ANALYTICAL MODELS FOR
THE IMPACT EFFECTS OF MIGRATORY FLOWS

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1. Concepts, causes and effects of migrations.

The aim of this paper is to analyse the repercussions of immigration on the workplace and the mid- and long-term effects it may cause on the host country. It also looks at the extent to which migratory movements help - or hinder - the generation of external economies on other activities by improving the efficiency and productivity of economic factors.

It seeks answers to questions such as, How many immigrants can a given country welcome without running the risk of causing serious social problems?, Are immigrants, in terms of local labour, complementary or substitutive factors?, Can local labour be displaced by immigrant labour?, and, What migration policy should European countries, certainly including Spain, implement?

The International Labour Organisation (ILO) defines an international migrant as *"someone who does not hold the nationality of the country in which s/he works"*[1], and defines migration as *"the action and effect of a foreign person, or group of persons, entering a country to settle or work for an unlimited or specific length of time"*[2].

A less precise interpretation of the term is *"displacement from one geographic area to another"*[3], and establishing a difference between *temporary migration* – by those whose intention is not to settle but rather to work for under a year – from *long-term migration* – defined as that which lasts longer than one year. In cases of *definitive migration* the emigrant does not return to the country of origin.

[1] FREEMAN, M, *et al*, (1991): *Atlas of the World Economy*, Routledge, London, pg.141.

[2] *Diccionario Enciclopédico de Economía*, (1980): Editorial Planeta, Barcelona, p. 74. The term *migration* originates from the latin *migrare or migratio*.

[3] *International Encyclopedia of the Social and Behavioral Sciences*, (1996): Mac Graw Hill, London, pg. 121.

The main *reasons* for the current scale of international migratory movements are several[4], we can mention some at first:

1. Corrupt administrations and governments. Corruption retards growth, and in the long term are the leading causes of imbalances and lack of opportunities in their respective societies. Corruption which possibly results from the arbitrary behaviour of public authorities, lack of media transparency and freedom; markets still held to ransom by the governing elite, lack of democracy, no independent Courts of Law or separation of powers, etc. Often the only alternative is to try to escape this misery in search of a better life elsewhere.

2. Growing equality gap between standards of living. In particular, the big gaps in certain groups of countries. Incomes are unequally distributed, particularly in certain areas, such as Africa or South-East Asia. The greater the income gap, the stronger is the incentive to emigrate. Also, unlike in previous waves of migration, these differences are more evident thanks to television and other media. It is therefore no longer necessary to visit the recipient country in order to feel drawn to living in a more developed society.

3. Economic incentives in the host country. Generally speaking, immigrant workers are cheaper to employ than local labour, they are willing to take jobs that nationals will only perform if very highly paid. In today's globalised and highly competitive world employers in the host country find it far more profitable to employ foreign workers. The single means of survival for immigrants is work, and they will therefore accept any job whatsoever in order to survive. This effectively makes host countries increasingly attractive to the migrant worker, while countries of origin are promoting what is referred to as the immigration industry.

4. Different speeds of change in demographics. This means big differences in social security services from country to country. The inhabitants of the more demographically stressed regions can see that possibilities of employment are better where population pressures are weakest. The many social and healthcare services in developed countries also clearly mitigate the fear of potential illness or unemployment.

5. Improvements in transportation and telecommunications. By letting refugees make their way to host countries more rapidly and economically.

6. Armed conflict and natural catastrophes. Drought, desertification, floods, etc. which threaten populations and destroy infrastructures.

[4] SUBDIRECCIÓN GENERAL DE ESTUDIOS DEL SECTOR EXTERIOR (2000): "Globalization, international migration and population aging" in, *Boletín Económico de Información Comercial Española, BICE*, nº 2649, Ministry for Economy, Madrid, pg. 5.

We may derive five **theoretical repercussions of emigration on host countries**: implications for the GDP, well-being or redistributive effect, dynamic response, conditions to govern the social service system, and concerns for the balance of payments[5].

a) Direct effect on production: hiring foreign workers leads to an increase in the GDP, either because labour productivity is higher due to net investments generated by more available workers, or else as a result of labour productivity increases given the complementary nature of local and foreign labour[6].

In any case, if migrants happen to provide any sort of knowledge or skill – human capital – there are no associated costs for the host country. This would in turn generate associated benefits in terms of a higher level of productivity among immigrants who provide increased human capital contributions[7].

Therefore, migration policy in any country tends to be biased towards attracting immigrants who hold a high level of human capital, as has traditionally been the case of scientists, researchers, experts, sports figures, artists, company executives or specialists in a wide range of fields, from all countries, including the less-developed.

b) An immediate well-being or redistribution effect: this refers to an increase in the income levels of local workers as a result of hiring immigrant workers. The reason for this development is that an increase in the labour supply tends to reduce workers' wages, whether local or foreign, and short-term income growth will benefit local employers.

Empirical evidence tends to verify redistribution forecasts resulting from this analysis, in European countries as well as in the USA, Canada and Australia, which are traditional host countries. In other words, a larger presence of immigrants increases capital returns and tends to lower labour income.

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[5] OPORTO DEL OLMO, A, (1990): "An economic analysis of emigration and emigrant saving", in Revista de Economía y Sociología del Trabajo, nº 8-9, September 1990, pgs. 100-102.

[6] Labour productivity is measured as the quotient between GDP and employment. This is apparent productvity. Sometimes a country's productivity level increases simply due to growth in GDP, while employment remains relatively stable, as the immigrant population is employed in the submerged economy.

[7] MORILLAS, J. (2001): The New World Economy. Structure and sustainable development. Exercises, Madrid, Universitas.

In some cases it clearly reduces labour wages, as has been the case in the USA, where the model shows marked differences between qualified and non-qualified workers: "during times of no recession the most significant result of hiring foreign labour is the reduction of unskilled labour wages. At the same time qualified labour wages and capital incomes tend to increase"[8].

In Europe, with a strong rigidity towards lower wages, also shows evidence of a higher apparent productivity, particularly among qualified workers, together with an improvement in employers' income. However, the repercussions for less-qualified or unskilled labour have not been adequately analysed. To summarise, the redistributive effects of immigration are significant. Immigration may, in the short term, result in winners and losers, given the relative gains and losses among the various groups which make up a population.

c) Dynamic or short-term effects: the above analysis is valid, in general terms, in the short term; longer term analyses must also consider variables such as size of the population or technological development and their implications for the country's productive functions. The repercussion of immigration on mid-term average productivity is thus subject to various conclusions.

We may, on the one hand, argue that the host country's average productivity will decrease if one of its main features is low geographic and functional mobility among local labour. This would be the case if the presence of immigrant workers results in additional restrictions to the already low level of mobility of local labour, and if immigrant workers are concentrated in low productivity sectors of the economy[9]. On the other hand it could also be claimed that, on the long term, immigration could also result in higher levels of labour productivity due to employment in sectors which shape structural changes in country economies.

However, the presence of immigrants could also lead to an increase in geographic and functional mobility. The reason for this is that immigrants are more prepared than local wokers to change employment location and type, not only due to a tendency to limited participation in the host country's labour culture, but also because ties to a geaographic and familiar environment are very significantly weaker. Allocation of labour resources in the host country's economy will therefore benefit.

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[8] BORJAS, G. (1994): <<The economics of immigration>> in *Journal of Economic Literature* 32(4), pgs. 1667-1717.

[9] As is happening in the poorer regions of Spain, Andalusia and Extremadura, where immigrants find work in the agricultural sector and construction, in spite of high unemployment and a subsidised local workforce.

d) Effects on social services and public goods: when immigrants arrive in highly-developed countries they benefit from a wide range of public goods and services such as healthcare, education, security, roads and transportation in general, and other infrastructures. On the other hand, as residents in the host country, they are – as are local workers – forced to contribute to the maintenance of these public services and goods through taxes, as well as to pension schemes, and to help limit the deterioration of public debt.

The basic issue is to determine whether immigrants contribute a sufficient amount to compensate for the public goods and services they consume. In other words, is there or not an unbalance between contributions and utilisation. A second issue is whether or not local workers should bear a more onerous tax burden as a result of the presence of immigrants. Empirical evidence is not conclusive, given that different methodologies produce different results.

e) **Effects on the balance of payments**: foreign workers may affect the host country's balance of payments in at least four ways:

1. Direct increase in aggregate demand and supply.
2. Currency outflows through remittances sent to relatives outside the host country.
3. Capital outflows or inflows resulting from personal investment plans.
4. Effects on currency exchange rates as result of the previous influences.

As far as any **theoretical repercussions of emigration on the country of origin** we could reverse the terms and apply them to the host country. However, it is possible that conditions are less evident than those described above for several reasons:

a) Direct effects on production. It is not relevant if the immigrant workers are unemployed, because they are healthy and with a better qualification than the national average, it is why leaving reduce productivity in the origin countries; another important factor is that, if migrant workers are employed in the agricultural sector in the country of origin – which is normally the case - that sector will suffer the results of their absence. Furthermore, the immigrant population is usually employed in the agricultural sector, which will feel the pinch and show a progressive decline in production, thus causing domestic food shortages[10]. In this respect, emigration from the country of origin seriously jeopardises any development objectives based on cooperation which the country may be struggling to achieve.

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[10] In extensive areas of subsaharan Africa and other Asian countries with fertile soils, traditional farming and animal husbandry, which helped the local population to survive, is being abandoned.

b) Redistributive effects. These are difficult to assess if emigrants were unemployed in their country of origin. In any case, departing emigrants act as an escape valve for labour market tensions in the country of origin by reducing the pressure of competition for jobs.

c) Dynamic effects. They will depend especially on several institutional factors which impinge on the types of choices made in economic matters. The economy may, for example, tend towards a more capital-intensive, rather than labour-intensive, growth model. The result would be an increase in the number of jobs in traditional sectors.

d) Effect on public goods and services. Very difficult to measure, given that not only is the provision of such services not extensive in developing countries, but also emigration may reduce both public income and public expenditure. It could, however, lighten the burden on public expenditures if emigrants were provided any sort of assistance, support or aid in the country of origin.

e) Effects on the balance of payments. These will be favourable in the sense that emigrants' remittances help finance development. Multilateral organisations such as the International Monetary Fond and the World Bank place special stress on a correct use of emigrant remittances for productive investment. Thus on the long term the effects may be widely different depending on the use given to such remittances.

There are two distinct stages in the macroeconomic repercussions of emigration (Swanmy, 1995) on the country of origin[11].

During the initial stage, if emigration is sufficiently large, it will tend to affect the availability and cost of the labour factor, while emigrant remittances will tend to increase both demand and the price of goods, services and assets.

The second stage or phase is much more complex and depends on the reaction of consumers and companies when faced with new labour market conditions, increases or decreases in the active population, or changes in measures to re-establish a balance in the market for goods and services. Finally, effects will be dictated by institutional factors and by the level of perfection or disruption in market mechanics.

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[11] SWAMMY, G, (1995): <<*Population and international migration*>> World Bank staff working papers, n° 689, Washington D.C, p.15.

At the same time, remittances will tend towards a consolidation in power of the country of origin's government, regardless of its virtue or lack of it. Ultimately, the effects of migration and remittances are not easy to ascertain, due not to the absence of an adequate theoretical framework but rather to a serious lack of systematic data and analyses, given that those available to date are excessively specific and fragmented.

It could therefore be said that, besides modifying the composition of population pyramids, migration stimulates global growth and increasingly flexible mechanisms that lead to economic integration. But, as in other sectors of the economy, positive effects are felt on the long term, while negative results are usually short-term. Political action is thus often conditioned by the pragmatic need to provide a rapid solution, which may backfire in the long run, as a result of insufficiently careful prior analysis.

2. Theoretical framework and economic models.

Migratory flows have, to a large extent, shaped the history of mankind. Climactic change, the development of slavery, the need to find food, escape natural disasters or settle in regions with more or better resources, have all played a part in fostering migratory flows.

Migration today is mainly driven by economic reasons. Emigrants who leave the poorer countries are, in general, searching for better conditions in more prosperous host countries, not necessarily very advanced, but which at least provide an improvement in the quality of life or which are more efficiently organised.

I choose the term "poorer countries" in the belief that it is more correct than "poor countries", given that they are often wealthy in terms of quality of the soil and natural resources although they lack, or have been unable to establish, an efficient society which can better cater to the wellbeing of its citizens.

In spite of the relevance of economic factors in deciding to emigrate, there may also be other causes, such as persecution for reasons of political opinions, religious belief, ethnic origin, starvation or environmental disaster, which are not of an economic nature.

Research related to the leading theories in the field of economics concerning migration and its relation with the labour market have tended to be fewer over the past years. It is a field of studies a bit abandoned.

"Economic theory, and in particular international activity, have not been overly concerned with developing analytical instruments to be applied to international population flows. Faced with an exponential growth in other fields of study, particularly in the pure theory of international trade and monetary issues, interest shown towards international movement of monetary factors in the economy is limited, and is rather focused on capital flows.

However, the Post Second World War period saw an exponential growth of migration, supported by factors such as improvements in transportation which decrease the cost of long-distance travel, a reduction in legal barriers, a favourable economic framework, etc.

All these foster the development of international migration. In spite of the above, migration has not resulted in the development of a corpus of knowledge which can help reach an adequate analysis of the problem in its true magnitude.

The main feature of economic research of international migratory flows has been the insufficiency of a theoretical apparatus and the fragmented nature and specific orientation of empirical analyses"[12].

There have been several alternatives approaches to the analysis of migration flows which involve both the causes and the results of migration as a part of economic theory, and which rely on instruments proper to other fields of social sciences, with the purpose of overcoming the existing gaps in technical economic research.

A number of different authors (Kritz et al., 1992; Massey et al., 1993; Bauer and Zimmermann, 1995) have attempted to compile the various models and theories.

The results of this research lead to "*a deduction which indicates the inexistence of an integrated theory concerning migration and the labour market, most models have been constructed from several points of view*"[13] as part of the abovementioned multidisciplinary approach.

We now turn to listing a number of models and approaches developed in the field of economic theory and which have focused on migration. Since these models are not as reliable as we would hope, we include a demographic model in order to complement our situational analysis.

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[12] *Vid.*, OPORTO DEL OLMO, A. (1990): *op.cit.*, p. 99.

[13] EUROSTAT (2000b): *Push and Pull factors of international migration: a comparative report*, Office of European Communities Official Publications, Luxemburgo, pg. 3.

2.1. Push-pull model. This is the most common model used in the study of migratory flows, implicit in alternative models, mainly by European researchers. Its historical source is Ravenstein's seminal contribution (1885), further developed by Hicks (1932), Lee (1966), and later applied to individual decision-making by Harris and Todaro (1970)[14].

The model is an outcome of *"Push factors"* in the country of origin which lead the local population to emigrate. It includes adverse economic, social and political elements and *"Pull factors"* which attract migrants to a host country. They mirror factors which motivate emigration, in an opposite expression, and include comparative advantages in more developed countries.

The combination of these push-and-pull factors ultimately determines the size and direction of migratory flows. The model's basic thesis is that the greater the differences between a less-developed and a more-developed region, the easier it will be to generate a migratory demand.

A basic criticism to these models is that they do not explain the reason which leads some regions to generate migration while others do not. They also provide no explanation for the fact that some individuals emigrate while others do not, nor can they justify the direction taken by specific migratory patterns.[15].

2.2. Refugee movements. Movement of refugees is a separate group of models which is normally studied from a political point of view and is often ignored from an economic approach.

Differentiations made between "economic migrants" and "political refugees" are an oversimplification since a combination of political and economic reasons is the source of migrations. Differences between the two types are based on the voluntary nature (or lack of it) of migration: political refugees are forced to migrate as a result of warfare or persecution, while economic migrants have freedom of choice.

It is also possible to analyse (Richmond, 1993) the framework in which the decision to migrate is made, whether free or forced[16].

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[14] CARRASCO CARPIO, C, (1999): *Labour markets: economic immigrants*, Ministry of Labour and Social Affairs, Madrid, pg. 32.

[15] We can now explain this by analysing the institutional framework and prevailing values, as well as poor governance and the levels of corruption existing in the country.

[16] RICHMOND, A.H, (1993): <<Reactive migration: perspectives on on refugee movements>> en, *Journal of Refugee Studies*, vol. 6, nº 1, pp. 7-24.

2.3. Classical macroeconomic models. Classical economists considered the mobility of factors, but only within a given country. Thus, early theories in the field of international trade did not include exchange of factors, capital and labour, but rather focused on the exchange of goods. Although Hicks (1932)[17] analysed the possibility of studying the exchange of factors of production, the first authors to actually include these in their analysis were the Swedish economists Hecksher and Ohlin, in their so-called theory of the proportion of factors. According to this theory a country will benefit from international trade if it specialises in the production of goods by using the most abundant productive factor available.

The same theoretical framework, concerning the proportion of factors, gave rise to the theorem of the equilibrium or balancing of factor prices among countries. According to this concept, migration from one country to another will take place until wage and salary differences between the countries cease to exist. Classical macro theory thus explains the growth of labour migration as part of economic development, with the significant contribution of Ranis and Fei, 1961; Harris and Todaro, 1970. In the opinion of these authors wage and salary differences among countries provide an inducement to workers in low-salary countries to migrate to high-salary countries. Workers thus maximise income, while migration means that salary differences are compensated among countries to finally reach a balance, where salary differentials only reflect the material and immaterial costs of moving from one country to another[18].

Mention should be made, however, of research carried out by Lewis (1954), who submits a two-sector model that features an excessive supply of labour, known as the structural change model. The focus of this proposal is the analysis of the way in which a developing country, whose economy is based on traditional subsistence agriculture, becomes a country featuring a modern economic structure. Development is reached by attracting inexpensive surplus labour from the agricultural sector to the industrial sector, who tend to settle in urban centres, in turn providing an early economic reason to justify migratory flows from the countryside to the city.

Basic concepts in the Lewis model are as follows: 1) The Supplies of labour are unlimited and has a marginal productivity level of zero, or even sometimes negative values. 2) Economic growth results from accumulation of capital, that is, surplus, which expresses the difference between real industrial wages and subsistence salaries in the traditional sector. The model explains migration as a function of the difference between salaries in the countries of origin and destination.

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[17] HICKS, J.R, (1932): The theory of wages, MacMillan, London.

[18] Vid EUROSTAT (2000b) op. cit., p. 3.

International migrations cause a reduction in salary differences. Migrants will tend to act as "intermediaries" and unify salary levels in the country of origin with the host country, although full equality of salaries will not occur given the presence of displacement costs. In any case, these models are based on the fact that the only variables subject to explanation are reduced to salary differentials between the two groups of countries, and are thus extremely focused on the labour market.

2.4 Macroeconomic neo-classical models. These models are also based on the labour market but include the rational behaviour of individuals who respond to a cost-benefit analysis, not only in deciding whether or not to migrate, but also when choosing among alternative destinations. Alongside the benefits obtained from higher salary levels there are costs to be borne by migrants.

These costs include transportation to the country of destination, salaries lost while looking for employment, the effort involved in adapting to a new country – learning a new language, accepting a foreign culture, making new friends – and the psychological cost of leaving family and friends behind (Todaro and Maruszco, 1987; Burda, 1993).

Thus, the variety of the many features shown by different individuals results in different cost-benefit analyses, which in turn means different results, and thus different decisions concerning migration. In general, when differences between incomes or in benefits expected between countries are greater, migration also tends to be greater.

In certain situations where salary differences between countries are very large, migration may be limited, given that potential migrants can expect that future salary differences may be reduced. Large percentages of the population may also refuse to take the risk of migrating, thus avoiding a situation where the allocation of the labour factor can be brought to its fullest extent.

Variables included in these microeconomic (sic) models are not only limited to incomes observed between countries of origin and of destination, but also include other elements such as: favourable employment opportunities, personal characteristics (such as education, working experience, language skills), cultural similarities, and others which are to be considered then when analysing the migration costs.

2.5. Migratory networks. Recent research focuses on migratory chains and the formation of international migratory networks. Migratory networks can be defined as a set of personal relationships established on the basis of economic interest which bring together migrants, past migrants and nationals of countries both of origin and of destination.

These networks help potential migrants in deciding to migrate to a given country of destination by providing information and assistance in finding lodging and employment. Networks tend in general to stimulate new migration, since by expanding they reduce the cost of migrating and related risk (Massey, 1993).

Migratory networks also tend to avoid asymmetries in information given their role as a direct link between countries of origin and of destination. Potential migrants benefit from the information and data on working conditions in the host countries in which countrymen are already established. New communities of a given ethnic origin are thus often created in specific areas of cities in the host country.

The problem in this approach essentially concerns the difficulties which arise in trying to quantify and measure data. Networks are difficult to define and assess, and it is consequently also difficult to obtain the correct information required to properly analyse the repercussions of their activities.

2.6. New migration economics. A more recent contribution to the field of economic theory and migration is based on the concept that it is not only individuals who take the decision to migrate, but rather that the choice is made by the family unit. The objective is not only to maximise income but also to minimise risk. More recent models not only include variables related to the functioning of the labour market, but also consider the operational nature of other markets, such as the availability of social security systems and access to credit.

Economic development does not necessarily have to, as a single factor, reduce the pressure of international migration flows. The reason for this is that, when economic activities and investment plans in the source country are more profitable, migration is also more profitable since remittances may be invested with a view to higher future profits (Massey, 1993)[19]. Variables included in these models are both individual and family-based; structure and sources of economic output and benefits, types and uses of remittances, indicators obtained from the various agents, social services and credit agencies, among others, and the observation of relative poverty, as compared to other family units.

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[19] MASSEY, D. *et al.*, (1993): <<Theories of international migration: a review and appraisal>> in, *Population and Development Review*, vol. 19, n° 3, pp. 19-35

2.7. *The labour market in host countries*. It is also worthwhile to analyse whether or not the situation in the host country, and not necessarily in the country of origin, is the element which determines migration. Intrinsic labour demand in today's modern industrial societies gives rise to a constant need for new workers, who are integrated at the lowest levels in the marketplace hierarchy.

Immigrants tend to accept low salaries and low possibilities in terms of mobility within the labour hierarchy given the strong motivation to increase status in the original society, not in the host society. This in turn means that, to a large extent – for example – migrants from Maghreb countries return to their countries of origin every summer, traveling cross-Europe. Besides retaining affective relations, there is a need to demonstrate material gains obtained by the migrant and her/his family to friends, neighbours and relatives.

Aging of the population is common in most modern industrial countries and may result in the need for low-skill workers. At the same time, in developed countries women tend to have increasing levels of training and can thus access the labour market in improved salary conditions.

The increase in single-parent families has also contributed to a higher level of "feminisation" of the labour force. On the other hand, the new generations entering the job market do so when they are older, with better qualifications, and in smaller numbers.

The problem in these models is that, in order to be applicable for analytical purposes, solid data on labour markets is required in host countries, especially in order to define segments among primary sectors with secure employment, formal, highly-qualified, and those in the secondary sector of low social status, labour insecurity and low-skills. It is also necessary to obtain other data such as salary tables or specific working conditions.

2.8. Inter-generational model. When migrants make the decision to migrate they also carry out an inter-generational analysis. If the potential migrant is a parent s/he will try to ensure the availability of well-being for family members under her/his care. Although s/he will not climb upwards in the labour scale, the children may.

Migration is often seen to be an inter-temporal decision; the logic underlying this concept is that the migrant will not only try to maximise her/his salary, but will also migrate as part of a decision to leave future generations in a better socio-economic situation.

2.9. Todaro and Maruszco model. According to these authors, literature on international migration is characterised by an absence of theoretical models designed with the aim of analysing the results of migration. This means that economic policy measures aimed at fostering or regulating international migratory flows are frequently defined in the absence of an underlying conceptual framework. The problem of modelling is related to the institutional context in which migration occurs, including numerous legal, physical and cultural restrictions and limitations imposed on migrants.

Todaro and Maruszco (1987) criticise the neo-classical theory of international trade on the basis that it relies on a global approach and ignores the fact that the underlying reason for migratory flows is a personal decision made by an individual migrant. They also point out that most economic models tend to analyse international migration within a perfect world featuring full employment, flexible salaries and full mobility of factors. Migration, in these cases, simply acts as arbiter between labour markets in a given environment by generating absolutely equal salaries in all modelled countries or regions.

As a result of all the above, a basic methodological prerequisite for establishing theories aimed at analysing international migration is to include micro and macro factors and to define their specific relationships with the framework of reference. The following model is based on individual decisions exercised by migrants and, unlike traditional models, migration will cease long before reaching equality of labour market incomes between countries and regions.

Scenario for the model[20]:

1. There are three kinds of workers in the market: rural workers searching for employment in urban areas, rural workers searching for employment abroad, and workers in the urban area searching for employment abroad.
2. The decision to migrate depends on the relative difference in incomes expected or projected between the area of origin and that of destination.
3. The natural rate of growth of the labour force is equal to zero. Any changes results from rural-urban migration and migration abroad.
4. Rural workers searching for urban employment will be forced to wait during a given space of time in the informal labour market before obtaining employment in the modern, formal urban sector. In the same way, those who seek employment abroad will also be brought to spending some time in urban centres. The latter will also be forced to find informal employment during a sufficient period so as to obtain the funds necessary to finance the migration process itself.

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[20] TODARO, M.P, y MARUSZCO, L, (1987): *International migration*, The new Palgrave: a dictionary of economics, pp. 342-361.

It is possible that the most significant implication arising from the model is related to an assessment of benefits obtained from currency remittance transfers made by migrants to the country of origin. Most analyses indicate that the very large amounts involved provide a major benefit for the labour exporting country, including those cases in which remittance funds are used for ostentatious consumption or speculation in the real estate market.

We should, however, point out an important negative element which is often ignored; social and private costs which result from a growing level of urban unemployment, as well as a possible decrease in agricultural production caused by induced migration of rural workers seeking better-paid employment, both in the modern urban sector and abroad. Comparing these factors with the supposed benefits obtained from migrant remittances may well weigh the scales against this commonly-held belief regarding the economic and social benefits which should arise in the short term from an increase in migration.

Thus we may conclude – and this is the "Todaro paradox" – that the faster the growth in urban employment, the higher the probability that migrants may find urban employment, and therefore the higher the number of migrants. This would allow for coexistence between urban employment and growing unemployment.

2.10. Theory of migratory systems. This theory incorporates a large number of elements found in the theoretical models described above. Migratory flows acquire a stable character and become structured over time, thus allowing the identification of stable international migratory systems.

A migratory system can be defined as a set of locations united by flows and counter-flows of people, goods, services and information (Moulier Boutang and Papademetrio, 1994).

"If we consider that migration takes place within a system in which countries and regions are connected through differet types of relationships, beyond understanding it as a dynamic, non-static phenomenon, we are inevitably led to address the integration of macro and micro process. Research on causes for migration is therefore related to both individuals and family units, as well as economic, social and political circumstances which generate and determine the context in which migration takes place"[21].

[21] MOULIER BOUTANG, Y, and PAPADEMETRIOU, D, (1994): <<Typology, evolution and performance of main migration systems>> in, *Migration and Development: A New partnership for cooperation*, OCDE, Paris, pp. 19-35.

2.11. Human capital model. Under stable institutional conditions favouring personal freedom, the more human capital there is, or in other words, the more highly skilled labour becomes, the higher a country's productivity and level of development. "Human capital defined as a factor of production, as is the case concerning physical and financial capital, directly contributes to growth in the generation of goods and services, although more intensely"[22]. An increase in the stock of human capital in any given country is normally expressed as an increment in the rate of general domestic product (GDP) growth, according to a higher product elasticity normally linked to other production factors.

Empirical proof shows how *per capita* incomes among countries tend to converge. Thus the possibility that lower income rate countries may reduce their differential, compared with more advanced country economies, is directly related with the availability of skilled labour with sufficient training to adapt and take on technology coming from abroad.

Utilisation of this type of technology, together with a proper use of production factors, will lead to a reduction of differences between national economies. The provision of human capital can therefore act as a driver for economic growth in its fundamental role of factor of attracting international direct investment projects.

The human capital model lets us calculate the "net actual worth" of future returns resulting from migration by comparing benefits and costs (including the psychological cost of migration) against a discount rate. That is, as if it were an investment that "sacrifices" current returns in order to obtain additional future benefits, so that the person who migrates believes compensation may be obntained by making a current human-capital investment with the purpose of increasing future returns. The higher an individual's skill level, caeteris paribus, the higher the probability of migration.

On the other hand, variables resulting in an increase in the costs of migration, whether economic or psychological, generate a disincentive to migration. These variables are geographic distance, presence (or lack of it) of family members, especially in the case of school-age children, asymmetry in the availability of information, general migration policy and, especially, legislation in host countries.

One of the basic problems faced by developing countries in terms of migration is the so-called "brain drain". This phenomenon usually occurs when higher-skilled workers migrate as a result of scarcity or absence of the possibility to develop a professional career, which causes a continuous outflow of individuals and de-capitalisation for the country of origin.

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[22] MARTÍN, C, (2000): <<Human capital and efficiency of the education system in SPain>> in, *Papeles de Economía Española*, n° 86.

Although the cost for developing countries is severe, governments will usually tolerate it since, once the migrant leaves the country, s/he will contribute to local development in two ways. On the one hand, pressures on the local labour market are reduced, and on the other, remittances will be sent home to relatives in the country of origin. When analysing the European Union, or any other developed country, the income function of the economy is highly dependent on the increase of human capital[23].

We can consider that an income increase in European countries in this century will not be a result of an accumulation of traditional productive factors - land and labour; it will rather be the outcome of a new combination of inputs in which technology will play a determinant role. Thus there are serious doubts regarding the sustainability, or in fact desirability, of the survival of a growth model based on the simple accruance or increase of the migrant labour factor. In fact, this model may by now be exhausted. The idea that economic growth in Europe may be obtained through the extensive use of non-skilled labour as a factor has become increasingly difficult to defend.The USA and Canada seem to have begun to change the ultimate intent of their policies by focusing on attracting highly-skilled migrants and, at the same time, progressively closing their doors to the lesser-skilled.

The same shift towards a technological model seems to be taking place in Europe, this in a world in which technology is increasingly important in terms of labour and the national economy. European Heads of Government present at the European Council meeting held in Lisbon, 2000, thus expressed their will to develop opportunities provided by new information technologies.

To this end they defined, as a strategic objective, the need to: "become the world's most competitive and dynamic economy, relying on knowledge, and with the capacity to grow in economic terms in a framework of sustainability, with more and better employment possibilities, and within a system based on a higher level of social cohesion"[24].

The paradox, however, is that European governments have stated the need for skilled labour in the field of new technologies. However, incoming labour shows a clear slant towards low skill levels, which also tend to be the same jobs which local labour rejects. However, in accordance with the recommendations issued by the Council of Europe in their Lisbon meeting, unemployment insurance and social support measures should be reduced in future.

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[23] MORILLAS, J. (2001): *The New World Economy: Structure and sustainable development. Exercises.* Editorial Universitas, Madrid. pp. 184-185.

[24] CONSEJO EUROPEO (2000): *Conclusions of the Presidency*, Lisbon, Council of Europe, 23 and 24 of March.

2.12. Migration market. From the economic point of view we might believe that the presence of an ample supply of migrants and a specific demand for labour might determine that adjustments between the two factors should lead to a balance.

However, such adjustments are not truly efficient given the hindrances facing migration in most host countries. At that point the economic incentive to "mediate" arises for quasi-mafia groups, who benefit from the desperation of some, migrants, and the need of others, employers, in the host country. This situation causes results equal in relevance to those arising from the increase in the exchange of goods and services, capital movements, or direct foreign investment[25].

All the above *aids to globalisation*, whether in the 16th or the 19th centuries, have been associated to international migratory flows. These flows have proven positive, particularly to countries operating a selective migration policy: the USA, Canada, Australia or New Zealand, and negative in other countries: Lebanon or Jordan, for example. Given the high percentage of uncontrolled or illegal migratory movements it has always been difficult to quantify and verify the extent and scope of such flows. At present there are improved methods of counting and assessing such flows, although estimates continue to be no more than approximations.

The "migration market" fosters, to a great extent, abandonment of the rural medium and thus of the agricultural sector, which – although fragile – ensures a subsistence economy and, occasionally, limited surpluses. This "market" is a very significant source of currency both for countries of source and of transit. For the former, the export of migrants ensures an ongoing flow of foreign currency. Migration also generates other market niches and profitable operations in peripheral activities such as transportation, housing, document "fixing" or counterfeiting, intermediary services, money transfers, postal services and others, both in the country of origin and in the host country. It also provides a *modus vivendi* for a very large system of corrupt border officers, police and civil servants, especially in countries of origin and of transit.

Taken as a whole, international labour flows directly benefit corrupt governments in countries of origin, who are responsible for cover-up activities, and who usually obtain significant profits. There are several alternative operational methods:
auctions in issuance of visas, purchase of permits and certificates, and other administrative pay-offs or deposits made to civil servants. There are many examples of this type of corruption in a large number of countries. One of the best-known cases is the route which runs from sub-Saharan African countries, through Senegal, Mali and Mauritania, to Morocco, which is also both country of origin and country of transit, and ultimately to Europe.

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[25] MORILLAS, J, (2001): *op. cit.*, pp. 179-182.

In this way a managed, but covert, system of population exporting is launched, acting as a method of relief for internal problems in many countries and, particularly, of their corrupt elites.

That is the seed for what has come to be known as the "migration market", which is no more than a web of personal interests which provides the means to illegally cross borders, breaking the law and violating international agreements. What is more serious, it seriously endangers the lives of those who risk this method of escape. This "market" continues to flourish and to feed on its own results.

The struggle against this "migration market" is extremely difficult, since it often requires waging a fight against what has become a true hidden State operation. Wherever this network reaches high political and civil-service authorities it can only be opposed through either a strict enforcement of the Law or through financial offset programmes. These agreements often turn such negotiations into a method of blackmail applied by the country of origin in order to obtain payment, by way of compensation, in order to control what is no more than an illegal operation rooted in that country. Their responsibility, as representatives of the Law, would be to enforce such legislation with no need for additional offset payments.

Therefore, the possibility of applying economic or trade sanctions so as to offer incentives to countries of origin and of transit that may lead them to better police their national borders and to fight against illegal migration has been part of the activities developed in the European Union since Spain recently held the European Union Presidency.

Agreements binding culturally similar countries, such as those in Central and Eastern Europe, should also be more zealously pursued. Such agreements could cover the EU's labour needs in a spirit of tolerance while applying zero tolerance to any form of illegal migration. Another practical solution to slow illegal migration is international trade. A wider commercial freedom would allow citizens in developing countries to improve their economic opportunities.

Opening markets to which emerging countries export their products (agroindustrial, textile, manufacturing, etc.) would act as substitute to trade in labour. Local labour would thus obtain better employment possibilities without the need to take recourse to migration. A good example is NAFTA, underwritten by the USA, Canada and Mexico. The terms of this agreement have caused delocation of labour-intensive industry towards northern Mexican states. These companies ("maquila") act as a brake to mass labour migration to the USA.

2.13. Positive dynamic effects model[26]. In analysing the economic repercussions of migrants on host countries we could consider: 1) To what point can migrants take jobs away from local workers; 2) Tax implications on State accounting in countries with social welfare programmes.

The majority of scientific studies on migration do not consider the migration factor and its bearing on labour mobility. Analyses of migratory flows, whether between or within States, are a basic component for any discussion concerning equilibrium of the labour market. It is presumed that workers respond to significant salary differences between one location and another and "vote with their feet", and that these labour flows raise the level of efficiency of the labour market.

The nucleus of the Borjas model is that migration "lubricates the wheels of the labour market". The efficiency of the model implies that the value of the marginal product of workers' input (salaries) will be equal to other markets.

We may thus conclude that, in spite of the high degree of mobility in the USA as compared to the EU, this mobility is not sufficient to rapidly eliminate existing salary differences. Empirical proof shows[27] that it would take some 30 years to bring this difference to one-half of current levels.

Migration lubricates the wheels of the labour market by injecting into the economy a group of individuals who rapidly react to differences between persons or countries. An empirical analysis of data available in the Census of the USA between 1950 and 1990 shows that the inter-state scattered distribution of economic opportunities causes substantial behavioural differences among both migrant and local workers in their decision to migrate.

An important feature in the arrival of new immigrants is that they have a higher possibility of locating themselves in those states or regions where salaries are higher in their respective skill levels. In other words, immigrants account for a high, or even disproportionate, percentage of "marginal workers" – in the mathematical sense – who seek improved economic opportunities and help to balance inter-regional differences.

Data also suggest that salary convergence among different geographic areas is fater at times of high immigration. As a result, migratory flows towards the USA play a major role in improving efficiency in their respective labour markets.

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[26] BORJAS, G, (2001): "Does immigration grease the wheels of the labour market?" in, *Brookings Papers on Economic Activity*, pp. 69-119.

[27] BARRO, R. y SALA-I-MARTÍN, X. (1995): *Economic Growth*, McGraw-Hill, London.

The Borjas model provides an analytical framework to calculate efficiency gains resulting from immigration. Model simulations indicate that accrued efficiency gains range between 5 and 10 billion (thousand million) US$ per year for the whole of the USA economy. This gain is relatively small, given the size of the economy, but significant as compared to other estimates of the results of migration, which normally range below 10 US$ billion per year.

Scenario for the model:

a) There are considerable salary differences between countries and regions.

b) Costs of migration are high and are defined as fixed, which also provides a disincentive for local workers to relocate in order to reduce such differences.

c) Given their specific differences, international migrants accept the risk of moving from one country to another and thus face fixed costs required to migrate.

Once they have incurred in such costs they have little trouble in relocating from one region to another in order to maximise their salary. They will finally tend to settle in those countries or regions which provide the highest possible salary level as a function of their individual skills. The arrival of new immigrants causes a rigid increase in short-term labour supply, with no changes in variables in demand. This occurs with a balance of salaries together with an increase in the level of employment. In general terms, the arrival of immigrants causes gains in efficiency.

To conclude, the decision as to where to localise which immigrant workers make is much faster and responds more actively to salary differences than does local labour. The outcome is that immigrant labour plays an essential role, often ignored, in the host country labour market. The very mobile immigrant population injects the labour market with considerable profit in terms of net efficiency gains.

2.14. Accrued or accumulated causality. Once the migratory process has begun it alters the situation in both the country of origin and of destination. This phenomenon, called accumulated causality, normally increases the probability of future migrations[28].

Migration causes changes in social and economic structures as well as in the composition of incomes in the countries of origin, according to the stage of the migration.

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[28] MASSEY, D, (1990): <<Social structure, household strategies, and the cumulative causation of migration>> in, *Population Index*, vol. 56, nº 1, pp. 3-26.

2.15. Summary review of economic models. All of the above models focus on labour-market immigrants and explain the reason that leads migrants to leave their countries of origin and the kind of precarious conditions they face.

Some models include political violence as a trigger to migration. But, in spite of the relevance of economic or political reasons, other motives may arise. The fact that immigrants or refugees have settled in a given country and established networks may result in long-term migrant flows.

The incorporation of new immigrants to a society may ultimately have a bearing on the future of migration itself in that it modifies social structures and the social values of labour.

One of the ignored areas of migration analysis has been the reason given for the direction of migration flows. In the early stages of the migratory process, information and luck may partly determine the choice of a given country. Old colonial links continue to be evident after many decades since the end of colonialism.

Once relations are solid, the presence of relatives, friends, or any other members of the immediate community of origin may *per se* become a deciding factor in the choice of country of destination.

Other elements in making a choice may be a common language and culture, information and image of the country obtained through the media or other channels, availability of employment and, especially, permissiveness in admission and integration policies in the country of destination.

However, the increase of a purely geographic analysis of migration is even more frequent due to the new relations among countries which result from changes in patterns of international trade in goods, services and capital (Ghosh, 1992).

The study of international migration is more and more based on economic theory. Economic models help us better understand why migration continues, and even increases, through the years, in spite of high unemployment rates in countries of destination, harsher administrative barriers to entry, and often hostile reactions in the country of destination.

2.16. Importance of demographic factors. Migration is very heavily influenced by demographic developments in the various countries, with a resulting effect on the economy, historically not always uniform. Like any other social variable it has swung between stages of contraction and expansion. A differing level of development among countries, and different reactions to demographic changes, has affected, and continues to affect, demographic changes in various ways.

2.16.1. Social implosion: the demographic model in developed countries. Social changes in developed OECD countries raise three significant types of problem: aging, increasing rates of dependency and repercussions on public accounts[29].

a) Aging of the population. This has several implications on the economy's capacity to grow with difficulties on assimilating developments in technology, with a decrease in rates of labour mobility. Workers are less inclined to change employment and with a higher number of retired persons who rely on savings to subsist means that global saving rates tend to a long-term decrease.

Generally, a stand-still economy implies slow rates of growth in many sectors and therefore a higher uncertainty in corporate forecasts and a lower level of investment. Having young children limits the sacrifices that families are prepared to make and diminishes incentives to work, since the need for child care forces parents to cope with even more extreme circumstances in order to guarantee their off-spring's material well-being.

b) There is clear evidence of growth in the rate of dependency. That is the relation between the retired population and the employed population, or that of working age. This in turn means that those in gainful employment are increasingly financing the unemployed, bringing us directly to face the third problem.

c) Implications for public accounts. A growth in the rate of dependency will generate additional tensions on the pensions system, both in terms of demand for services and of financing. The number of pensioners will increase as a result of improvements in healthcare, and will thus require improved services and a sufficient pension-fund reserve.

This will all result in an additional burden on the State budget if the present allotment system endures. The current system is currently applied in most western countries.

[29] OCDE (2000): *Reforms for an ageing society*, Paris, ECO/WKP/7.

Solving these problems requires, among others, measures such as:

- Increase activity and employment measures in order to reduce the rate of dependency and improve contributions to the budget through the tax system.

- Delay the age of retirement, which will in turn postpone the age of access to pensions and thus lighten the burden on the budget.

- Adopt measures to lower healthcare costs and others aimed at promoting private savings accounts to complement public pension payments.

2.16.2. Social explosion: the demographic model in developing countries. For the purposes of this paper, our concern about the less-developed countries addresses the following problems[30]:

a) The restraint caused by population growth in a country's capacity to grow. High population-growth requires a parallel growth in real *per cápita* figures in order to reach a sustainable level over time. Necessary investments are thus financed through external savings. This process is hampered by the low level of savings given that in these economies there is a strong propensity towards consumption. The relational link population-development becomes a circular concept, also involving the problem of hunger. Malnutrition, usually preying on the weakest, shows its effects not only in the short term; inadequate nutrition early in life has direct effects on a population's future beyond immediate results, which goes far in feeding the poverty trap.

b) The unemployment problem. Although unemployment statistics are unavailable in these countries, which makes a correct evaluation impossible, the labour market will not accommodate the huge influx of people who annually swell the numbers. The world's megacities hold masses of the unemployed who – having left the countryside – try to make a living in the most unexpected ways. This causes serious safety problems for society and for governments, besides providing a growth medium for delinquency, exploitation or plain political instability. Since in most countries there is no true system for public assistance, the unemployed have little to lose by breaking the law if survival is in question.

[30] THE WORLD BANK (2000): Report on World Development, Washington D.C, Mundi-Prensa.

c) Unstoppable urban growth. The mimicking effect and the poor prospects of improvement available in rural areas of developing countries lead the population to emigrate to the cities, where they hope to find better working and living conditions. Although it is true that urban growth is a global phenomenon, the determinant factor of difference is its speed, and consequently the scope of its effects. Limitations in urban infrastructure do not allow for proper adjustment to such enormous amounts of people in such a brief span of time. Displaced numbers of people live in the direst of conditions, in sub-human housing, without sewage systems or drinking water, and so on. The city then loses its attraction and becomes a series of *ghettos* ready to breed social unrest or generalised insecurity.

2.16.3. Confrontation between the two demographic models. Immigration plays a major role in a world of very developed communications and two sets of countries, developed and in development, with different demographic indicators. Relevant international statistics are not of much interest since they do not reflect illegal immigration flows and underestimate the implications of migration; "most international institutions share the idea that these migratory flows will continue and probably increase in future. Estimates indicate that the third world's migratory potential hovers between 80 and 100 million persons. To this figure we should add

15 million refugees and asylum seekers, and 30 million other illegal immigrants who have settled in the various host countries"[31].

In the EU,[32] the population currently accounts for 6.4% of the current population, versus 10.4% in 1960. The natural rate of birth – births minus deaths – shows a threatening decrease, far from the "replacement threshold" of 2.1 children per woman. This is known as "population cooling", in spite of some recent changes in trends and a number of outstanding examples such as Ireland, or the rebirth of Scandinavian economies.

Notwithstanding these facts, low birth rates in southern Europan countries have caused concern given that they are among the lowest in Europe and the rest of the world, after having recently been at levels similar to those of developing countries. This takes place in countries where the family institution is highly valued and seen as essential for economic development at least in part due to the major role of family-run SMEs.

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[31] FRASER, J, (1994): <<Illegal Inmigration in the United States>> in, *Migration and Development*, OCDE, Paris, p. 31.

[32] EUROSTAT (1999): *Europe in numbers*, European Communities' Office of Oficial Publications, Luxemburg.

In Scandinavian countries with improved social services (Sweden, Denmark, Norway, Finland), rapid changes in lifestyle have had alarming results among the local population. The need to overcome very low birth rates led these countries to promote not only immigration but also pro-family policies. They are thus at the forefront, and have become a referent in the EU, of birth-promotion government action implemented through direct child-based subsidies, free day-care, obligatory maternity and paternity leave, and similar measures.