

POVERTY AND CHILDREN'S WORK IN SPAIN AND LATIN AMERICA. SOME PRELIMINAR REMARKS¹.

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(NOT TO BE QUOTED WITHOUT PERMISSION)

1. INTRODUCTION: WHY DO CHILDREN WORK?

The spread and diffusion of children's work in Spain and Latin America preserve some timing similarities. Both scenarios witnessed demographic and literacy transitions during the 20th century. In Spain by 1900 the crude birth rate was around 35 per thousand, the female literacy rate was around 32 per cent, and the infant mortality rate was 190 per thousand. At the same date life expectancy was 33,9 for men and 35,7 for women². In the wealthiest country of Latin America, Argentina, by 1900 the literacy rate was 51 per cent (an exceptional record in South America), the life expectancy was 39 and the infant mortality rate was 170 per thousand³. Therefore in both scenarios demographic and literacy transitions still had to take place on the eve of the 20th century.

¹ This paper has been prepared for the session on Living Standards of the the broader Conference of the Spanish Association of Economic History prepared for september 2005. I would like to express my gratitude to Albert Carreras, Jane Humphries, Noel Maurer and Roser Nicolau for suggestion of readings when I revised the bibliography. This paper has been written while being an academic visitor of the Economics Department of Harvard University. I want to acknowledge Jeff Williamson for suport and suggestions. I also want to expres my gratitude to Generalitat de Catalunya who has sponsored me this visit to Harvard.

² See Nicolau, R. (1989): "La población" in A. Carreras, Tafunell X. (eds.), *Estadísticas históricas de españa*, Barcelona; Nuñez, C.E. (1992): *La fuente de la riqueza. Educación y desarrollo económico en la España contemporánea*, Madrid.

³ See Thorp, R. (1998): *Progress, Poverty and Exclusion. An Economic History of Latin America in the 20th Century*, New York and data from ILO compiled by Mitchell, B.R. (2003): *Abstract of Satitstics. The Americas*.

If we take 1900 as the reference date for the comparison of Spain and Latin America the analysis may be useful. The points of departure are similar. Nonetheless while Spain could catch up in the literacy and mass post elementary education career of 20th century (approximately after the decades following the 1960)⁴, children's work continues to be a problem in nowadays Latin America. Therefore the different trajectories can shed light on the remaining reasons for the persistence of children's work in the Latin American case.

In this paper we shall first present the causes behind child labour in historical Spain in order to establish in part 2 the reasons of its abolition during the 20th century. In part 3 we shall present the Latin American situation and together with it some of the children's work remaining problems.

In all the situations in which economic backwardness constraints the preferences and choices of the economic agents, the strategies followed by labouring families are mainly adaptive. Primary wage earners secure the economic sustainability of the household but secondary wage earners (women and children) often provide a critical share of the family income. In pre-modern economies with very low productivity rates, the redundancy of male workers often leads to a variety of strategies for breadwinning, including casual and seasonal work in the informal economy or/and international emigration. In all of these situations work done by children is crucial for the household well-being. During the 19th and part of the 20th centuries Spanish children had worked in the agriculture, in industries like textiles and lace making or the fishing canning industry and services⁵. Children began to work as soon as at the age of 7 to 10 and labour experience at such young ages caused serious health damages which have been measured in the Belgium case by means of anthropometric analysis⁶. It must be stressed that the patterns of children's work in 19th Century industrialised regions of Spain are

⁴ See Nunez (2005).

⁵ Borrás-Llop, J.M. (2002): "El trabajo infantil en el mundo rural español, 1849-1936. Género, edades y ocupaciones" in Martínez Carrion, J.M. (eds.) *El Nivel de Vida en la España Rural*, Alicante. Galvez, L.; Sarasua, C. (2004) (eds): *Eficiencia o privilegios*, Alicante; Muñoz-Abeledo, L.M. (2005): Camps, E.(2003): "The Rise and Decline of Children's labour participation levels during the early stages of industrialisation. Catalonia (1850-1925), CREA Working Papers, n. 51.

⁶ For the case of Belgium it has been proved that working children were shorter (age and gender constant) and thinner. See Cunningham, H.; P.P. Viazzo (1996): "Child Labour in Historical Perspective, 1800-1995. Case Studies from Europe, Japan and Colombia, Florence. The variables influencing the anthropometric analysis by exploring the patterns of household internal income distribution can be found at Sonalde Desai (1992): "Children at Risk: The Role of Family Structure in Latin America and West Africa", *Population and Development Review*, 18:4. One of the results of the article is that holding the rest constant the education of the parents has positive effects on the weight and the height of the babies.

very similar to those observed in Britain and in other regions of Europe that in the first stages of development made extensive use of cheap labour of children and women⁷.

The opportunity cost of children's work is education. Whilst the child is working he or she cannot attend school. Some of the reasons for children's work are a lack of family income or meagre schooling supplies. Therefore a lack or scarcity of public expenditure in schooling⁸ and the inelasticity of earnings demand of families living at the subsistence level are all engines leading to children's work. Literature on the formation of human capital states that the lack of schooling has medium and long-run term effects, since it leads to slower (if any) future path of economic growth.

In the aforementioned situation and given the knowledge couples had on fertility control measures parents normally have the preference not to restrict their fertility (or just moderately). The number of children born and living with their parents is high and therefore they constitute a substantial contribution to the amount of work that the family can do. In connection with the work of mothers, this means that they cannot dedicate themselves exclusively to paid production. It appears to be an universal pattern that in this stage of economic development women perform paid work while being young daughters, young singles saving for dowry or young mothers. Only in cases of great need would women continue to work after the age of 30-35. Women's employment at young ages appears to be an universal pattern in female employment in Catalonia 1858, England and Wales 1851, Japan 1879 and in 19th century US⁹. There is abundant evidence that this does not mean the under use of women's potential for work. In the context of large families and given the technologies in use at that time in domestic chores, the demographic reproduction required huge amounts of work. In broad terms the unpaid work offering services to the household meant that as a general rule women worked more hours per day than men. This situation of competing labour demands

⁷ See *ibid* Cunningham, Viazzo; Basu, Lavalette, Horrell and Humphries. For an extensive analysis on the patterns of labour use in industrialising England compared with the Underdeveloped world see Williamson, J (1990): *Coping with city growth*.

⁸ See Lindert, P.H. (2004): *Growing Public. Social Spending and Economic Growth since the Eighteenth Century*, Cambridge.

⁹ See Goldin, C. (1990): *Understanding the Gender Gap*, Oxford; Hareven, Tamara K. (1982): *Family Time and Industrial Time. Interdisciplinary Perspectives on Modern History*, Cambridge; Saito, O. (1981): "Labour Supply Behaviour of the Poor in the English Industrial Revolution", *Journal of European Economic History*, 10. In 19th century US married women show low levels of participation in the workforce. The contribution of married women to paid production in Catalonia is about 20 per cent. This result is similar to the US result Goldin, C."Understanding". Despite the levels of participation of mothers are low, they can explain the trend of married women towards performing paid work already in the 19th century. In Spain high levels of participation of mothers are found in the Galician canning industry (Munoz-Abeledo), in the tobacco manufacturing (Galvez), in lace making (Sola, Sarasua) in services like breast feeding (Sarasua) and agrarian activities. See the state of the debate in C. Borderias (2004).

collapsed the availability of women to invest in their own education and the education of their children.

In Western European societies the rule was to delay the marriage both for men and women. In 19th century Spain women married at about the age of 25 with a high variance according to the region of residence. At the mother's age of 35 the first child was already 10 and could contribute to the family economy with his wage. Therefore there was an economic substitution effect by means of which children's earning replaced the income raised by their parents while the latter were growing older. According to my own calculations in 1890s Catalan industrial scenarios the wage of a child aged 10-14 was equivalent to the wage of an adult women aged 20-30 and therefore a child and his mother represented the same earning input to the family economy¹⁰. Gender division of labour normally meant that mothers and sons were not perfect substitutes but in broad terms we can assert that the economic contribution they made to the household was similar. On the other hand, and after hard work in the factory or in the agrarian sector, or in unpaid services for the family household economy women were likely to lose physical strength and dexterity as soon as they attained the threshold age of 35. In this period of the family cycle the husband was at about 40 years old and was still economically active but successive children were entering in the paid labour market and providing important shares of the household income. With this assertion we do not imply that children were conceived as a financial asset. Both in the Catalan and British scenarios there is enough evidence that having children implied a net drain of monetary resources during most of the life cycle (Catalonia), or that the wage of the child was equal to his expenditures in the English case and therefore child labour did not imply increasing the household net incomes¹¹.

Despite that children were not conceived to bring money to the household, once they were born we have seen that they had to. Over the life cycle the contribution of children's earnings to the household budget was only positive during the third age of the parents. And in catholic family based societies like Spain customary inheritance laws implied that children were assisting their parents while they were growing older financially and also personally. In the Spanish industrial scenarios of Catalonia and the Basque Country, and also in some agrarian areas of Spain sons and daughters

¹⁰ Camps, E.(1995): La formación del Mercado de trabajo industrial en la Cataluña del siglo XIX, Madrid.

¹¹ For the English case se Williamson(1990). The Catalan case is in Camps(1995).

represented the basic financial asset of the household to face the economic needs of economic inactivity of the elderly¹². As far as the transference of earnings from children to parents (co resident or not co resident children) shaped an intergenerational contract to secure the economic welfare of the elderly we can make the assumption that married couples were not interested to restrict fertility. Children represented a very flexible asset providing security in unstable economic worlds¹³. When after WWII the welfare state assumed the role of subsidising poverty by means of unemployment and pensions programs this intergenerational contract lost much of its previous meaning and importance. But until then having children was a means of protecting the labouring family household against its extreme vulnerability.

Summarizing a lot on the supply side factors explaining children's work we can say that before the development of the welfare state family was the institution providing well being to all of its members. The flexibility of children's work allowed their parents to confront adverse economic situations caused by the business cycle (like unemployment in the formal economy) or the family cycle (like the third age). In such a situation having children can be considered as the most secure asset to provide future economic stability to the labouring family economies.

A part from the supply factors explaining children's work there were also reasons linked to labour demand preferences by the firms. On the side of the firm decision making we must bear in mind that for employers economic backwardness means low wages. In 19th century Europe and 20th century Latin America their preferences were to settle their factories in areas with cheap production factors endowments and natural resources, including labour. Training children through the apprenticeship system was the alternative that the factory provided to formal education to acquire the necessary skills to deal with the factory jobs.¹⁴ By means of the apprenticeship system children learnt the know how of industrious factory skills, discipline and factory hierarchy. Apprenticeship was also a means to integrate young workers in the job ladders of

¹² For patterns of co residence with the elderly see Perez-Fuentes (1998) and for the income provided by co resident children Camps (1995). For agrarian areas of Castille see Reher (1991): town and Country in Pre-industrial Spain, Cambridge.

¹³ Nonetheless Basu states that in nowadays contemporary societies this kind of intergenerational contract is very loose or non existent. See K.Basu, P. Hoang Van (1998): "The Economics of Child Labour", The American Economic Review, vol. 88:3-5.

¹⁴ See Laslett, P. (1965): The World We Have Lost, Cambridge, Murray, J.E.; Wallis Herdon, R. (2002): "Markets for Children in Early America: A Political Economy of Pauper Apprenticeship", Journal of Economic History, 62:2

promotion and training of the factories. In a way we could assert that this kind of human capital formation operated as the on the job training so typical of 20th century USA big firms.

Labouring families on the side of labour supply and firm's employers on the side of labour demand were interested in children's work during this very initial stage of economic development in which factors of economic growth are mainly exogenous. Until WWII the spread of formal education was limited to the core countries of Europe and the USA. These countries were leaders in the process of technological innovation of the industrial revolution. More backward countries of the European periphery or Latin America had to confront to the increasing demands of human capital during the second industrial revolution.

3. THE HUMAN CAPITAL TRANSITION: THE SPANISH (CATALAN) MODEL.

For labouring families living at the subsistence level, the beginnings of the human capital century¹⁵ meant that they had to confront increasing financial requirements to make feasible children's education. The financial sources of these families to invest in human capital were limited to the inherited family wealth or the indebtedness capacity in the financial markets. And both kinds of assets were restricted to the wealthier sectors of the society. Several shocks to raise the stocks of human and physical capital are necessary in order any individual country diverge enough from the underdevelopment trap. If by means of development policies we increase the stock of human and physical capital sufficiently it is possible that the combination of those shocks leads to another more stable steady state¹⁶. More expensive training of children through formal education is going to have as a direct consequence that couples begin to control fertility. Higher rates of growth of GDP and lower rates of growth of population lead to the improvement of living standards through the growth of per capita GDP¹⁷.

¹⁵ This is the name C.Goldin gives to the XXth century. During this new period the new hegemonic role of the USA in the world was based in its superiority in education and training.

¹⁶ Becker, G. (1993): Human Capital, Chicago

¹⁷ During the first stage of the demographic transition the decrease of infant and child mortality normally has as a consequence the increase in the number of surviving children, if couples do not limit fertility immediately, and the increase of rates of population growth. This can have positive economic effects when these abundant cohorts of birth attain the working age and the age structure is transformed. See J.G.Williamson (2001): "Demographic change, economic growth and inequality". Nonetheless, in the Catalan case of the 19th century this sort of conclusion applies only partially. Here the diminution of

The problem is how this process begins. Recent research in developing countries has stressed the role of literate mothers on fertility control since the last decades of the 20th century¹⁸. Simplifying and schematizing a lot, the model develops the idea that women's human capital accumulation coupled with an increase in women's real wage and technological change, also increases the opportunity costs of time devoted by married women to household work and child bearing and child rearing. On the other hand educated women feel freer to adopt contraceptive methods and to have the wished number of children than illiterate women. A third important factor is that women who have attended school and have learnt a language guided education are in a better situation to educate and grow their children and to make use of distant health services¹⁹. This is why couples with educated mothers have less quantity and more quality of children.

We must insist in the fact that the "how" to begin with this process is what it is difficult to solve from the puzzle. The Spanish case of the first third of the 20th century can offer some hints. In Spain, the leading region in fertility decline was Catalonia. Catalan couples controlled fertility since the second half of the 19th century despite the poor investments in human capital in the region²⁰. By then the gender wage gap was about the 50%²¹. And in Spain the education gender gap was enormous with an absolute difference of more than 30 per cent in the literacy levels of women with respect to men by 1860.

During the first third of the 20th century, contemporary to the diffusion of the second technological revolution, physical and human capital shocks sharply transformed the Catalan family economies (the most developed region of Spain for which I have more research done). Between 1860 and 1930 the literacy rate of Catalan

fertility is contemporaneous to the diminution of infant and child mortality. See Cabre (1999). In my view the initial contraction of fertility during the 19th century was caused by the spread of the anarchist movement among the working class and the Neo-Malthusian practices it implied. See E.Camps (2005): *Labour markets in the Catalan cotton textiles sector. Employment and Living Standards, 1830-1913*, Mimeo, Harvard University.

¹⁸ O. Galor, D.N. Weil (1996): "The Gender Gap, Fertility and Growth" *The American Economic Review*, 86: 3-5; M. Hazan, B. Berdugo (2004): "Child Labour, Fertility and economic Growth", *The Economic Journal*, 112:482, R.A.LeVine, S.E.LeVine, A.Richman, F.Medrado, C.S.Correa, P.M.Millar (1991): "Women's Schooling and Child Care in the Demographic Transition: A Mexican case Study", *Population and Development Review*, 17:3.; Caldwell, J. C. (1982): *Theory of Fertilty Decline*, New York; Cochrane, S.H. (1979): *Education and Fertility: What Do We really Know?*, Baltimore; Inkeles, A.; D.B. Holsinger (eds) (1974): *Education and Individual Modernity in Developing Countries*, Leiden.

¹⁹ *Ibid* LeVine et al

²⁰ *Ibid* Nicolau, Cabré, A. (1999): *El sistema català de reproducció*, Barcelona.

²¹ By 1850 the gender gap was about 50% and it increased during the 19th century. See Enriqueta Camps, *Ibid.*, 1995.

population rose from 24 per cent to 82 per cent and the educational gender gap diminished from 28 to 12 per cent among the same dates²². These facts had clear positive effects on the development of the region. They provided a labour supply capable to couple with the labour demands of the second technological revolution causing a circular process of causality which in turn was demanding more human capital formation. And the earnings gap according to gender narrowed between the second half of the 19th century and 1925²³. But what is more important for our approach is that all together with human and physical capital improvements women's real wages in the cotton textiles and knitting industries significantly rose from 1919 to 1932 (see figure 1)²⁴. According to Monserrat Llonch women's human capital was acquired in trade schools specially adapted to the Catalan experience in the textile and other industrial sectors²⁵. Between 1920 and 1930 women real wages increased in an absolute percentage of 70 per cent. The magnitude of the wage increase is enough to prove that in the Catalan case the capital shocks of the second industrial revolution had immediate effects on the development path of the region and well being conditions. The sharp increase of the price of women's time and therefore the increase of the opportunity cost of paid labour had as an immediate consequence the further diminution of the size of the offspring which attained its minimum of 1,9 children by 1930-35 (legitimate children per women of the birth cohort 1910-1914) (Figure 1)²⁶. The implications of the improvement of women's real wages and the financial assistance of immigrant co-residing collateral kin²⁷ shed some light on the origins of the family savings for the investment in children's human capital formation. During the same period the length of children's schooling increased to 8 years, from the age of 6 to the age of 14. This meant that the educational level of children improved from the elemental level during the 19th century to the basic secondary level during the first decades of the 20th century.

²² All the data on literacy presented here are those built by C.E. Nunez, "La fuente de la riqueza"

²³ This result is in line with *ibid* Goldin (1990). See also Camps, E. (2004): "Wage Structures and Family Economies in the Catalan Textile Industry in an Age of Nascent Capitalism", *Continuity and Change*, 19:2.

²⁴ See Llonch, M. (2004): "La feminització del treball textil a Catalunya (1891-1959)" in M. Llonch (ed). *Treball textil a la Catalunya Contemporània*, Lleida.

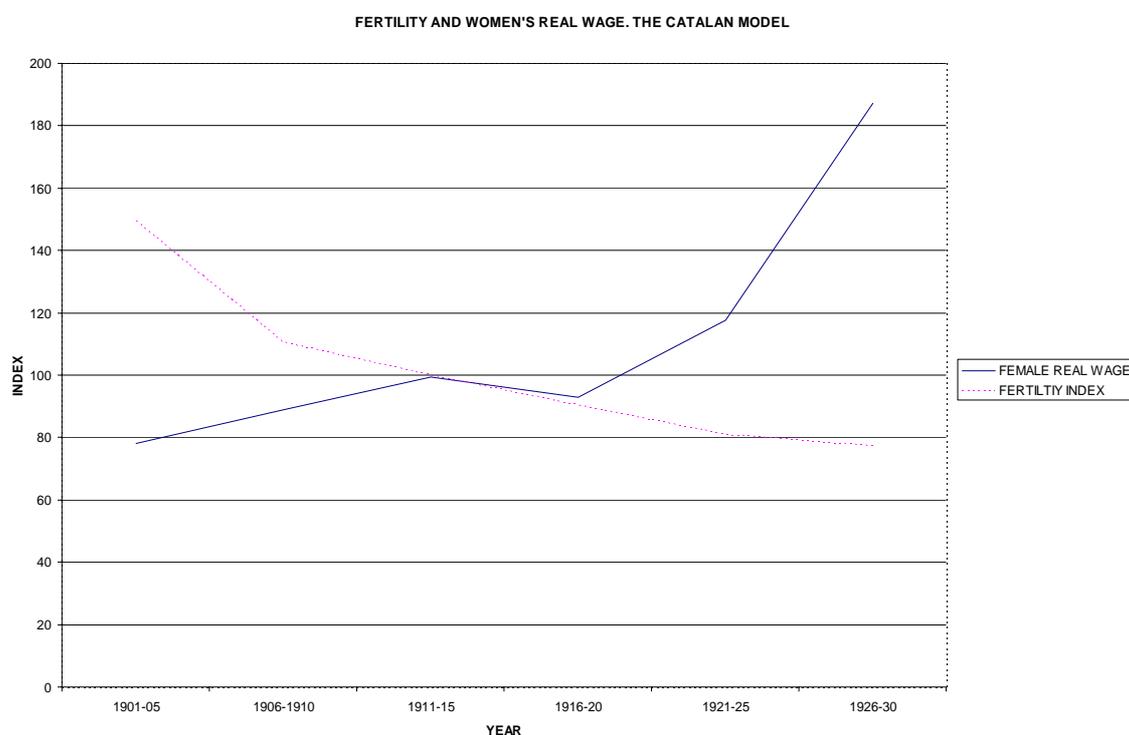
²⁵ In many instances this trade schools (*Escoles d'Arts i Oficis*) were formed under the initiative of the firms entrepreneurs and therefore can be considered as an example of specific human capital formation. See *Ibid*. Llonch.

²⁶ See Cabré, A. (1999): *El sistema català de reproducció. Cent anys de singularitat demogràfica*, Barcelona

²⁷ See E. Camps i Cura (2004): "Wage structures and family economies in the Catalan textile industry in an age of nascent capitalism", *Continuity and Change*, 19:2.

Without any doubt Catalonia was a leader in the Spanish demographic and literacy transitions. The reversal of living standards and welfare conditions during the civil war and the 1940s did not help to develop a sustained path of economic modernization in Spain. Nonetheless there is a strong evidence on the role of women's education improvements on the education of the children as well as on fertility control among the female cohorts of birth 1900-50²⁸.

FIGURE 1. Women's real wages and fertility evolution: the Catalan case, 1900-1935.



Source: Llonch (2004), Cabre (1999).

In figure 2 the aforementioned process of women's human capital investment and fertility control presented for the Catalan case of the first third of the 20th century is schematically presented. Together with women's human capital investment the supply of labour moves from LS (more elastic function) to LS' (more inelastic function) since one of its consequences is the increase of levels of productivity. The changes in the slope of the labour supply function caused by human capital investment have further

²⁸ See Baizan, Camps (2005).

consequences on real wages and employment. Here employment at the steady state is assumed to be a function of population growth and of the open forces of the labour market. Keeping demand for labour constant the shift from LS to LS' has two main effects:

A. The increase of real wages because of productivity improvements caused by human (and physical) capital formation.

B. The diminution of the size of the employment from M to M' because of the decrease of the population rate of natural increase and also because of the delay of the age of entrance into the paid labour market as a consequence of mandatory schooling. M implies a situation of high elasticity of the labour supply in which fertility is not controlled and therefore the number of children the family employs is large. In order LS suits in the situation we have presented in section 1 of this essay we must also assume that adult and children's work are perfect substitutes. This assumption represents some simplification of reality since the extent to which a child could replace an adult depended on a great deal on labour gender roles and the respective stage of the life course (and therefore the age) attained by children and adults. Nonetheless this assumption may be plausible in what concerns the observations witnessed by contemporary people on the way local workers dealt with British technologies²⁹.

The switch from M to M' implies the new situation in which female real wage increases the opportunity cost of women for house work and fertility control is spread. In this new situation new equilibrium is attained with a lower size of the employment and lower rates of demographic natural increase. The slope of LS' is also higher because in the new situation schooling is a necessary condition to enter the paid labour market and adult and children are no longer substitutes. The new equilibrium implied by M' means that the population attains higher living standards with a lower demographic pressure on fixed production factors and other fixed assets³⁰.

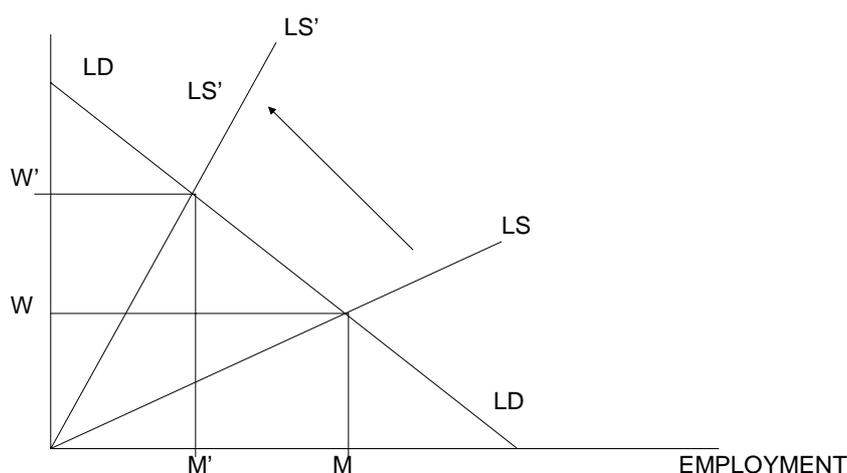
Summarizing a lot the Catalan economic history literature of the first third of the 20th century illuminate a situation in which we can emphasise the very positive role that the improvement of education of mothers coupled with technological change (and capital accumulation) and women's real wage increases had over the good performance

²⁹ Bosch i Cardellach, when referring to the Hargreaves mule said it was a machine that could be powered by a girl or an animal

³⁰ A similar model is presented by Ibid. Basu when discussing the effects of administrative regulation of adult wages. See K.Basu (2000): "The Intriguing Relation Between Adult Minimum Wage and Child Labour", *The Economic Journal*, vol 110:462

of the Catalan economy over the mid run. According to our own calculations the effects of women's education (at the very basic primary level of education), the increasing levels of participation of mothers into paid production, and the improvement of the material condition of the population during the second half of the 20th century, all three factors were important reasons leading to the Spanish demographic transition³¹.

FIGURE 2. THE HUMAN CAPITAL TRANSITION AND LABOR MARKET DYNAMICS



3. HUMAN CAPITAL HANDICAPS IN 20TH CENTURY LATIN AMERICA.

We have already stated that by 1900 Spanish and Latin American realities concerning the formation of human capital were similar. In both social and economic scenarios on the eve of the 20th century access to health and education was limited to a small group of the population. And in the Latin American case this was to remain the trend till the second half of the 20th century. Taking the Latin American region as a whole, by 1950 the illiteracy rate was 42 per cent and life expectancy was 47 years (62,1 years in Spain at the same date). Therefore human capital reforms began before

³¹ See Ibid Baizan, P.; E. Camps (2005): Across the regional boundaries: mother's economic condition and motherhood in 20th century Spain (birth cohorts 1900-1950). Mimeo UPF, Harvard university.

and were quicker in Spain whilst by 1950 Latin America still had a long path to do in what concerns the literacy and schooling transition³².

But during the second half of the 20th century the advances in all quantifiable spheres of human capital formation are remarkable (see table 1). Special attention must be paid to the evolution of infant mortality. From extremely high levels in countries like Chile (340 per thousand in 1900) and Mexico (287 in 1900) it continuously declined during the 20th century till attaining the low levels typical of developed western countries (see table 1). And this sharp decrease of infant mortality coupled with the increase of life expectancy are the most clear signs that the demographic transition took place with success in the whole region during the period. Fertility rates began to contract as late as 1960-70. Therefore many nowadays Latin American countries are concluding the second stage of the demographic transition³³.

One important corollary we can make on health human capital in the Latin American case is that it fosters convergence of life expectancies, particularly during the second half of the 20th century. The negative correlation between initial levels of life expectancies and rates of growth of the aforementioned variable is a clear prove that supports the evidence of convergence. According to figures 3 and 4 the path of improvement of health conditions remarkably increased during the second half of the 20th century. The slope of the linear regression functions significantly increases in the years 1950-95 making explicit the significant improvement of health conditions during these decades. Therefore as far as health is concerned we can asses that there were important human capital improvements in the period 1950-1995. Therefore well being conditions also improved as far as life longevity became a more democratic human attribute. Despite we need more evidence on living standards to test if these improvements were of an exogenous or endogenous nature, the local signs of improvement in real wages and of other indicators of well being open the hypotheses that this change in life expectancies had an endogenous nature³⁴.

³² Inside Latin America there are exceptions like Argentina that till 1950 has a similar evolution with respect to Spain.

³³ For the positive effects of the demographic transition in the East Asian developing countries see D.Bloom, J.G. Williamson (1977): "Demographic Transitions and Economic Miracles in Emerging Asia", NBER WP, September. See also J.G.Williamson (2001): "Demographic Change, economic growth and inequality" in Population Matters

³⁴ S. Camou, M.; Mubrigades, S. (2005): La calidad de vida bajo la lupa: 100 anos de evolucion de los principales indicadores, Mimeo, FCS, U.R.; Astorga, P.; Berges, A.R.; Fitzgerald, V. (2004): "The Standard of Living in Latin America during the XXth Century", University of Oxford Discussion Papers in Economic and social History, n. 54. Nonetheless the slower rate of increase with respect OCDE countries during the last third of XXth Century can be found in Prados de la Escosura, L. (2004):" When

If we move from health to education we can see that by 1995 the literacy transition was nearly completed with just 13.6 per cent of illiterates as a percentage of people aged 15 or more (see table 1). Nonetheless the nature of the literacy transition is significantly different from the one presented for the Spanish case in section 2 of this essay, both in qualitative and quantitative terms. In Spain after 1950-60 the rate of growth of educational enrolment at the secondary and tertiary levels increases at a fast path only similar to that of other countries that also have a successful path of economic growth during the period (the Asian Nics). The data we obtain for the Latin American case are instead poorer. The attendance data of the main countries show substantial improvements (see table 1) but the efficiency of education implementation is poorer. According to data provided by Robert Barro and J-W Lee built for the overall Latin American region these figures imply that in 1860 13.1% of the population completed primary school, 3.8 completed secondary school, 1.3 university studies and 38% did not have access to school. According to the same authors the improvements of schooling from 1960 to 2000 have been that in the second date 14.4% of the population has finished primary education, 8.4% secondary school, 7.7% have completed university studies and 17.7 never attained school³⁵. Notice that these figures suggest the very slow path of improvement of schooling in the region. Particularly if we compare Latin America with the successful Spanish path of educational diffusion and improvement during the second half of the 20th century³⁶.

did Latin America fall behind?. Evidence from long-run international inequality “, Working Paper 04-66, Economic History and Institutions Series 04.

³⁵ See the data provided by R. Barro, Jong-Wha Lee, *International Data on Educational Attainment. Updates and Implications*, mimeo, Harvard University. An alternative better source on results of education implementation are the international test scores. Nonetheless only Mexico participated in the test. I acknowledge the suggestion to look at this source to Robert Barro.

³⁶ See Nunez (2005)

FIGURE 3. RATES OF GROWTH OF LIFE EXPECTANCY, 1900-50

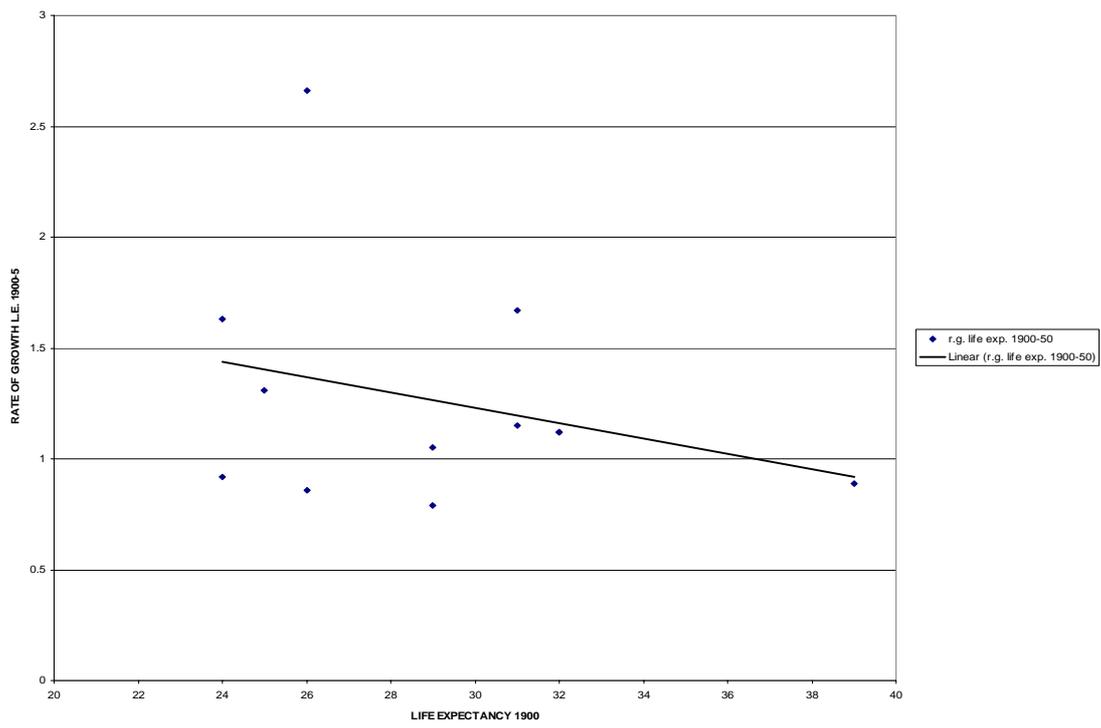


FIGURE 4. RATES OF GROWTH OF LIFE EXPECTANCY, 1950-95

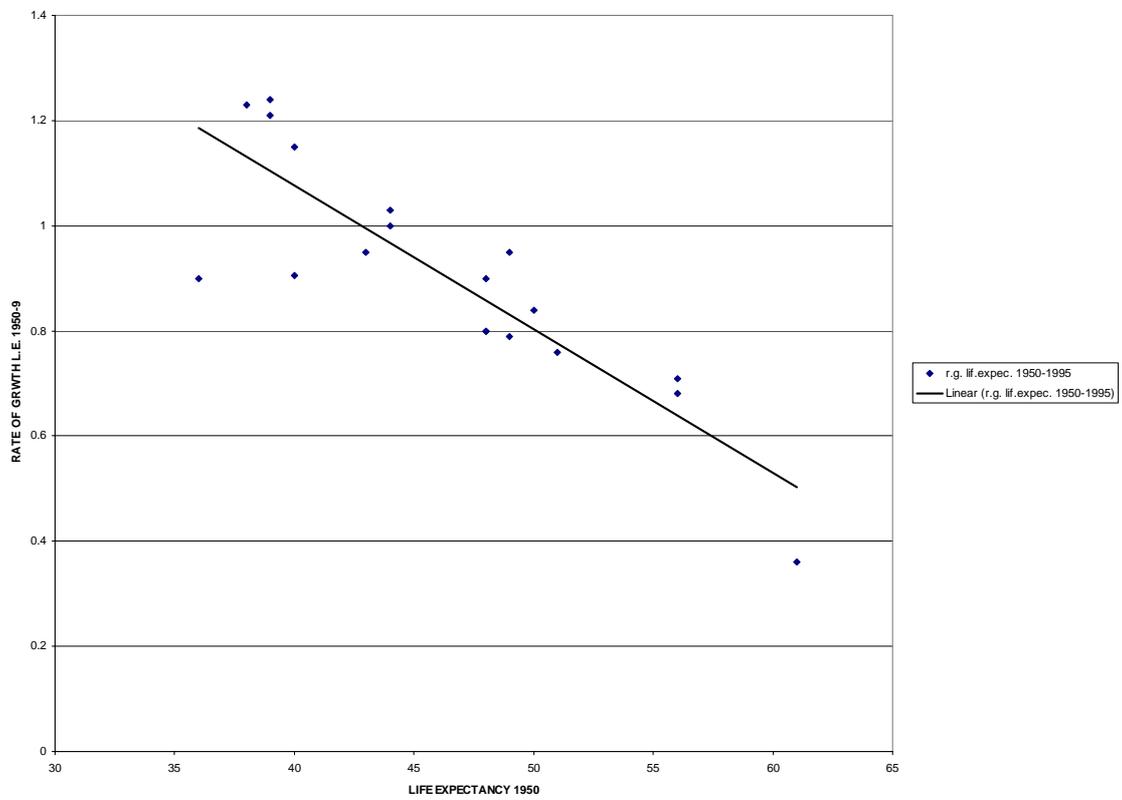


TABLE 1. HUMAN CAPITAL INDICATORS IN SPAIN AND LATIN AMERICA, 1900-1995.

	SPAIN	ARGENTINA	BRASIL	CHILE	COLOMBIA	MEXICO	VENEZUELA	L.A.
ILLITERACY*								
1900	57	48.7	63.5	56.5	66	75.6	72.2	
1930	29	21.1	60.1	25.3	48.1	63.4	64.1	54.3
1950	12	12.4	50.6	21	38.2	39.5	49	42
1980	8(1960)	6.1	25.5	9.4	14.9	17	16.1	20.7
1995		3.8	16.7	4.8	8.7	10.4	8.9	13.6
YEARS OF SCHOOLING**								
1950	8.6	4.72	1.83	3.65	2.84	1.83	1.47	3.43
1980	13.9	7.41	4.22	7.34	5.07	5.72	5.51	4.3
1995		8.96	5.93	9.86	8.2	7.45	9.38	5.36
INFANT MORTALITY***								
1900	190	148(1910)		340	142(124)	287		
1930	118	100		234	106	132	150	
1950	60	68		139	124	96	81	
1980	10	33		33	39(1977)	39	32	
1995	5	23		11		14	20(1990)	
LIFE EXPECTANCY****								
1900	34.8	39	29	29	31(1910)	25		
1930	50	53	34	35	34	34	32	
1950	62.1	61	43	49	49	48	51	47
1980	75.6	70	63	69	66	67	68	64
1995	76.9	72	66	75	70	72	72	69

*As a % of people aged 15 or more. For the Spanish case see Nunez (2005). For the Latin American case see Thorp (1998).

** Provisional data. Average years of a population aged 15-64. For the Latin American case see A. Hoffman (2000) The Spanish data relate to a cohort analysis and the result specifies the average years of schooling of the cohort of that date. See Nunez (2005). The total figure for L.A. is from Barro-Lee.

*** from B.R.Mitchell (2003). The Spanish data are those by Nicolau (1990) *** From Thorp (1998). The Spanish data are those by Nicolau (1990).

In order to show what these educational figures mean in terms of the intensity of children's work in nowadays Latin America we present in table 2 the figures on world's children's work according to the world's region in 2002. The rate of children's participation in the labour force of Latin American and the Caribbean is 16.1 per cent (see table 2). The worst situation in the world is Sub-Saharan Africa, both in terms of children's work and human capital indicators. But despite the relative improvement of Latin American human capital performance (both health and education) in relation to other underdeveloped countries of Africa and Asia the share of working children implies that the problems we have presented in section 1 of this paper are not fully overcome in the Latin American case.

One of the reasons behind the persistence of this important layer of children's work is the poor macroeconomic performance of many Latin American countries. Since the Latin American recovery from the Great Depression the state gradually increased its share on direct or indirect ownership of the firms ending up on the formation of a formal sector of the economy in which capital and labour rules are very rigid. The absence of flexibility of the formal sector of the economy to adapt to the business cycle and to the process of openness that these economies have to face since the last third of the 20th century, has involved the persistence of an important informal sector of the economy³⁷ with extremely flexible ruling bases and a very loose commitment with governmental rules and duties. In what concerns labor, women and children have always been the ideal economic agents conforming the working bases of informal sector³⁸. The informal urban sector accounted for 30.8 per cent of employment of the region in 1960, 29.6 per cent in 1970, 30.2 per cent in 1980 and 31 per cent in 1989³⁹. Or to put it into other words nearly one third of the workforce is in the informal sector. And as pointed up in section 1 of this paper in such a situation there are supply factors linked to the poverty of the family economies and demand factors provided by firms looking for cheap and flexible labour, both of them leading to the use of children's work.

³⁷ See A. Portes, R. Schauffler (1993): "Competing Perspectives on the Latin American Informal Sector", *Population and Development Review*, 19:1, see also X. Gong, A. van Soest, E. Villagomez (2004): "Mobility in the urban labour market: a panel data analysis for Mexico", *Economic Development and Cultural Change*, 53:1.

³⁸ See Rodgers, G. (1989): *Urban Poverty and Labor Market. Access to Jobs and Incomes in Asian and Latin American cities*, ILO Geneva.

³⁹ See *Ibid.* A. Portes, R. Schauffler.

TABLE 2. CHILDREN 5-14 YEARS OLD IN THE LABOUR FORCE BY
WORLD REGION, 2002

REGION	NUMBER OF CHILDREN (MILLIONS)	NUMBER OF WORKING CHILDREN (MILLIONS)	PERCENTAGE OF WORKING CHILDREN	UNDER 5 MORTALITY PER 1000 BIRTHS	ADULT ILLITERACY 15+ YEARS %
SUB-SAHARAN AFRICA	166.9	48.0	28.8	159	39
ASIA AND THE PACIFIC	665.1	127.3	19.1	72	31
LATIN AMERICA AND THE CARIBBEAN	108.1	17.4	16.1	38	12
MIDDLE EAST AND NORTH AFRICA	87.9	13.4	15.2	54	36

Source: Loretta E. Bass (2004): Child Labor in Sub-Saharan Africa, Colorado.

The second set of reasons behind the persistence of children's work is the very unequal character of Latin American societies concerning income distribution patterns. According to all statistical indicators on Latin America's income distribution this region is the most unequal of the world. And this result constitutes an stable constant of the history of Latin American societies both in the medium and the long run⁴⁰. The initial high levels of inequality mean that important portions of the society have problems to finance human capital investment. This assertion is consistent with the results presented on educational completion that have showed that between 1960 and 2000 the improvement at the level of primary education was as low as a 1/100, from 13 to 14 per cent of the population⁴¹. In this direction we already stated that the problem of the puzzle was how to begin to finance the positive shocks of human and physical capital formation. If the income and wealth distribution is very unequal and the number of

⁴⁰ See M. Higgins, J.G. Williamson (2003): "Explaining Inequality the World Round: cohort size, Kuznets Curves, and openness", Journal of Southeast Asian studies.; X. Sala-i-Martin (2002): "The World Distribution of Income (Estimated From Individual Country Distributions), mimeo, Columbia University, april. And X. Sala-i-Martin (2002): "Growth and Income Distribution in Latin America", mimeo, Columbia University, november. See also ibid Throp (1998), ibid Hoffman (2000). The inverse U Kuznets approach can be found in L.Bertola (2000): Income Distribution and the Kuznets curve: Argentina and Uruguay since the 1870s" paper presented at the Second Conference of the Latin American Cliometric Society, Stanford University. See the long run path of development can be found in K.L.Sokoloff, S.L.Engerman (2000): Institutions, Factor Endowments, and paths of Development in the New World, Journal of economic Perspectives, 14:3. See also Ibid. Pardo de la Escosura, L. (2004).

⁴¹ See ibid Barro, Lee. See also Aghion, P.; Williamson J.G, (1998): Growth, Inequality, and Globalization, CUP, for the relationship between inequality and human capital formation.

people living below the poverty line is high, this fact shall imply that the access to education shall also be very unequal. To afford their expenditures and investments ordinary households just can rely in inherited family wealth or in the financial markets. Therefore the distribution of wealth of the economy finally determines who goes to school and who don't in a situation in which financial markets are collapsed by successive hyperinflations since the 1970s. Or to put it in another way previous income distribution determines who goes to good schools and who goes to bad schools. Several authors have stressed the high level of social and ethnic endogamy of Latin American schools⁴². This fact literally means that poor children may loss time and efforts in the schools because they often are made redundant at the end of the academic year and time spent in school becomes a bad indicator of the level of education actually attained. Bad educational supplies in schools for poor children and the remaining pressures and demands on children to perform paid work may explain this failure.

To solve all of these problems the pioneering projects are those led by the World Banc in Mexico since 1970s. Public sponsorship of education of girls has improved the levels of human capital formation of the next generation and it also has acted as a means for demographic transition implementation⁴³ in this countries. But to measure the results that these initiatives can yield in the mid and the long run at the

⁴² F.Reimers (ed.) (2000): Unequal Schools, Unequal Chances. The Challenges to Equal Opportunity in the Americas, DRCLAS, Cambridge Ma.

⁴³ See the work by N.Maurer (2005): The silent Revolution. Fertility Control in Mexico, paper presented at the History Seminar of DRCLAS, february. Also D.Post(2001): Children's work, Schooling, and Welfare in Latin America, Cambridge Ma.. This kind of intervention (girl's schooling) in the case of Africa is being implemented by the group led by Xavier Sala-i-Martin, Umbele. Nonetheless this initiative arises from a non governmental organization and the financial sources it rises are mainly private owned. See Sala-i-Martin, X (2004): Un salario para estudiar, La Vanguardia.

Macroeconomic level the deepening and broadening of the intensity of such interventions is necessary. Nonetheless these pioneering projects have empirically proved the positive relationship between women's education and the improvement of human capital indicators (health and education) as well as the spread of the fertility control.

CONCLUSIONS

In this paper we have portrayed the human capital indicators evolution in Spain and Latin America to explore the reasons behind the persistence of children's work in the second case. Although the human capital and welfare indicators we have for the eve of 20th century are very similar in both cases, Spain definitively caught up with the developed world in the carrier of post-elementary schooling during the 20th century whilst the performance of Latin America was very poor. Extensive use of children's work in the informal sector of the economy, bad and endogamic schooling supplies for children of poor families, and the persistent social capital of Latin American countries consistent on high levels of inequality of wealth and income distribution and social polarization, all explain the failure of the slow but persistent improvements in the literacy rates. To solve this puzzle children need economic subsidies to reward their process of intellectual apprenticeship. In this paper we have stressed the role of girl's education in the formation of endogenous factors of growth in the Spanish Catalan case. The historical meaning of this case and the results obtained by plans of intervention in girl's education in developing countries like Mexico, all seem to recommend this measure to improve the aggregate levels of human capital investment. In all the cases the improvement of women's education has a result the conclusion of the demographic transition and the improvement of levels of human capital investment by families.

While the results obtained on education in the Latin American case are poor, the health conditions significantly improved during the second half of the century. The results on health conditions show their important improvement in the decades 1950-1995 both measured by means of life expectancies or infant mortality. The widening of the effects of this exogenous shock into more substantive improvements on living standards are limited by the very unequal character of Latin American societies. As opposed to the Latin American case, the more egalitarian patterns of income distribution in East Asian countries implied that improvements of health conditions (and the demographic transition it involved) fostered economic growth.⁴⁴ This comparative example is explicit in making clear the further negative consequences associated to income inequality in terms of human capital formation and economic growth.

⁴⁴ See *ibid.* Bloom, Williamson