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Birth Rate, Income Inequality, and Economic Development in Latin America and the Caribbean Region: A Case of Honduras.

拉丁美洲與加勒比的出生率、所得不均與經濟發展; 以宏都拉斯為例.

María Gabriela Alfaro Aguilera

Advisor: Yen-Pin Su

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ABSTRACT

While many studies of economic development examine the effects of demographic factors, few take into account under what conditions certain demographic factors will affect economic development. This thesis aims to fill the empirical gap by focusing on the interactive effect of crude birthrate and income inequality. I argue that the effect of birth rate on economic development is conditional on income inequality. Based on data for 33 countries in Latin America and the Caribbean from 1960 to 2015, the statistical results demonstrate that a country with a higher birth rate tends to have a much lower level of economic development when that country suffers from serious income inequality. I also conduct a case study of Honduras to demonstrate the mechanism of my theory at the subnational level. The empirical analysis, based on both quantitative and qualitative data, largely support my hypothesis, suggesting that a department tends to be less developed when it has a high birthrate and a high level of income inequality.

摘要

以往許多研究專注於人口對經濟發展的影響，然而這些研究大多未考量人口因素可能會與其他變數對於經濟發展造成交互作用。本論文探討出生率與收入不平等對於經濟發展的效應，試圖填補既有文獻的空缺。本論用使用拉丁美洲與加勒比 33 個國家從 1960 年至 2015 年的資料進行量化分析，實證結果顯示，當一個國家的出生率較高，而且其收入不平等的情況較嚴重時，其經濟發展程度將會較低。同時，本研究亦對於宏都拉斯進行案例研究，質化與量化的分析顯示，當一個行政區有較高的出生率與較嚴重的收入不平等情況，會對於該行政區的經濟發展造成負面影響。

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1. INTRODUCTION

Most countries in LAC continue to struggle with poverty. One out of every 4 Latin Americans suffer from "chronic poverty," and it is possible that such a situation will continue as "GDP growth has slowed significantly, from about six percent in 2010 to an estimated 0.8 percent in 2014. As a result, improved labor market prospects may not prove to be sufficient for the chronic poor to escape poverty" (Vakis, Rigolini, Lucchetti 2016, 7). However, even though projections seem to dim our light instead of shining on it, the researcher would like to cooperate academically to contribute on the quest for the search of what is truncating the Latin American and Caribbean region's economy.

The motivation of this research is to explore how birth rate and income inequality affect economic development in the region of Latin America and Caribbean (LAC hereafter). It is important to be active and find a way to reduce poverty in LAC because most countries in the region have been plagued by severe poverty. The absolute poverty line implemented by the World Bank is set at USD 1.90 per person each day, this measure was implemented for us to be able to study and measure poverty across countries in a more consistent way.

Table 1.1 Poverty estimates from the year 2013 (at $1.90 per day): Comparison of October 2016 and 2017

Table 1. Poverty estimates for reference year 2013 (at $1.90/day): Comparison of October 2016 and 2017 versions

Region	Headcount ratio (%)		Poverty gap (%)		Squared poverty gap (%)		Poor (millions)		Population (millions)		Survey coverage (%)	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
East Asia and Pacific	3.5	3.7	0.7	0.7	0.2	0.2	71.0	73.9	2,006.2	2,007.5	93.8	96.5
Europe and Central Asia	2.2	2.2	0.6	0.6	0.3	0.2	10.3	10.4	479.1	482.3	90.3	90.7
Latin America and the Caribbean	5.4	4.9	2.6	2.3	1.8	1.6	33.6	30.1	622.0	612.9	91.7	91.7
Middle East and North Africa	-[a]	2.3	-[a]	0.5	-[a]	0.2	-[a]	8.3	350.1	358.4	33.5	78.0
South Asia	15.1	14.7	2.8	2.7	0.8	0.8	256.2	249.1	1,698.1	1,699.3	96.5	98.3
Sub-Saharan Africa	41.0	41.0	16.0	16.0	8.4	8.4	388.7	390.2	948.3	952.3	42.9	49.6
Other High Income Economies	0.0[b]	0.6	0.0[b]	0.5	0.0[b]	0.4	0.0[b]	6.5	1,075.2	1,069.7	-	68.9
World Total	10.7	10.7	3.2	3.3	1.5	1.6	766.0	768.5	7,178.8	7,182.4	-	84.9

Note : a. Estimates on the Middle East and North Africa are omitted because of data coverage problems. b. zero by assumption.

Based on the World Bank, poverty estimates from the year 2013 (at $1.90 per day): Comparison of October 2016 and 2017 versions table, we can observe that for the year 2016 there were 33.6 million poor people estimated, and for 2017, there are 30.1 million poor people estimated in the LAC. Compared to 71.0 million poor in 2016 and 73.9 million poor people in 2017, estimated in the East Asia and Pacific region. The European and Central Asia region stands with 10.3 million in 2016 and 10.4 million poor in 2017. The Middle East and North Africa region possess data issues. Therefore, no result for the year 2016 was provided, but 8.3 million poor were estimated for the year 2017. The South Asia region estimates for the year 2016 are 256.2 million poor and results for 2017 are 249.1. Lastly, the Sub-Saharan Africa region portrays the following results: for 2016, 388.7 million poor were estimated, and for 2017 an increase to 390.2 million poor was stated.

From these data, we can observe a decrease in millions of poor people living in poverty only in the LAC and South Asia region. But it is important also to point out the population factor in the table. In the year 2016, the LAC had a population of 622.0 million people, in contrast to its 33.6 million poor people estimation. In the other hand, in 2017 the LAC had a decrease in population of 612.9 million people, compared to the 30.1 million estimated poor. From these observations,

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one could only assume that a vast majority of poor people in the LAC deceased in 2017. Therefore, population density reflecting on poverty results. Contrary findings are observed in the South Asia region when it had a population of 1698.1 in 2016 in hand with 256.2 million poor people estimated. In 2017, the population in South Asia increased to 1699.3 people in hand with a decrease of 249.1 million poor. Hence, from South Asia results we could assume that because population increased and poor people estimates decreased, it would mean that more people surpassed the poverty line implemented by the World Bank.

In this investigation, the researcher seeks to provide explanations on the variation in poverty in LAC by focusing on the interactive effects of income inequality and birth rates. The researcher would also like to address an important research question: Why do some countries have a higher level of economic development than others in LAC? While existing studies, have focused on the effects of history (Acemoglu, 2005 and 2008; Acemoglu, Johnson, and Robinson. 2002; Engerman and Sokoloff 1997; and Przerworski and Curvale 2008) and institutional factors (Acemoglu, Johnson and Robinson 2000; Rodrik, Subramanian, and Trebbi, 2002; Gerring, Bond, Barndt, and Moreno, 2005; and Martin, and Juarez, 1995). The researcher argues that the combined effects of high-income inequality and high birth rate would reduce the level of economic development. To test the previous hypothesis, the researcher will conduct empirical analysis using quantitative data from 1960 to 2015 in LAC. The researcher will also conduct a case study of Honduras to show the importance of high-income inequality and birth rate on economic development. This investigation aims to provide important implications for making public policies for boosting economic development in developing countries.

The research will be divided as follows: In the first section, the researcher will discuss the existing literature about the explanations of economic development, then the researcher will develop a

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theoretical hypothesis for this study. Second, methodology and data will be explained, followed by a third section where the researcher will portray the statistical results. The fourth section is a case study of Honduras, which will provide a detailed discussion about the effects of birth rate, income inequality, and education on economic development. In this section, the researcher will also discuss about some reccomendations to boost economic development in Honduras. And the final section concludes.

2. THEORETICAL PERSPECTIVES

Regarding the ongoing search for the variables that can effectively boost or decline economic development, many studies have been done. Between them, we can find prominent and repeated factors that have been demonstrated to affect economic development like institutions, income inequality, education, and fertility.

2.1 Institutional Approaches

An important factor to talk about is Institutions. Institutions in a country are important because they are the ones that will set the norm on the effectiveness of development. Weak institutions will affect the economy. Some authors, in between them Acemoglu, Johnson, and Robinson (2002), in their study ¨exploit differences in European mortality rates to estimate the effect of institutions on economic performance¨. The previously mentioned authors propose a theory of institutional differences among countries colonized by Europeans and argue that there existed different types of colonization policies which created different sets of institutions.

On the one hand, European powers set up "extractive states," these institutions did not introduce protection for private property, nor did they provide checks and balances against government expropriation. As explained by Acemoglu, Johnson, and Robinson (2002), the purpose of the extractive state was to transfer the resources of the colony to the colonizer. Practically steal. On the other hand, some Europeans migrated in the new territory and created some new European styled institutions, which did not happen in the Latin American and Caribbean Region. Therefore Latin-Americans were not benefitted from this. In their results, Acemoglu, Johnson, and Robinson (2002) find that "reducing expropriation risk (or improving other aspects of the "cluster of institutions") would result in significant gains in income per capita." Acemoglu, Johnson, and

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Robinson's argument then tell us that colonization interfered with the type of Institutions the LAC Region have in present days. Although some authors believe that it is not about if institutions are weak or strong, but about how they manage to solve the conflicts that arise. Rodrik, Subramanian, and Trebbi (2004) argue that "Quality of Institutions trump everything else" referring to other factors that are argued to affect income (which we can use to measure economic development) like geography and integration. The authors conclude that "once institutions are controlled for, integration has no direct effect on income and geography has a weak effect."

La Porta et al. (1998) argues that it is essential to take into consideration the type of legal system adopted in a country or imported through colonization because this has a significant bearing on Institution development and income level. Similarly, Gerring, Bond, Barndt, and Moreno (2005), state that the length of time democracy has been in existence serves as a rough indicator of its degree of institutionalization.

Many studies argue that democracy has a positive impact on economic development. Acemoglu, Naidu, Restrepo, and Robinson (2014), argue that democracy does indeed have a positive effect on gross domestic product per capita. The authors demonstrate that democratization increase gross domestic product per capita by twenty percent in the following twenty-five years compared to a country that remains a non-democracy. Furthermore, Acemoglu, Naidu, Restrepo and Robinson, find that "democracy increases gross domestic product by investment encouragement, increasing schooling, inducing economic reforms, improving the provision of public goods, and reducing social unrest." The effect of democracy does not depend on the initial level of economic development, although the authors find some evidence that democracy is more conducive to growth in countries with greater levels of secondary education. The previous argument, is just logical as a democracy should work better when the population has a higher literacy rate because

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this will give them the chance to elect their leaders more carefully and be more aware of the effects that policies can cause in a national and personal perspective. Even though this study was not done with an exclusive sample of LAC, the same results could be expected for the LAC region. Democracy creates a stable atmosphere that attracts FDI and national investment. Robert J. Barro (1999), was also in favor of the hypothesis that democracy has a positive effect on growth, stating that "democratization came together with growth." Barro, also proved in his study that a higher standard of living promotes democracy, and this high standard of living can only be achieved by economic development which gives rise to high quality services in the health and education sector. This general higher standard of living should then lower inequality.

On the other hand, Gerring, Bond, Barndt, and Moreno (2005), in their study show that democracy has no significant effect on economic growth, but when measured as a stock variable, democracy appears to have a positive relationship on growth performance. They finally conclude that "democratic experience over the course of the twentieth century is positively associated with growth in subsequent years. Long-term democracy leads to stronger economic performance". Acemoglu (2008), discusses the pros and cons of democracy on growth: the "PRO" is that higher levels of democracy tend to be good for growth because it reduces the extent to which existing oligarchies can prevent entry by potential competitors. The "CON" states that democracy leads to higher tax rates in equilibrium, which in turn tends to discourage innovation.

Other authors, will not even link the form of government, type of policies, and economic development like Mulligan, Gil, and Sala-I-Martin. (2004). Other authors argue that democracy constraints economic growth for countries with low levels of development, like Aghion, Alesina, and Trebbi (2007), who state that democracy affects productivity differently in different sectors. The authors also suggest that political rights are conducive to growth in more advanced sectors of

an economy, while they have a negative effect on growth in sectors far away from the technological frontier. Democracies tend to have much lower market entry barriers and cost of entry than autocracies. For our study this could imply that the LAC has a lower level of development, hence is not affected positively by democracy. Political accountability reduces the protection of personal interests (by the alternation of power and freedom of the press), and "entry, in turn, is known to be more growth-enhancing in sectors that are closer to the technological frontier." Therefore, democracy is more beneficial to rich countries that do possess economic sectors that have an advanced value added per worker.

On a more in-depth view, Cooper, Krieckhaus, and Lusztig (2006) argue that democracy has only an indirect effect on growth, while corruption has a direct and negative impact on economic performance. They say that "one of democracy's indirect benefits is its ability to mitigate the detrimental effect of corruption on economic growth." The LAC region as every other region in the world suffers from corruption, but democracy, unlike autocracy, can provide the citizens a pacific tool to "punish" corrupt leaders by not voting for them in the next elections. Of course, only as long as there is an effective accountability system the citizens can rely on.

Branching from democracy and corruption, there is literature suggesting that leaders are important factors affecting development. These leaders through the policies they decide to implement can cause economic growth or stagnation in the country they rule. Jones and Olken (2004) support the leader theory by concluding in their work, that leadership transitions provoke persistent changes in the growth rate of a country. The authors suggest that the effects leaders produce through their policies are stronger in autocratic regimes than in the presence of democratic institutions. Therefore, showing us another benefit derived from institutions. In Przeworski and Curvale (2008), we can observe clearly the conviction of the authors that "Institutions are the key to development."

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The authors concluded that when political institutions managed conflicts according to law, the Researcher could expect economic development in Latin America. Because of the importance of the institutional figure, the Researcher will use institutions as our control variable.

2.2 **Industrial Structures**

Agricultural significant events like the introduction of the potato from South America to Europe after the discovery, have been proven to have an increase on population and urbanization in the European continent during the eighteenth and nineteenth centuries. Nunn and Qian (2009) study examined the effect of the introduction of potatoes on population and urbanization in the Old World during the eighteenth and nineteenth centuries. The introduction of the potato explained 25–26 percent of the increase in Old World population between 1700 and 1900, and 27–34 percent of the rise in urbanization. Data on French soldiers heights, who were born in the seventeenth and eighteenth centuries, made able to find that potatoes increased average adult heights by about half an inch. The author's findings contribute to providing evidence that nutrition matters in explaining part of the rapid population increase over the past three centuries. Nunn and Qian (2009) conclude that the availability of potatoes in Europe and its spread to the rest of the world also played an essential role in boosting economic growth in the eighteenth and nineteenth centuries. The point is not to suggest that potatoes had a population boom in the LAC Region, but to point out the relevance of how agricultural products can affect economic development over time.

 It is no revolutionary thought or conclusion that the Agriculture based economy of LAC has constrained it from achieving the economic development, industrialized economy regions now have. Vakis, Rigolini, and Lucchetti, (2016), through an analysis of sectoral employment of the

chronic poor, conclude that regions, where people are mostly employed in the agriculture sector, tend to have higher rates of chronic poverty. On the other hand, regions that base their concentration of employment in the high tech industry, services, construction, and retail are more likely to employ people in regions with lower rates of chronic poverty. All of the sections mentioned in this theoretical perspectives section are woven together; they affect each other. The low education in the region affects agriculture, I base myself on the argument of Thirtle, Lin, and Piesse (2003) "Literate farmers are more able to assimilate information and make effective use of the new technologies that become available." Eclac, Fao, Iica (2015), in their report state that the main reason the LAC has improved in its agricultural productivity is due to the incorporation of technologies and innovations.

Consistent with Eclac, Fao, and Iica (2015), Ludena (2010) states that during the past two decades, the LAC showed the highest agricultural productivity growth because of significant improvements in the efficiency and introduction of new technologies. Ludena (2010), states that countries that have more land because of higher productivity rate outperform the ones with less land. Gollin, Parente, and Rogerson (2002) provide a "model of structural transformation." This model builds on the works of John Laitner (2000) and Gary Hansen and Edward C. Prescott (2002), where development is associated with structural transformation. The authors show through their model that low agricultural productivity might delay industrialization.

When industrialization is delayed Gollin, Parente, and Rogerson (2002) argue that poor agricultural technologies will result in a decrease of the countries income per capita. Therefore, by improving agricultural productivity, the process of industrializing can come faster, resulting this in larger income per capita in the countries.

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Staying behind on the implementation of new trends of agricultural technology affects the economy of countries as they will produce less than their competition. In Latin American countries rural areas, we can find a higher birth rate than in the urban areas, this is usually because of a belief that the more offsprings they have, the more labor work and assistance (for farming) they have at home. Following Thirtle, Lin, and Piesse (2003) work, we can observe that it quantifies the impact of agricultural productivity growth on the incidence of poverty in the Least Developed Countries (LDCs), measured by the percentage of the population living on less than USD 1 per day. His work demonstrates that agricultural growth seems to benefit the poor in Asia and Africa, except in Latin America where the high levels of inequality in income and land distribution forbid the poor sector from producing gains. The authors state that in Latin America, exports and gross domestic product per capita are the factors that lower inequality, but in the region agriculture's share in the gross domestic product is less than in Asia and Africa. Having the right technology and supporting research in the sector will help the agriculture sector develop hence, reducing inequality by educating the rural population.

Morris and Adelman (1990) suggest that agricultural development is a precondition that promotes industrialization. The authors exemplify this argument with United States, Japan, and other countries from the European Union. Furthermore, Bloom, Canning, and Sevilla (2004), state that the tropical factor has recently been viewed as a geographical disadvantage to growth because of the difficulty of diffusing agricultural technologies from temperate to tropical zones, drawbacks in food production, and infectious disease ecology. These difficulties can be solved with proper research and development. Thirtle, Lin, and Piesse (2003) provide an argument that explains that research and development need to be implemented to successfully defeat inequality and raise agricultural growth to increase economic development. In their study investment in agricultural

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research and development, raises agricultural value-added enough to give satisfactory rates of return within the agricultural sector. In Africa (22%) and Asia (31%), but less so in Latin America (10%).

2.3 Education

Education is a factor that should not be ignored for understanding what drives economic development (United Nations 2003). Low-quality public education in most of the LAC countries is a variable that allows the cycle of poverty to continue. In UNESCO (2013) it is pointed out that "during the decade of 2,000 most of the LAC countries achieved considerable progress in areas such as overall development, economic growth and to a lesser extent poverty reduction." The report emphasizes that the achievements mentioned have not been a result in all countries of the region, what is certainly replicated in all countries are the internal inequalities "with social class, poverty status, and place of residence being the most common manifestations of such inequality." Lastly, education progress should increasingly be judged according to new criteria relating to quality, rather than the mere expansion of education. From the UNESCO (2013) study we can conclude that the achievements made so far in education are not considered to help us increase our economic development. If the quality of education remains low, there will be no reflection of improvement in the population no matter how many people you reach.

Knowles, Lorgelly, and Owen (2002) address how educational gender gaps relate to economic development. The authors point out that "In developing countries, the economic gains from educating females are greater than those from educating males." Their results suggest that educational gender gaps impede economic development, hence gender inequality in education significantly reduces gross domestic product per capita. This study has the advantage that it focuses on developing countries, although not exclusively to LAC. The above-stated results in their

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research give us a clear tested explanation of one of the educational factors truncating economic development in developing countries. Hence, we will test as well gender inequality in education in the LAC Region and compare our results.

James Wolfensohn, President of the World Bank, in 1995 argued that "educating girls has a 'catalytic effect' on every dimension of economic development, including higher productivity and faster economic growth." This argument was proven in the Knowles, Lorgelly, and Owen (2002), and as a disclaimer this does not mean that educating boys is not important, it is important to give them both good quality education to help them grow. But it is important to recognize that when a girl is educated, this education will not just rest in her, but as she becomes a woman and forms her own family her knowledge and thrive for her family to be educated will be passed on. Knowles, Lorgelly, and Owen (2002), continue arguing that "There is evidence that female education, especially in developing countries, also produces social gains by reducing fertility and infant mortality, improving family and child health, increasing life expectancy, and increasing the quantity and quality of children's educational attainment (Schultz, 1988; Behrm Deolalikar, 1988; Subbarao and Raney, 1995)." The previous is one of the most significant contributions to my research, because it relates female education directly to the reduction of fertility, hence reducing the birth rate.

Martin, Castro, and Juarez (1995), portray how education can give women the advantage to even deal with institutions arguing that the school experience give women competence to interact with institutions, allowing them to benefit from a diverse range of services, including family planning. By educating girls and women, a whole set of opportunities come for them, which might make them delay the idea of starting a family and become economically productive. Hill and King (1993, 1995) present evidence that "the level of female education has a positive significant effect on gross

national product and also that larger gender gaps in school enrolments reduce gross national product." Klasen (2002) demonstrates that gender inequality in education affects long-term economic growth. His results show that "gender inequality in education directly affects economic growth by lowering the average level of human capital. Also, growth is indirectly affected by the impact of gender inequality on investment and population growth". To sum up, the above studies have shown the importance of reducing the gender education gap to promote economic development.

Adsera and Menendez (2011), find that urban, young, educated women tend to delay maternity especially when the economy is doing bad, or unemployment indexes are high in the urban area. By postponing motherhood and investing in their education or/and working become an active part of the productive sector which will help raise the economy of their respective countries. Cochrane (1979) like Adsera and Menendez (2011), suggest that education will decrease the demand for children in women. With better education, an extended list of variables should get impacted, and birth rate being one of them should have an evident decrease in the region.

What about the type of education the LAC Region have? Stycos (1965), states that the population control issue has been overlooked due to arguments suggesting that it is only an economic or political problem that will solve itself by industrialization and education, which will result in a lower fertility rate. Another suggestion is that overpopulation constitutes just a myth encouraged by the imperialists to maintain control of the region. We see and know that the LAC region is not industrialized, this region is still stagnated in the agricultural sector. Logically in the LAC region, education is not technical, and this is an educational demand in some labor areas in the region, Jacinto (2010). Stycos (1965), raises a question concerning if the lack of technical education affects the region's economic development? Altimir (1996), argues that one of the factors that led

Latin America to slow its development is that it did not industrialize due to its type of education. He believes education should be technical for it to be innovative and have hope to catch up with the developed countries. Furthermore, he states that from East Asia we could learn that increasing the number of school years and providing adequate job training of the labor force is vital. Therefore, he suggests an education strategy with five components: First, universal access to public education at the basic level. Second, some adequate curricula for secondary education should be implemented. Third, inciting teaching and quality research at universities. Fourth, teaching and research that interacts with other segments of the national system of innovation. Finally, fifth, overall improvement of every level of education. These five components should go hand in hand with retraining programs for workers. Technical education should be something to consider in Latin America as education in every aspect is something that will dictate if a country will thrive or no.

2.4 Birth Rate, Income Inequality, and Economic Development

The researcher considers that the high indexes of birth rate in the LAC are one of the main reasons that impede its economic development. Some academic work testing the relation of these variables have been done, but it is important to point out that the majority of the literature review found, examines fertility and not birth rate as a variable. I chose to test birth rate instead of fertility because birth rate provides us with an accurate number of live children born at a determined time, not restricted to any specific age, group, or ethnicity. In one hand, general fertility rate portrays the total number of live births of a determined age group, usually in the reproductive stage from population age 15 to 44. On the other hand, total fertility rate provides us with a hypothetical number of birth rates woman between age 10 to 49 could have in 5-year age groups. That is if they do follow a trend.

Therefore, I believe the independent variable "birth rate" to be more accurate and specific for this research. Yet, a study done explicitly testing for a sample that is exclusively from the LAC is an essential need for the region. Therefore, this will be the primary contribution of this study. A particular research, tests both birth rate and economic development to see whether economic development used as an independent variable, will prevent excessive population growth using birth rate as the dependent variable (Weintraub, 1962). Although this study is of great importance, it is necessary to state that this research differentiates from Weintraub's in its research design. In this research, I will be using economic development as the dependent variable and birth rate as the independent variable.

Weintraub wisely argues that "If our plans to permanently raise living standards in underdeveloped nations above the subsistence level are to succeed, preventive checks to family reproductivity are necessary." This argument reflects light on the big problem family reproductivity pose on our dependent variable. Weintraub used 30 nations as a sample, of which only six are originally from the LAC region. He uses data retrieved from the UN in the 1950's and provides three basic measures of economic development: per capita income, the ratio of population in farming, and infant mortality. Weintraub's results go on and confirm the Malthus, Thomas R. (1798) "Malthusian hypothesis that income increments generate birth rate increases as well as the more widely held hypotheses that birth rates decline with urbanization and decreases in infant mortality." His final contribution in the article infatuates the importance in policies, stating that "Policies must be devised to assure that continuing high birth rates do not offset or impede efforts to develop underdeveloped economies."

Fifty decades after Weintraub's study, LAC seems unable to provide effective policies. As per the year, this study was made, I aim to contribute to more modern results with a sample that extends

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from 1960 to the year 2015. Although the already confirmed Malthusian hypothesis that states that "income increments generate birth rate increases," I want to note that education and high-income inequality are important variables, which were completely relegated from this study. Hence, closer attention should be paid to the segment of the population that cannot access education and to the significant income differences between the population. I believe my research for the LAC region can be highly beneficial to the academic community and the LAC governments.

Ahituv, A. (2001), created an empirical model to test between fertility and economic development. This important study shows that when population growth decreases by one percent, gross domestic product per capita grows by more than three percent. The research explains that families with low levels of human capital decide to have more children, therefore, income per capita is observed to grow faster in developed countries compared to developing countries, in contrast to the Malthusian hypothesis.

Brander, James A., and Dowrick, Steve (1994), re-examined the effects between fertility and popoulation growth on economic growth. Similar results to Ahituv, Avner (2001) are observed. Brander, James A., and Dowrick, Steve (1994), find that a high number of birth rates reduce economic growth through promoting investment and also could be through capital dilution, on the other hand, a birth rate decline can produce "strong mediun-term positive imapct" on per capita income growth through the means of labor supply, therefore favoring a "Neo-Malthusian" view yet not a classical Malthusian one. To conclude in a clear statement Brander, James A., and Dowrick, Steve. (1994) when birth rate declines we can expect income growth to increase.

Doing a more in-depth research on the income subject, I find income inequality explicitly affecting economic development. Persson and Tabellini (1994), notice that in eight developed democracies, inequality has a negative and significant relationship with growth. To test this, the authors used a

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general equilibrium model which showed that the greater income inequality is, the lower is equilibrium growth. Although this study was performed on a sample of only developed countries, we should expect the same results in developing countries. The previous argument based on the Kuznets curve, which argues that income inequality first increases and then decreases development. The reason for the severe impact income inequality possess over growth is because income inequality leads to policies that do not protect property rights. Therefore, not allowing a complete private appropriation of returns from investment and "growth-promoting activities" that would redistribute income.

Supporting Persson and Tabellini's (1994) work, we find Alesina and Rodrik (1994). Alesina and Rodrik (1994), see a negative and significant relationship between income and land ownership inequality and economic development. The authors use a model of endogenous growth, which results show that the higher the rates of taxation are, the lower the economic growth will be. Alesina and Rodrik state that inequality conduces to the implementation of growth-retarding policies because problems with distribution that are harmful to growth tend to take place when there is resource distribution inequality. Therefore, society would make popular demands which would be difficult for the governments to ignore without repercussions. Hence, to conclude land distribution and income inequality have a negative effect on growth.

Two years later Perotti (1996), further investigates the relationship between income distribution, democratic institutions, and economic growth. Perotti evaluates specific channels of operation of income distribution: endogenous fiscal policy, socio-political instability, borrowing constraints, and endogenous fertility. His sample contains 67 countries of which 17 are LAC countries. The author finds strong support in his data when linking income distribution to socio-political instability and the education/fertility decision. When socio-political instability decreases,

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investment and growth increase. Logically, equality increases when socio-political instability decreases.

Regarding fertility, Perotti takes into consideration the reviewed Malthusian hypothesis that more income implies a higher demand for children. Yet, he argues against this hypothesis with the "substitution effect" which explains that as the cost of raising children increases, demand for procreation decreases. This effect will remain constant at high levels of human capital because the cost of raising children is a small part of the total costs. Hence, high levels of human capital, lead to less fertility and higher investment in human capital. This result states that "Growth increases as an investment in human capital increases and fertility decreases." Perotti's results are in line with Persson and Tabellini(1994) and Alesina and Rodrik (1994) concluding that equality has a positive significant effect on growth.

On the other hand, there are challengers to the arguments detailed before, that explained that income inequality has a negative effect on economic growth. Between them we can find Forbes (2000), who argues that by using a panel technique she can control for "time-invariant country-specific effects, therefore eliminating a potential source of omitted-variable bias." The author uses 45 countries in her sample, of which only nine are from the LAC region. Forbes, claims that in short and medium term, an increase in inequality has a boost in economic growth. Forbes uses Latin America's high inequality levels as an example, showing that despite them it grew at a fraction of the average East Asian rate. In Forbes study, it is important to note that when country effects are included in her pooled model, the relationship between inequality and growth is positive and significant. Also, despite the author's robust results, it should not be forgotten that her findings do not apply on the long-run term because of lack of data availability. Most importantly, Forbes does not investigate the interconnectivity between inequality and economic development.

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Banerjee and Duflo (2013), follow Forbes line of argument and by using non-parametric methods show that changes in inequality are associated with reduced growth in the subsequent period. The authors agree that this can be caused by a variety of non-observed or unobservable factors related to growth. Banerjee and Duflo, also raise attention on the consistent use of linear relationships on the research of income inequality and growth. They argue that results coming from these linear tests should be doubted. To conclude, Banerjee and Duflo state that their data has "little to say" about the answer to whether inequality is bad for growth. Therefore, the studies done in this thesis could help enrich with arguments on the inequality and growth debate.

Lastly, Halter, Oechslin, and Zweimüller (2013), by working with a theoretical model intend to show how changes in inequality affect economic growth over time. The author's consistent with Forbes(2000), find that higher inequality boosts economic performance in the short term. On the other hand, the authors find that higher inequality reduces GDP per capita growth in the long-run. Some of the answers to this argued by Halter, Oechslin, and Zweimüller are that it might be that the growth-reducing effects on economy involve factors that take a long time to settle in. Such as institutional change, socio-political movement rising, and education. Therefore, in a non-shortsighted manner, one should state that inequality is bad for economic development.

Indeed, some factors influence economic development, but there exists a logical nexus between the levels of income inequality and high indexes of birth rates affecting economic development. This because income inequality by itself will determine every aspect of human life, including quality of nutrition, quality of education, quality of medical services and the type information we can access.

A domino effect could be hoped to be observed when tackling income inequality and birth rates. Other essential variables like education could be impacted as a result of the interaction of income

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inequality and birth rates. If we have a reduction of birth rate indexes, there could exist a possibility of governments having more money, which could be used to improve areas that have special needs in a country, like increasing the quality of education. If this optimistic scenario was to happen, then this better-educated people could help in the reduction of income inequality due to the better opportunities they will have in becoming part of a more qualified labor force or a more significant opportunity of saving capital and becoming entrepreneurs. Also, more women in the labor force in both urban and rural areas, can help decrease both birth rates and income inequality.

In the same line of thought of what I discussed previously, the rise in income and reduction of the income gap between the urban and rural population, should, therefore, increase the quality of life of the population. These people might delay parenthood in order to work, study, or simply to invest time in themselves. The longer the population delays parenthood, the more time they have to invest in increasing their capital, this giving them the opportunity of being more prepared for the moment when they decide to start families. These families will, therefore, have better access to education, health, and every other human need leading to economic development. Hence, we could hope that in a place where birth rate indexes and income inequality levels are low, economic development should increase.

Therefore, having reviewed the discussion of the different studies regarding birth rate and economic development, income inequality has to be taken into consideration to have a broader perspective of how economic development is affected by the discussed variables. A testable hypothesis derived from this discussion is that a country that has a high birth rate should have an even lower level of economic development if the country has a high level of income inequality. Thus, the interaction of these two variables affects the level of economic development.

3. THE COMBINED EFFECTS OF BIRTH RATE AND INCOME INEQUALITY ON ECONOMIC DEVELOPMENT

3.1 Data, Operationalization, and Measurement

In this investigation, the researcher seeks to provide explanations on the variation in poverty in LAC by focusing on the interactive effects of income inequality and birth rates. The researcher will conduct empirical analysis using quantitative data from 1960 to 2015 in LAC. The researcher will also conduct a case study of Honduras to show the importance of income inequality and birth rate on economic development. In the case study of Honduras, the researcher will perform interviews to review the opinion of the elites regarding the researcher's hypothesis.

The 33 LAC countries used this investigations as sample are the following:

Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

The researcher purposefully does not include the overseas territories located in the LAC region such as Anguilla, Aruba, British Virgin Islands, Cayman Islands, Curaçao, Montserrat, and Sint Maarten. Data from the LAC countries was retrieved from the World Development Indicators provided by the World Bank. These data consist of the most actual global development time series data.

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Variables

The following is a table that represents in a simple and clear manner the variables that the researcher used to test her hypothesis.

The table is divided into three different kinds of variables. The first one: dependent variable, the second one: independent variable, and the third one: control variables. In each cell of the columns, we can find the indicator used by the researcher to measure the type of variable to which it corresponds.

Following this table, a more detailed description of each of the variables and its indicators can be found.

Table 3.1 Variables

Dependent Variable	Independent Variables	Control Variable
Economic Development The indicator used: *Log of GDP per Capita (constant 2010 US$).*	**Birth Rate** The indicator used: *Crude Birth Rate.*	**Industrial Structure** Indicator used: *Employment in agriculture sector as a percentage of total employment.*
	Income Inequality The indicator used: *Gini index of inequality in equivalized household disposable income* using Luxembourg Income Study data as the standard	**Institutions** The Indicator used: *polity2*

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	Interaction of Birth Rate and Income Inequality	Education Government expenditure on education, total (% of GDP)
		Corruption The Indicator used: *Political risk* section from the International Country Risk Guide (ICRG).
		Remittances The Indicator used: *Received personal remittances as a percentage of total GDP.*
		Population

Dependent Variable

The dependent variable for this research is economic development. The Cambridge dictionary defines economic development as "the process in which an economy grows or changes and becomes more advanced, especially when both economic and social conditions are improved." The indicator used to measure economic development in this research is the Log of GDP per capita (constant 2010 US$). The variable is operationalized by dividing gross domestic product by midyear population, resulting in GDP per capita. Data are in constant 2010 U.S. dollars. These

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constant series show the data for each year in the value of 2010 as the base year. Data for GDP per capita constant at 2010 US$ was retrieved from the World Development Indicators in the World Bank.

Independent Variables

My research will have three independent variables: birth rate, income inequality and the interaction of birth rate and income inequality. The first independent variable, birth rate was used by Weintraub (1962), in a study of birth rate and economic development. Subsequent studies about this topic changed their variable birth rate for fertility. The Handbook of Vital Statistics Systems and methods (1991), defined the crude birth rate as "the number of live births occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year", the same reference also defined fertility as "the number of children ever born alive during the entire reproductive period of the woman."

I chose birth rate instead of fertility because birth rate provides us with an actual number of births in the population of a determined country in a given year instead of providing us a number of how many births women could have during their reproductive age. This differentiation will allow us to test more accurately if there is any correlation between birth rate and economic development in the LAC region. The indicator for birth rate is crude birth rate. Crude birth rate tells us the number of live births in a given year, per 1,000 population estimated midyear. Data for crude birth rate was collected from the World Development Indicators from the World Bank.

My second independent variable is income inequality; it is operationalized as the estimate of Gini index of inequality in equivalized household disposable income using Luxembourg Income Study data as the standard. Data on the Gini index of inequality was gathered from the Standardized

World Income Inequality Database (SWIID) which provides the most-comparable data available on income inequality for cross-national research. From the interaction of birth rate and income inequality, we get our third independent variable.

Control Variables

In this research, I use three main control variables which are the following: education, industrial structure, and institutions. For the education variable, I use the indicator government expenditure on education which is operationalized as the government expenditure on education as a percentage of total GDP. Data for government expenditure on education also includes expenditure funded by international sources to the government. The data was collected from the World Development Indicators of the World Bank.

Regarding the second control variable which is industrial structure, I use employment in agriculture sector as a percentage of total employment as an indicator. The data is operationalized by including persons of working age engaged in the agriculture sector which consists of hunting, forestry, fishing, and of course agriculture. These productions of goods or services should always be in exchange for pay or profit. This data was also retrieved from the World Development Indicators of the World Bank.

The third control variable is the institutional variable. I use the variable polity2, which consists of a modified version of the polity variable for easier use of polity regime measures in time series analyses. This variable is operationalized by modifying the combined annual polity scores (the subtraction of autocracy scores to democracy scores, which results would be from strongly autocratic -10 to strongly democratic +10) and applying a fix to convert instances of standardized authority scores to polity scores. So in a simpler manner, transforming standardized authority

scores like the following: -66, -77, and -88, to conventional polity scores within the range, -10 to +10. Polity2 data was collected from the Polity IV project.

This research will use another set of two complementary control variables including corruption, and remittances. The fourth control variable corruption, is withdrawn from the political risk section from the International Country Risk Guide (ICRG). The variables include financial corruption, excessive patronage, nepotism, job reservations, favor-for-favors, close ties between politicians and businesses, and secret party funding. The corruption variable in the ICRG ranges from 0-6, higher values indicate lower levels of corruption. But to help on the better comprehension of my research and provide a more intuitive sense, the variable was transformed by subtracting it from 6. Therefore, higher values now indicate higher levels of corruption. The data for corruption was collected from the International Country Risk Guide (ICRG) database.

Lastly, our fifth control variable is the received personal remittances as a percentage of total GDP. The variable is operationalized as the sum of personal transfers and compensation of employees. Personal transfers refer to all transfers made or received by resident households to or from nonresident households, in cash or in kind. On the other hand, compensation of employees refers to the income of border, seasonal, and other short-term workers employed in an economy where they are non-resident, and of residents employed by non-resident entities. Data on personal remittances as a percentage of total GDP was also retrieved from World Development Indicators of the World Bank.

Originally, the researcher wanted to cover 1,848 observations, which consisted of 33 countries with 55 years from the year 1960 to the year 2015. However, due to missing data for some of the variables included in the model, the research ends up with 255 observations.

A limitation experienced by the researcher in this study was the unavailability of data. This data unavailability is what reduced the observations to only 255. In order to aid the reader to have a clearer view about the observations available for each country per every variable, a table is provided below. Therefore, the table shows: in the first column the LAC country being observed and in the second column: the years the data is available for observation. Despite this big limitation, the researcher believes important to observe the results this data can provide. If we were to ignore the LAC's region problematic every time due to data insufficiency, then no study that could serve as a starting guide to help the region would be developed.

Table 3.2 Observations included in the empirical analysis

Country	Years
Argentina	1996-2013
Bolivia	1994-2003, 2006, 2008-2013
Brazil	1995, 1998 -2013
Chile	2000, 2002-2013
Colombia	1998-2013
Costa Rica	1995-1996, 1999-2004, 2006-2013
Dominican Republic	1993-1996, 2000-2003, 2007
Ecuador	1995, 1998-2000, 2009-2013
Guatemala	1993-1996, 2006-2013
Guyana	1994-1995, 1999-2007
Honduras	1994-1995, 2013
Jamaica	1991-1997, 2000-2004
Mexico	1991-1992, 1994-1995, 1998-2013
Nicaragua	1998-2000, 2002-2003, 2010

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Panama	1994-1997, 1999-2004, 2008, 2011
Peru	1993, 1995-2012
Paraguay	1998-2004, 2007, 2010-2012
El Salvador	1993-1995, 1997-1998, 2000-2010
Trinidad y Tobago	1994-2003
Uruguay	2001-2006, 2011
Venezuela	1992-1994, 2006-2007, 2009

3.2 Empirical Results

In my empirical analysis, I will use as my estimation method the ordinary least squares (OLS) regression with robust standard rrors to estimate the combined effect of birth rate and income inequality on economic development. Table 4.1 exhibits the results for the empirical models that show the variables that affect economic development in Latin America and the Caribbean.

In Model 1, the coefficient of the birth rate is negative and statistically significant. This result is consistent with the previous literature (Brander and Dowrick 1994; Ahituv 2001) that suggests that a country with a higher birth rates tends to have a lower level of economic development. In addition, the coefficient of the inequality is also negative and statistically significant. This finding is consistent with Persson and Tabellini (1994), suggesting that a country's economic development decreases with a higher level of income inequality.

More importantly, Model 2, shows that the coefficient of the interaction of birth rate and* level of inequality is negative and statistically significant. This indicates that, in a country with a high birth rate, the level of economic development tends to be much lower when this country has a higher

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level of income inequality. Put it differently, this result suggests that a country that has a low birth rate and a low level of inequality will have better economic development. This evidence suggests that it is necessary to consider the multiplicative effects of birth rate and income inequality when examining the factors that drive economic development.

The coefficient of birth rate and that of income inequality are positive and statistically significant in Model 2. The interpretation of these results is less straightforward because of the inclusion of the interaction term. Technically, the results suggest that a positive change of birth rate has a positive effect on economic development when income inequality equals zero, and a positive change of income inequality has a positive effect on economic development when birth rate equals zero.

Employment in the agriculture sector, is negative and statistically significant in both models. This result suggests that as employment in agriculture increases, economic development decreases. In other words, economic development is slower when there are more people working in the agriculture sector. This result is consistent with studies that argue that the poverty reducing effects of agriculture declines as countries get richer (Christiaensen and Demery, 2007; Ligon and Sadoulet, 2007).

Table 3.3 Effects of birth rate and income inequality on economic development in Latin America and the Caribbean

Variable	Model 1	Model 2
Birth Rate	-0.633***	0.152*
	(0.007)	(0.067)
Level of Inequality	-0.026***	0.072**
	(0.007)	(0.027)
Birth Rate * Level of Inequality	—	-0.005***
		(0.001)
Government Expenditure on Education (%GDP)	-0.010	-0.005
	(0.015)	(0.015)
Employment in Agriculture Sector	-0.012***	-0.014***

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	(0.003)	(0.003)
Corruption	-0.008	-0.013
	(0.026)	(0.025)
Level of Democracy	0.011	0.012
	(0.010)	(0.010)
Received Personal Remittances (%GDP)	-0.023***	-0.028***
	(0.004)	(0.004)
Population (log)	0.106***	0.083***
	(0.012)	(0.012)
Constant	9.718***	5.450***
	(0.317)	(1.320)
R-squared	0.762	0.773
N	255	255

Note: *p<0.1; **p<0.05; ***p<0.01

Also, received personal remittances (%GDP) is negative and statistically significant in both Models 1 and 2. This result suggests that as the amount of personal remittances as a percentage of gross domestic product increases, the economic development of a country will decrease. In other words, the more a countries economy rely on received personal remittances, the slower its economic development will be. This result opposes the new economics of labor migration (NELM). "NELM" argues that migration and remittances have positive indirect effects on incomes in migrant sending households, easing capital and risk constraints on local production. On the other hand, it supports Taylor, E.J. (1,999) argument, who explains that "economic environments that encourage out-migration also limit the potential for migrant remittances to stimulate development in migrant sending areas." This result may be due to immigrant remittances truncating self-sustaining growth in the immigrant's home county.

For the rest of the control variables, we find that the result for population is positive and statistically significant, suggesting that larger countries tend to have a higher level of economic development. In addition, corruption does not have a statistically significant effect on economic development. In other words, a country could have a higher or lower level of economic development regardless of its level of corruption. Moreover, we find that the coefficient of the level of democracy is

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statistically insignificant, suggesting that a country's level of democracy does not have a statistically significant effect on economic development.

The results also show that the coefficient of government expenditure on education (%GDP) does not reach statistical significance. It is possible that this education variable might be an intervening variable between my independent variable and dependent variable. However, the finding suggests that the coefficient of the interaction term is theoretically expected and statistically significant. In fact, the result does not alter much with or without the inclusion of the education variable in the model. Therefore, the education variable should not be an intervening variable that could greatly affect the result of my independent variable. Finally, the R-squared statistics in model 1 is of 0.762, and that in Model 2 is 0.773. Therefore, the models fit my data pretty well.
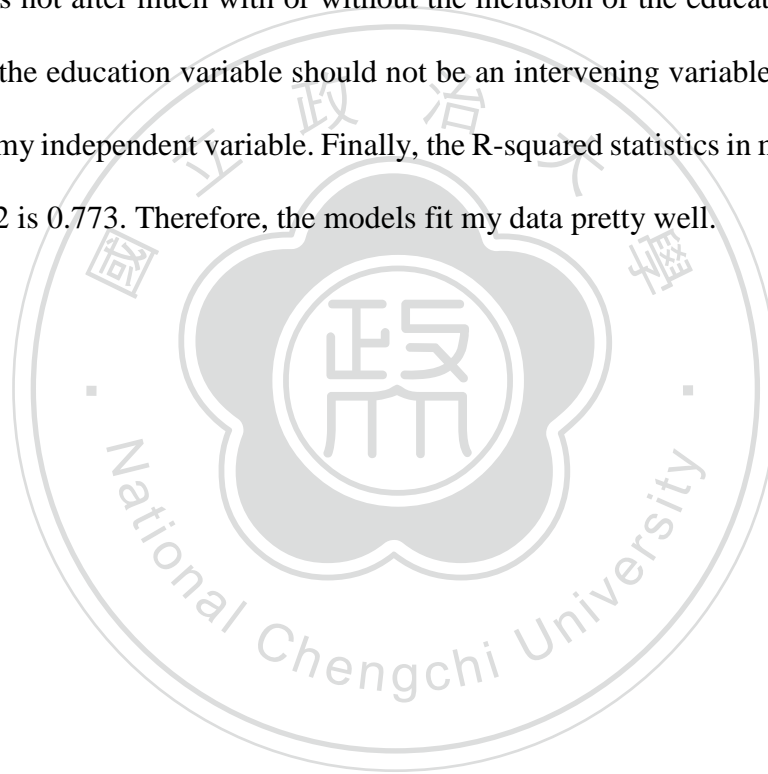
4. A CASE STUDY: HONDURAS

4.1 Introduction

Honduras, is a Central American country with a territorial and maritime extension on 112,492 km2. As of April, 2018 it has an estimated population of 9,385,003. The population density in Honduras is 84 per Km2 (218 people per mi2). 53.4 % of the population is urban (5,031,591 people in 2018), and the median age in Honduras is 23.4 years.

Honduras is divided into 18 departments and 298 municipalities. Honduras ethnic group includes mestizo (mixed Amerindian and European) 90%, Amerindian 7%, black 2%, white 1%. Inside the Amerindian classification, we can find nine ethnic groups. From these nine ethnic groups, seven are considered indigenous: Tolupanes, Misquitos, Tawaka, Chorti, Lenca, Pech, Nahoa. Garifunas and Black English are the afro-descendent ethnic groups.

Honduras has not had many relevant studies focusing solely on itself as a country. Separating one of the poorest countries from the LAC region from the rest for more in-depth study can help the author and the readers to be able to visualize a clearer panorama of the variables that might be retarding economic development in the said country.

In Honduras, a diagnostic instrument called "Análisis de Situación de Población" translated to the English language by the researcher as "Analysis of the Population Situation" from now on in this research called "ASP" was initiated in 2008. The "ASP" was created hand in hand by key national actors between them the Presidential Commissioner for the reduction of poverty and the United Nations Population Fund. This "ASP" had as a goal to reveal the importance of the population behavior for the analysis, design, and implementation of public policies, poverty reduction, and respect to human rights. This project was impacted by the important political events that occurred

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in Honduras in 2009. This political events, led the United Nations Population Fund to work by itself on the "ASP" final draft. Between the most important conclusions of this study, we can find factors affecting population behavior in Honduras, such as demographic transition, population and health, and lastly the population's geographical distribution. During the research of this study, it was observed that Honduras was going by through a demographic transition defined first by the "deceleration" of population growth and second by the transformation of structures by age. Results showed a reduction in the number of person's dependent for every person in reproductive age.

Carias Chaverri (2010), described this tendency as a "bono demográfico" or "demographic bonus" as translated to the English language by the Researcher. Carias Chaverri, explained that this demographic bonus would lead to a time were a major demographic incentive for economic growth would exist. He thought that this incentive would exist due to the highly growing participation of the population in working age in the populations total. He added that for this "demographic bonus" to have its expected results, the implementation of correct economic and social policies was needed. Between these policies he mentioned the strengthening of quality and coverage of secondary school, giving more emphasis to the reproductive health of the young population, and lastly investment in programs that provide employment for the young population.

In the population and health factor, Carias Chaverri (2010) explains that even though health both general and reproductive have increased in quality, advances are considerably slower than those of other Latin American countries. Carias Chaverri, argues that deep inequality in health indicators are strong causes for the previously explained. The most affected population groups are those situated in geographical areas that have been excluded like rural areas. These rural areas contain the major numbers of population that are less educated and that have major income inequality. Public Policies in this sector should search for the guaranteeing of medical attention to this part of

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the population that has been traditionally excluded because of their geographical area, ethnicity, and age.

The last factor explained by the "ASP" is populations geographical distribution. There is no equal distribution of the population along Honduras 112,492 km2. The larger masses of population are concentrated in the capital city called Tegucigalpa, and in the industrial sector of the country like the city of San Pedro Sula in the department of Cortés. Carias Chaverri (2010) argues that poor rural migrants make poverty in the Honduran cities grow. Therefore, he states that the expansion on public services to these rural areas is of vital importance. Employment generation is also a must to help lower the migration indexes from the rural to the urban areas.

In the following sections I will discuss about religion, access to electricity, education, and the lack of sexual education in order to demonstrate that the influence of religious groups and not having access to basic needs, hence, observing high inequality, might increase a higher number of birth rates, therefore, affecting economic development.

4.2 "Ellos no tenían Televisor."

The availability of public services is important to generate economic development. Having access to electricity and water is something that might be taken for granted in developed countries. But for developing countries is something that is taken care of due to the uncertainty of its possession. For example, being part of the middle class in Honduras, guarantees you can pay for electricity service. Therefore, you would believe that because you pay for your electricity consumption you will always have it. The truth is that; energy blackouts in Honduras are more common than you would believe. Based on Modi, V., S. McDade, D. Lallement, and J. Saghir. (2006) argument that

"Access to energy facilitates the eradication of poverty", the researcher believes this is an important topic to discuss.

Fisher, Ronald C. (1997), questioned before if there was a relationship between public services and economic development. The authors mentioned before, chose to test the following three types of public services: Highways (transportations), public safety and education. Fisher, Ronald C., found that transportation services and highway facilities were the services that had a greater relationship with economic development. Yet the authors did not choose access to basic public services such as access to electricity and water to test if there was a relationship with economic development.

The name of this section "Ellos no tenían televisor", translated to English means "They did not have a television". The purpose of naming this section this way is to emphasize the importance of having access to electricity in order to support development in a country. In Honduras, "ellos no tenían televisor" is a common expression to indicate why couples mostly in the rural areas, have such a big number of children. This due to the fact that as the parents didn't have any other entertainment option at home, they turned their direction to having children.

The Researcher will show the available data related to the Honduran celebrated phrase "ellos no tenían televisor" explained before. The table below, shows the amount of homes surveyed in 2015 in the "Encuesta permanente de hogares de Propósitos Múltiples" by the national institute of statistics of Honduras, that had a television.

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Table 4.1 Does this home have a TV? Source: Encuesta Permanente de Hogares de Propositos Multiples 2015. INE, Honduras

Does this home have a TV?	Cases	%	Accumulated %
Yes	1514518	77.73	77.73
No	433901	22.27	100
Total	**1948419**	**100**	**100**

We can observe from the table number four, that there were 1,948,419 total cases in the year 2,015 in Honduras, surveyed in order to see if they had a television. From the 1,948,419 total homes surveyed in 2015, an amount of 1,514,518 cases which represent 77.73% had a television. Only 22.27% which equaled 433,901 cases in Honduras did not possess a t.v.

*Table 4.2 Television possession * Poverty Classification. Source: Encuesta Permanente de Hogares de Propósitos Múltiples 2015. INE, Honduras*

Does this home have a TV?	Poverty Classification			
	Extreme	Relative	Not poor	**Total**
Yes	471899	403416	631071	1506386
No	303544	57759	71133	432437
Total	**775444**	**461175**	**702204**	**1938823**

Does not apply :   ▪   9596   ▪

Curiously, from table number five, we can see that a considerable amount of cases (471,899) under the extreme poverty classification has a television. Only 303,544 cases out of 775,444 cases in the extreme poverty classification does not have a television. Table five, clearly demonstrates that in every poverty classification there are more cases of homes possessing a television than not possessing one. Regrettably, there is no data concerning the birth rate of the people under the poverty classifications who possess a television in order to test if this saying is true or at least if there is a correlation in Honduras. What can be definitely concluded from table number 4 and five is the priorities of these families in their lives.

Honduras - Access to electricity
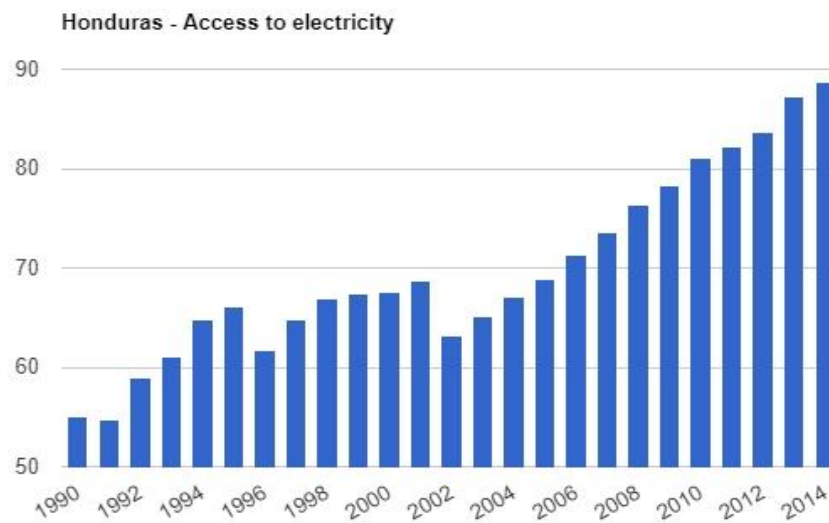
Source: TheGlobalEconomy.com, The World Bank

Based on table number six, that shows access to electricity, by percent of the population originated from data retrieved from The World Bank for Honduras from the years 1990 to 2014. The average value for Honduras in 1991 was 69.76 percent with a minumum of 54.78 percent, and during the year 2014 a maximum of 88.65 percent. Also, based on information from the World Bank we can see that Honduras stood in place number 134 out of 196 countries in the world in 2014, on access to electricity.

Yet, a report from the National Electric Power Company in Honduras from March 2017, states that for December 2,016 the national coverage index is of 75% having grown from 72.35% recorded by them in 2,014. Sub nationally, we find that the departments of Islas de la Bahia, Francisco Morazán, Comayagua, Cortés, Valle, Yoro, Copán, Colón, Atlántida, Intibucá, Ocotepeque, El Paraíso, and Choluteca have the largest coverage index of electrical energy in the country, superior or equal to 70%.

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The departments of Santa Bárbara, Lempira, Olancho, and La Paz, have a coverage index above 40% and under 70%. Lastly, the department of Gracias a Dios, has a coverage index of 48.8%. The report states that 65% of the municipalities show a coverage index superior to 70%, and approximately 81% of the same show a coverage superior to 50%; 88% of the municipalities have a coverage index superior to 20%, and 92% have a coverage index superior to 10%, lastly and approximately 8% of the total municipalities are not being provided services by the National Electric Power Company or Empresa Nacional de Energía Eléctrica (ENEE).

The following table shows the coverage index of electric energy per department in Honduras.

Table 4.4 E.N.E.E., Honduras: Coverage Index of Electrical Energy per Department. Source: ENEE, March 2017

DEPARTMENT	POPULATION	RESIDENCES	SUBSCRIBERS	INDEX %
ATLÁNTIDA	457,031	138,518	101,701	73.42%
COLÓN	324,950	80,270	61,068	76.08%
COMAYAGUA	521,748	133,158	106,414	79.92%
COPÁN	388,810	107,934	82,571	76.50%
CORTÉS	1,653,699	467,593	371,422	79.43%
CHOLUTECA	453,360	114,994	81,162	70.58%
EL PARAÍSO	465,864	90,184	63,681	70.61%
FRANCISCO MORAZÁN	1,577,178	438,663	350,558	79.92%
GRACIAS A DIOS	96,384	8,695	4,242	48.79%
INTIBUCÁ	246,258	44,548	32,490	72.93%

ISLAS DE LA BAHIA	67,704	29,930	25,313	84.57%
LA PAZ	209,783	56,191	29,546	52.58%
LEMPIRA	339,310	69,295	44,484	64.19%
OCOTEPEQUE	154,251	47,328	34,373	72.63%
OLANCHO	545,835	112,560	70,777	62.88%
SANTA BÁRBARA	441,939	125,059	85,833	68.63%
VALLE	180,772	47,349	37,344	78.87%
YORO	596,138	148,970	115,739	77.69%
TOTAL	**8,721,014**	**2,261,238**	**1,698,718**	**75.12**

Based on the permanent survey of multipurpose homes known in Spanish as "encuesta permanente de hogares de Propósitos Múltiples, (EPHPM)" authored by the national statistics institute in Honduras, the country is classified in terms of population as: 54.11% urban and 45.89% rural and in residence terms its classifies as 56.65% urban and 43.35% rural.

The percentage of electric coverage in the urban area of the country is approximately of 83%, therefore, 17% of urban residences at national level do not have access to electricity. On the other hand, the percentage of electric coverage for the rural area of the country is of approximately 65%, leaving 35% of the rural residences without access to electricity. These 35% uses alternative methods to get light, between them we can mention: candles, gas lamps, and "ocote" which is a type of wood.

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In order to reach the optimal 100% of electrical coverage in the country, the report estimates that a total of USD $1,466,100,651.95 should be invested.

The "Encuesta de Demografía y Salud 2005-2006" translated to English by the Researcher as: Demography and Health Survey from 2005 and 2006 showed that the rural area has a larger birth rate than the urban area. It also shows that the biggest percentage of teenage pregnancies are in the rural areas. Most importantly it showed that education does make a difference, because the biggest percentage of teenage pregnancies were also in the rural areas, where girls had less education. Could it also be that the lack of access to electricity that impedes even having a television contribute to high birth rate indexes? Further study on this area is of importance.

4.3 The Religion Institution in Honduras and LAC

In Latin America, a region so marked and influenced by religion would be thought to have less inequality due to the fundamentals of religion specially those of its most dominant religion: Catholicism. Nevertheless, the inequality levels stay high. In Honduras, religions are divided as follows Roman Catholic 46%, Protestant 41%, atheist 1%, other 2%, none 9% (2014 est.).

A study from Latinobarometro (2014), shows that Honduras is also one out of two Latin American countries (the other being its neighbor Nicaragua), in which the auto-classification of being a "Catholic" has declined in the period from 1995 to 2013 by 29 percentile points. Protestantism has increased its numbers in 4 countries of the Latin American region, reaching over 30 percentile points in Honduras, Guatemala, El Salvador and Nicaragua. The Agnostics appear to be growing in percentage in Chile and Uruguay, and in the rest of the Latin American Region Catholicism remains dominant. Therefore, it can be concluded that this is only about a change from one religion to another. Not about secularization.

The same study from Latinobarometro (2014), points at Honduras as the most emblematic case of change in religious beliefs in Latin America. Catholicism has lost 58 percentile points that it had as an advantage to Protestantism, and a total of 29 per centile points of Catholics as mentioned before. This result compared to Honduras in 1996, when it had a 76% of Catholics and a 12% of Protestants. There was no other religion able to compete with Catholicism in Honduras. Now, both Catholicism and Protestantism have almost the same power.

Religion as an Institution has a high trust percentage in most Latin American countries. Based on the Latinobarometro (2014) report, we can see that Honduras shares first place with Uruguay with an 87% of trust in the Church Institution. A very interesting fact provided by the report shows that the number of Catholics rise as the person's level of education also rises from 64% in basic education to 72% in superior education. Protestant numbers decline 22% to 20% and the people that have no religion are not related to the person's education.

But judging from a country where as said before is divided by 46% Roman Catholic and 41 % Protestant, two religions which dictate high morality and mandate women to have children only when they are married, it is interesting to see if followers really practice what they are taught.

Marital status of the mother by department:

This section will show tables portraying what was the mother's marital status in relation to the births recorded in the year 2015. The data was retrieved from CEPAL and tables were elaborated through the webpage of the "Instituto Nacional de Estadística" (INE), translated to the English language as the National Statistics Institute in Honduras. The objective of including these tables regarding the current marital status of the mothers can give us a clearer view regarding the practice of religion in Honduras. In a country where religion appears to be so important it is interesting to

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see the number of mothers who were married when they gave birth taking into consideration that 87% of the population is Christian.

Before analyzing the tables it's important to clarify the meaning of two of the classifications found in the tables: Fact Union or "union de hecho" in Spanish and Free Union or "union libre" in Spanish. The term fact union refers to a union that has not led to civil matrimony due to customs or economic reasons that forbid the couple to celebrate a legal matrimony, but has the same legality and force as a civil marriage. On the other hand, the term free union refers to the cohabitation of a couple, without any legal binding between them as marriage or a fact union.

Table 5.5 Marital status for mothers of children born in 2015 in 18 departments of Honduras

Department 01	Atlántida		
M marital status	**Cases**	**%**	**Accumulated %**
Married	832	12.3	12.3
Fact Union	17	0.25	12.55
Free Union	3464	51.2	63.75
Single	471	6.96	70.71
Divorced	1	0.01	70.72
Ns/Nr	1981	29.3	100
Total	**6766**	**100**	**100**

Department 02	Colón		
M marital status	**Cases**	**%**	**Accumulated %**
Married	887	15.8	15.76
Fact Union	55	0.98	16.73
Free Union	4022	71.5	88.19
Single	573	10.2	98.37
Widow	3	0.05	98.42
Divorced	1	0.02	98.44
Ns/Nr	88	1.56	100
Total	**5629**	**100**	**100**

Department 03	Comayagua		
M marital status	**Cases**	**%**	**Accumulated %**
Married	1740	18	18
Fact Union	57	0.59	18.59
Free Union	6363	65.8	84.42
Single	1049	10.9	95.27

Department 04	Copán		
M marital status	**Cases**	**%**	**Accumulated %**
Married	2738	23.3	23.32
Fact Union	39	0.33	23.66
Free Union	7546	64.3	87.94
Single	1335	11.4	99.31

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M marital status	Cases	%	Accumulated %
Widow	3	0.03	95.3
Divorced	1	0.01	95.31
Ns/Nr	453	4.69	100
Total	9666	100	100

M marital status	Cases	%	Accumulated %
Widow	1	0.01	99.32
Divorced	2	0.02	99.34
Ns/Nr	78	0.66	100
Total	11739	100	100

Department 05   **Cortés**

M marital status	Cases	%	Accumulated %
Married	6349	20.9	20.86
Fact Union	61	0.2	21.06
Free Union	20217	66.4	87.5
Single	3100	10.2	97.68
Widow	4	0.01	97.7
Divorced	5	0.02	97.71
Ns/Nr	696	2.29	100
Total	30432	100	100

Department 06   **Choluteca**

M marital status	Cases	%	Accumulated %
Married	1144	14.1	14.05
Fact Union	17	0.21	14.26
Free Union	5821	71.5	85.74
Single	929	11.4	97.15
Divorced	1	0.01	97.16
Ns/Nr	231	2.84	100
Total	8143	100	100

Department 07   **El Paraíso**

M marital status	Cases	%	Accumulated %
Married	851	13	12.96
Fact Union	24	0.37	13.33
Free Union	4872	74.2	87.55
Single	630	9.6	97.15
Widow	3	0.05	97.2
Divorced	2	0.03	97.23
Ns/Nr	182	2.77	100
Total	6564	100	100

Department # 08   **Francisco Morazán**

M marital status	Cases	%	Accumulated %
Married	5969	19.4	19.4
Fact Union	84	0.27	19.67
Free Union	20690	67.2	86.9
Single	3189	10.4	97.26
Widow	10	0.03	97.29
Divorced	14	0.05	97.34
Ns/Nr	819	2.66	100
Total	30775	100	100

Department 09   **Gracias A Dios**

Department 10   **Intibucá**

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M marital status	Cases	%	Accumulated %
Married	29	7.42	7.42
Fact Union	6	1.53	8.95
Free Union	207	52.9	61.89
Single	37	9.46	71.36
Ns/Nr	112	28.6	100
Total	391	100	100

M marital status	Cases	%	Accumulated %
Married	1303	21.5	21.53
Fact Union	38	0.63	22.15
Free Union	3623	59.9	82.01
Single	931	15.4	97.39
Widow	4	0.07	97.46
Divorced	1	0.02	97.47
Ns/Nr	153	2.53	100
Total	6053	100	100

Department 11 **Islas de la Bahía**

M marital status	Cases	%	Accumulated %
Married	122	14.7	14.66
Fact Union	5	0.6	15.26
Free Union	593	71.3	86.54
Single	109	13.1	99.64
Ns/Nr	3	0.36	100
Total	832	100	100

Department 12 **La Paz**

M marital status	Cases	%	Accumulated %
Married	1269	19.7	19.74
Fact Union	38	0.59	20.34
Free Union	3777	58.8	79.1
Single	842	13.1	92.2
Widow	1	0.02	92.22
Divorced	2	0.03	92.25
Ns/Nr	498	7.75	100
Total	6427	100	100

Department 13 **Lempira**

M marital status	Cases	%	Accumulated %
Married	1630	25.8	25.75
Fact Union	45	0.71	26.46
Free Union	3585	56.6	83.08
Single	801	12.7	95.74
Widow	2	0.03	95.77
Divorced	3	0.05	95.81
Ns/Nr	265	4.19	100
Total	6331	100	100

Department 14 **Ocotepeque**

M marital status	Cases	%	Accumulated %
Married	719	23.2	23.2
Fact Union	16	0.52	23.72
Free Union	1942	62.7	86.38
Single	391	12.6	99
Widow	2	0.06	99.06
Divorced	1	0.03	99.1
Ns/Nr	28	0.9	100
Total	3099	100	100

Department 15   Olancho

M marital status	Cases	%	Accumulated %
Married	1767	16.1	16.14
Fact Union	123	1.12	17.27
Free Union	7834	71.6	88.84
Single	1047	9.57	98.4
Widow	2	0.02	98.42
Ns/Nr	173	1.58	100
Total	10946	100	100

Department 16   Santa Bárbara

M marital status	Cases	%	Accumulated %
Married	966	16.7	16.73
Fact Union	25	0.43	17.16
Free Union	4118	71.3	88.48
Single	462	8	96.48
Widow	3	0.05	96.54
Divorced	2	0.03	96.57
Ns/Nr	198	3.43	100
Total	5774	100	100

Department 17   Valle

M marital status	Cases	%	Accumulated %
Married	715	17.9	17.9
Fact Union	14	0.35	18.25
Free Union	2770	69.4	87.61
Single	361	9.04	96.64
Widow	2	0.05	96.7
Divorced	1	0.03	96.72
Ns/Nr	131	3.28	100
Total	3994	100	100

Department 18   Yoro

M marital status	Cases	%	Accumulated %
Married	1181	12.9	12.92
Fact Union	37	0.4	13.32
Free Union	6816	74.6	87.87
Single	1011	11.1	98.93
Widow	1	0.01	98.94
Divorced	1	0.01	98.95
Ns/Nr	96	1.05	100
Total	9143	100	100

SUMMARY

M marital status	Cases	%	Accumulated %
Married	30211	18.6	18.57
Fact Union	701	0.43	19
Free Union	108260	66.5	85.54
Single	17268	10.6	96.15
Widow	41	0.03	96.18
Divorced	38	0.02	96.2
Ns/Nr	6185	3.8	100
Total	162704	100	100

From the previous tables we can see that only 30,211 cases out of 162,704 cases belong to women who gave birth while being married during 2,015. It is true that almost 90% of the Honduran population is Christian, yet these results show that religion will not serve as an effective behavior moderator. At least not concerning an idea of morality such as conceiving children until marriage has been concreted. Why then, are religious institutions and groups constantly fighting against the teachings of sexual education and the implementation of different anticonceptive methods?

It is important to know that the Honduran Constitution as well as the electoral legislation separates the functions of politics and religion. Between some examples we find in the Electoral law and political organizations, in its article 72, numeral 3 "Prohibitions": Maintain dependence or subordination with political parties, foreign natural or juridical persons, international organizations or entities and of cult minister of any religion or sect. It is of great importance to maintain a division between church and state in Honduras. The dependence of these two Institutions make it impossible to find a balance towards the finding of policies that can help the interaction of high birth rate and income inequality.

In this section, I will show some tables divided by departments on the following data:

- Type of birth by department.

- Studies done by the mother by department.

- Studies done by the father by department.

- Literacy of the mother and father by department.

All of the information for this analysis was extracted from the "Instituto Nacional de Estadística (INE)" translated to English by the researcher as the Honduran National Institute of Statistics. The data used by the institution for the creation of these tables is from the United Nations Economic Commission for Latin America and the Caribbean and is from the year 2015.

Type of birth by department:

In the following tables we can observe a clear description of the type of births registered by department in Honduras during the year 2015. After the 18 tables each representing one Honduran department a summary table containing a recompilation of all the data from the 18 departments can be found.

Table 4.6 Type of birth of the children born in 2015 in 18 departments of Honduras

Department 01   Atlántida

Type of birth	Cases	%	Accumulated %
Vaginal Birth	4009	59.25	59.25
Cesarean Section	1515	22.39	81.64
Ns/Nr	1242	18.36	100
Total	**6766**	**100**	**100**

Department 02   Colón

Type of birth	Cases	%	Accumulated %
Vaginal Birth	4861	86.36	86.36
Cesarean Section	645	11.46	97.81
Ns/Nr	123	2.19	100
Total	**5629**	**100**	**100**

Department 03   **Comayagua**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	7505	77.64	77.64
Cesarean Section	1651	17.08	94.72
Ns/Nr	510	5.28	100
Total	9666	100	100

Department 04   **Copán**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	9919	84.5	84.5
Cesarean Section	1684	14.35	98.84
Ns/Nr	136	1.16	100
Total	11739	100	100

Department 05   **Cortés**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	21487	70.61	70.61
Cesarean Section	8255	27.13	97.73
Ns/Nr	690	2.27	100
Total	30432	100	100

Department 06   **Choluteca**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	6558	80.54	80.54
Cesarean Section	1347	16.54	97.08
Ns/Nr	238	2.92	100
Total	8143	100	100

Department 07   **El Paraíso**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	5766	87.84	87.84
Cesarean Section	614	9.35	97.2
Ns/Nr	184	2.8	100
Total	6564	100	100

Department 08   **Francisco Morazán**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	22165	72.02	72.02
Cesarean Section	7735	25.13	97.16
Ns/Nr	875	2.84	100
Total	30775	100	100

Department 09   **Gracias A Dios**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	233	59.59	59.59
Cesarean Section	21	5.37	64.96
Ns/Nr	137	35.04	100
Total	391	100	100

Department 10   **Intibucá**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	5013	82.82	82.82
Cesarean Section	852	14.08	96.89
Ns/Nr	188	3.11	100
Total	6053	100	100

Department 11   **Islas de la Bahía**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	698	83.89	83.89
Cesarean Section	131	15.75	99.64
Ns/Nr	3	0.36	100

Department 12   **La Paz**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	5080	79.04	79.04
Cesarean Section	676	10.52	89.56
Ns/Nr	671	10.44	100

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Total	832	100	100

					Total	6427	100	100

Department 13   **Lempira**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	5146	81.28	81.28
Cesarean Section	900	14.22	95.5
Ns/Nr	285	4.5	100
Total	**6331**	**100**	**100**

Department 14   **Ocotepeque**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	2427	78.32	78.32
Cesarean Section	633	20.43	98.74
Ns/Nr	39	1.26	100
Total	**3099**	**100**	**100**

Department 15   **Olancho**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	9587	87.58	87.58
Cesarean Section	1138	10.4	97.98
Ns/Nr	221	2.02	100
Total	**10946**	**100**	**100**

Department 16   **Santa Bárbara**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	4835	83.74	83.74
Cesarean Section	748	12.95	96.69
Ns/Nr	191	3.31	100
Total	**5774**	**100**	**100**

Department 17   **Valle**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	3358	84.08	84.08
Cesarean Section	529	13.24	97.32
Ns/Nr	107	2.68	100
Total	**3994**	**100**	**100**

Department 18   **Yoro**

Type of birth	Cases	%	Accumulated %
Vaginal Birth	7836	85.7	85.7
Cesarean Section	1182	12.93	98.63
Ns/Nr	125	1.37	100
Total	**9143**	**100**	**100**

Summary

Type of birth	Cases	%	Accumulated %
Vaginal Birth	126483	77.74	77.74
Cesarean Section	30256	18.6	96.33
Ns/Nr	5965	3.67	100
Total	**162704**	**100**	**100**

As an analysis from the previous tables we can observe that the most common type of birth in the 18 departments is vaginal or natural birth with 126,483 cases or 77.74% of the total births. On the other hand, the type: Cesarean Section during the year 2015 resulted in a total of 30,256 cases or

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18.6%. Considering the difference in prices for attending a vaginal birth compared to performing a cesarean section these results were to be expected. Especially, considering Honduras economic performance. There is no department recorded where a cesarean section equaled or outnumbered a vaginal birth.

The department that had the lowest recorded data for a vaginal birth is department number 01, Atlántida with 4009 cases which equals 59.25% versus a total of 1515 cesarean section cases which equaled 22.39%. Atlántida is a department created on February 24, 1902. Its departmental header is "La Ceiba", its population for 2015 was of 449,822 habitants. It has 8 municipalities and 224 villages.

The department with the highest number of recorded data of case for vaginal birth was department number 07 "El Paraíso", with 5,766 vaginal birth recorded cases which represents 87.84% of the total recorded births, compared to 614 cases of cesarean section which represents just 9.35% of the total recorded births. The department of El Paraíso was created on May 28, 1869. Its departmental header is "Yuscaran", its population for 2015 was of 465,864 habitants. It has 19 municipalities and 233 villages. El Paraíso, is one of the poorest departments in Honduras, therefore, making it even harder for some women to be able to afford a cesarean section.

Department number 9: Gracias a Dios, is the department that recorded the lowest numbers of cesarean sections, with only 21recorded cases, representing just 5.37% of the total births in this department. The department of Gracias a Dios was created on February 21, 1957. Its departmental header is "Puerto Lempira", its population for 2015 was of 96,384 habitants. It has 6 municipalities and 69 villages.

Department number 5 "Cortés" is the department with the highest number of cesarean sections recorded in 2015. In Cortés 8,255 cesarean section cases were recorded which represents 27.13% of the total births recorded in that department. On the other hand, we find 21,487 vaginal births recorded which is 70.61% percent of the total births in Cortés. The department of Cortés was created on July 4, 1983. Its departmental header is "San Pedro Sula", its population for 2015 was of 1,653,699 habitants. It has 12 municipalities and 284 villages.

The department of Cortés is the second most developed department of Honduras. Its departmental header San Pedro Sula, is known as the industrial city. Because this department currently has a major economic growth and more population compared to the departments that have less cesarean sections recorded, we can expect these results. The municipality of San Pedro Sula in 2013 had a 7.1% of analphabetism recorded.

Studies done by the mother by department

The following tables compile subnational data that represents the level of education obtained by the mothers that gave birth to the children recorded in the previous tables during the year 2015. The inclusion of these tables have as an objective to show in which level of education in Honduras is deserted the most basing ourselves on the results of the year 2015. These results also serve as support for the statement that education is one of the biggest factors that support economic development through the development of human capital, which in turn postpone pregnancies.

Table 4.7 Studies done by the mother of the children born in 2015 in 18 departments of Honduras

Department 01   Atlántida

Mothers studies	Cases	%	Accumulated %
None	126	1.86	1.86
Incomplete elementary	544	8.04	9.9

Department 02   Colón

Mothers studies	Cases	%	Accumulated %
None	282	5.01	5.01
Incomplete elementary	1265	22.47	27.48

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Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %
Complete elementary	2316	34.23	44.13	Complete elementary	2275	40.42	67.9
Incomplete High School	632	9.34	53.47	Incomplete High School	668	11.87	79.77
Complete High School	912	13.48	66.95	Complete High School	752	13.36	93.12
Incomplete University	88	1.3	68.25	Incomplete University	82	1.46	94.58
Complete University	162	2.39	70.65	Complete University	234	4.16	98.74
Ns/Nr	1986	29.35	100	Ns/Nr	71	1.26	100
Total	6766	100	100	**Total**	5629	100	100

Department 03   **Comayagua**   **Department 04**   **Copán**

Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %
None	561	5.8	5.8	None	1599	13.62	13.62
Incomplete elementary	1910	19.76	25.56	Incomplete elementary	4073	34.7	48.32
Complete elementary	4072	42.13	67.69	Complete elementary	3934	33.51	81.83
Incomplete High School	981	10.15	77.84	Incomplete High School	801	6.82	88.65
Complete High School	1237	12.8	90.64	Complete High School	938	7.99	96.64
Incomplete University	156	1.61	92.25	Incomplete University	85	0.72	97.37
Complete University	300	3.1	95.35	Complete University	174	1.48	98.85
Ns/Nr	449	4.65	100	Ns/Nr	135	1.15	100
Total	9666	100	100	**Total**	11739	100	100

Department 05   **Cortés**   **Department 06**   **Choluteca**

Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %
None	554	1.82	1.82	None	313	3.84	3.84
Incomplete elementary	2965	9.74	11.56	Incomplete elementary	1476	18.13	21.97
Complete elementary	11536	37.91	49.47	Complete elementary	3437	42.21	64.18
Incomplete High School	5491	18.04	67.51	Incomplete High School	950	11.67	75.84
Complete High School	6695	22	89.51	Complete High School	1354	16.63	92.47
Incomplete University	904	2.97	92.48	Incomplete University	125	1.54	94.01
Complete University	1537	5.05	97.54	Complete University	236	2.9	96.91
Ns/Nr	750	2.46	100	Ns/Nr	252	3.09	100
Total	30432	100	100	**Total**	8143	100	100

Department 07   **El Paraíso**   **Department 08**   **Francisco Morazán**

Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %
None	419	6.38	6.38	None	779	2.53	2.53

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	Cases	%	Accumulated %		Cases	%	Accumulated %
Incomplete elementary	1591	24.24	30.62	Incomplete elementary	2819	9.16	11.69
Complete elementary	2470	37.63	68.25	Complete elementary	7700	25.02	36.71
Incomplete High School	771	11.75	80	Incomplete High School	5347	17.37	54.09
Complete High School	804	12.25	92.25	Complete High School	9010	29.28	83.36
Incomplete University	159	2.42	94.67	Incomplete University	1909	6.2	89.57
Complete University	180	2.74	97.41	Complete University	2400	7.8	97.36
Ns/Nr	170	2.59	100	Ns/Nr	811	2.64	100
Total	6564	100	100	**Total**	30775	100	100

Department 09   Gracias A Dios   **Department 10   Intibucá**

Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %
None	8	2.05	2.05	None	374	6.18	6.18
Incomplete elementary	73	18.67	20.72	Incomplete elementary	1410	23.29	29.47
Complete elementary	111	28.39	49.1	Complete elementary	2852	47.12	76.59
Incomplete High School	31	7.93	57.03	Incomplete High School	441	7.29	83.88
Complete High School	39	9.97	67.01	Complete High School	517	8.54	92.42
Incomplete University	12	3.07	70.08	Incomplete University	130	2.15	94.56
Complete University	6	1.53	71.61	Complete University	161	2.66	97.22
Ns/Nr	111	28.39	100	Ns/Nr	168	2.78	100
Total	391	100	100	**Total**	6053	100	100

Department 11   Islas de la Bahía   **Department 12   La Paz**

Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %
None	3	0.36	0.36	None	351	5.46	5.46
Incomplete elementary	55	6.61	6.97	Incomplete elementary	1215	18.9	24.37
Complete elementary	221	26.56	33.53	Complete elementary	2837	44.14	68.51
Incomplete High School	158	18.99	52.52	Incomplete High School	538	8.37	76.88
Complete High School	163	19.59	72.12	Complete High School	697	10.84	87.72
Incomplete University	57	6.85	78.97	Incomplete University	69	1.07	88.8
Complete University	172	20.67	99.64	Complete University	157	2.44	91.24
Ns/Nr	3	0.36	100	Ns/Nr	563	8.76	100
Total	832	100	100	**Total**	6427	100	100

Department 13   Lempira   **Department 14   Ocotepeque**

Mothers studies	Cases	%	Accumulated %	Mothers studies	Cases	%	Accumulated %

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None	795	12.56	12.56
Incomplete elementary	2305	36.41	48.97
Complete elementary	1929	30.47	79.43
Incomplete High School	459	7.25	86.68
Complete High School	499	7.88	94.57
Incomplete University	21	0.33	94.9
Complete University	37	0.58	95.48
Ns/Nr	286	4.52	100
Total	6331	100	100

None	246	7.94	7.94
Incomplete elementary	807	26.04	33.98
Complete elementary	1302	42.01	75.99
Incomplete High School	277	8.94	84.93
Complete High School	323	10.42	95.35
Incomplete University	30	0.97	96.32
Complete University	81	2.61	98.94
Ns/Nr	33	1.06	100
Total	3099	100	100

Department 15   **Olancho**

Department 16   **Santa Bárbara**

Mothers studies	Cases	%	Accumulated %
None	780	7.13	7.13
Incomplete elementary	2684	24.52	31.65
Complete elementary	4059	37.08	68.73
Incomplete High School	1403	12.82	81.55
Complete High School	1398	12.77	94.32
Incomplete University	194	1.77	96.09
Complete University	243	2.22	98.31
Ns/Nr	185	1.69	100
Total	10946	100	100

Mothers studies	Cases	%	Accumulated %
None	513	8.88	8.88
Incomplete elementary	1297	22.46	31.35
Complete elementary	2304	39.9	71.25
Incomplete High School	689	11.93	83.18
Complete High School	645	11.17	94.35
Incomplete University	49	0.85	95.2
Complete University	95	1.65	96.85
Ns/Nr	182	3.15	100
Total	5774	100	100

Department 17   **Valle**

Department 18   **Yoro**

Mothers studies	Cases	%	Accumulated %
None	133	3.33	3.33
Incomplete elementary	625	15.65	18.98
Complete elementary	1897	47.5	66.47
Incomplete High School	425	10.64	77.12
Complete High School	646	16.17	93.29
Incomplete University	48	1.2	94.49
Complete University	76	1.9	96.39
Ns/Nr	144	3.61	100
Total	3994	100	100

Mothers studies	Cases	%	Accumulated %
None	407	4.45	4.45
Incomplete elementary	2164	23.67	28.12
Complete elementary	3506	38.35	66.47
Incomplete High School	1342	14.68	81.14
Complete High School	1240	13.56	94.71
Incomplete University	119	1.3	96.01
Complete University	179	1.96	97.97
Ns/Nr	186	2.03	100
Total	9143	100	100

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Summary

Mothers studies	Cases	%	Accumulated %
None	8243	5.07	5.07
Incomplete elementary	29278	17.99	23.06
Complete elementary	58758	36.11	59.17
Incomplete High School	21404	13.16	72.33
Complete High School	27869	17.13	89.46
Incomplete University	4237	2.6	92.06
Complete University	6430	3.95	96.01
Ns/Nr	6485	3.99	100
Total	162704	100	100

Just as it can be appreciated in the summary, the education level obtained by the majority of women or in this case girls that gave birth in the year 2015, was just a complete elementary school education. This shows us that these girls that have obtained only an elementary school education and have just become mothers have a lower possibility of completing their education and getting a university degree. These certainly stops them from being a more active economic player in society. One important aspect from these results is to take into consideration the lack of sexual education in Honduras. These absence of sexual education seems reflected in a burst of births in the stage where sexual education is supposed to be taught.

The Department that had the largest percentage of mothers that completed elementary education in 2015 was Department Number 10: Intibucá. A total of 2,852 girls completed elementary school before they gave birth in 2015. This being a percentage of 47.12%. This department was created on April 16, 1883. Its departmental header is "La Esperanza", its population for 2015 was of 246,258 habitants. It has 17 municipalities and 126 villages. It is also one of the departments with less economic development in the country.

Incomplete and complete high school are the largest numbers recorded amongst all of the education levels. Incomplete high school education recorded a number of 21,404 cases out of 162,704 total births in 2015, representing 13.16%. Department number 9: Gracias a Dios is the department that has the least number recorded of girls that did not complete their high school studies in 2015 before giving birth. Gracias a Dios records 31 cases out of 391 in the department. This represents 7.93%. Department number 5: Cortés, is the department that has the most number of cases registered of incomplete high school with 5,491 cases, which represent 18.04% of the total of 30,432 cases registered in Cortés.

27,869 girls completed their high school before giving birth in 2015, this number represents 17.13% of the total number of cases. Department number 9: Gracias a Dios records 39 cases of girls with complete high school education from 391 cases, representing 9.97%. Department number 8, Francisco Morazán has the most cases of girls having completed their high school before starting their families with 9,010 cases that represent 29.28%.

Sadly, the lowest numbers recorded are those of incomplete and complete university studies. The summary tells us that there are 4,237 cases of women with incomplete university studies before giving birth in 2015, this case total representing only a 2.6% of the women. Not surprisingly, due to its concentration of population, department number 8: Francisco Morazán, shows the largest numbers of incomplete university. Francisco Morazán, has 1,909 cases that represent 6.2% from a total of 30,775 cases of women that did not finish their university degrees before giving birth. Francisco Morazán was created on June 28, 1825. Its departmental header is "Distrito Central", its population for 2015 was of 1,577,178 habitants. It has 28 municipalities and 274 villages.

Department number 9 shows the lowest number out of all 18 departments, regarding the cases of women who did not complete their university studies before giving birth. Department number 9;

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Gracias a Dios had 12 cases of incomplete university studies in 2015, this represent 3.07% out of a total of 391 cases.

On the other hand, women with a complete university reach 6,430 cases from a total of 162,704 cases. This being only 3.95% of the cases. Yet again, we have department number 8, Francisco Morazán, as the department that has the largest number of cases of women who completed their university studies. A total of 2,400 women had already finished their university studies before starting their family. This represents just a 7.8%. As this is the department where the capital Tegucigalpa lies, its where more development can be found, hence where most people can get jobs that are not related to agriculture. Francisco Morazán, in 2015, had an urban population of 1,222,095 and a rural population of just 355,083. The before mentioned making it not surprising that it's this department the one that has the largest percentage of women who did finish their studies.

The tables below show a comparison between both mother and father studies, of the children born during the year 2015 in Honduras.

Table 4.8 Comparison of mothers and fathers of the children born in 2015 in 18 departments of Honduras

Mothers studies	Cases	%	Accumulated %	Fathers studies	Cases	%	Accumulated %
None	8243	5.07	5.07	None	10155	6.24	6.24
Incomplete elementary	29278	17.99	23.06	Incomplete elementary	29810	18.32	24.56
Complete elementary	58758	36.11	59.17	Complete elementary	55532	34.13	58.69
Incomplete High School	21404	13.16	72.33	Incomplete High School	14467	8.89	67.59
Complete High School	27869	17.13	89.46	Complete High School	22024	13.54	81.12
Incomplete University	4237	2.6	92.06	Incomplete University	3110	1.91	83.03
Complete University	6430	3.95	96.01	Complete University	5865	3.6	86.64
Ns/Nr	6485	3.99	100	Ns/Nr	21741	13.36	100
Total	162704	100	100	**Total**	162704	100	100

If we compare both the completed level studies of the mothers and fathers of the children born in 2015 we find very similar numbers. Curiously, it is only in the incomplete elementary studies section were we can find more cases of fathers (29,810) than those of mothers (29,278). The education levels obtained by mothers in 2015 are higher in all levels: Complete elementary school, complete high school, and complete university. It is important to support equality, especially in education to be able to give children the same opportunity to develop. Being the case of Honduras that from couples that procreated a child in 2015, less male cases achieved diverse education levels compared to female cases, it is important to balance this existing inequality in education. Further study as to why in Honduras males are being subject of more incomplete education level cases in comparison to females is important to give balance to this equation.

Literacy of the mother and father by department

On the following tables we can find a side to side comparison between the literacy of the mother and father of every child born in 2015 classified by department in Honduras.

Table 4.9 Comparison of mothers and fathers studies of the children born in 2015 in 18 departments of Honduras

Department 01	Atlántida		

Mothers literacy	Cases	%	Accumulated %
Yes	4616	68.2	68.22
No	156	2.31	70.53
Ns/Nr	1994	29.5	100
Total	6766	100	100

Department 01	Atlántida		

Fathers literacy	Cases	%	Accumulated %
Yes	4165	62	61.56
No	199	2.9	64.5
Ns/Nr	2402	36	100
Total	6766	100	100

Department 02	Colón		

Mothers literacy	Cases	%	Accumulated %
Yes	5219	92.7	92.72

Department 02	Colón		

Fathers literacy	Cases	%	Accumulated %
Yes	4639	82	82.41

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No	277	4.92	97.64		No	397	7.1	89.47
Ns/Nr	133	2.36	100		Ns/Nr	593	11	100
Total	**5629**	**100**	**100**		**Total**	**5629**	**100**	**100**

Department 03 **Comayagua**   **Department 03** **Comayagua**

Mothers literacy	Cases	%	Accumulated %
Yes	8517	88.1	88.11
No	525	5.43	93.54
Ns/Nr	624	6.46	100
Total	**9666**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	7564	78	78.25
No	609	6.3	84.55
Ns/Nr	1493	15	100
Total	**9666**	**100**	**100**

Department 04 **Copán**   **Department 04** **Copán**

Mothers literacy	Cases	%	Accumulated %
Yes	10159	86.5	86.54
No	1366	11.6	98.18
Ns/Nr	214	1.82	100
Total	**11739**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	8746	75	74.5
No	1683	14	88.84
Ns/Nr	1310	11	100
Total	**11739**	**100**	**100**

Department 05 **Cortés**   **Department 05** **Cortés**

Mothers literacy	Cases	%	Accumulated %
Yes	29181	95.9	95.89
No	551	1.81	97.7
Ns/Nr	700	2.3	100
Total	**30432**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	26306	86	86.44
No	681	2.2	88.68
Ns/Nr	3445	11	100
Total	**30432**	**100**	**100**

Department 06 **Choluteca**   **Department 06** **Choluteca**

Mothers literacy	Cases	%	Accumulated %
Yes	7567	92.9	92.93
No	346	4.25	97.18

Fathers literacy	Cases	%	Accumulated %
Yes	6583	81	80.84
No	454	5.6	86.42

Ns/Nr	230	2.82	100
Total	**8143**	**100**	**100**

Ns/Nr	1106	14	100
Total	**8143**	**100**	**100**

Department 07   **El Paraíso**

Mothers literacy	Cases	%	Accumulated %
Yes	5969	90.9	90.94
No	394	6	96.94
Ns/Nr	201	3.06	100
Total	**6564**	**100**	**100**

Department 07   **El Paraíso**

Fathers literacy	Cases	%	Accumulated %
Yes	5234	80	79.74
No	538	8.2	87.93
Ns/Nr	792	12	100
Total	**6564**	**100**	**100**

Department 08   **Francisco Morazán**

Mothers literacy	Cases	%	Accumulated %
Yes	29131	94.7	94.66
No	772	2.51	97.17
Ns/Nr	872	2.83	100
Total	**30775**	**100**	**100**

Department 08   **Francisco Morazán**

Fathers literacy	Cases	%	Accumulated %
Yes	26085	85	84.76
No	1058	3.4	88.2
Ns/Nr	3632	12	100
Total	**30775**	**100**	**100**

Department 09   **Gracias A Dios**

Mothers literacy	Cases	%	Accumulated %
Yes	256	65.5	65.47
No	16	4.09	69.57
Ns/Nr	119	30.4	100
Total	**391**	**100**	**100**

Department 09   **Gracias A Dios**

Fathers literacy	Cases	%	Accumulated %
Yes	236	60	60.36
No	16	4.1	64.45
Ns/Nr	139	36	100
Total	**391**	**100**	**100**

Department 10   **Intibucá**

Mothers literacy	Cases	%	Accumulated %
Yes	5443	89.9	89.92
No	366	6.05	95.97

Department 10   **Intibucá**

Fathers literacy	Cases	%	Accumulated %
Yes	4700	78	77.65
No	354	5.9	83.5

Ns/Nr	244	4.03	100
Total	**6053**	**100**	**100**

Ns/Nr	999	17	100
Total	**6053**	**100**	**100**

Department 11 **Islas de la Bahía**

Mothers literacy	Cases	%	Accumulated %
Yes	823	98.9	98.92
No	4	0.48	99.4
Ns/Nr	5	0.6	100
Total	**832**	**100**	**100**

Department 11 **Islas de la Bahía**

Fathers literacy	Cases	%	Accumulated %
Yes	730	88	87.74
No	11	1.3	89.06
Ns/Nr	91	11	100
Total	**832**	**100**	**100**

Department 12 **La Paz**

Mothers literacy	Cases	%	Accumulated %
Yes	5165	80.4	80.36
No	387	6.02	86.39
Ns/Nr	875	13.6	100
Total	**6427**	**100**	**100**

Department 12 **La Paz**

Fathers literacy	Cases	%	Accumulated %
Yes	4931	77	76.72
No	317	4.9	81.66
Ns/Nr	1179	18	100
Total	**6427**	**100**	**100**

Department 13 **Lempira**

Mothers literacy	Cases	%	Accumulated %
Yes	5223	82.5	82.5
No	740	11.7	94.19
Ns/Nr	368	5.81	100
Total	**6331**	**100**	**100**

Department 13 **Lempira**

Fathers literacy	Cases	%	Accumulated %
Yes	4637	73	73.24
No	833	13	86.4
Ns/Nr	861	14	100
Total	**6331**	**100**	**100**

Department 14 **Ocotepeque**

Mothers literacy	Cases	%	Accumulated %
Yes	2781	89.7	89.74

Department 14 **Ocotepeque**

Fathers literacy	Cases	%	Accumulated %
Yes	2436	79	78.61

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No	234	7.55	97.29
Ns/Nr	84	2.71	100
Total	**3099**	**100**	**100**

No	297	9.6	88.19
Ns/Nr	366	12	100
Total	**3099**	**100**	**100**

Department 15	Olancho

Department 15	Olancho

Mothers literacy	Cases	%	Accumulated %
Yes	9911	90.5	90.54
No	822	7.51	98.05
Ns/Nr	213	1.95	100
Total	**10946**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	8607	79	78.63
No	1219	11	89.77
Ns/Nr	1120	10	100
Total	**10946**	**100**	**100**

Department 16	Santa Bárbara

Department 16	Santa Bárbara

Mothers literacy	Cases	%	Accumulated %
Yes	5074	87.9	87.88
No	517	8.95	96.83
Ns/Nr	183	3.17	100
Total	**5774**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	4553	79	78.85
No	584	10	88.97
Ns/Nr	637	11	100
Total	**5774**	**100**	**100**

Department 17	Valle

Department 17	Valle

Mothers literacy	Cases	%	Accumulated %
Yes	3725	93.3	93.26
No	158	3.96	97.22
Ns/Nr	111	2.78	100
Total	**3994**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	3278	82	82.07
No	259	6.5	88.56
Ns/Nr	457	11	100
Total	**3994**	**100**	**100**

Department 18	Yoro

Department 18	Yoro

Mothers literacy	Cases	%	Accumulated %

Fathers literacy	Cases	%	Accumulated %

Yes	8661	94.7	94.73		Yes	7692	84	84.13
No	388	4.24	98.97		No	527	5.8	89.89
Ns/Nr	94	1.03	100		Ns/Nr	924	10	100
Total	**9143**	**100**	**100**		**Total**	**9143**	**100**	**100**

Summary   **Summary**

Mothers literacy	Cases	%	Accumulated %
Yes	147421	90.6	90.61
No	8019	4.93	95.54
Ns/Nr	7264	4.46	100
Total	**162704**	**100**	**100**

Fathers literacy	Cases	%	Accumulated %
Yes	131122	81	80.59
No	10036	6.2	86.76
Ns/Nr	21546	13	100
Total	**162704**	**100**	**100**

All 18 departments without exception show that the mothers are more literate than the fathers. As per literacy, we can observe a registered number of 147,421 cases of literate mothers and 131,122 cases of literate fathers. Resulting in 16,299 cases of more literate mothers than fathers. In the other hand, there were just 8,019 registered cases of illiterate mothers compared to 10,036 cases of illiterate fathers. Making a difference of 2,017 more cases of illiterate fathers than mothers.

To the present date we can see that more women are literate and have completed more levels of education in the Honduran territory. Special attention to what factors are causing this difference is important. Equality in education is important in order to regulate birth rate, decrease inequality and increase economic development.

4.5 Elite Interview

In this section the researcher will show a series of opinions from a diverse selection of professionals regarding their opinions towards birth rate and income inequality in economic development.

The first interviewee is Honduran Lawyer and Public Notary Waldo Rivera. Waldo Rivera, is also a writer and Professor in the Law Faculty of Honduras largest public university: Universidad Nacional Autónoma de Honduras (UNAH). Professor Rivera was asked in the interview to give his opinion concerning birth rate and economic development in Honduras. The following was his opinion: "Education is a factor that affects the issue of birth rate, this meaning less education, more children, which leads to fewer opportunities for each family member, in this sense, a high birth rate will continue to be a factor that diminishes the opportunities and consequently, economic development. At the present time, education continues to be a priority, with the aggravating circumstance that poverty in Honduras is around 70%, which implies that population growth will not stop, further deteriorating the already low essential coverage of the social and economic rights of the population." (Rivera, W., May 24, 2018).

Professor Rivera was also asked about his opinion towards the researchers argument, he argued the following: "Undoubtedly, the interaction of birth rate and income inequality has a negative impact on the economic development of the country, high birth rate implies fewer opportunities for growth, fewer opportunities to access good quality formal education, which is accompanied by income inequality, product of not having the required training in competitive world." (Rivera, W., May 24, 2018). Lastly, Professor Rivera concluded with a suggestion to what he thinks would be a solution to increase Honduras economic development: "We must educate the population, I mean

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formal education, train people so that they can compete, educate them so they can discern that a family with a larger number of members means more difficulty to achieve success, they will have fewer opportunities, since the competition for survival will begin in their own homes. A small family maximizes resources." (Rivera, W., May 24, 2018).

From Professor Rivera's opinion we can observe an agreement with the researcher's main argument, in which the interaction of birth rate and income inequality have an effect on economic development. Indicating that, in a country with a high birth rate, the level of economic development tends to be much lower when this country has a higher level of income inequality.

Our second interviewee who decided to remain anonymous for this interview, is an expatriated Honduran doctor with a specialty in gynecology. Our second interviewee suggested that: "The birth rate variable by itself does not affect a countries economic development. A country can have a high population and still be prosperous. The real problem is observed when there is high birth rate and income inequality acting together in a country." (Interviewee A., May 27, 2018)

The interviewer proceeded to ask the interviewee about his personal experience while he worked as a Doctor in the public area in Honduras. The interviewee explained that "At the beginning when I was a general Doctor, I could see that in the departments of La Paz, Ocotepeque, Lempira and Intibucá, was where you could find more poverty and women with a major number of kids. Later on, when I got my specialty and worked in the capital, I could observe that most of the pregnancies I attended in the public hospital were of teenage girls. Both rural and urban areas had a similarity, the lack of quality education. Education in Honduras is a great problem, this because you could see that the less educated these pregnant women were, the more children they had." (Interviewee A., May 27, 2018) From the second interviewee's answers, the researcher found again a strong agreement with her argument.

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Finally, the last interviewee Francis Contreras, is a Doctor, who holds the position of sub-secretary of health in the current government. Doctor Contreras shared one opinion with the second interviewee. The interviewee argued that "Economic development in a country is not defined by birth rate. There are other factors that might be more important. If birth rate was the most important factor, that would mean that countries that had a low birth rate would be left without any productive workforce, which would limit economic development in a country." (Contreras, F., May 28, 2018). Based on this answer, we can see that the Doctors interviewed in this section, thought the same way regarding the possible effect of the variable birth rate on economic development. Finally, when asked his opinion about the interaction of birth rate and income inequality on economic development, the interviewee argued: "I believe there is no direct interaction, income inequality is not determined by birth rate, therefore I do not believe a direct relationship with economic development." (Contreras, F., May 28, 2018).

In conclusion, we can observe two opinions in favor and one against on the interaction between birth rate and income inequality affecting economic development. Also, Doctors emphasized that in their opinion there was absolutely no relationship between birth rate and economic development. On the other hand, the legal and academic opinion believed there was. Possibly the different ethical orientation taught in this different careers marked the difference on opinions between a lawyer and two doctors. Both opinions with different insights give a lot to think about. Hence, opening a path to explore their arguments in further studies.

4.6 Discussion and Conclusions

To conclude, it was agreed by all the interviewee's that the Departments of Cortés and Francisco Morazán are the most developed departments in Honduras, also it was agreed that Intibucá and La Paz, are the departments with lowest level of economic development. This agreement demonstrates a strong sense of reality of the country in their answers.

Amongst the most important observations from the findings discussed before, the Researcher can state that education has been a factor of extreme importance to take into consideration in the study of economic development in Honduras. The access to quality education has been mentioned unanimously in the interviews and in the tables discussed previously. A complete elementary education has been proved to be the highest education level for women who had children in the year 2015. Therefore, it is vital to implement sexual education in the Honduran curricula to help decrease the number of women that get pregnant before culminating their studies. The purpose of so consistently including education in this research is to show that behind high birth rates and income inequality lays education as a factor.

In the education section it is also of great importance to fight for equality. Before, there was inequality between girls and boys who received education, being boys more educated. Today, in Honduras, girls are more educated than boys. We can observe then, just a change in gender concerning inequality in education. Therefore, an equality were both boys and girls have the same opportunities for education, and ensuring that they remain in school must be reached.

On the other hand, religion has proven to not be an affective moderator of behavior on birth rate. Being Christian does not ensure that children will be born under marriage. In spite of this, religious groups and supporters have worked towards the exclusion of sexual education and anti-conceptive methods for the Honduran population. The state therefore, should be more independent towards

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the taking of decisions of this type in order to provide better education and quality access to anti-conceptive methods no matter the belief of the person.

Last, but not least is the importance of investment of the country in reaching a 100% coverage of public services such as electricity access. A complete coverage of electricity can help to boost the most basic development of people in the country, including the electrification of schools located in remote rural areas which have no access to electricity.

5. CONCLUSIONS AND RECOMMENDATIONS

In this chapter, the researcher suggests some public policies that she believes should be taken in consideration in order to approach faster the economic development path. Yet in a humble way and acknowledging that because of ignorance on the different law approaches of all the LAC countries these recommendations are emphasized to be employed in the Central American country: Honduras. Yet, the following suggestions can be studied by other countries that find a need of them and do a research to discover the correct and effective way to apply them I their country.

Sexual Education

First, the researcher would like to approach the problem of sexual education in Honduras. Honduras has been signatory of international treaties in health, and its Constitution acknowledges in its article 145 that Health is as right. The Constitution also claims in its article 151 that education is an essential function of the state for the conservation, promotion and dissemination of culture. Which shall project its benefits to society without any discrimination whatsoever. National education will be secular and will fundament itself in the essential principles of democracy, it will inculcate and promote profound feelings in Honduran students and should be directly linked to the process of economic and social development of the country.

 We can find the following legal framework in sexual and reproductive health in Honduras:

- Estrategia Nacional de Acercaminento de la Reduccion Acelerada de la Mortalidad Materna y de la Niñez (RAMNI) translated to the English language by the Researcher as the national strategy for approaching the accelerated reduction of maternal and childhood mortality.

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- Estretegia Nacional Para la Prevencion del Embarazo en Adolescentes de Honduras (ENAPREAH), translated to the English language by the Researcher as the National Strategy for the Prevention of Pregnancy in Adolescents of Honduras.

- Plan Multisectorial de Prevension del Embarazo Adolescentes (PMPEA), translated to the English language by the Researcher as the Multisectoral Plan for the Prevention of Teenage Pregnancy.

Between the legal instruments that raise sexual and reproductive rights topics we can include:

- "La Politica Nacional de Juventud" translated to the English language by the Researcher as The National Youth Policy.

- "La Ley Especial de VIH/SIDA" translated to the English language by the Researcher as the special HIV/AIDS law.

- "La Ley de Igualdad de Oportunidades para la Mujer y el Segundo Plan de Igualdad y Equidad de Genero II PIEG" translated to the English language by the Researcher as the Equal Opportunities for Women Act and the Second Gender Equality and Equity Plan.

In 2004, a National Curricular Design for Basic Education that contemplates the content that should be taught and the methodology to teach it throughout the educational cycle from first to ninth grade was implemented in order to promote the transformation of national education. But sexual education was not implemented in this new curricular design. The report on education for sexuality in Honduras for the Special Rapporteur on education states that two cooperation efforts have been made between the technical bodies of the Ministry of Education and cooperation agencies in order to contribute with the incorporation of sexual education in public education.

The first effort strove for the implementation of sexual education guides for teachers of high school education, in compliance with the mandate of the Special Law on HIV, which were distributed in 2003. However, due to pressure from fundamentalist religious groups, the then minister of education circulated a note prohibiting its use. The note stated that the guides that were to be elaborated by the Honduran Breastfeeding Association named "Hablando con los jovenes sobre sexualidad" translated to the English language by the researcher as "Speaking with the youth about sexuality" did not reflect in any the criteria of the then present administration to address such an important issue. Hence, banning the distribution of the guides.

A second effort began in 2005 and on this occasion sexual education guides were developed for teachers, to be incorporated throughout the whole cycle of basic and pre-basic education, transversally in 5 educational subjects: social sciences, natural sciences, Spanish, Mathematics and physical education. The guides were prepared and validated by teaching staff and were to be implemented through a pilot project in 70 municipalities of the country. In 2006, from the National Congress, the president of the Pro Life Committee and deputy of the same, motions against the sexual education guides and proposed to create a council for sexuality education.

A process of debate and negotiation was then initiated, where teachers, parents, executive authorities and organizations defending the rights of women and children were incorporated. These guides were reviewed and their implementation was to start in July 2009, a fact that was not possible due to the coup d'etat in that year. To date, there is no updated sexual and reproductive health national policy. Leaving the Honduran state vulnerable to the effects of a non-addressed sexual education.

The report on education for sexuality in Honduras for the Special Rapporteur on Education authored by the "Centro de Derechos de Mujeres y CLADEM –Honduras" previously mentioned

declares the religious fundamentalist groups actors that have a considerable presence in the state, as well like influence in the church as the main obstacle in the country towards the implementation of sexual education in Honduras.

Speizer, Ilene S., Whittle, Lisa, and Carter, Marion (2005), collected data in Honduras in 2001 from men aged 15 to 59 and women aged 15 to 49. They got these data from two national surveys, Speizer, Whittle and Carter used bivariate and multivariate analyses to identify factors between male-centered decision-making attitudes, family planning and family size. The authors previously mentioned show results were 25% of women and 28% of men said that only men should be responsible for making decisions about either family planning or family size. On the other hand, 27% of women and 21% of men showed that the man in their household made one or both decisions regarding family planning and family size.

Therefore, the study previously mentioned showed that if women decided to have no children meanwhile being in a consensual relationship they seemed to have "male-centered decision-making attitudes". For men, a "male-centered decision-making attitudes" consisted in having less than secondary education and being in a consensual relationship. The profile of these women were those of: Being of medium or low socioeconomic status, having less than secondary education, and living in a rural area.

Most importantly, the results from Speizer, Whittle and Carter show that the women who used or were currently using modern family planning methods in contrast to those who used traditional family planning methods, or those who never used any, were significantly less likely to have "male-centered decision-making attitudes". To conclude, Speizer, Whittle and Carter state that programs should note "power imbalances" or inequalities between the genders, which affect

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women's decisions over their own fertility desires. Therefore, the programs should target men in rural areas, with an aim to educate them in communicating with their partners on family size.

A report from Singh Susheela, Darroch Jacqueline and Ashford Lori S. 2014., provides us a long list of gains from implementing sexual and reproductive health. Between the most important gains we can find that prevention of death or disability due to complications of pregnancy or/and childbirth, unsafe abortion, cervical cancer, sexually transmitted infections, and HIV. The report treats sexual and reproductive health as an investment in society as it will also bring social and economic benefits. The report states Africa as an example, showing that by the prevention of maternal deaths or disabilities these mothers families are protected from great health expenses and of course loss of income.

The report also mentions that by helping woman not having unwanted pregnancies, the State will save money in education, infrastructure and social services area. The prevention of unwanted pregnancies hence, will help on the reduction of poverty. How? By making families more productive and giving them financial stability. The report concludes that investment in sexual and reproductive health must remain in governments policy agenda.

Kirby, D., Obasi, A., and Laris, B. (2006), reviewed the effect of sexual and HIV education in schools in developing countries. The authors Kirby, Obasi, and Laris conducted a systematic review, and measured the impact of the intervention of sexual risk behavior. In their study, 22 interventions could be observed. These 22 interventions improved 21 out 55 sexual behaviors and only one which was non-curriculum based peer-led intervention increased sexual intercourse. It was reported that 7 interventions reduced "the reported onset of sex", 3 interventions reduced the number of sexual partners and 1 reduced the frequency of sexual activity. 16 out of the 22

interventions delayed sex, reduced sex frequency, decreased number of sexual partners, increased the use of contraceptive methods and condoms or reduced unprotected sex practice.

From 17 curriculum-based interventions, 13 were taught by adults, and 11 of these 13 improved at least one sexual behavior. The 2 remaining showed no significant improvement in sexual behavior. The interventions the were led wether by teachers or adults had a positive impact on reported behavior. On the other hand, from the 5 non-curriculum based interventions, 2 from the 4 adult-led and a 1 peer-led intervention also improved at least 1 sexual behavior. In conclusion curriculum-based interventions should be implemented. Yet, further evaluation of the countries where they are to be implemented must be done in order to correctly assess its implementation and curriculum insertion.

Because of the importance of this subject the researcher urges the Honduran state to implement sexual education. Based on the tables that show the mothers studies we can see that the biggest number of girls that that became mothers in 2015, only had complete elementary education. This outcome should support the recommendation of implementing sexual education since sixth grade. Ahituv, A. (2001), also emphasizes the importance of designing policies to push economies from under development by the inclusion but never exclusion of family planning. The implementation of sexual education on this stage could help delay and hopefully diminish undesired pregnancies and most importantly educate children about sexually transmitted diseases.

The Researcher intends to portray that behind both birth rate and income inequality is education as a factor that will influence the effects of birth rate and income inequality as a variable.

100% electric coverage in the Honduran territory.

Explaining why access to electricity is important would be senseless by now… A total electricity coverage permits the functionality of hospitals, clinics, health facilities in general and the electrification of rural areas schools, not to mention satisfying basic needs in homes, such as the simple boiling of water which helps with sanitation, especially when no access to purified water is available. Therefore, we do know it's important for economic development,

If Honduras wants to reach the goal stated in its "Plan de Gobierno y Vision de Pais" translated to the English language as "Government Plan and Country Vision" by the Researcher, which states that Honduras should reach a 100% of electric coverage by 2,032, then action is needed. Based on the report mentioned before, from the National Electric Power Company in Honduras from March 2017, which states that for December 2,016 the national electricity coverage index for the Honduran territory is of 75%, it is important to work to be able to cover the 25% of the territory still missing.

As the same report from the National Electric Power Company in Honduras from March 2017 stated, a total of USD $1,466,100,651.95 should be invested in order to reach a 100%. Therefore, a focus on getting donations and loans to successfully achieve this important public service generator of development is vital.

This year, on March 1, 2018, the World Bank through the "International Development Association (IDA)" approved a $375 million credit to Ethiopia. This credit is intended to be used to provide access to electricity to all Ethiopians by the year 2,025 which is 7 years from now. The "Ethiopia Electrification Program" supports the "National Electrification Program" previously launched back in 2,017 with help from the World Bank which needs an estimated investment of $1.5 billion

over the first five years. Clearly Ethiopia's investment is larger than the one needed by our case study country: Honduras by $ 33,889,348.05. Honduras, being eligible as a borrower country for IDA, should consider application for this credit in order to take action towards the achievement of a national territory with a 100% electricity coverage.

Making sure that people have access to the most basic needs is the way to start making the gap in inequality smaller. Honduras being a developing country needs to cover its basic needs in order to achieve further development.

Division between State and Religion

Honduran Lawyer Leonidas Rosa Suazo (2010), stated that he does not consider the legal and political system to have a marked influence on religions. The distinguished Lawyer in the Researchers perspective correctly continued arguing that the issue in Honduras is "the awareness of the people regarding their religious environment. The Catholic tradition is particularly strong and still consists of a majority of the population. On the other hand, the evangelical churches have grown strong, especially during the last two decades. In this sense, it is very common to presume that all citizens are Catholics or, at least, Christians." Rosa Suazo, sets an important example explaining that sometimes the government allows prayers or blessing in its activities. Therefore, there is no awareness that it is necessary to respect people who are of other religions (or non-religious people) in such acts.

Eight years later after the previous was discussed in the XVII Symposium on Law and Religion at the International Center for Law and Religion Studies in the city of Provo, State of Utah, United States of America, Honduras goes through a much marked example. The National Congress of

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Honduras approved on Thursday, May 10, 2018 a motion presented by the congressman Tomás Zambrano. The motion declared that all educational centers of Honduras should study the bible.

The congressman stated:

"Quiero hacer una exhortativa para que de manera coordinada entre diversas instituciones estatales y religiosas se pueda implementar un programa que promueva en forma no obligatoria la lectura diaria de la Biblia a los niños y jóvenes, jornadas de oración, consejería para padres y alumnos, como un mecanismo de salvación de sus almas y prevención de la violencia"

Translated to the English language by the Researcher as the following: "I want to make an exhortation so that in a coordinated way between various state and religious institutions a program that promotes in a non-obligatory way the daily reading of the Bible to children and youth, Prayer day, counseling for parents and students, as a mechanism of salvation of their souls and prevention of violence." The congressman explained that the "prayer day" should be done twice a day, in the morning and in the afternoon. The implementation of these motion would be done by creating a working group composed of Evangelical and Catholic representatives, as well as representatives of the Ministry of Education and a legislative commission.

The Constitution of Honduras in its article 152 states that education is an essential function of the State for the conservation, promotion and dissemination of culture, which should project its benefits to society without discrimination of any kind. National education will be secular and will be based on the essential principles of democracy, it will inculcate and foment in the students profound Honduran sentiments and should be directly linked to the process of economic and social development of the country.

These constitutional article is directly violated with the previously mentioned motion. Article 152 states that National education will be secular, therefore non-complementary in any way with the approved motion. The congressman explained that constitutional reforms, a law or special decrees would be implemented in order to make this motion legal.

Another aspect to point out, is that article 152 is completely associated with the first recommendation made in this chapter concerning the implementation of sexual education. Based on the last sentence of the article where it states that education should be directly linked to the process of economic and social development of the country, it is unreasonable to leave sexual education behind due to the opposition of religious groups because of their beliefs and taboos.

If Honduras education is really to be engaged to help in the process of economic and social development, basic education like sexual education should be implemented and taught in every educational institution to expect the benefits already explained in the first recommendation.
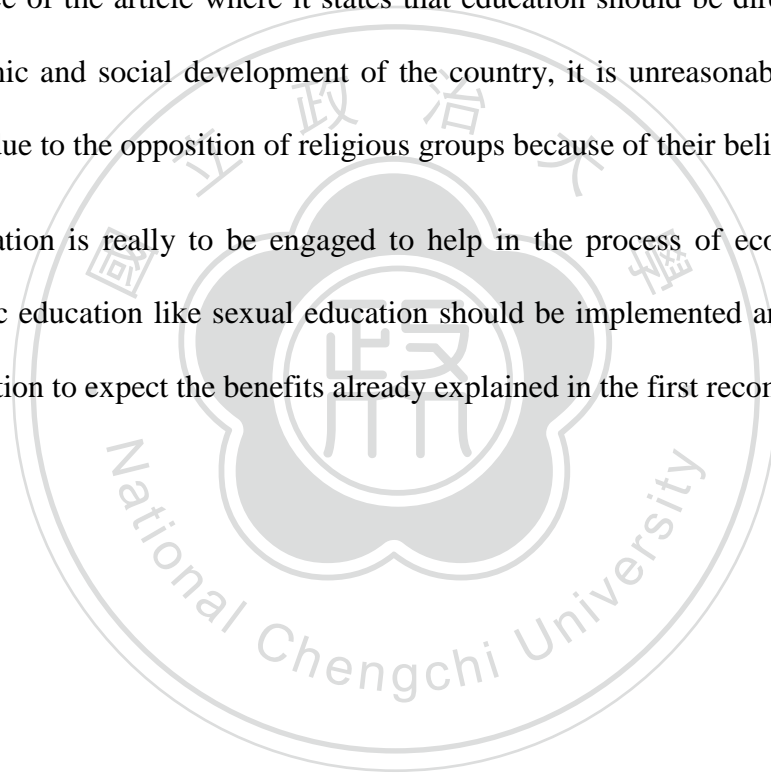
BIBLIOGRAPHY

Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2002. "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution." *Quarterly Journal of Economics*, 117(4): 1231–94.

Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, and James A. Robinson. 2014. "*Democracy does cause growth*." NBER Working Papers 20004, National Bureau of Economic Research, Inc. Available at: http://www.nber.org/papers/w20004.

Acemoglu, Daron. 2008. "Oligarchic Vs. Democratic Societies." *Journal of the European Economic Association*, 6(1): 1–44.

Adserà, Alícia and Menendez, Alicia. 2011. "Fertility Changes in Latin America in periods of Economic Uncertainty." *Population Studies*, 65(1): 37-56

Aghion Philippe, Alesina Alberto, Trebbi Francesco. 2007. "*Democracy, Technology, and Growth*." NBER Working Paper No. 13180. National Bureau of Economic Research, Inc. Available at: http://faculty.arts.ubc.ca/ftrebbi/research/aat3.pdf

Ahituv, Avner. 2001. "Be fruitful or multiply: On the interplay between fertility and economic development." *Journal of Population Economics*, 14(1): 51-71.

Alesina, Alberto, and Dani Rodrik. 1994. "Distributive Politics and Economic Growth." *Quarterly Journal of Economics*, 109(2): 465–490.

Altimir, Oscar. 1996. "Economic Development and Social Equity: A Latin American Perspective." *Journal of Interamerican Studies and World Affairs*, 38, (2/3): 47-71.

Banerjee, Abhijit V, and Duflo, Esther. 2003. "Inequality and Growth: What Can the Data Say?" *Journal of Economic Growth*, 8(3): 267-299.

Barro, Robert. 1999. "Determinants of Democracy." *Journal of Political Economy*, 107(S6): S158-S183

Benería, Lourdes, and Gita Sen. 1981. "Accumulation, Reproduction, and Women's Role in Economic Development: Boserup Revisited." *Signs*, 7(2): 279–298.

Behrman, Jere R. and Deolalikar, Anil B. 1988. "Health and nutrition", *Handbook of Development Economics*, 1: 631-711.

Bloom, David E., Canning David and Sevilla Jaypee. 2004. "The Effect of Health on Economic Growth: A Production Function Approach." *World Development*, 32(1): 13.

Brander, James A., and Dowrick, Steve. 1994. "The Role of Fertility and Population in Economic Growth: Empirical results from aggregate cross-national data." *Journal of Population Economics*, 7(1): 1-25.

Chaverri, Marcos Carias. 2010. "Análisis de situación de población en Honduras. Población y Desarrollo." *Argonautas y Caminantes*, 6(6): 36-39.

Christiaensen, Luc and Lionel Demery. 2007. "*Down to Earth: Agriculture and Poverty Reduction in Africa*." Directions in Development; Poverty. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/6624

Cochrane, Susan Hill. 1979. "*Fertility and education: what do we really know?*" World Bank staff occasional papers; no. OCP 26. Baltimore, MD: The Johns Hopkins University Press. http://documents.worldbank.org/curated/en/550621468765918708/Fertility-and-education-what-do-we-really-know

Constitución de la Republica de Honduras. 1982. "Decreto Numero 131." *Diario Oficial La Gaceta,* No. 23,612.

Cooper, Drury A., Krieckhaus Jonathan, and Lusztig Michael. 2006. "Corruption, Democracy, and Economic Growth." *International Political Science Review / Revue Internationale De Science Politique*, 27(2): 121–136.

Corporación Latinobarómetro. 2014. *Las religiones en tiempos del Papa Francisco*. Santiago, Chile: Corporación Latinobarómetro

ECLAC, FAO, and IICA. 2015. *The Outlook for Agriculture and Rural Development in the Americas: A perspective on Latin America and the Caribbean 2015-2016*. San José, C.R.: IICA.

Fisher, Ronald C. 1997. "The effects of state and local public services on economic development." *New England Economic Review*; (2): 53-67

Forbes, Kristin J. 2000. "A Reassessment of the Relationship Between Inequality and Growth." *American Economic Review*, 90(4): 869-887.

Gerring, John, Philip Bond, William T. Barndt, and Carola Moreno. 2005. "Democracy and Economic Growth: A Historical Perspective." *World Politics* 57(3): 323-64.

Gollin, Douglas, Stephen Parente, and Richard Rogerson. 2002. "The Role of Agriculture in Development." *American Economic Review*, 92(2): 160-164.

Gregory, Paul R., John M. Campbell, and Benjamin Cheng. 1972. "A Cost-Inclusive Simultaneous Equation Model of Birth Rates." *Econometrica*, 40(4): 681–687.

Hill, M. Anne and King, Elizabeth M. 1993. *Women's education in developing countries: barriers, benefits, and policies*. Baltimore, MD: The Johns Hopkins University Press.

King, Elizabeth M. 1995. "Women's education and economic well-being. *Feminist Economics*, 1(2): 21-46

Halter, Daniel, Oechslin, Manuel, and Zweimüller, Josef. 2013. Inequality and Growth: The Neglected Time Dimension." *Journal of Economic Growth*, 19(1): 81–104.

Jacinto, Claudia. 2010. *Recent trends in technical education in Latin America*. Paris, France: UNESCO, International Institute for Educational Planning.

Jones, Benjamin F. and Olken, Benajmin A. 2005. "Do Leaders Matter? National Leadership and Growth Since World War II." *The Quarterly Journal of Economics*, 120(3): 835-864

Kirby, Douglas, Obasi, Angela, and Laris, Ba A. 2006. "The effectiveness of sex education and HIV education interventions in schools in developing countries." *World Health Organization Technical Report Series*, 938, 103-50; discussion 317-41.

Klasen, Stephan. 2002. "Low Schooling for Girls, Slower Growth for All? Cross-Country Evidence on the Effect of Gender Inequality in Education on Economic Development." *The World Bank Economic Review*, 16(3): 345–373.

Knowles, Stephen, Paula K. Lorgelly, and Dorian Owen. 2002. "Are educational gender gaps a brake on economic development? Some cross-country empirical evidence." *Oxford Economic Papers*, 54(1): 118-149.

La Porta, Rafael, Lopez-de-Silanes, Florencio; Shleifer, Andrei and Vishny, Robert W. 1998. "Law and Finance." *Journal of Political Economy*, 106(6): 1113-55.

Ligon, Ethan and Sadoulet, Elisabeth. 2007. "*Estimating the Effects of Aggregate Agricultural Growth on the Distribution of Expenditures*", Background paper for the World Development Report, World Bank. Report No. 41368, Washington, DC: World Bank. http://documents.worldbank.org/curated/en/660641468321863058/Estimating-the-effects-of-aggregate-agricultural-growth-on-the-distribution-of-expenditures

Ludena, Carlos E. 2010. "*Agricultural Productivity Growth, Efficiency Change and Technical Progress in Latin America and the Caribbean*" IDB working paper, No. 61. Available at https://publications.iadb.org/handle/11319/1806

Malthus, Thomas R.1798. *An Essay on the Principle of Population*. New York, NY: Oxford University Press Inc.

Martin, Teresa Castro, and Juarez, Fatima. 1995. "The Impact of Womens Education on Fertility in Latin America: Searching for Explanations." *International Family Planning Perspectives*, 21(2): 52.

Modi, Vijay; McDade, Susan; Lallement, Dominique, and Saghir, Jamal. 2006. *Energy and the Millenium Development Goals*. New York: Energy Sector Management Assistance Programme, United Nations Development Programme, UN Millenium Project, and World Bank.

Morris, Cynthia Taft, and Adelman, Irma. 1990. "Comparative Patterns of Economic Development" *Journal of Development Economics*, 33(2): 385-393

Mulligan, Casey B., Ricard Gil, and Xavier Sala-i-Martin. 2004. "Do Democracies Have Different Public Policies than Nondemocracies?" *The Journal of Economic Perspectives*, 18(1): 51–74.

Nunn, Nathan, and Qian, Nancy. 2011. "The Potatos Contribution to Population and Urbanization: Evidence from an Historical Experiment." *Quarterly Journal of Economics*. 126 (2): 593-650.

Perotti, Roberto.1996. "Growth, income distribution, and democracy: What the data say." *Journal of Economic Growth*, 1(2): 149-187.

Persson, Torsten, and Tabellini, Guido. 1994. "Is Inequality Harmful for Growth? Theory and Evidence." *The American Economic Review*, 84(3): 600-621.

Przeworski, Adam and Curvale, Carolina. 2008. *Does Politics Explain the Economic Gap between the United States and Latin America? In Falling Behind: Explaining the Development Gap Between Latin America and the United States*. New York, NY, Oxford University Press, 99-133

Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi. 2004. "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development." *Journal of Economic Growth*, 9(2), 131–165.

Rosa Suazo, Leonidas. 2010. "Religion en el Sistema Juridco Contemporaneo." *(Spanish) XVII Simposio de Derecho y Religión en el Centro Internacional para Estudios de Derecho y Religión*. Utah, October 5, 2010.

Rowlingson, Karen. 2011. *Does income inequality cause health and social problems?*. York, UK: Joseph Rowntree Foundation.

Schultz, Paul T. 1988. "Education investments and returns", *Handbook of Development Economics*, 1(1): 543-630.

Singh Susheela, Darroch Jacqueline and Ashford Lori S. 2014. *Adding It Up: The Costs and Benefits of Investing in Sexual and Reproductive Health 2014*. New York, NY: Guttmacher Institute.

Solt, Frederick. 2016. "The Standardized World Income Inequality Database." *Social Science Quarterly* 97(5):1267-1281.

Speizer, Ilene S., Whittle, Lisa, and Carter, Marion. 2005. "Gender Relations and Reproductive Decision Making in Honduras." *International Family Planning Perspectives*, 31(03): 131-139.

Stycos, J. Mayone. 1965. "Opinions of Latin-American Intellectuals on Population Problems and Birth Control." *The Annals of the American Academy of Political and Social Science*, 360(1): 11–26.

Subbarao, K. and Raney, Laura. 1995. "Social Gains from Female Education: A Cross-National Study." *Economic Development and Cultural Change,* 44(1): 105-28.

Taylor, Edward J. 1999. "The New Economics of Labour Migration and the Role of Remittances in the Migration Process." *International Migration*, 37(1), 63-88.

Thirtle, Colin, Lin, Lin., and Piesse, Jenifer. 2003. "The Impact of Research-Led Agricultural Productivity Growth on Poverty Reduction in Africa, Asia and Latin America." *World Development*, 31(12): 1959-1975.

UNESCO. 2013. *The state of education in Latin America and the Caribbean: towards a quality education for all - 2015*. Santiago: Regional Bureau of Education for Latin America and the Caribbean (OREALC / UNESCO Santiago).

United Nations. 1991. "Handbook of Vital Statistics Systems and Methods; Volume 1: Legal, Organizational and Technical Aspects" *United Nations Studies in Methods, Glossary*, Series F, No. 35,

United Nations. 2003. *Population, Education and Development: The Concise Report*. Department of Economic and Social Affairs, Population Division. New York, NY: United Nations.

Vakis, Renos; Rigolini, Jamele; Lucchetti, Leonardo. 2016. *Left Behind: Chronic Poverty in Latin America and the Caribbean- overview (English).* Washington, DC: World Bank Group.

Weintraub, Robert. 1962. "The Birth Rate and Economic Development: An Empirical Study." *Econometrica*, 30(4): 812-817.

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APPENDIX

LIST OF ELITE INTERVIEWES

The present appendix lists the codes and dates of interviews held for 3 individuals the researcher interviewed via telephone between May 24 and 28, 2018. The researcher while performing the interviews was residing in Taiwan and the interviewees location was in Honduras. Information concerning each of the interviewees is followed by the date in which the interview was held. The interviewees are doctors, lawyers and intellectuals. The researcher lists the interviews in alphabetical order based on the interviewees last name. From the three interviewees only one chose to remain anonymous.

Contreras, Francis. Subsecretary of Health and Commission President of the Health Regulation Agency. May 28, 2018.

Interviewee A. Honduran Doctor with specialty in Gynecology. May 27, 2018.

Rivera, Waldo. Lawyer, Public Notary, and writer. May 24, 2018.

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