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Joan Trullén

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Author: Joan Trullén

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Institut d'Estudis Regionals i Metropolitans de Barcelona
Barcelona Institute of Regional and Metropolitan Studies

Parc de Recerca, Mòdul A
Universitat Autònoma de Barcelona
08193 Cerdanyola del Vallès, Barcelona, Spain.

<http://www.iermb.uab.es>

Inclusive growth: the great metropolitan strategic challenge

Joan Trullén

Universitat Autònoma de Barcelona
and Institut d'Estudis Regionals i Metropolitans de Barcelona
08193 Cerdanyola del Vallès, Barcelona (Spain)
Email: joan.trullen@uab.es

Abstract: The objective of the paper is to present the economic and territorial aspects that should be considered in the design of a new metropolitan strategy seeking to promote a new economic and territorial model where economic growth is compatible with a reduction in unemployment and an improvement in income distribution. The basic thesis are: i) the economic and territorial strategy is based on a model that seeks to accelerate economic growth and boost employment, which is the ultimate goal of the strategy; ii) the territorial factors are key to the new model of economic growth and account for a significant part of productivity growth; iii) this growth must be based on a continued search for competitive positions in international trade; iv) within this model of growth it is necessary to increase the weight of industrial activities in general and of advanced tertiary; v) the increase in the weight of these activities should translate into a greater share of wages in the functional distribution of income, improving personal income distribution, and vi) consequently, a process of inclusive growth would be achieved.

Keywords: metropolitan policy, inclusive growth, urban and regional development, economic growth

JEL: R11, R12

1. INTRODUCTION

"What I would like to stress is that the unit to which Marshall refers is not that of technologically defined industries, but rather of an industrial area or district. The conditions of population density, presence of infrastructure provision, "industrial atmosphere", which are both the source and the result, the cause and the effect, of that part of the increasing returns that cannot be explained either by internal economies of scale or by genuine innovations of their own. It is this extra feature of the productivity from work that made the Lancashire in the UK, the Ruhr in Germany, the Lombardy in Italy, and others stand out".

Giacomo Becattini

Since 2008, the metropolitan area of Barcelona is experiencing one of the most intense economic crises and one with the most serious consequences for the metropolitan society. The effects of the crisis on the level of employment and on unemployment have been extraordinarily intense. Analysing the situation of the economy and the metropolitan society is a prerequisite for designing policies, and in this sense the work of the Barcelona Institute for Regional and Metropolitan Studies is geared towards helping to define new metropolitan policies that will make it possible to cope better with the economic crisis and its consequences.

The Barcelona Institute for Regional and Metropolitan Studies is organising research aimed at analysing how the economy and society of the metropolitan area is evolving in order to offer to institutions and other interested parties the materials that allow them to face up to the crisis with effective policies. Thanks to the impetus of the new government of the Metropolitan Area of Barcelona, and especially to the Vice-chair of Strategic Planning, the impulse to this institution has been renewed. One of the mainstays of this new phase consists of focusing on strengthening the economic, social and territorial diagnosis of the city of Barcelona. And since the Overall Activities Plan was approved in 2009, the general focus of the Institute has been dominated by the idea of giving priority to studies that help refine the diagnosis of the economy, society and territory, by guiding actions towards solving specific problems.

One of the key elements in this new research strategy has been the creation of a series of annual metropolitan reports. These are annual reports which reveal a conscious effort to escape from the routine and standard format, and attempt to articulate a discourse that is complex and focused on diagnosing

the economic crisis and studying the social and territorial consequences for the whole of the metropolitan area of Barcelona.

The Annual Metropolitan Reports series began with the study corresponding to 2011, entitled: "Tackling the crisis: the metropolis of Barcelona", which was followed by the 2012 the study "Foundations for a metropolitan economic and social strategy" and by the 2013 study "The metropolis of Barcelona and the inclusive growth model." This is a series that now culminates in its fourth edition with the study entitled "Towards a new model of inclusive growth. A great strategic challenge for the metropolis of Barcelona".

This latest study is based on a far-reaching working hypothesis: the metropolis of Barcelona has economic and territorial foundations that can allow it to lead the way out of the crisis in the Catalan and Spanish economies.

These foundations are not only economic in nature (a knowledge-based economy, an exporting base, industrial districts-type economies, economies linked to urban development, business, social and institutional fabric) but also territorial in nature (Urban and metropolitan dimension, networks of cities, mobility structures, low-carbon economy, efficiency in the use of natural resources)¹.

Thanks to the existence of territorial productivity factors, the metropolis of Barcelona has become a centrepiece in the open economy model that has characterised the Catalan and Spanish economy since joining the European Community in 1986².

But what is known by the term "Barcelona model", in which a relationship of cooperation between the private and public sectors will be articulated with a major municipal initiative, will not be characterised only or especially in order to have these regional productivity factors. It is a unique initiative on

¹ A comprehensive analysis of the economic crisis and its consequences on the metropolitan area of Barcelona can be found in IERMB. (2012). *Per afrontar la crisi: la metròpoli de Barcelona, Barcelona Annual Metropolitan Report 2011*. Barcelona: AMB-IERMB, pp 59-168.

² Block III of the study *Bases per a una estratègia metropolitana econòmica i social* is devoted to quantifying and analysing the factors of regional competitiveness of the metropolis of Barcelona: Infrastructure (Chapter 5), the production of knowledge (Chapter 6), entrepreneurial activity (Chapter 7), The urban clusters in Barcelona (Chapter 8). IERMB. (2013). *Bases per a una nova estratègia metropolitana econòmica i social. Barcelona Annual Metropolitan Report 2012*. Barcelona: AMB-IERMB.

the European scene. Between mid-1985 and the beginning of the current economic downturn, the metropolis of Barcelona managed not only to grow in population and economic activity but also to make progress in a process of improving the distribution of income³. The metropolis of Barcelona displays the characteristic of uniting economic growth with better income distribution. It is a model based on a quest not only for economic growth but also for a better distribution of income. It is a comprehensive growth model.

In addition, this model has been characterised by deploying intense public policies at a local level, from those involving infrastructure to those of a social nature, with a particular focus on endogenous development policies (Barcelona Activa, local development agencies) and a highly de-centralised municipal social policy.

The result in terms of metropolitan growth is the construction of a large metropolis in the south of Europe. The major change of scale in the metropolitan jobs market occurred between 1986 and 2001 (see Box 1). Also in mega-regional terms, another major change of scale was detected in the first decade of the 21st century (see Box 2).⁴

³ The survey of living conditions and habits of the population that has been produced for Barcelona and the MAB since 1985 makes it possible to have information on the distribution of income. An analysis of the latest survey corresponding to 2011 on the consequences of the economic crisis on the distribution of income in the metropolis of Barcelona can be found in Trullén, J (2014). *Crisi econòmica, creixement de les desigualtats i transformacions socials, Informe General de l'Enquesta de Condicions de Vida i Hàbits de la població de Catalunya 2011*. Barcelona: Barcelona County Council, Metropolitan Area of Barcelona, IDESCAT and IERMB.

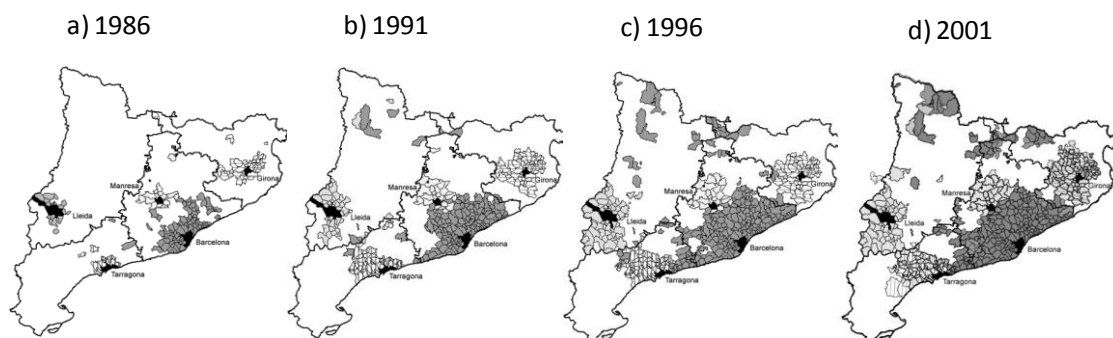
⁴ The text is accompanied by a set of boxes which include in summary form a selection of tables and graphs that make it possible to illustrate some of the ideas that are exhibited. These boxes are the result of research carried out within the framework of the Institute for Regional and Metropolitan Studies in Barcelona.

Box 1: Change of metropolitan scale

The figure below presents the evolution of the metropolitan jobs markets in Catalonia identified by the obligatory mobility flows between municipalities, on the basis of the standard GEMACA methodology complemented by an iterative procedure to collect relationships of polycentricism as well. The growth over time can be seen, and how by 2001 the Barcelona jobs market already supplied a large part of the province and came into contact with the jobs markets of the other cities in Catalonia, such as Tarragona, Manresa and Girona. In 2011 the Barcelona jobs market covered 5.2 million inhabitants and some 2.5 million jobs.

Work is currently being done to update this information from the 2011 population census produced by INE and that has not been available until now. What we are currently witnessing is a new change of scale of a magnitude similar to that experienced between the years 1986 and 2001.

Process of territorial expansion of the metropolitan areas of Catalonia. Iterative method, 1986-2001



Source: produced by Trullén and Boix (2000), Boix and Galletto (2004) and Boix and Veneri (2009).

Publications:

Trullén, J. & Boix, R. (2000). *La ampliación del área metropolitana de Barcelona y su creciente interacción con las áreas metropolitanas de Tarragona, Lleida y Girona. Avance de resultados*. Barcelona: Ajuntament de Barcelona (mimeo).

Boix, R., & Galletto, V. (2004). Anàlisi econòmica comparada del Cens 2001. Principals resultats per a Catalunya. *Nota d'Economia*, 79, 65–86.

Boix, R., & Veneri, P. (2009). Metropolitan areas in Spain and Italy. *IERMB Working Paper in Economics*, 09.01.

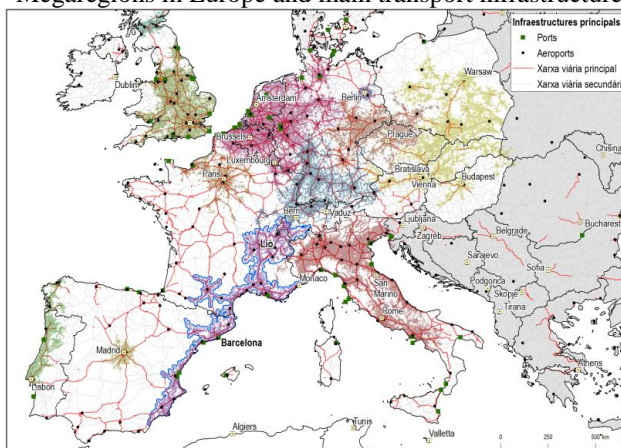
Box 2: Megaregions. Polycentric networks of cities

The metropolis of Barcelona is the central core of the Barcelona-Lyon megaregion.

The progressive inclusion of European regions within polycentric networks of cities, provides a significant economic benefit. The regions that benefit most economically from being in a megaregion are the peripheral areas, while the central areas increase their competitiveness. Thus, megaregions tend to increase in size and population, at the same time that their economic activity and their level of innovation increase. When a complex network incorporates a high degree of polycentrism, it becomes more stable and efficient.

Thus, megaregions tend towards greater energy efficiency, a fact that makes it possible to reduce CO₂ emissions. In short, the development of the megaregions is based on greater energy efficiency and on the transport network (roads, railways, ports and airports). In the near future it will be necessary to redirect economic and regional policies towards an improvement of sustainability on a mega-regional scale. This goal will become strategic for the socioeconomic development of Catalonia and of the MAB (Metropolitan Area of Barcelona).

Megaregions in Europe and main transport infrastructure



Source: IERMB.

Publications:

IERMB. (2012). *Per afrontar la crisi: la metròpoli de Barcelona, Barcelona Annual Metropolitan Report 2012*. Barcelona: AMB-IERMB.

Marull, J., Galletto, V., Domene, E. & Trullén, J. (2013). Emerging megaregions: a new spatial scale to explore urban sustainability. *Land Use Policy*, 34, 353-366.

Marull, J., Font, C., Boix, R. (2015). Modelling urban networks at mega-regional scale: Are increasingly complex urban systems sustainable?. *Land Use Policy*, 43, 15-27.

The crisis has turned the essential elements of this model of growth of the metropolis of Barcelona on its head, leading to a rapid and intense destruction of employment. A significant part of the improvement that had been experienced in terms of income distribution has been lost. And, above all, there has been a severe process of deterioration in the conditions of life and work for a wide range of the metropolitan population.

The momentum towards a new economic and territorial model needs to make a new stage of economic growth capable of dealing with the problem of unemployment compatible with a simultaneously improvement in income distribution. The crisis has significantly affected a large part of the population, but especially those groups that were already suffering the most precarious living conditions.

Cities and metropolises should be key players in this model of inclusive growth. It is a model of growth that is rooted in infrastructural and social policies with a powerful local base, such as those that characterised the economy of Barcelona between the mid-1980s and the beginning of the first decade of the 21st century. This model of inclusive growth also presents a fundamental characteristic: addressing the challenges of environmental sustainability. It can be argued that the inclusion is both social and environmental, in line with the postulates of the Europe 2020 Strategy.

The great strategic economic and territorial challenge is precisely that of pursuing a growth model that is able to correct the major growth in inequalities, and in this model the territorial factors of productivity related to metropolitan construction are very important. It is necessary to be aware though that the strategy of correcting inequalities and generating sustainable economic activity cannot fall only to instruments of a metropolitan nature. The major metropolitan challenges can help channel public and private impulses to make the strategy of generating employment and emerging from the crisis faster and more efficient. However, under no circumstances can they replace the policies on a macroeconomic level and the recovery of the welfare state on a regional, national or European scale⁵.

In cyclic phases similar to the current one, Barcelona has led the way out of the crisis very actively. The crisis of 1977-1984, which saw an intense destruction of jobs, was responded to from Barcelona with a large economic

⁵ In the same way that the plan for the Llobregat Delta is part of a strategy by the central government to boost investment in infrastructure, the great metropolitan infrastructure investments can find a significant support in community infrastructure policies such as the Juncker Plan 2015 (European Commission 2014).

activation process related to the entry into the European Communities and the Olympic project. During the crisis of 1992-95, the idea arose to accompany the Delors Plan and the entry into the third stage of Monetary Union with urban and metropolitan projects of such importance as the Barcelona-City of Knowledge project (with the successful proposal of 22@ Barcelona)⁶ and the Llobregat Delta Plan⁷.

From an employment point of view, today we are in a critical situation which requires the deploying of regional economic policies of an intensity that is even higher, and that are in line with the Europe 2020 strategy that promotes a more intelligent, sustainable and integrating growth. The destruction of employment has been very intense, and this time the correcting of inequalities with fiscal policies and budgets has not had the desired effect. Most of the Western economies have experienced an intensification in the level of inequality that has been perceived since the mid-1980s.

This study puts forward the idea that cities — metropolises — must be prominent players in a new model of inclusive growth. Furthermore, the existence of Metropolitan Government institutions is in itself a factor that helps to promote good foundations for boosting economic activity, as revealed by recent research carried out by the OECD⁸.

The relationship between inequality and economic growth has a territorial component which must be taken into account. The recognition of the metropolitan territory as a complex system, where the social, economic and ecological processes interact, clearly illustrates the need to seek new ways of planning and governance which integrate the objectives of inclusive growth transversally in all areas of planning: urban development, mobility, energy, economic development, social policy, etc.

In consequence, it is necessary to provide policies aimed at correcting the inequality of a metropolitan and urban vision, together with the need to have metropolitan government institutions.

The process of institutionalising the MAB has had to overcome many obstacles over the last three decades, although this has not prevented the construction of one of the major European metropolises; Barcelona is today among the five most important metropolises in the European Union. In recent years this process has received a huge boost with the 2010 Metropolitan Area

⁶ See Trullén, 2011.

⁷ See Trullén, 1997.

⁸ See OECD, 2015.

Act. The institutional construction of the metropolis opens up a great opportunity to design joint strategies that help economic growth and generate employment, and that present elements for correcting inequality, that bring us back onto the narrow but passable route of a model of inclusive growth.

The present paper aims to influence the process of defining the new metropolitan strategy. It is based on statistics and surveys that are metropolitan in scope, some of them our own, which have been incorporated into the box of tools that analysts can use to diagnose or discover the real situation in the metropolis⁹.

The paper is organised into three sections. The first of these is aimed at identifying the major economic and social imbalances that have been experienced in the metropolis of Barcelona since the mid-1980s, starting out by identifying the macroeconomic context of Spain, followed by the analysis of employment and unemployment, and finishing with the study of the way inequality has evolved.

The second section identifies the major strategic challenges of the metropolis of Barcelona, the strategic role of the metropolis of Barcelona in the Spanish economy and the identification of two alternative ways to achieve growth in productivity and foreign competitiveness, with their consequences for income distribution.

Lastly, is taken in account the role of territorial policy in the active growth of productivity.

2. THE MAJOR ECONOMIC AND SOCIALS IMBALANCES

The object of this first section is to characterise the major economic and social imbalances by presenting a provisional series of the main variables and indicators. The first two series refer to the jobs market. It should be remembered that a metropolitan area can be defined based on the delimitation of supra-municipal job markets. Residence-work relationships are thus behind the metropolitan delineation.

As a result, the economic context can be defined on the basis of the two main variables that characterise the jobs market; unemployment and employment. Also examined is a key indicator for measuring the distribution of income:

⁹ A recent output of this work programme can be found in the study Galletto & Marull (dirs.) (2013).

the Gini index of household disposable income, obtained from different surveys of living conditions and habits of the population, which has been compiled since 1985 within the framework of the Barcelona Institute for Regional and Metropolitan Studies.

We shall maintain that the two main economic and social imbalances that characterise the current economic crisis are the intensity and persistence of the problem of unemployment, and the intensification of the problem of inequality in the distribution of income, both in the metropolitan territory and in the municipality of Barcelona.

We should stress, nonetheless, that two characteristics of the metropolitan area of Barcelona emerge from the analysis of these variables. The first is explained by its macroeconomic environment: the recurrence of major economic crises; the jobs market presents far reaching structural deficiencies. The second is the great capacity for responding to crises, and in general its resilience, which has manifested itself in the ability to generate jobs – at a slower rate but in a sustained way- during upswings in the cycle.

2.1. Three major crises in the jobs market of the metropolis of Barcelona: 1977-1985, 1992-1994, 2008-2013

Here we shall attempt to identify some of their structural characteristics for the purposes of defining the foundations of a new model of inclusive growth.

To characterise the economic evolution of the metropolis of Barcelona, it is essential to refer firstly to the evolution of the Spanish economy, especially insofar as it affects the fundamental variables of the jobs market. A proper diagnosis must be based on both the detection of cyclic behaviours and the detection of the trend. An incorrect identification of the cyclic component and the trend component of these macroeconomic variables might lead to diagnostic errors in defining the strategy.

The first Figure enclosed consists of a reconstruction of a historical series of the unemployment rate for the whole of the Spanish economy and for the metropolis of Barcelona (provincial information). The series begins in 1977, the year in which the Moncloa Pacts were signed, and the great process of reorganising and reforming the Spanish economy initiated. Barcelona was historically the economic and industrial capital of Spain. An attempt was made to compensate for the crisis, which had begun on a global scale in 1973 with the major rises in the price of oil and raw materials, with temporary policies and without any success on the part of the political authorities of the regime. The delay in taking effective measures of a structural nature would

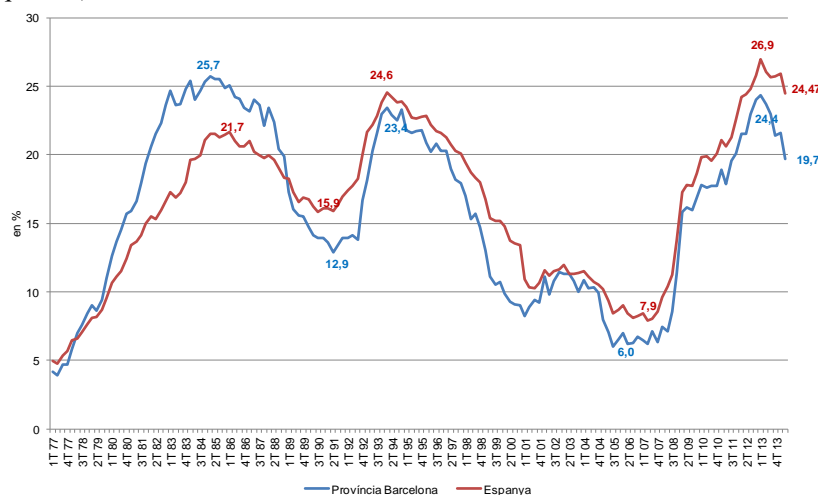
lead to an acceleration of its consequences on employment from 1977 onwards. Barcelona would suffer the consequences of the crisis and of economic policies with greater intensity, coming to head the destruction of employment and generating an unemployment rate that was the highest in the whole of the Spanish economy in 1983. The unemployment rate for the metropolis of Barcelona was higher at the peak of the crisis of 77-85 than in the current crisis.

In contrast, the evolution of unemployment in Barcelona both in terms of the crisis of 92-95 and in the current economic crisis is better than for the Spanish economy as a whole. In fact, whereas the whole of the Spanish economy shows a tendency for unemployment to intensify in successive downswings, the economy of Barcelona does not. And this is a structural feature that is of great importance for the design of the metropolitan strategy.

From the analysis of this series we can draw two additional conclusions that are relevant for our argument. The first of these is that, in terms of duration and intensity, the major economic crisis that was experienced in a general way between 1977 and 1985 meant the generation of very high unemployment rates, similar to those of the 2008-2013 crisis. The second is that the speed in generating unemployment in the recessive phase of the economic cycle is higher than the speed in which the rate of unemployment falls in periods of expansion¹⁰, which would demonstrate the need to deploy compensatory policies for quite a few years. However, the main conclusion is that the economy of the metropolis of Barcelona falls within a macroeconomic context that repeatedly evolves with a high degree of virulence in economic cycles. The job markets are therefore much more unstable than the average for advanced economies.

¹⁰ See Section 2.2. on Page 12.

Figure 1. Unemployment rate for Barcelona and Spain, 1977-2014 (3rd quarter)



Source: Produced by the IERMB from the INE.

2.2 Fall in employment and rise in unemployment during the 2008-2013 crisis

The way unemployment evolves within the economic cycle does not necessarily coincide with the way employment evolves. In a metropolis like Barcelona, which is highly exposed to the international economic cycle, three economic cycles have been experienced over the last forty years, with three recessive phases. It should be noted that although the destruction of employment has been very intense during the downswings, the subsequent recovery has allowed the volume of employment to rise to considerably higher levels than those at the highest point of the preceding cycle.

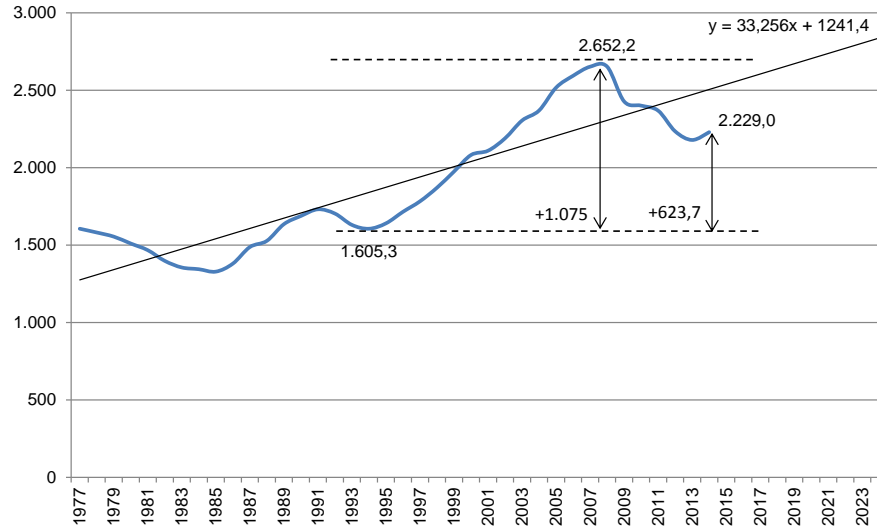
Therefore, both in the 1977-1995 and 1996-2003 cycle the destruction of employment has been very significant in the recessive phase but this has been more than offset in the later expansion stage, in which the generation of net employment has doubled the jobs lost in the previous stage.

As a result, the trend for the series is clearly an expanding one. Naturally, the differential between the evolution of unemployment and the evolution of employment is deeply affected by the existence of migratory phenomena. It should be remembered that the historical route towards population growth in the metropolis of Barcelona has been via migration.

The jobs market is thus very sensitive to the economic cycle. However, the historical trend has been clearly one of an expansion of jobs, and as a result, an expansion of the metropolis (Figure 2). In the design of an economic strategy and planning for the metropolis of Barcelona, one should be aware of both the cyclical nature of the jobs market and the clear historical trend in expansion. In any event, it is necessary to adopt a long-term perspective and under no circumstances programme only within the timeframe of a single economic cycle.

Lastly, it is necessary to refer to the evolution of employment in the current economic crisis as well as the detection of the first signs of recovery during the third quarter of 2013. The drop in employment between the third quarter of 2008 and the second quarter of 2013 has been very significant. The destruction of employment has affected about half a million jobs. However, this represents half of the jobs generated during the previous phase of expansion. It should be noted that, since the fourth quarter of 2013, there has been an uninterrupted growth of jobs over the last six quarters. The recovery in employment would present a greater flexibility compared to product growth in this recovery than in the two recorded previously.

Figure 2: Jobs in the province of Barcelona, in thousands of people; evolving from 1977 to 2014 and the trend until 2024*



*The 2014 figure corresponds to the average for the first three quarters.

Source: Produced by the IERMB from the INE.

2.3. Growth in inequality in the distribution of income

As has been highlighted in recent research such as that carried out by Thomas Piketty¹¹, over the last three decades, Western economies have largely experienced a phenomenon of very intense growth in inequalities in the distribution of income and wealth. This trend, associated with the acceleration in the process of globalisation, has reached alarming levels in the last years of the economic crisis. Institutions such as the OECD have expressed their concern about the magnitude of this phenomenon, and are working to promote new models of inclusive growth that are capable of reconciling the objectives of growth in production and employment with improvements in the distribution of income and wealth¹².

The information available on a metropolitan scale is scarce and often does not allow for comparison. In the case of Barcelona, and as presented in the document "The metropolis of Barcelona and the model of inclusive growth"¹³, it has been possible to reconstruct a historical series for 1985-2011 that makes it possible to obtain comparable information on different indicators of income and wealth in Barcelona and its Metropolitan Area¹⁴.

Figure 3 presents the results homogeneously of different surveys that have been carried out every five years into the living conditions and habits of the population of Barcelona and the Metropolitan Area of Barcelona.

This is a pioneering survey that anticipates the concern of the European Union when it launched from the Lisbon Summit its goal of fighting inequality and doing so on the basis of comparable indicators.

The ECVHP proposes the following objectives: obtaining information and analysing data on income, wealth, level of poverty and social exclusion of the population of Barcelona, the Metropolitan Area of Barcelona and Catalonia, and doing so in such a way that it can be compared to the rest of Spain and of the European Union; identifying the trends in income, wealth, lifestyle, social structure and socio-spatial phenomena; and identifying the social groups and their characteristics in order to aid the analysis of inequalities.

The main conclusions obtained from constructing the series of the Gini index for the income available for Barcelona and the Metropolitan Area between 1985 and 2011 are the following (the Gini index ranges from 0 to 1, where 0 means perfect equality and 1 total inequality):

¹¹ Piketty (2013, Chap. I).

¹² OECD (2011), OECD (2014b).

¹³ IERMB (2014, Introduction).

¹⁴ For a detailed analysis of the results of the ECVHP 2011 see Trullén (2014).

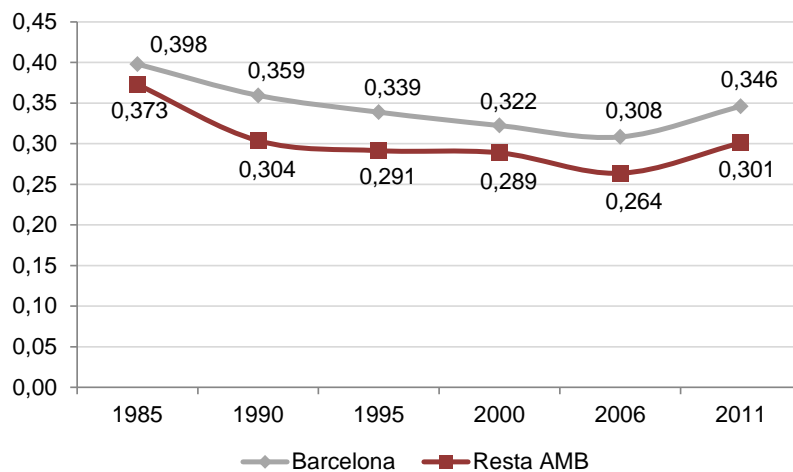
- A substantial reduction in inequality between 1985 and 2006 for the Metropolitan Area of Barcelona.
- For the municipality of Barcelona, inequality is reduced from 1985 (0.398) to 2006 (0.308).
- Inequality is reduced more in the rest of the Metropolitan Area than in the municipality of Barcelona between 1985 and 2006.
- The Gini index for the municipality of Barcelona is higher than for the whole of the rest of the Metropolitan Area of Barcelona.
- The consequences of the economic crisis are very important in terms of inequality, both in Barcelona and the rest of the Metropolitan Area.
- In 2011 the Gini index had receded to levels of inequality similar to those that existed in 1995, demonstrating the severity of the consequences of the crisis.

As a result of this analysis, we can conclude that the economic downturn from 2008 to 2011 (latest year available) has not only led to a deterioration in employment and the general level of life, but also to a growth in inequality¹⁵.

The Barcelona experience indicates that when there have been intense economic growth policies with significant job growth and powerful policies for correcting inequality, tangible results have been achieved in terms of improvement in the Gini index (see Box 3 and Box 4). As has been seen, it is possible to generate improvements in terms of redistribution and at the same time important growth in production. The strategy needs to focus on one crucial variable: the growth in employment.

¹⁵ See Trullén, 2015.

Figure 3. Gini index of disposable income, Barcelona and the rest of the Metropolitan Area of Barcelona; 1985-2011



Note: the 1985 data refer to the 27 municipalities of the old Barcelona Metropolitan Corporation.

Source: IERMB Survey of living conditions and habits of the population, 1985-2000; Idescat and IERMB. Survey of living conditions and habits of the population, 2006-2011.

Box 3: Inequality

As can be observed in the following graphs, the evolution between 2004 and 2012 (there are no previous data and due to methodological changes, the 2012 is the last year with available comparable data) of the inequality in available income has been very different in Catalonia and Spain compared to the group of countries of the EU15. Although in all the cases inequality increased from 2009 onwards, in the EU15 in 2012 it fell, whereas in Catalonia and Spain it continued to grow significantly. There is no recent information about Barcelona, but is likely to have evolved in the same way as in Catalonia.

The case of Barcelona shows that it is possible to identify win-win strategies capable of generating economic growth and at the same time reducing inequalities. The economic growth can be inclusive. As a result, metropolitan and urban policies of economic growth should be designed from the metropolises and for the metropolises, in order to achieve inclusive growth. In this sense, metropolitan urban and economic policies are necessary.

Publications:

Trullén, J., Sarasa, S., Porcel, S. & Navarro-Varas, L. (2013). L'impacte social de la crisi a l'Àrea Metropolitana de Barcelona i a Catalunya. *Papers. Regió Metropolitana de Barcelona*, 56, 1-125.

Trullén, J. & Galletto, V. (2014). Inclusive growth and urban policies: the case of Barcelona. *Second OECD/Ford Workshop: Changing the Conversation on Growth: Going Inclusive*. New York: Ford Foundation, 27 February 2014.

Trullén, J., Galletto, V., & Porcel, S. (2014). Measuring local well-being at metropolitan level: the case of the metropolitan area of Barcelona. *OECD Workshop "How's Life in Your Region? Measuring Regional and Local Well-being for Policy Making"*, Paris, OCDE, 23 January 2014.

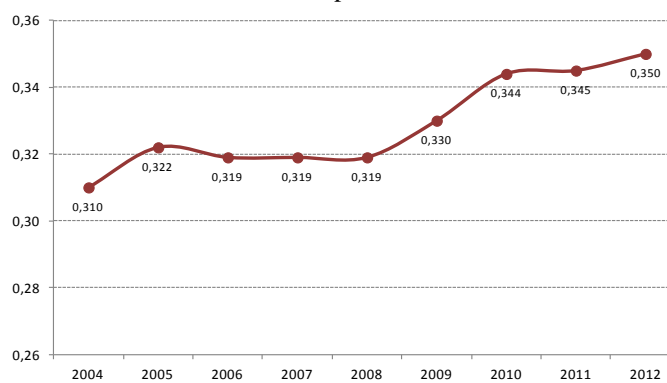
Trullén, J. (2015). Inclusive Growth and Urban Strategies: the case of Barcelona. In P. Kresl (ed.), *Cities and Partnerships for Sustainable Urban Development* (pp.111-127). Cheltenham: Edward Elgar.

Box 3 (cntd.): Gini Index for disposable income. Catalonia, Spain and the EU-15, 2004-2012

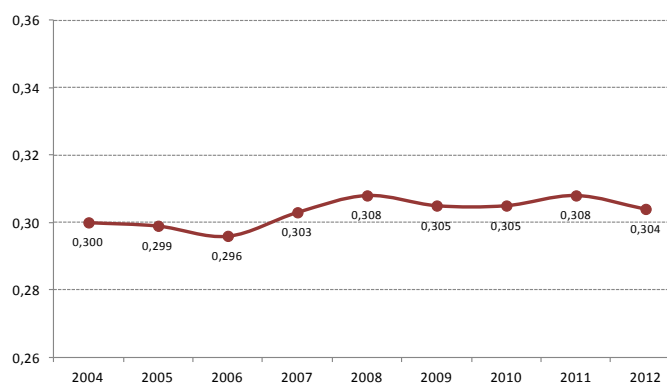
Catalonia



Spain



EU-15



Source: Idescat, based on data from the INE survey of living conditions (Spain); INE, based on data from the survey of living conditions (Spain); Eurostat, based on data from the EU-SILC (EU15).

Box 4: Evolution of the socio-residential structure of the MAB

The evolution of the socio-spatial structure of the metropolis of Barcelona over the last decades has some points in common with the stereotypical globalised city, while at the same time displaying certain particular features. As in many other urban agglomerations, the urban space in Barcelona has been increasingly fragmented to the extent that the urban social reality has acquired a greater complexity, embracing new socio-spatial phenomena such as suburbanisation or the dynamics of gentrification in central areas. In addition, a trend has also been detected towards urban polarisation due to the impact of the economic and financial crisis.

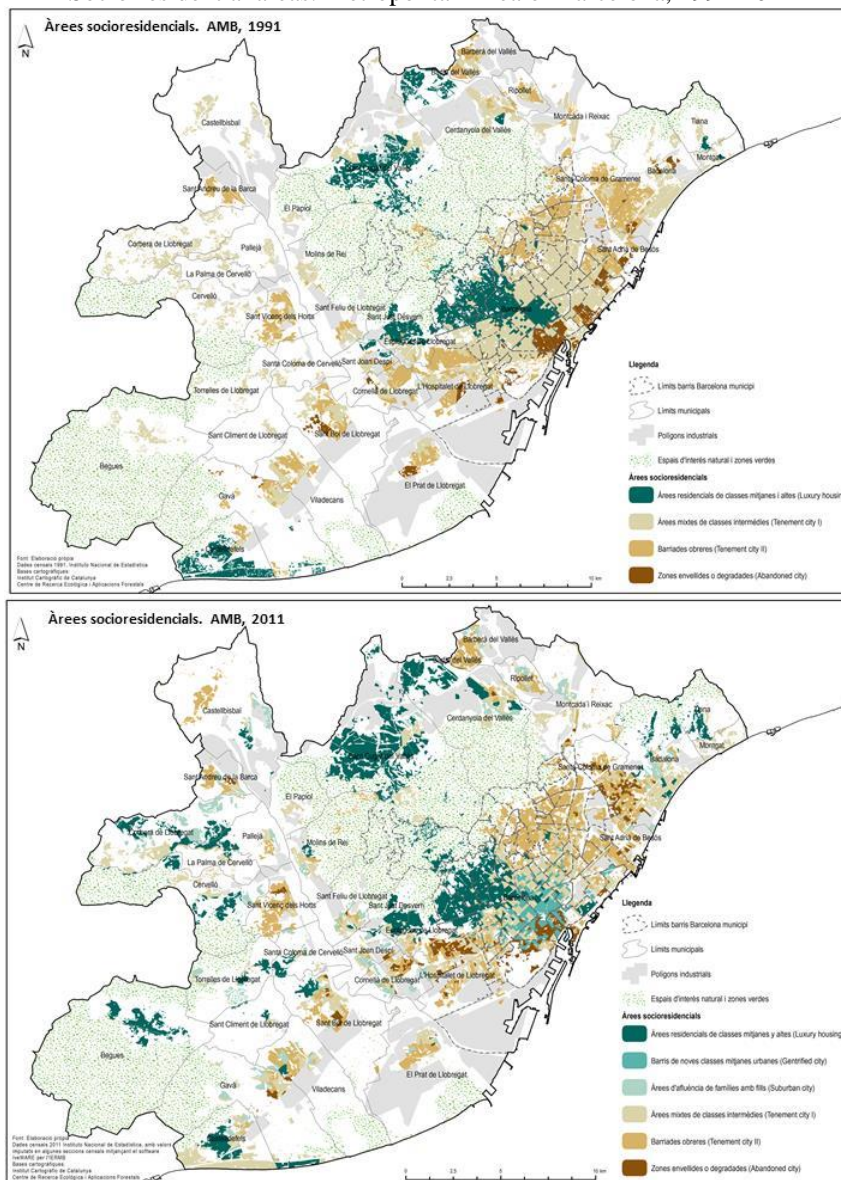
However, unlike other cities in the world, urban inequality in the metropolis of Barcelona is more relevant in the socio-residential areas that make up the urban structure rather than between them, which denotes a significantly transversal territorial distribution of high and low income. This aspect is of course related to the way the economic crisis has affected Barcelona society, but in any case it should be noted that the dynamics of segregation of poverty are not very relevant for the metropolitan area of Barcelona, nor have clearly significant ethnic enclaves formed.

Publications:

Porcel, S. & Thiers, J. (2014) L'evolució de l'estructura socioresidencial a de l'Àrea Metropolitana de Barcelona entre l'olimpisme i la gran crisi financera: dinàmiques de diferenciació residencial i desigualtat urbana en la ciutat postindustrial in S. Sarasa (dir.) *The transformation of the metropolitan society: a diagnosis of the socio-economic and spatial changes in the Metropolitan Area of Barcelona*. Barcelona: IERMB, AMB.

Box 4 (contd.)

Socio-residential areas. Metropolitan Area of Barcelona, 1991-2011



Porcel, S. & Thiers, J. (2014) L'evolució de l'estructura socioresidencial a de l'Àrea Metropolitana de Barcelona entre l'olimpisme i la gran crisi financera: dinàmiques de diferenciació residencial i desigualtat urbana en la ciutat postindustrial in S. Sarasa (dir.) *The transformation of the metropolitan society: a diagnosis of the socio-economic and spatial changes in the Metropolitan Area of Barcelona*. Barcelona: IERMB, AMB.

3. THE GREAT STRATEGIC CHALLENGES OF THE METROPOLIS OF BARCELONA

The metropolis of Barcelona presents a highly diversified production base, but with a fundamental strategic component: the exporting industry. We shall argue that in order to sustain economic activity and encourage employment so as to return to historical levels once again, there is a need to strengthen its competitiveness and expand its exporting activity.

The permanent recovery of foreign competitiveness is necessary in order to revive domestic demand and employment in a sustainable way. The economy of Barcelona is the major exporting bastion of the economy of Spain and of south-western Europe. Traditionally oriented towards the internal Spanish market, since entering the European Community, and especially in the last decade, the economy of Barcelona has seen a rise in its market share among the countries of the euro zone.

Tourism and other advanced services are also an important export engine, but of a lesser importance compared to the manufacturing industry.

The great strategic challenge that it is postulated is precisely that of strengthening the competitive foundations of the metropolis of Barcelona by making growth in productivity a core aspect of the strategic objectives.

We suggest the need to orient the metropolitan strategy towards activating a very significant part of the set of productivity boosting factors: the regional factors, including the environmental ones. The aim of the strategic orientation of the metropolitan area of Barcelona is to direct it towards this goal. Instead of insisting on a passive strategy of reducing salary and non-salary costs in order to cause productivity gains by internal devaluation, the aim is to direct the metropolitan strategic action precisely towards activating a route to the growth of alternative productivity: strengthening economies that are external to firms but internalising them in the productive sectors. These include the external Marshallian economies that are typical of the industrial districts studied by Giacomo Becattini¹⁶, but also externalities linked to productive diversity and metropolitan scale, studied by Jane Jacobs¹⁷ and Roberto Camagni¹⁸ among others.

¹⁶ See Becattini, 1979.

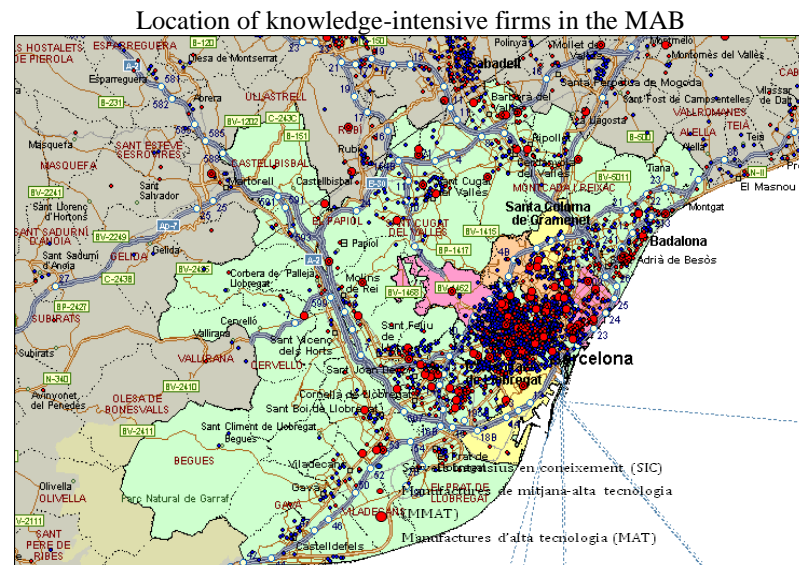
¹⁷ See Jacobs, 2011.

¹⁸ See Camagni, 2005.

The idea is to promote a new model based on exports (industrial and services) but in general on intensive activities in export-oriented knowledge (see Box 5). It is necessary for this exporting base to be rooted in activities that focus heavily on knowledge and on employment, and that take advantage of the major benefits of the metropolitan economy, ranging from large transport infrastructures and communications to the existence of an extraordinarily complex and diversified range of services for individuals and firms, as well as environmental quality and the wellbeing of the population.

Box 5: Economy of knowledge

The construction of a global metropolis brings with it great changes both in the composition of production and in the ways of generating added value, as well as the location of the productive activity. Since the mid-1980s, Barcelona has been immersed in a fundamental economic change: the transfer of its economic base from traditional manufacturing activity, oriented towards the domestic Spanish market, towards a new production base focusing on the new technological revolution aimed at the global market: a knowledge-based economy, information and communication technologies, culture, creativity and innovation.



Source: Trullén, J. (dir.), Boix, R., & Galletto, V. (2011) *Barcelona Metròpoli Creativa*. Barcelona: IERMB-Ajuntament de Barcelona.

Publications:

Trullén, J. (dir.), Boix, R., & Galletto, V. (2011) *Barcelona Metròpoli Creativa*. Barcelona: IERMB-Ajuntament de Barcelona.

Pursuing this strategy presents a crucial additional advantage: it represents an alternative to internal devaluation and aims to ensure that employment is strongly set on increasingly qualified foundations. And this is a necessary condition for combating the trend in the growth of inequality.

Hence, it is proposed to orient the strategy towards a new model of inclusive growth, on a metropolitan scale and based on new productive activities of an industrial and also advanced tertiary nature and a high-knowledge economy (model 22@Barcelona), and with a component consisting of increasing efficiency in the use of natural resources.

Consequently, the role of regional policies should be to guide the economic base towards the strengthening of a new active route to growth in productivity and well-being, in line with the smart, sustainable and inclusive model for growth outlined in the Europe 2020 Strategy¹⁹.

In what remains of the paper we shall examine some general characteristics of this new model of inclusive growth and what its impact would be on the design of territorial policies of a metropolitan nature.

3.1. A narrow but passable route to the recovery of employment

The recovery of foreign competitiveness is a necessary condition for reviving domestic demand and employment. The analysis of economic activity in the metropolis of Barcelona over the last forty years requires us to separate what are changes in a cyclic nature from what is the general trend. Between the crisis that began in 1973 and the present day Barcelona presents three full economic cycles. The cyclic evolution needs to be separated from the trend. If we act thus for the purpose of defining a new economic-territorial strategy for the metropolis as a whole, we need to define the strategy from the perspective of a return to high employment levels.

Is it possible to recover employment and succeed in returning it to levels higher than those existing at the highest point of the previous economic cycle? Proposing quantitative goals in terms of employment presents a great number of unknown factors. On the other hand, we could re-formulate the question in these terms: What features should the route to a stable recovery in employment have? There would be a narrow, challenging but passable route to economic recovery marked by milestones that permanently set competitive improvement as a sign to pursue in the strategy for recovering production and activity.

¹⁹ See Galletto & Marull (dirs.) (2013).

The route must be marked by milestones that place competitiveness in a key position. Since foreign trade is dominated by manufactures which provide 80% of the total, and to a lesser extent by tourism which contributes to about 15%, a central goal must be to ensure industrial competitiveness. The future of the metropolis of Barcelona would thus need to respect its historical track record. Yet with one condition: competitiveness should be based not on wages and low land costs, but on factors such as the R&D&i, training and the set of territorial factors of competitiveness that we shall identify in the section 3.3.

3.2. The strategic role of the metropolis of Barcelona in the economy of Spain and of south-western Europe: the exporting impetus. Foreign competitiveness

The OECD has pointed out in several studies that metropolises are strategic for contemporary economic development.²⁰ In addition, their role has to be highly relevant in designing a new strategy for inclusive growth. In designing a model of growth for the metropolis of Barcelona, it is necessary to begin by recognising the very important role that this metropolis plays, not only as a primary leader of the export capacity of the Iberian peninsula as a whole, but also as a metropolis with a central economic and demographic importance within the set of metropolises in the south-west of the European Union.

Its geographic location within the peninsula has been historically fundamental in fulfilling the role of a hub with the rest of the European continent. As can be seen in the appended box (Box 6), the Sagrera Intermodal Station, the metropolis of Barcelona also occupies a strategic position within the Barcelona-Lyons megaregion, which has seen its sphere of influence grow in recent years both eastwards (Toulouse) southwards (Valencia, Alicante and Murcia). It is very important for the metropolitan strategy of Barcelona to embrace the central role of the metropolis within the network of cities that is forming in the south-west of Europe, and especially in the Mediterranean corridor, from Lyons down to Murcia.

As this becomes consolidated, the growth in Barcelona's foreign trade reinforces the role of the metropolis in this major European area. The growth in foreign trade is higher towards the north than towards the Iberian peninsula as a whole. However, the increase in economic and commercial relations with the rest of Spain has been of considerable importance over the last decade. It is of crucial strategic importance to identify correctly the balance

²⁰ OCDE (2015).

and the magnitude of the interchanges with the rest of Spain. This balance has acquired a dimension that makes it possible to compensate for the traditional deficit with the rest of Europe.

It should be noted however that the changes in the price of oil and a range of raw materials experienced over the last year open up the possibility of consolidating significant surpluses in the current account balance, which would make it possible to play a new role as promoter of investments, addressed both to the metropolitan market and to external markets. This is a great opportunity for the major firms based in Barcelona to exercise new leadership.

In short, the search for external competitiveness constitutes a crucial strategic line from which the debate about the metropolitan strategy cannot distance itself. And the only way of sustaining permanent improvements in competitiveness is to achieve growth in productivity, as we shall see below.

Box 6: Strategic importance of the Sagrera Station

The Sagrera Intermodal Station is a key part of the infrastructure of the new megaregional Barcelona in the 21st century.

With the Sagrera-HST station, the number of residents of Barcelona who can access the high speed train in under 10 minutes with a private vehicle is doubled, coming to 1.2 million; in public transport, this population is at less than 20 minutes from one of the city's two high speed train stations. On a metropolitan level, the area from which it is possible to access the high speed train in under 30 minutes by private vehicle is expanded to include Vallès Occidental, Oriental and Maresme, and these regions also improve their public transport connection significantly.

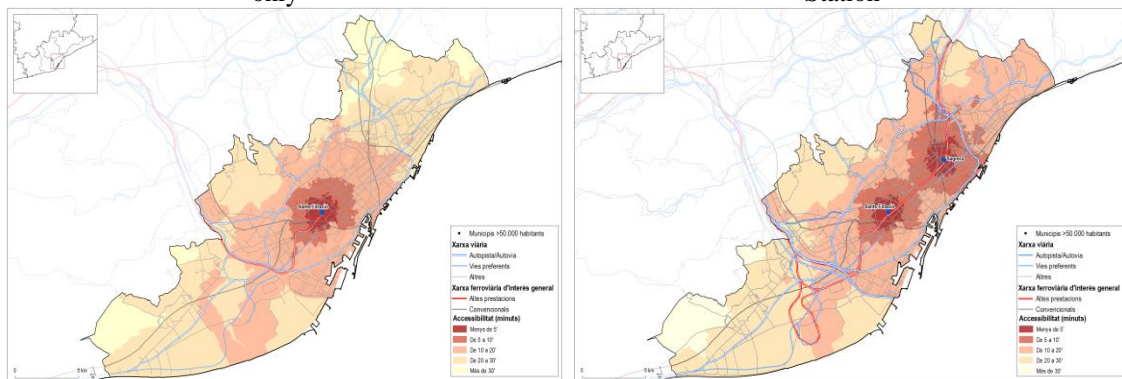
However, Barcelona's high speed rail connection with Europe extends its direct sphere of influence to beyond Lyon, Bordeaux and Marseilles in France, and in Spain, to the whole Mediterranean corridor and the centre of the peninsula. It will therefore be the area of the Barcelona-Lyons megaregion that will experience the greatest increase in accessibility. The importance of this major sphere of influence resides in the potential for activating the economies of agglomeration that will develop.

Publication:

Trullén, J. (2011). *Economic and territorial consequences of the Sagrera station*. Bellaterra: IERMB

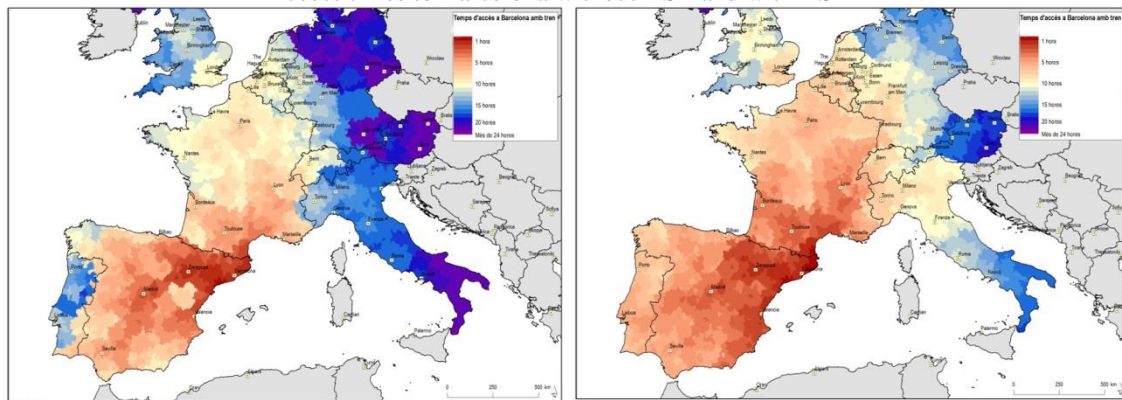
Box 6: (cntd.)

Access times to the high speed train in private vehicle
Sants Station only
Sants Station and Sagrera Station



Trullén, J. (2011). Economic and territorial consequences of the Sagrera station. Bellaterra: IERMB

Access times to Barcelona without HST and with HST



Trullén, J. (2011). Economic and territorial consequences of the Sagrera station. Bellaterra: IERMB

3.3. The growth in productivity – a fundamental strategic goal

Indeed, the growth in productivity is a fundamental strategic goal for the metropolis of Barcelona. In contrast to that which characterises other first level European metropolises such as Madrid, the metropolis of Barcelona must base its strategy on the activation of its competitive capacity rather than on the permanent attraction of external savings to compensate for the weakness of its exporting model.

An export-based metropolis like Barcelona has to confront the problem of growing world competition decisively in the context of the globalised economy. And even more so if a relevant part of its competitive capacity does not lie with major indigenous firms that position it on a competitive level in terms of international trade. The key to explaining the differential competitiveness lies precisely in the territory. And if this is the case, the metropolitan institutions have to focus their strategy precisely in order to activate external economies of a territorial nature, with high levels of environmental quality and social cohesion.

We propose to identify two routes to making productivity grow:

- the passive route of costs (competing in salary costs; making the job market more flexible compared to product growth);
- The active route of growth in competitiveness (a return to the industrial model, strengthening the economy of knowledge and promoting advanced services, the green economy and tourism, and boosting the metropolitan infrastructures).

The first route has guided the Spanish government's macroeconomic strategy in recent years. This has involved seeking to increase the flexibility-product of employment demand by means of a stringent process of flexibilisation in the jobs market and in other markets of factors and products. The aim has been to lower production costs in general, seeking results that they would achieve in order to obtain the old instrument of currency devaluation.

There is however an alternative route to which the new metropolitan strategy could inscribe. This would involve influencing costs by strengthening the generation of competitive advantages for firms and employees. Some of the elements of this strategy point less to production factors (land, work and capital) than to that known as the residual factor. I.e. that part of the growth in productivity associated with the conditions in which the firms use the productive factors. Industrial policies point in this direction, especially the

2020 Strategy for smart, sustainable and inclusive growth, with special attention paid to research, development and innovation policies. Yet here is precisely where we find a central point for defining a metropolitan strategy in the presence of an export-based economy.

The fundamental proposition has been put forward among others by Roberto Camagni: in the current era of globalisation, metropolises compete with each other. Cities contribute a decisive part of competitiveness: territorial competitiveness. Thus metropolitan conditions are determinants of competitiveness for a wide range of firms: those firms exposed to foreign competition. There would be conditions linked to the size of the jobs market and its depth, such as the availability and efficiency of infrastructure such as transport and communications, or environmental quality and social cohesion. The conditions associated with the environment are essential for the competitiveness of firms. Firms need to cooperate with each other in order to deal with certain requirements arising from the new globalising context. Industrial policies must also be designed in a metropolitan and local context.

This approach is radically different from the one adopted in the current passive strategy, which is aimed at seeking competitiveness almost solely by way of costs. In the active route productivity gains are provided by seeking benefits such as those deriving from the existence of mechanisms of cooperation in the region, which in turn allow a growth that is more resilient and resistant to changes such as those caused by economic recessions.

Additionally there is a fundamental difference between pursuing the active route proposed and maintaining the one-way passive route to growth in productivity. It is about their consequences on the distribution of income and the well-being of the population. Pursuing the passive route means lower wage costs, and consequently has a negative effect on the weight of salaries as a whole within the functional distribution of income. The result is therefore to increase economic inequalities and inequalities of access to basic services, to the extent that the loss in salary weight is transferred onto the personal distribution of income and onto the well-being of the population.

In contrast, in the active route a radically different scenario is seen. Integrated territorial policies and social services gain weight, and above all knowledge-dense and export-based economic activities (industrial and services) as a whole, and this is translated into gains in the weight of the remuneration of wage earners within the functional distribution of income. Therefore, wage gains should be translated into improvements in the personal distribution of income.

Lastly, we shall examine some territorial elements of this active strategy aimed at an inclusive-based economic growth, and provide some examples of specific territorial policies.

4. THE ROLE OF TERRITORIAL POLICIES IN THE ACTIVE ROUTE TO PRODUCTIVITY GROWTH

4.1. Four routes to productivity growth in the metropolitan territory

The active route to productivity growth needs to have a fundamental territorial component. And here the new metropolitan strategy has to have a fundamental influence. If these territorial factors are relevant, then territorial policies need to take them into account.

We propose to identify four routes to productivity growth in the territory. All of them have in common the fact that they affect productivity on the basis of activating external economies. However, they do so very differently.

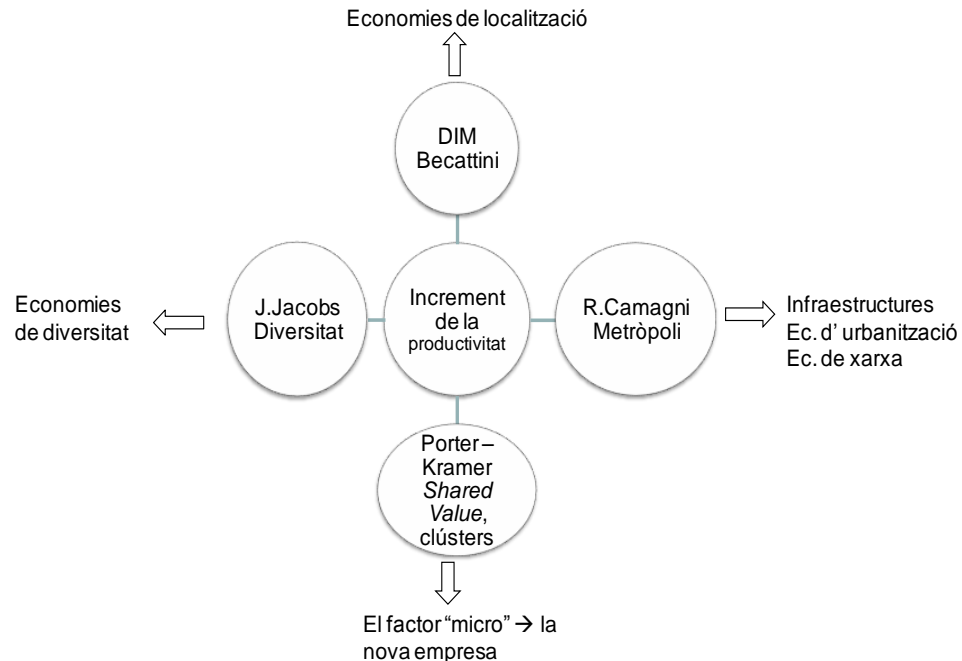
In all of them the idea is to generate productivity growth by generating positive external economies of a regional nature. However, the nature of these externalities is very different in each of them.

In all of them the idea is to generate productivity growth by generating positive external economies of a regional nature. However, the nature of these externalities is very different in each of them.

The Becattinian approach is based on the notion that in a "Marshallian Industrial District" increasing returns are obtained from the interaction of a set of firms and employees in the area in an economic, social and institutional environment that has very particular characteristics. A mixture of competitive conditions and of cooperation generates dynamic advantages that make it possible to counteract the relatively small size of productive establishments compared to the canonical route of the big firm. The productive activity of the Marshallian industrial district needs to be highly segmentable, and in any case must be based on a permanent expansion of the foreign markets²¹.

²¹ Becattini (1979).

Figure 4. Four routes to productivity growth in the territory



Source: Produced from Trullén (2013), IERMB (2013).

In the Marshallian industrial district increasing returns are obtained without integrating production vertically in large industrial firms. The path towards competitiveness lies in the territory: the existence of relationships between firms and with the local community that make competitive advantages appear.

These types of advantage cannot be recreated ex novo by endogenous development policies. Nonetheless, on the basis of a pre-existing base of productive activities focusing on the notion of industrial district, public policies can have the effect of strengthening the existing advantages.

In a large metropolis industrial district type situations can arise in certain firmurban areas, especially if there is a situation of poly-nucleation. In this case there may be specialised polarities (cities) that present the characteristics pertaining to the Marshallian industrial district.

It should be noted that the dynamics of the industrial district do not only appear in traditional industrial manufacturing activities such as textiles or

ceramics. In the new knowledge-based economy, very similar external economies are produced. The case of the district of 22@barcelona, Poble Nou in Barcelona, is an example of the development of industrial district type advantages in activities such as design or audiovisual content.

In the case of external economies associated not with the productive specialisation but rather productive diversity, the nature of the externality is radically different, and accordingly public policies must be designed on bases that are also different²². These are the advantages pertaining to urban economies in non-specialised cities. In this case, the source of the appearance of increasing returns is indeed associated with the increase in the supply of goods and services associated with the urban or metropolitan sprawl. In any case, external economies linked to productive diversity need to be associated with the expansion of the market by which it is produced. The expansion of the market involves the emergence of economies linked to specialisation. And the growth in specialisation is also associated with the need to provide external inputs, which has an impact on a growing productive diversity.

It is necessary to identify the productivity growth associated with the change in scale of the metropolitan area of Barcelona. The expansion of the labour market and its deepening lead to the appearance of numerous external economies that make it possible to increase the productivity of a wide range of economic activities in the metropolis. The most recent example is the great expansion occurring from the mid-1980s until the turn of the century in the size of the jobs market in the metropolis, a growth associated both with the Olympic project – and its consequences for the expansion of transport infrastructure and the increase in mobility – and joining the European Community.

The expansion of the market leads to the appearance of numerous economies of scale both in industrial production as well as in numerous services. As the size of the metropolis increases, the relationship between internal market and external market expands. This fact presents a fundamental characteristic for the metropolitan strategy: the increase in the demand for mobility (see Box 7).

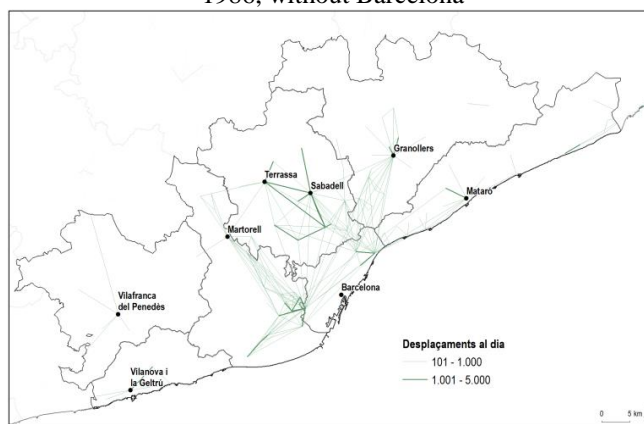
In spite of the effects of the economic crisis, there are signs of a new expansion of the metropolitan area of Barcelona, partly as a result of the attraction of population, and partly as a result of the significant growth in industrial exporting activity and in tourism. The population of the metropolis already exceeds five million, and is consolidated as the major exporting metropolis in southern Europe.

²² See Jacobs, 1961.

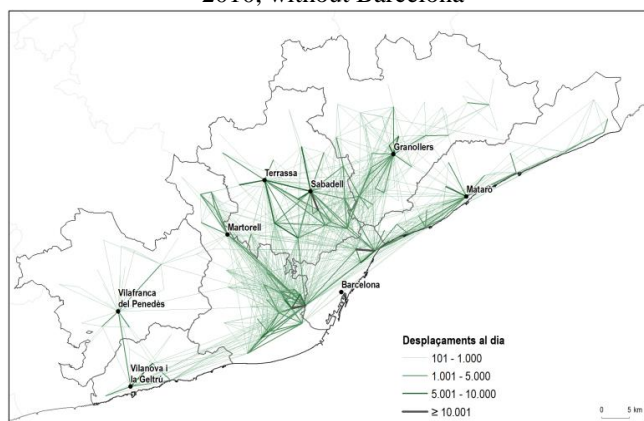
Box 7: Growth in the demand for mobility and polynucleation

Over time, the interaction of the municipalities of the metropolitan region with Barcelona increases, but above all the interaction between the municipalities of the metropolitan ring of Mataró, Granollers, Sabadell, Terrassa, Martorell, Vilafranca del Penedès and Vilanova i la Geltrú increases. A polycentric metropolitan region is thus formed.

Daily movements between the municipalities of the MRB, 1986 and 2010
1986, without Barcelona



2010, without Barcelona



Source: Survey of Daily Mobility, Survey of mobility on a weekday IERMB; Censuses and Electoral rolls, Idescat.

Publications:

Pérez, M. & Pérez, N. (1996,2001,2006). *Enquesta de mobilitat quotidiana*. Bellaterra : IERMB.

Pérez, M. & Pérez, N. (2003-2014). *Enquesta de mobilitat en dia feiner*. Bellaterra : IERMB.

Of particular importance among the urban development economies that affect production are those related to the intervention of the public sector, both in the provision of infrastructure and in the provision of public services. In the case of the metropolitan area of Barcelona, the concentration of large transport infrastructures has an extraordinary importance. This is a provision of infrastructure that covers not only the airport system, but also the port system, rail transport networks, including the high speed train, the metropolitan public transport system²³. The social fixed capital infrastructures that generate productivity growth also cover communications networks. And we must insist that they also have to support the goals of sustainability (see Box 8).

External economies linked to the interaction between cities of the network type are also being developed, especially among the nodes of the network of cities made up of Mataró, Granollers, Sabadell, Terrassa, Martorell, Vilafranca del Penedès and Vilanova i La Geltrú, but also in the Baix Llobregat, among others (see Box 9).

These network economies include especially those related to the provision of public services for families. In a metropolis, the provision of this service is more efficient in fields such as education, health, leisure and transport. A metropolitan area's institutional construction process involves providing these services more efficiently in the long term, even deploying a shared strategy based on the exploitation of network economies²⁴.

Lastly, it is necessary to consider new interactions between firms and territories associated with the immediate areas, going beyond the pure purchase of services of a local nature, in what has come to be known as the "value sharing" process, in the terminology of Michael Porter and Paul Kramer²⁵. This concept can be very useful in defining a new strategy for the metropolis of Barcelona.

²³ See Camagni, 2005, Chapter I.

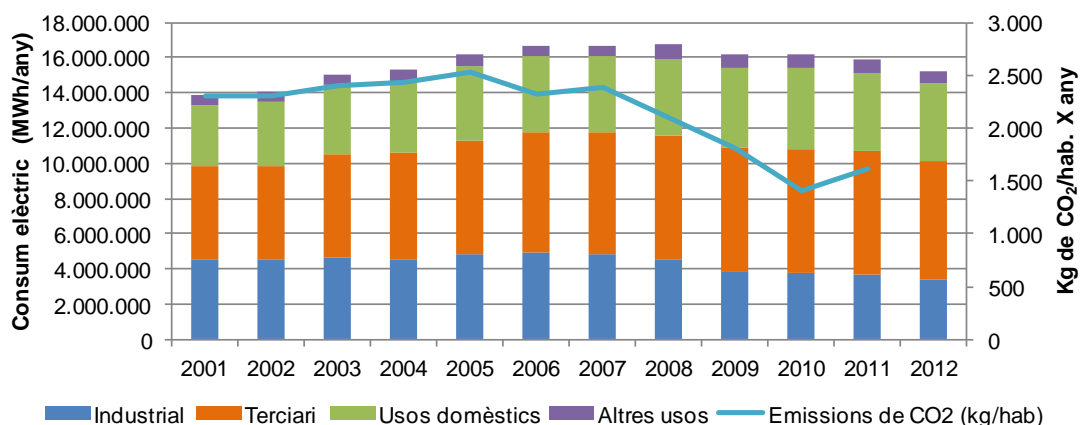
²⁴ See Boix, 2004.

²⁵ See Porter & Kramer, 2011.

Box 8: Sustainability. Towards a low carbon economy

The first major challenge of the MAB in terms of sustainable development is the fight against climate change, based on a transition to a low-carbon economy. The challenge, outlined by the Europe 2020 Strategy by means of three main goals, is to reduce greenhouse gas emissions (GGEs) by 20% over the base year (1990), increase the use of renewable energies up to 20% of the final consumption of energy compared to the base year, and reduce energy consumption by 20% compare to the trend scenario. The MAB is still a long way from achieving the goals established in energy matters. The main consumer of electrical energy in the MAB is the tertiary sector, and the main savings have been achieved in the primary and industrial fields (first graph). A certain stagnation can be seen in the domestic, tertiary and transport sectors due to the current economic crisis. CO₂ emissions per capita of energy consumption (electricity + natural gas) in the different municipalities of the MAB have values ranging from around 700 to 6,000 kg of CO₂ per inhabitant per year, and the average emissions per capita in the MAB is around 2,200 kg of CO₂ per inhabitant per year (second graph). The municipality of Castellbisbal stands out, with some 77,000 kg of CO₂ per inhabitant per year, due to the industrial sector. In addition to the patterns of consumption, to the construction and transport sectors (new technologies, eco-housing, etc.), metropolitan planning has a great responsibility in terms of a future decrease in GHG emissions.

Evolution of electricity consumption by sector and of CO₂ emissions stemming from electricity consumption per capita in the MAB. 2001-2012

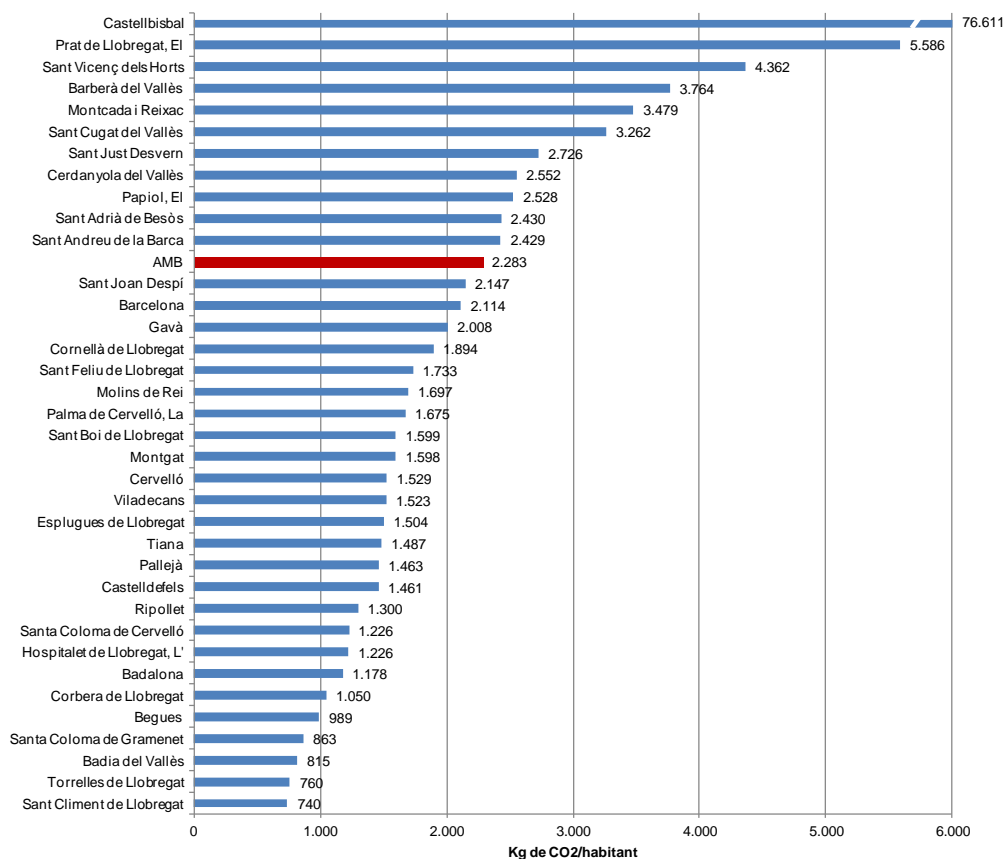


Note: The results are expressed according to the availability of the data. The details for 2009 to 2012 are provisional. CO₂ emissions have been calculated using the *Mix elèctric espanyol* which the Ministry of industry, Energy and tourism publishes. The values used (in grams of CO₂/KWh) are: 490 (2001-2005), 440 (2006), 450 (2007), 400 (2008), 360 (2009), 280 (2010), 330 (2011).

Source: IERMB from data of the Catalan Institute of Energy, Ministry of Industry and Tourism, and from Idescat.

Box 8: (cntd.)

CO₂ emissions from natural gas and electricity consumption per capita in the municipalities of the MAB. 2010



Note: The value for Castellbisbal for the year 2010 is 76,611 Kg of CO₂ per inhabitant. For a better representation of the data, this value does not appear in the graph at the corresponding scale. For the calculations of emissions from electricity consumption, the *MIX elèctric Espanyol* has been used.

Source: IERMB from data of the Catalan Institute of Energy, Ministry of Industry and Tourism, from the Catalan Office for Climate Change and from Idescat.

Publication:

Galletto, V. & Marull, J. (dirs.) (2013). *Indicadors econòmics, socials i ambientals per a l'Àrea Metropolitana de Barcelona. Adaptació a l'estratègia Europa 2020*. Barcelona: Pla Estratègic Metropolità de Barcelona.

The concept of "shared value" is defined as operational practices and policies that strengthen the competitiveness of a firm while simultaneously do advancing the social and economic conditions in the communities in which they operate. Shared value puts the focus on identifying and expanding the connections between economic progress and social progress. The firm is involved in the community, but going much further than a conventional strategy of corporate social responsibility. The company needs a successful community, and the community needs a strong business base.

For Porter and Kramer the strategy of "shared value" can be carried out with a new interaction between firm and society. For them "the opportunity to create economic value by creating social value" will be one of the most powerful forces that guide growth in the global economy. This thinking represents a new way of understanding customers, productivity and external influences on the success of firms".

Involving firms in this sharing process constitutes a very useful new strategy in an environment such as the metropolitan area of Barcelona. It is a response to the challenges of globalisation that involves firm adopting a position of involvement in its surroundings. The traditional strategy of urban cluster is thus extended in a new direction that has a lot to do with the design of public policies, both on a local and a metropolitan scale.

4.2. Territorial cooperation in the new metropolitan strategy Polynucleation and mobility factors – key factors for the inclusive growth model

We can ask about the consequences of a new metropolitan strategy aimed at activating the territorial factors of productivity. And the answer lies in promoting **territorial cooperation**. Metropolitan construction has to promote strategies of very different kinds - **variable geometry** - but which require the deployment of policies based on cooperation rather than competition; a cooperation that involves sharing the decision-making process, refining the mechanisms of government on a metropolitan scale. In short, promoting new metropolitan governance.

Behind the different strategies that are based on the existence of external economies, it is necessary to identify the cooperation between municipalities and on a metropolitan scale, while avoiding predatory behaviour.

Thus cooperation is imposed behind the strategy of strengthening Marshallian industrial clusters or districts, avoiding the replication of similar services of a local or metropolitan nature in different territories. It is necessary to find the specialisation of each local initiative, and at the same time the diversification of the initiatives of the network of metropolitan cities as a whole. We cannot afford clone equipment with low economies of scale. Nor clone clusters or those with low productivity.

Behind the strategy of empowering economies linked to the urban dimension and productive diversity lies a requirement to boost metropolitan coordination. Here polynucleation is crucial; as it is in the search for network economies. Municipal and metropolitan public services need to be understood in terms of a network, seeking economies of scale in the provision of services and productive specialisation. Once again cooperation is crucial. And having appropriate elements of governance is completely necessary. And convergence must be aimed at providing services, and on cooperative fiscal bases. The networks can be activated in a search for synergies or a search for complementarities, and these are essential in order to boost the global cities' own economies while preserving specific characteristics of the local base.

One of the strategies that will require the most innovative capacity in the urban and metropolitan governance is the one that should give support to "value sharing". In this case, the big firm or large productive establishment is critical, but less in the classical vision of the great factory than in the joint provision of services. A new 22@-type solution should enable the reuse of obsolete or empty industrial land in order to create major business, industrial or service platforms. The crucial interaction would be between large firms and local authorities, with an important role for the metropolitan authorities.

One of the economic challenges of the new metropolitan urban development will consist in providing an answer to the question of how to approach a strategy for reusing certain industrial areas, either by transforming them or by consolidating them and equipping them²⁶. The nature of manufacturing has changed since the emergence in the mid nineteen seventies of the new form of flexible production. Also the emergence of the new production of services with economies of scale requires an appropriate urban planning response. The nature of production has changed and the nature of urban intervention has to change. 22@barcelona is a very interesting experience. However, the reality of production is so complex that it requires different and imaginative responses.

²⁶ Font (2012, p. 38).

Box 9: A strategy based on the polynucleation network for Barcelona, the MAB and the metropolitan region.

The whole of the Metropolitan Region of Barcelona presents a polynuclear structure, with a network of very powerful cities within the MAB, the cities of the 'Metropolitan Arch' and those that form the transversal axis; tending towards a progressive integration of the job markets of the BMR as a whole.

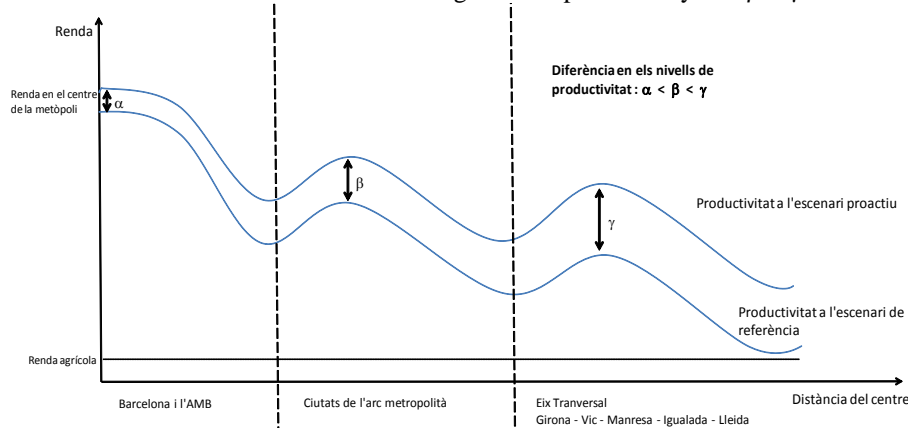
Here the strategy consists of helping to plan this network of cities by strengthening the most knowledge-dense activities, both by strategically locating new technological infrastructures, and promoting specialisation in higher education.

Here the idea is to promote the advantages of specialising each node, while at the same time favouring the productive diversity of the system of cities as a whole. The main external nodes in the MAB are Mataró, Granollers, Sabadell, Terrassa, Martorell, Vilafranca del Penedès and Vilanova i la Geltrú.

This is a strategy that improves the productivity of all the territories, and in particular that of the nodes of the network that are furthest from the central cities of the MAB.

Strategy for the metropolitan area of Barcelona: metropolitan area, orbital cities and transversal axis.

Model based on the growth in productivity $\alpha < \beta < \gamma$



Source: Produced from Trullén, J. (2011). Escenaris per a la metròpoli de Barcelona. *Papers: Regió Metropolitana de Barcelona*, 54, 70–82. SPAN-3 Spatial Perspectives at Nuts-3 Level.

Publications:

Trullén, J. (2011). Escenaris per a la metròpoli de Barcelona. *Papers: Regió Metropolitana de Barcelona*, 54, 70–82.

Lastly, social and housing policies, which do not form part of the metropolitan powers, must be considered as part of a new strategy in all its complexity, despite the fact that the powers in these areas are very limited. The consequences of the change in production and social change, as well as the harshness of the economic crisis, require a metropolitan approach in these policies.

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