at the top levels of skills.
References:


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Learning and Consumption ", Journal of Political Economy.


LEGAL EMIGRATION

- MEN
- WOMEN
- TOTAL LEGAL

FIGURE 2
FIGURE 3
EMPLOYMENT IN SERVICES

- SERVICES
- COMMERCE
- PUBLIC ADMINISTRATION

% OF TOTAL EMPLOYMENT

FIGURE 11
EMPLOYMENT VARIATION

TOTAL
WITH CONTRACTS
WITH SHORT TERM CONTR.

THOUSAND


FIGURE 14
UNEMPLOYMENT RATE

FIGURE 15