

Spring 5-18-2018

# The Economy of Divorce: Pensions in Latin America, The Effects on Women, and The Decision to Divorce

Mary Walsh  
marywalsh27@gmail.com

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## Recommended Citation

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University of San Francisco  
**THE ECONOMY OF DIVORCE:  
PENSIONS IN LATIN AMERICA, THE EFFECTS ON WOMEN, AND THE  
DECISION TO DIVORCE**

An honors thesis submitted in partial satisfaction  
of the requirements for the distinction of  
Honors  
in the International Studies Department  
in the College of Arts and Science

by

**Brian Dowd-Uribe**

January 2018

Approved by:



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Brian Dowd-Uribe, Assistant Professor, International Studies Department



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Dana Zartner, Associate Professor and Chair, International Studies Department

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## **ABSTRACT**

This thesis addresses the gender inequalities produced in pension systems in Latin America, discusses pension reform, and specifically describes gender inequalities that exist for divorced women, and the relationship between divorce and pensions. This topic is important in the discussion in analyzing pension reform in Latin America, as well as analyzing the nuanced degrees of inequalities present for women in Latin America. It is crucial to understand this relationship, in order to address gender inequality as divorce rates continue to rise. To analyze this relationship, I looked at both qualitative and quantitative data. To start I examined the inequalities present within systems in Latin America. Qualitatively I examined literature on the history of pension systems and their reforms, as well as examined existing research on economics and divorce behaviors/rates. Quantitatively I found divorce rates during the times of reform. From this analysis, I was able to conclude that divorced women are more vulnerable financially as they age, and that economic policies like pensions have an influential relationship on divorce behavior. However, I am unable to report a direct correlation between divorce and pension reform. Nonetheless, this relationship is still important to consider as Latin America develops. I encourage further research, as pension and divorce provide an interesting topic and insight on inequalities in Latin America, further research should be made to determine whether a direct correlation exists, and how specific policy influences women and inequality gaps.

## **KEYWORDS**

Pensions, Latin America, Women, Divorce, Privatization, Reform

## **ACKNOWLEDGEMENTS**

I would like to thank my parents, for their on-going support of everything in my life. I was able to attend the University of San Francisco because of their support, I was able to study abroad because of their support, and I was driven to be a good student because of them. Lastly, it is their love for me that encourages me to address international problems with love and care. I would also like to thank Professor Brian Dowd-Uribe, Professor Elizabeth Katz and Professor Yaniv Stopinsky for helping me walk through this process. Finally, I'd like to thank my classmates for going through this writing journey with me. Their passion inspired my passion, and I am proud of them all.

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## **LIST OF ACRONYMS**

- PAYG-DB:** Pay as you go, direct benefit
- FF-DC:** Fully funded, direct contribution
- OECD:** Organization of Economic Development

## **INTRODUCTION:**

Before 1981 Latin America pension systems were set up to be state-run. Latin American economy was still considered to be in the early developing stage and many of the nations were moving towards a socialist mixed economy, and land reform. Now in 2017, Latin America is primarily made up of private run pension systems. Most countries are considered in the middle of development, or developed. Lastly, neoliberal politics are now dominant in many countries, and many neoliberal policies still remain. One piece of this story that I will be explaining today is the shift from public to private pensions in Latin America. However, more specifically how these two different systems impact women.

Between both thoughts of ideology; private funded and public funded, women gain less pension than men. A gendered impact is a consideration on how something produces, maintains, or reduces inequalities between men and women. Often when people think of gendered impacts in Latin America, they think of social or religious normalcies, or they think of policy put into place by dictators. However, often policies, and programs we don't necessarily think of as being disadvantageous to women, produce gender impacts. The Latin American pension policy is one of these things. Although exact pension policy varies from country to country, it is clear that these policies have, and continue to produce gender impacts for females. In private funded systems, there is direct effects on women, due to the way pensions are calculated with woman's longevity. However, in public systems inequalities also exist. These often are not directly in the policy, but the social and cultural environment women are in. For example, often women work less time than men and this therefore lowers their pension in both a private and public system. I will be explaining these inequalities in greater depth and their importance.

Because of these inequalities this often means that women are more vulnerable in their old age, and are financially dependent on those around them. One particular area of interest that I will focus on is divorce behavior and the intersectionality between pensions. Pensions I argue, could influence a woman's decision to be married, or stay married. In this research paper, I will be examining the reforms of pension programs, and how some of these reforms are directed towards women's pensions. From this I will examine the relationship between divorce and economics, and how the economics of pensions should be considered in this relationship. I argue

that these relationships are important as Latin America continues to develop and pension systems continue to reform; some reforming to become more private, while other countries are reforming their private systems to be more public. These different relationships have an effect on women in Latin America and old age vulnerability and women's equality.

### **Personal Comments and Bias:**

I was inspired to write on this topic while leaving in Valparaiso, Chile. A few things sparked my interest on writing more on this topic. While I spent six months in Valparaiso, and during that time I lived with a Chilean family. My Chilean family was made up of a single Chilean woman who was 65, her mother who was also a single woman who was 86, and one of her children, and two of her nieces. There in the house I often heard my "Mama Chilena" (Chilean mother) describe the financial troubles and stress she was feeling. She had just gone through an expensive divorce and not gotten as much financial support as she had hoped. She financially supported her Mother, whom was separated from her husband. During that time in Chile I was also attending a Chilean University. Often times on my way to school I would see signs and protests against the private pension system in Chile. Whenever I asked my "Mama Chilena" what the protests were about she had difficulty describing the intricacies of how private administrative funds of pensions functioned. Thus, my interest in the relationship between divorce and pensions had sparked. However, that being said, because I lived in a Chilean family that was effected by this, I have some bias towards this topic. I recognize that experiencing these things first hand has given me a bias to believe that these things very much are connected. Despite this, throughout my thesis I attempt at analyzing this relationship in an objective manner.

### **History**

To understand the different systems that currently exist within Latin America, it is crucial to understand Latin America's history and how these systems came to be. Perhaps the most important country of influence of pension systems was Chile. In 1973 Augusto Pinochet led a military coup on the white house of Chile, and was president from 1973-1989. The Pinochet years were crucial years in forming Chilean policy, both in the past, and much of its structure still today. Under Pinochet, the government began to implement strong neoliberalist policies, one

of these policies was the privatization of pensions. Which led to a ripple effect throughout Latin America.

It is important to note that many policy ideas during the Pinochet era, came from US influence. During the 1950's the Department of Economics of University of Chicago signed a contract agreeing to sponsor Chilean students in order to help solve problems of Latin America development. Throughout the years of 1955-1963, 30 students went to study at the University of Chicago. The university supported the economic principles of Milton Friedman; an economist that believed in totally competitive free market economies. Many students began to believe that these policies could be the solution to Chile's developmental problems. These "Chicago Boys" as they are named, became key advisors and many held government positions during the Pinochet regime. (Silva, 1991). Another important influencer in the movement towards privatization was the World Bank. The World Bank encouraged the privatization of pension programs to relieve certain problems that the public pension system created, and to shift the financial burden from the government to the private sphere. (Paul, 1995) The US and many other global powers, the Chicago boys, all encouraged neoliberal policy. Although Pinochet came to power by force and was a brutal dictator, this was often ignored since he was encouraging neoliberal policy, and Latin Americas economy was improving.

The move from a public PAYG-DB occurred in 1981. This move was a response from concerns about the public pension system, and the financial burden it created as the population aged. After Chile changed to a private system, it sparked a debate throughout Latin America, of which system is the best and pension reform began throughout Latin America.

The decision to spread the idea of private pension schemes within Latin America was not solely an internal decision. An important part of the history of these changes lays within external pressures on Latin America. Besides the US whom influenced some of the ideas of economists that implemented private pension systems, the World Bank was an influencer to spread privatization of pensions. In 1994 the World Bank published *Averting the Old Age Crisis*, this was published after the implementation of the Chilean reform, and praised the reform and encouraged other Latin America countries to implement a private system in their own countries. Specifically, it highlighted the FF-DC system as a way to promote efficiency and growth. In particular countries, the world bank had pension reform missions. In Mexico, and in Argentina, in which they ran studies on the public pension systems, and created private pension proposals,

and then got policymakers to back the policy. (Madrid, 2005). The influence of the world bank is crucial to understand how, and why private pension policy spread so fast throughout Latin America.

**LITERATURE REVIEW:**

**Pension Systems**

**Table 1:** Public Pension Characteristics

<p><b>Public Pension System:</b></p> <p>A public pension system used in most of Latin America before 1981</p> <p>Typically calculated by monthly benefit equal to a percentage of covered earnings, times years of contribution, where earnings are calculated as the average earnings over a period prior to retirement (for instance, 10 years)</p> $PB_{\text{PAYG-DB}} = \alpha * \bar{W} * YC$ <p><math>\alpha</math> the salary replacement rate parameter</p> <p><math>\bar{W}</math> the average covered earnings</p> <p>YC the total years of contribution</p> <p>Gender gaps of pensions in this system come from retirement ages, gaps in earnings and other indirect impacts (Bertranou, 2001).</p>
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Within Latin America, there are two different types of pension systems the public- pay as you go defined benefit also known as PAYG-DB. The PAYG-DB is the basic pension model that most Latin American countries used prior to the Chilean reform in the 1981. A traditional PAYG-DB system typically sets pension benefits that depends on your earnings and your years of contribution. However, this system was often criticized because often these PAYG-DB systems have a weak relationship between contributions and benefits and the short vesting period and their rate of return. A vesting period is a time when no contribution to the pension is paid due to something like family care, childbearing etc. The weak relationship between contributions and benefits, meant that many people viewed pension contributions as a tax versus a saving, so often evaded it, or inflated it near the end of their career. The problem with the rate of return is due to the fact the PAYG-DB doesn't invest the

money given at the time, but immediately uses it to fund benefits. (Bertranou, 2001). Another key criticism was the fact that the public system places all the burden on the government, and is an expensive system to support.

**Table 2:** Private Pension Characteristics

<p><b>Private Pension System</b></p> <p>A private pension system ran by private administrators, and regulated by the government</p> <p>People accumulate pension funds until they are eligible to withdraw upon retirement age</p> $PB_{FF-DC} = \frac{F}{Ag}$ <p>F= size of pension fund accumulated over lifetime</p> <p>Ag= gender specific annuity, depending on mortality table</p> <p>Gender inequalities are created by both direct impacts and indirect impacts</p> <p>(Betranou, 2001)</p>
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The criticisms of the PAYG-DB led to the fully funded defined contribution system, also known as the FF-DC. The FF-DC is different in the way that it is privately run by pension fund companies. In a FF-DC pension system, benefits are calculated from four factors; accumulation of pension rights, retirement age, type of pension and longevity. (Fajnzylber, 2010). Current Latin American pension programs are built on one of these two systems. Some countries like Bolivia, Chile, Dominican Republic, El Salvador and Mexico have a pure FF-DC pension system. While other countries like Colombia, Peru, Uruguay and Costa Rica have a mix of the two systems. Finally, countries like, Argentina, Brazil, and Cuba

have continued with a PAYG-DB set pension system. (Arza, 2012). Both of these systems affect Latin American women differently; however, it can be seen that both systems create gender gaps.

The ways in which pension programs and policy are formed create direct gender impacts and indirect gender impacts. The direct impacts come from the originating rules and policy set within the pension system. (Arenas de Mesa & Veronica Montecinos, 1999). Depending on what the exact policy is, the gaps between men and women’s pensions vary. Although it is known that direct effects result from gender-mortality tables. A gender specific mortality table is a table used to calculate pension benefits. The exact equated weight varies depending on country. Set retirement ages are also considered a direct effect in pension policy. The different inequalities between men and women’s pensions are created at different points in time. Some are

created during the accumulation period, or the contribution stage, while others are created in the withdrawal stage.

### ***Direct Impacts***

#### *Mortality Tables*

Typically, a PAYG-DB System and a FF-DC system use different mortality tables to determine pensions. There are different formulas set for estimating pensions, some including life expectancy. When life expectancy is computed as part of the mortality table it is considered a gender specific mortality table and automatically a women's pension will be set lower because they tend to live longer. Typically, a PAYG-DB system doesn't have this direct effect because they use gender-neutral mortality tables. (Alberto Arenas de Mesa and Veronica Montecinos, 1999). But for the FF-DC modeled pensions they use gender specific mortality tables, which has a direct effect on the pensions given. For example, a man and a woman that retired at the same age, and had the same accumulation, would receive different pensions. The woman would receive less in her monthly pension. (Nicholas Barr and Peter Diamond, 2008). This mechanism of indexation is one way that perhaps with intent, or perhaps without intent the FF-DC automatically creates a gap between men and women's pensions. (Camila Arza, 2012).

#### *Retirement Ages*

Another direct impact that is seen within both of the pension systems is the set retirement age. Different countries have different set retirement ages; meaning the age when you are able to retire and receive pension. This year determines when you are able to access your pension, but perhaps more importantly determines when you are unable to contribute to your pension. Often these ages can vary from just a year to five years between men and women. In Chile, the set age is sixty years, while for men its sixty-five. Although this can seem like a good thing, the ability for a woman to retire earlier then a man, it ends up having negative effects. The earlier retirement age means that automatically women have less contribution time than a male. (Nicholas Barr and Peter Diamond, 2008). Often these two direct effects can compile to make the gap wider. In a system like Chile, women are affected by the earlier retirement age, and the mortality table, because both the gender mortality table, and the retirement set age automatically lower her pension.

### *Indirect Impacts*

The other effects that drive the gender pension gaps, meaning difference between men and women's pensions, are indirect inequalities, or inequalities resulting from the labor market and society; the unintended disadvantages that women have within the labor market effects their pensions. Both the PAYG-DB and FF-DC have these indirect gender impacts. Bertranou, explains that although in theory it seems that the pre-reform systems like PAYG-DB would favor women because of easier entitlements, in reality it does not because of the differences in labor conditions between men and women. The largest gender gaps created in pensions are because of differences in number of years participating in the labor market and wage differences (2001).

### *Labor Participation Rate*

One of the more obvious indirect effects of the both systems is the labor participation rate of women. Camilla Arza lays out a table of the labor participation of women and describes how women are less likely to be in the formal labor market, they are more likely to take career breaks and with each additional child more likely to stay in the informal labor market. In data of urban areas of Latin America between forty-five to sixty-two women were in the labor market in 2008, compared to seventy-three to eighty five percent of men. (2012). Depending on the Latin American country it can be more common for a woman to work within the informal labor sector, and studies show that countries where more women tend to be in the informal labor sector creates a larger gender gap, because of the direct correlation between contribution time in the formal labor market and pension benefit.

### *Unemployment/Vesting Periods*

Another factor that can shorten a woman's contribution time is unemployment. A study from 2009 found that women in Brazil, Colombia, Uruguay and Dominican Republic have higher unemployment rates among women, specifically more than four percentage points then the rates of men. (Arenas de Mesa A., M.C. Llanes and F. Miranda Bravo. 2006). The longer the time spent in unemployment the less contribution time towards a pension, so women experiencing higher rates of unemployment then affects their pension in later years.

In private pensions a contribution minimum time is set, meaning one must contribute a certain amount of years to receive a pension. And in public systems benefits are not constricted to contributions requirements, however, pensions are calculated with the number of contributions made. Often because of lower participation rates within the labor market, combined with a higher minimum contribution time, women are unable to qualify. (Arenas de Mesa and Veronica Montecinos, 1999). The lower contribution the more likely a woman must rely on the minimum state pension, on family members, or on social assistance.

Factors like labor participation rate, have a big influence on women's pensions, however a large part of the lack of participation is due to vesting periods of women. Vesting periods meaning the time that women take off of work, or leave the work force. Most often these vesting periods are because of pregnancy, and child care. Multiple studies show that women are more likely to take these vesting periods than men, and are more likely to take longer vesting periods than men. Both the PAYG- DB and FF-DC systems benefits depend on contribution time, therefore without equating these vesting periods of women, the longer a women's vesting period the more likely she will be penalized because of a shorter contribution time. (Camilla Arza, 2012). However, in some countries like Argentina they try to balance out their minimum requirement of a contribution time of thirty years with a childbearing benefit. With each child, a woman has, Argentina will provide a child benefit on to that women's pension, in order to equate for vesting periods due to child caring. (Fabio Bertranou, 2001). However as seen above, because of other factors like unemployment and staying in the informal sector, child benefits, although minimize part of the gap cannot equate for the entire gender gap that is created. Additionally, many countries do not have this childbearing benefit, therefore, have no subsidy for vesting periods of women.

### *Wages*

Another indirect impact that influences the gender gap is the differences in wages. There is the problem of lower wages in general for women, but also some of the factors that influence labor participation of women affects total earnings. Both PAYG-DB and FF-DC systems provide benefits based on individual pension savings, therefore lower wages during the accumulation stage has effects on women's pension benefit. (Camilla Arza, 2012). Estelle James et. al. describes how during a women's accumulation period of life, often women are more likely to

work early in their career, and in the middle or the end of the career are less likely to be in the work force and be making wages. So, women's wages are often front loaded, however, pension systems focus on wages as a whole, or heavily weight wages and contribution made towards the end of careers. (2008).

Many studies have shown that women on average make less money than men, and throughout Latin America we can see this to be true, but reasons why this wage difference exists varies from country to country. Some countries suffer from sexism and have social norms that women should be paid less. Many social factors and beliefs of the role of women can end up having serious economic consequences, because although some women choose to stay in the home, many feel constrained and forced to stay in the home. On the other hand, in more progressive countries where overt wage discrimination is outlawed the wage difference still exists.

### *Education*

Lastly, things like education can influence wage inequalities. The amount of job training and education influences the types of jobs and wages a woman earns. (Nicholas Barr and Peter Diamond, 2008). Although gender gaps in education have improved, in some nations like Bolivia, Guatemala, Mexico and Peru a wide gap between male and female education still exists. (Suzanne Duryea et al., 2007). Agnes R. And Kelly Hallman suggest that even though many education gaps between men and women are closing, assets in marriages continue to favor men, and in some countries like Mexico and Guatemala the difference between asset wealth between couples is even growing. Meaning that despite a greater equality in certain things like education, other social and political factors are continuing to influence an economic gap between men and women (2003).

### *Widowhood*

Camilla Arza argues that the fact that women are more likely to widow indirectly affects a women's pension. Married women that spent most of their life in the informal labor sector, or those that worked in the formal labor sector but made smaller wages, often rely on their husband's pensions. The idea of a survivor or widow pension is based on the idea of woman's dependency on the male breadwinner. (Camilla Arza, 2008). But as seen before, because often

Latin America society is still operating in the case of the male being the main provider, a widower's pension is important in order to protect widows. Widows pension depends on the country, but through reform some pensions in Latin America now offer some sort of widow's pension, but some countries still rely on the good will of the husband to leave money for his wife and family. Although often times even with a widow's pension, women find themselves having to live at lower costs than when their husband was alive due to different economies of scale. One study from Casey and Yamada, shows that in a group of nine countries the average women widowed implied a fall in income from twenty to thirty three percent. (2002). Widows pensions vary from country to country, often times widowers are forced to give up their own pension in order to receive their widow pension. In newer reforms, it is seen that often widows benefits must be purchased, however women can keep their pension as well. (Estelle James et. al. 2008).

### ***Divorce Impact***

Lastly an indirect gender impact that has been less studied is divorced women's pensions. Although this impact is mentioned in a few studies, the impact of divorce on a woman's pension has not been researched in depth, and pensions influence on the decision to divorce is not considered. This will be the focus of my thesis; the relationship between divorce and women's pension. I'm going to be presenting information in order to think about how these two things could possibly be connected; the other gendered impacts we've seen in the literature is important in this relationship, as it gives us a framework to look at the potential impacts.

Carmen Diana Deere and Cheryl R. Doss argue when studying wealth and assets, many studies make assumptions on wealth distribution between married couples. Even more so, often time studies are conducted to demonstrate the household welfare, but not the individual welfare. However, is this a correct assumption? Can we assume that wealth is distributed evenly between couples? (2006). In more traditional economies, women spend their life in the informal job market, however with age they become less productive in the informal market, and they end up having to rely on what Estelle James et. al. describes as the "accumulated good will" of the family. (2008). Meaning that their husband or children take care of them financially. My concern is what happens when these women are left and if "accumulated good will" fails, or if women divorce their spouse? If a woman is relying on the "accumulated good will" but does not receive it she becomes vulnerable. Basic minimum pensions can be a type of safety net for

women like this, because of this, it's important to note how basic pensions and pension policy in general affect women. Furthermore, recognizing how divorced women may be financially burdened by policy.

I'd argue when we make assumptions that wealth between married couples is equal, we are also alluding that divorced women face the same financial burdens as male divorcees. However, we know that these women assume more financial risk and burden from divorce. (Estelle James et. al. 2008). Fabio Betranou addresses this problem with this idea of "pension sharing", or the idea that if a woman is working in the home, while her husband works, because her work enables him to be go out and work, they should have a shared pension. In places where pension sharing isn't legal and divorced women have no rights to pensions after separation, divorced women face poor prospects. This is concerning due to the fact that there is likely to be more divorced women in the future, due to higher rates of remarriage among men, and mortality rates. (2001).

Divorce is a newer cultural phenomenon in Latin America, and that being said relative to many other countries the divorce rates in Latin America are fairly low. However, I think this an important topic in the pension gender discussion, because as economies develop, societies will move towards a higher labor participation rate of women, and higher education levels, closing some of the gender gaps. On the other hand, as economies develop, the greater longevity of women and higher divorce rates will maintain the gender gap. (Estelle James et. al. 2008). So as Latin America policy reform continues throughout Latin America, it is important to consider divorce in this conversation.

## **METHODS AND ANALYSIS**

In order to evaluate the potential relationship between divorce and pensions I use a combination of both an analysis of quantitative data and qualitative data. The combination of these two types of data give a broader picture of the possible relationship between divorce and pensions. I use qualitative data analysis of literature and research in similar fields, to analyze my own topic and to give a background and establish current findings in the field. The quantitative data I use is a combination of data from other sources, as well as forming my own data from these data sources, and creating a compilation of my own data trends. I look at different data to give background to the types of pension systems in Latin America, and the various reforms

throughout time. I then analyze divorce rates through Latin America to show the relationship over time with pension reform. Through this process I expect to find a positive relationship, and to encourage more research between this relationship.

### ***Existing Relationship: Economics and Divorce***

The first part of my analysis will be to characterize the relationship between economics and divorce. I will be looking at the literature that exists to explain how certain economic factors like income and wages can influence divorce and marriage decisions. The literature I choose to examine is mostly from the US, and focuses on the US, although I do use some research from other countries. I chose to examine this literature mostly because it was part of the literature out there in this topic. The research done in the US is much more extensive on this topic, then when I specifically looked for Latin America, or other countries. Despite this US focus I found that this literature gave a good background of economics and divorce studies, and connected to my topic.

Some research and literature that will be important in this section is the literature on how different policy law can influence divorce in different ways. This is important in my topic because it is research that explains how different political and economic policy effects divorce rates. Specific literature I'm looking at on policy and divorce is; Stacy Dickert, and Cristian Meghea examining how social laws influence divorce, from Whittington and Alm examining how tax law influence divorce, and Alessandra Voena examining how divorce laws effects divorce. All of these sources are specific to the United States. However, I do use one case form Sigve Tjøtta and Kjell Vage that examines the relationship between public transfers and divorce in Norway. I will be looking at this literature from both an economic lens, and a socio-political lens. The economic lens being that I will analyze this literature with economics in mind, relating how certain economic effects in the literature could be present in Latin America as well. The socio- political lens, being I will analyze how certain economic effects could influence both social and political decisions.

Lastly, I will be looking at a specific case in Denmark, written by Anna Amilon on how a specific pension reform in Denmark effected divorce rates. This case was the only case I was able to find on how specifically pension reform could influence divorce decisions and probability. The examination of existing literature of economics and divorce will be the

foundation of my research because it will establish how economics is influential in divorce decisions, and how pensions could be viewed as part of this economic factor.

### ***Pension Reform in Latin America***

Next, I examine past and current state of Latin America, meaning I will examine the three different types of pension systems, and the past and current reforms that have been set. The specific Latin American countries I choose to examine are Chile, Mexico, Brazil, Uruguay, Costa Rica and Cuba. The decision to choose these countries were because of various reasons. The main reason being of the limited data that was available on divorce and marriage numbers. Although some other countries, like Peru, had interesting developments of pension reforms, there were no years in which I was able to calculate a divorce rate for Peru. Another factor that determined my choice for countries, was the different pension systems in Latin America, and there years of reform. I wanted to choose countries with a variety of pension systems; so, the above countries I have two examples of each different pension system. As well as, choose countries that experienced some reform in the last thirty years. Although certain countries fit my wishes more than others, for example Chile was a perfect example of different reform years etc. I think that these six different countries give a good perspective of the changes in pensions throughout Latin America.

In order to explain the pension reform, I will explain the historical context of these reforms, and how the spread of pension reform came to Latin America. After this context, I'll explain research from Betranou 2001, to establish the three different types of pension systems. I will create figures to show where these different systems are in Latin America. I then will explain from literature and data figures when reforms within Latin America have occurred. I will give the reforms context by connecting them with previous topics seen in the literature review, as well as examine the purpose for these reforms. Through each country I will also explain the current political and social environment towards pensions. Explaining what reforms are discussed in current politics, and what this reform would mean for that country and for women. From this analysis readers will be able to see how past systems have evolved with in Latin America, as well as the connection between all the countries.

### ***Divorce Data Collection***

Lastly using data from the UN, I will create graphs of divorce data. I choose the data from the UN because it is a reliable source, and one of the only sources available for divorce rates. I used this data to make my own calculation for divorce rates. From the UN data, I took the available divorce numbers, and the available marriage numbers, and for the years they matched would divide divorce over marriage to get a divorce rate. I choose to do my own calculation, because the divorce rates given by the UN were very limited, and often nonexistent, so I decided to calculate the divorce rate by taking the number of divorces that year and dividing it over the number of marriages that year. This was the most consistent rate that was available to me. I found that my data would be more consistent if I calculated the divorce rate in this way, rather than using the limited divorce rates given. I also decided to use one source of data from La Tercera newspaper, in which their source was the Chilean census bureau. I found that as I was doing my research the divorce rates given in newspapers were often very different than those that I found from the UN. I decided that this gap was significant enough in the conversation of divorce data to include one of these sources. However, I choose to only use one data source of this kind just to demonstrate the data gaps. As well as to describe how potentially a larger relationship could be seen depending on what data is used. I then plan on using the data that is available to overlap with the data of pension reform to show the relationship between the two. A lot of this analysis will be economic analysis, as I will be looking at the economics of pension policy and divorce rates and breaking it down for readers. I also will be using a political analytical lens, since I will be analyzing the political implementations of reform, as well as the social implementations.

### ***Analyzing Trends***

The last part of my analysis will be to analyze the trends happening with the data in my findings. This will be an important part to tie together my thesis. From the literature, to the figures and graphs, I will tie it all together and analyze the important trends happening. This sections content will be the final evaluation of the relationship between divorce and pensions. This also will be the section in my thesis of connecting my topic to the broader ideas and highlight its importance in research to come. I will analyze on how my findings tie to the idea that women issues and this issue of pensions and pension reform is an important subject as policy makers look forward to furthering reforms.

### ***Limitations***

Limitations I am facing in my analysis is a various combination of outlying factors, and limited data sources. One important limitation in my thesis is all of the other factors that drive divorce rates. I'm unable to speak to all of the reasons divorce rates can change. However, I will give one section of my thesis to this important limitation. Another limitation I'm facing is the limited data sources of divorce rates and pension reform. I will be using the data I have available and using a combination of literature to try and do my best with this limitation.

## **FINDINGS**

### ***Economic Theory and Divorce Behavior***

**Table 3:** Economic Theory and Divorce Research

<b>Existing Research</b>	<b>Economic Theory</b>	<b>Effect on Marriage/Divorce behavior</b>
Treatise of Family, Gary Becker (1991)	Humans specialize, develop skills and earn a living by their specialization	People marry people with different specialization to increase their material well-being
Economic Influences of Marriage and Divorce, Nancy Burstein (2007)	Disadvantaged people marry and stay in unions for different reasons than advantaged	Disadvantaged people often can't afford to be single
On the Study of Divorce and Socioeconomic Status, Dorothy Smith (1985)	As a country develops, women labor participation rate increases, and so does her socioeconomic status	Women with higher socioeconomic status are more incentivized to end unhappy marriages
Structural Determinants of the Divorce Rate: A Cross-Societal Analysis Katherine Trent, Scott South	Tight knit families in industrialized society do not have same value as in unindustrialized society	Developed and industrialized societies have higher divorce rates

It is reasonable that Latin America has a lack of specific research on divorce and economics, due to the fact that divorce has only been legalized recently for many countries, Chile (2004), Brazil (1977), and Argentina (1987). Research on economics and divorce is a newer subject in the field of economics. However, from the research done, it is clear that there is a strong relationship between economics and divorce decisions, in various different ways. I will be examining this literature in order to give support to why this topic is of importance, and how pensions can be thought of as a type of financial asset, that would therefore influence divorce.

One of the first theories of economics and marriage/divorce decisions comes from Gary Becker, in his *Treatise of the Family* (1991). Becker explains a standard economic model that individuals marry in order to increase material well-being. He explains how a marriage relationship is similar to trade, and specialization. Couples consist of two people with different specializations. Of course, this cannot equate for all marriages, as we know couples are often not specialized. But this theory gives a basic foundation of viewing the decision to marry as an economic specialization. Other economists have found that “disadvantaged individuals”, or people with fewer opportunities in life, have different effects of why they would stay in a union, like a lower opportunity for work, or self-insurance against things like unemployment and sickness, as well as a lower overall material wealth. Or as Burnstein phrases it “the idea that disadvantaged cannot “afford” to be single” ( Burnstein, 2007). This idea is similar to Beckers, in the way that it suggests that disadvantaged people tend to stay in married situations, or seek marriage, and seek someone of different specialization.

Although many critique Beckers theory, the basic idea that marriage and economics is tied is seen in other studies. For example, various studies have been done on whether income influences marriage and divorce decisions, and that women and men tend to make different financial decisions. Income effects have been seen to have a wide range of influence on marriage and divorce. For example, a higher male earning has been shown to mean a more stable marriage. (Tzeng, Mare, 1995). In addition to this, it is known that women and men save differently within a marriage. Women tend to spend more money on their children. Even in western developed countries, like Canada, women have a lower likelihood of saving and financial planning. Although the spending on children can equate for some of this, there is a clear disconnect, and researchers are unsure of why women’s saving continues to lag behind men. (Shelley, 2006). This difference in saving can be important in the conversation of pensions

because women’s savings effects women’s pensions. This lag means that even in western countries women often depend on their husband’s pension in old age. (Gustman and Steinmeier 1999; Sunde’n and Surette 1998; McGarry and Davenport 1997).

Research has also seen that more developed countries tend to have higher divorce rates. As Latin America develops it important to look at how this development could influence divorce rates. For example, countries like Australia, Canada, Norway and the United States all are highly developed countries with some of the highest divorce rates. While countries like Nicaragua, Honduras and Thailand are less developed and have very low rates of divorce. It has been found that the more industrialization, or development a country experiences the more likely “family disruption” will occur. Meaning that the tight knit family isn’t as necessary for daily function as it was in the past. (Trent, Scott, 1989). One famous researcher within the field of family research, William Goode, found in his first study in 1969, that modern marriage is unstable because unlike in the past, marriage being an economic decision, many times people now marry for love. (1969) Perhaps the most studied is how women’s labor rate effects divorce rates, and this positive relationship. We can see this positive relationship between women’s status, and divorce. Expanding on this idea that as a woman becomes more financially independent she is more incentivized to end unhappy marriages. (Smith, 1985). It’s important to note that not many research studies have done correlation studies across different countries, and many of this research is about the United States.

***Economic Policy and Divorce Behavior***

**Table 4:** Economic policy and Divorce Research

<b>Existing Research</b>	<b>Economic Policy</b>	<b>Effect on Marriage/Divorce Behavior</b>
The Effect of Social Security on Divorce and Remarriage Behavior Stacy Dickert, Christian Meghea (2004).	A change of policy to make US social security benefit after 10 years of marriage	Divorce rates after 9 years of marriage increased
Til Death or Taxes Do Us Part: The Effect of	The US income tax incentives change couple’s behaviors,	Couples respond to tax incentives in their decision to

Income Taxation on Divorce Leslie Whittington, James Alms ( 1997)	and vary for men and women	divorce, specifically women clearly respond to tax incentives
The effects of a Danish legal reform on divorce probabilities and pension Savings Anna Amilon (2015)	Danish law was changed to treat pension weights the same.	During the first 7 months of the reform divorce rates in sample increased .1-.3 %, but predicted to increase more in general population

Divorce studies in the world are relatively new, however many studies out there right now are on the effect of economic policy on divorces. The literature on divorce mostly consists of influence of legislative decisions on divorce, and the economic incentives for divorce. A countries divorce rates could vary depending on their policy, and divorce rates have seemed to be highly influenced by policy. In the US, social security benefits used to be set after twenty years of marriage, but was moved to benefits being set after ten years. A study found that divorce at nine years increased from this change of law. (Dickert 2004). Additionally, there are studies that show that tax incentives influence decisions to divorce. (Whittington, Alm, 1997). In Norway, it is seen the public transfers increased divorce rates (Tjotta, Vaage, 2006). Depending on the state in the US divorce allocations are set to community property states (assets divided equally), and title based states (where assets split to spouse that holds title of property), these differences have shown effects during marriage, and divorce. It is shown that when assets are equally divided during marriage, equality of consumption is more likely. The reforms of equal division tend to have the largest benefit on women with a lower income then their husband. (Voena, 2015). As can be seen from these studies, the changing laws, and evolvement of laws is an important element to understand when evaluating divorce rates and patterns.

Money, assets and income all have a role in divorce decisions. In many ways, a pension is a type of asset, or income. Either way it is seen, pensions are financially important and influential in lives. So, if we view pensions as a type of income, or asset, of course pension would also then have a relationship with divorce. Previous literature on pensions, men and women, one study shows that as a women's bargaining power increases pension savings increase. (Brown, 2000). Another study shows that a woman saves closer towards retirement. (Lundberg, Ward-Batts 2000). A study by Anna Amilon, studies the effect that a recent Danish

pension reform has on divorce rates and probabilities of divorce. The Danish pension system could be considered a mix system because it's a combination of PAYG-DB, and a FF-DC as well as individuals private savings. Before the 2007 reform, different pensions were given different weights in divorce. For example, "if a self-employed individual got divorced from an employee, the self-employed party would have to share his or her private pension with the employee, whereas the employee would keep all his or her labor market pension." However now with the reform the different types of pensions are given the same weight. Amilon found that in this reform, in a 7-month period, divorce rates increased by .1-.3%, but with the smaller sample size, in total she predicted a 12-40 % increase. (2012). This study is an interesting case where we can see that specific pension policy is directed at divorce, and pension policy effects divorce rates and probabilities. Although Latin America has a different political and social situation then Denmark, and its pensions are set up differently, this study illustrates the potential relationship between pensions and the decision to divorce.

The existing research of economics and divorce establishes a clear relationship that economic theory, and direct change of economic/political policy has an influence on divorce behavior. This is crucial to understand the relationship between divorce and pensions. Pensions are a type of financial asset; therefore, pension policy should be considered an economic policy that could potentially influence divorce behavior.

### ***Pension Reform in Latin America***

I will now begin to characterize the different systems within Latin America. As seen in my literature review there is three different types of pension systems within Latin America, the PAYG-DB, the FF-DC, and a mix of these two systems. Current Latin American pension programs are built on one of these two systems. I will specifically be focusing on Cuba, Mexico, Costa Rica, Chile, Brazil and Uruguay, because these are the countries with the most extensive divorce data as well as pension data. Lastly in each country I will describe the political environment surrounding pensions. Many of these countries may have not experienced reform lately, however, almost all of these countries have politicians, citizens and sometimes international communities pressuring for reform. The desire for reform is an important part of this discussion, because some of the desired reform addresses issues seen in the pensions, while

other desired reform can ignore some of the problems that exist, and this desire can help predict future policy.

**Figure 1:** Pension systems in Latin America



**Table 5:** Pension Reform in Latin America

<b>Country</b>	<b>Years of Reform</b>	<b>Summary of reforms</b>
Chile	1981, 2008	1981- privatized pension. 2008- set up a basic solidarity pension, set up reforms specifically to address gender
Mexico	1995	Privatization of pension
Brazil	1998	Change of calculation of pensions
Cuba	1965, 2008	1965- universal pensions 2008- Raised the age of retirement by 5 years
Costa Rica	2005	Introduced a private pillar in the pension system
Uruguay	1995, 2008	1995- added a private option, maintained the public option 2008- changed retirement age, added subsidy for women with children

The two countries that have completely private pension programs that I will focus on are Chile and Mexico. FF-DC or fully funded pension system means that citizens are paying their contribution into an individual account. These funds are invested and then the returns are added to the investments. The DC in this case means defined contribution, meaning that there is a set number of years of contribution, rather than benefits set. (Mesa de Lago 1996). The government's role within pensions switched to regulator, vs the infrastructure that provides pensions.

As mentioned previously after the reform of 1981, it became clearer that a private pension program did not solve all of the pension issues. Rather private pension systems still contain issues similar to that of public, and also created new issues. Some of these issues as noted earlier are gender inequalities, but also inequalities created between classes in general, as well as high administrative costs, and no manner to account for unemployment and other gaps in employment. (Buchholz, 2008). In 2008 Chile had its first major pension reform since 1981, this reform was meant to equate for some of the problems that were occurring within the pension system. Under Michelle Bachelet, Chile implemented this reform. Perhaps the biggest implementation was the basic solidarity pension. Meaning the reform set that a basic pension must be available to all citizens. This was implemented to ensure that even those who were unable to, or did not contribute to the system are able to get a pension. To qualify for this type of pension you must be at least 65 plus, and rank a certain poverty level based on a poverty level scale. This reform also included a pension top up; meaning that those that did contribute to the pension system have increased benefit. (Behrman, 2011) This basic set pension is a super important evolution because this basic pension creates a pension for many elderly women that had no contribution, or very little contribution due to things discussed earlier.

However, a key piece of reform in 2008 was reform specifically targeting gender inequality. Chile is the only country out of the countries that I study that has reform specific to gender. Chile made four specific targets towards women's pensions. The first reform was setting aside a grant for each live, or adopted child. This grant was equal to eighteen months of minimum wage contribution. This is particularly helpful to women that are inactive in the contributory system due to childcare. Another reform added was addressing the survivorship/widow pensions. Before the reform women's and men's survivorship was calculated the same way, despite the mortality table of men and women being different. However, in the reform the calculation was reformed to calculate men's and women's survivor pension differently, this did not subsidy the age difference, however was simply put to avoid a cross subsidy from women to men. Chile also implemented a compensation case for divorce and annulment. This reform meant that a Judge could instruct transfer of pension from one party to another, if he/she deems necessary for economic compensation. However, its crucial to note that this is entirely up to the judge, and depending on eligibility for the solidarity pension, a

compensation pension may not be granted. Listed in Table 6 is the breakdown of the estimated difference of this. The reform directed at divorced/annulled women, clearly shows that previous to reform divorced women are a vulnerable group as they age and receive pensions. Arguably these women can still be considered a vulnerable group, as this reform leaves the pension splitting to a judge, whom could have biases. (Berstein et al, 2009). However, this reform is the most direct reform addressing inequalities of pensions for divorced women that is seen in the countries I have studied.

**Table 6:** Woman’s pension and duration of marriage

<b>Improvement in woman’s self-funded pension</b>			
<b>Man’s wage</b>	<b>Duration of Marriage</b>		
	<b>5 years</b>	<b>10 years</b>	<b>20 years</b>
\$120,000	0%	0%	0%
\$250,000	14%	24%	39%
\$500,000	40%	71%	114%

<sup>42</sup> The assumptions made are: woman with a real wage of \$120,000, uniform contribution density of 50% for both spouses as from the age of 20, 5% real annual yield on the funds, and an age difference of 5 years (the man being older). Though the statistics suggest an average age difference of 3 years between the spouses, it was decided to assume 5 years, as a method of coordinating the retiring ages and without producing any major alteration of the results.

Despite the reform of 2008, it is clear that more reform to the Chilean pension system is still something desired by the public. On March 27, 2017, 800,000 protestors flooded the streets of Santiago in protest of the FF-DC pension. The main argument made is that the FF-DC benefits the richest, and penalizes the poorest. Leaving the poor with less than minimum wage to live off of. (BBC Mundo, 2017). So, although, Chile initiated reform of its private system, much of the public is still unhappy.

Similar to Chile, Mexico used to have a complete PAYG-DB system, which was replaced in 1995. However certain elements of this pension system are originally different then the Chilean system. The Mexican reform of 1995 immediately set a minimum pension for all citizens. Mexico’s pension reform was highly influenced by the Chilean model. Mexico had a PAGY-DB system and then in 1995 developed an FF-DC system. Similar to Chile, Mexico was experiencing problems with the PAGY-DB system and decided to switch to FF-DC to

limit/eliminate these problems. However, Mexico's original FF-DC is different than Chile. For example, right away in 1995 a minimum pension was set. This minimum pension is based on consumer price index versus evolution of wages. Since this original reform Mexico has not made any additional reforms. Additionally, different from Chile, Mexico did not have a dictatorship when pensions were changed, and so women's role in workforce is different than in Chile and was not as discouraged. For example, during this time the labor rate of Chilean women is lower than that of Mexican women. (World Bank Database). Although Mexico has not experienced reform, many citizens are worried about the effects of this pension system on their pensions, and many researchers are arguing that the system is on the verge of a collapse. Mexico is known to be an aging population, and experts from Organization of Economic Development, the OECD estimate that Mexicans final pension will be 25-35%, when the recommended amount is 75%. The OECD has urged Mexico to undergo major change in their pension system. (Carbajal, 2015). Although most of these worries are specific to the system, and not to gender inequalities, within Mexico there is an awareness that women, and the poor are disadvantaged, and many worry that the "safety net" provided by the pension system is not enough. (OECD)

The same year of 1995 when Mexico reformed, Uruguay reformed as well. Uruguay was also influenced by the Chilean model decided to implement FF-DC. However, Uruguay kept its PAYG-DB system and added a FF-DC option as well. Robert Palacios, and Edward Whitehouse, in their paper the Role of Choice in the Transition to a funded Pension system, describe Uruguay as the most complicated reform, and switch out of any Latin American country. They explain the reform is the most complicated, because of the mixed system implemented, but also because the government tried to predict how many would switch to fully funded pensions, and estimated wrong. This then made it complicated, because the way that they structured the pension and pension ages etc. was made based off of this assumption. (1998). Uruguay had a long-standing pension system, which consisted of a PAYG-DB system in which workers had to contribute 30 years and had a minimum retirement of 55 or 60 years old, this system also had disability pensions. In 1995, the PAYG-DB program was reformed so women and men had the same retirement age. The contribution age, was then raised from 30 to 35 years, and the FF-DC pension pillar was added, giving citizens a choice between to different schemes. Then in 2008, Uruguay reformed again. This reform actually reverted the ages of pensions necessary on the PAYG-DB side, back to the age previously needed before the reform. Another important change

they made, was to add on a subsidy for women with children's pension. It added one more year of contribution for every child, for women. (Cruces, Bergolo, 2013). Uruguay as we can see is an interesting case in looking at reform, because it was influenced by the Chilean reform, and the move towards FF-DC. However, kept the option of a public pension as well. The reform for women with children, also indicates that Uruguay was aware of the inequality being produced, and made that reform in order to try to reduce that inequality. This is important for gender inequalities in pensions, because the women subsidy for women, equates for some of the inequalities produced in vesting periods.

Similar to Uruguay, Costa Rica moved to a mix system, but it was one of the last countries to make a reform, as it reformed in 2005. Costa Rica is an interesting case because for a long time it resisted pressure from other nations, and organizations like the world bank to privatize its pension program. Even in its reform of 2005, it resisted to make it more radically private, like the World Bank wanted. Kurt Weyland describes that for Costa Rica we can see this battle between the technocrats and other officials on the policy of pensions. Ultimately, having the technocrats succeed, when enacting the FF-DC parallel to their PAYG-DB system. (2005). Costa Rica's system consists of four pillars. The first pillar being that of the basic contributory system, is a set mandatory contribution to organizations run by the government, this is considered to be part of the public pension pillar of the system. The second pillar is the supplementary pension, this is an obligatory contribution to a private pension administrator, one chosen by the worker, the pension is then calculated by these private pension administrators, this pillar is associated with private pension. The third pillar is the voluntary supplementary pension, meaning that one can choose to save more with an administrator of their choice. Lastly is the pillar of the non-contributory pension, meaning extra assistance/pension to those that either are unable to make the minimum of contribution or were unable to contribute at all. (SUPEN, 2017) Costa Rica's mixed system is different than Uruguay because it requires everyone to participate in both the public and private system. The first two pillars are mandatory to participate in.

Costa Rica is also a different case, because unlike Mexico, and Chile that are shifting back towards more "public" in the way that they are pushing for reforms for the private system, Costa Rica is pushing towards more private. Costa Rica, like Mexico, and many other countries is concerned that its pension system will not support its growing elderly population. Various reforms are being suggested; to raise the minimum age for retirement/pension benefits, decrease

pension benefits, or complete privatization. This is an interesting shift, because Costa Rica sees its aging problem as perhaps being solved by privatization. However, there is an acknowledgement that many of these suggested reforms aren't the answer. For example, Edgar Robles, the ex-superintendent of the pension system in Costa Rica, argues that a more fluid mixed system is needed, and instead of a multiple pillar system, Costa Rica should move towards a single pillar system with mixed elements. He argues this is different from what is currently happening in the country, because currently the public pillar is making risky investments with the pension fund, and the solidarity pillar is leaving people behind. However, he argues that moving to a complete private pension would leave the poor behind as well, and would be an expensive shift. Robles is able to state clearly that a complete private, or a complete public system does not solve everything, which moving forward is an important concept to consider as we see different Latin American countries struggles with their pension system. (Robles, 2017).

Lastly both Brazil and Cuba have a PAYG-DB pension system. A PAYG system is one in which the current generation pays for the older generation and so on. Or as Carmelo Mesa-Largo describes each generation is in "solidarity" with one another. A DB, means a direct benefit, meaning that in these public PAYG systems, law sets direct benefits. Brazil and Cuba are two Latin American countries that have continued to have this public system. (1996).

Unlike many of the countries we've seen in Latin America, Brazil decided to maintain its public pension program. Similar to Costa Rica, Brazil felt the pressure of the international community, and other Latin American countries to privatize. In the 1990's the question of privatizing the pension was a top priority for the government, however when it came to reform, Brazil made changes to the public pension scheme instead of reforming it completely, due to various factors. (Weyland, 2005). One of these reasons was that Brazil found it too expensive to completely change to a private pension scheme. The reform of 1998 sought to change certain problems the public system was experiencing, and create a new methodology for calculating benefits. The change to the formula produced a formula more flexible, and adjustable, with goals in mind to correct distortions made by previous models. This reform also eliminated contribution scales, and an extended time of calculating contribution benefits. During this time Brazil created other social programs, and the social security system became responsible for non-pension benefits. But perhaps the most important difference in the Brazil pension scheme is that it gives

higher value to civil servant's pensions. The pensions for civil servants represents about half of the pension total, and is a main factor in Brazil's pension inequities (Bonturi, 2002).

Although Brazil's pension system has not experienced much reform, the want for reform is one of extreme priority for the government. In March 2017, was the deadline for proposals for amendments of the pension system. In total, 164 amendments were proposed by politicians to change the pension system in various ways. One of the suggested reforms is to raise retirement ages, but to have women's age lower than men's, as a way to recognize women's tasks within the home. (Sputnikmundo, 2017). However, as we've seen in the literature, often times depending on the calculation of pensions, a lower age for women can be disadvantageous, if mortality tables are used in addition to the lower age. The pension system is under the constitution in Brazil, and to make these changes it would require a 2/3 vote by congress, therefore making it hard to change the system. This movement of reform is being led by President Michel Temer. President Temer has been under trial for corruption two times throughout this year alone. (Londono, 2017). That being said, Temer's movements to reform the pension system have been drastically slowed down due to his unpopularity, and the time consumption of congress on matters of the corruption charges against him. (Reuters, 2017). So, although there is a big recognition to move towards pension reform, Brazil continues to wait, and no set reforms have been made.

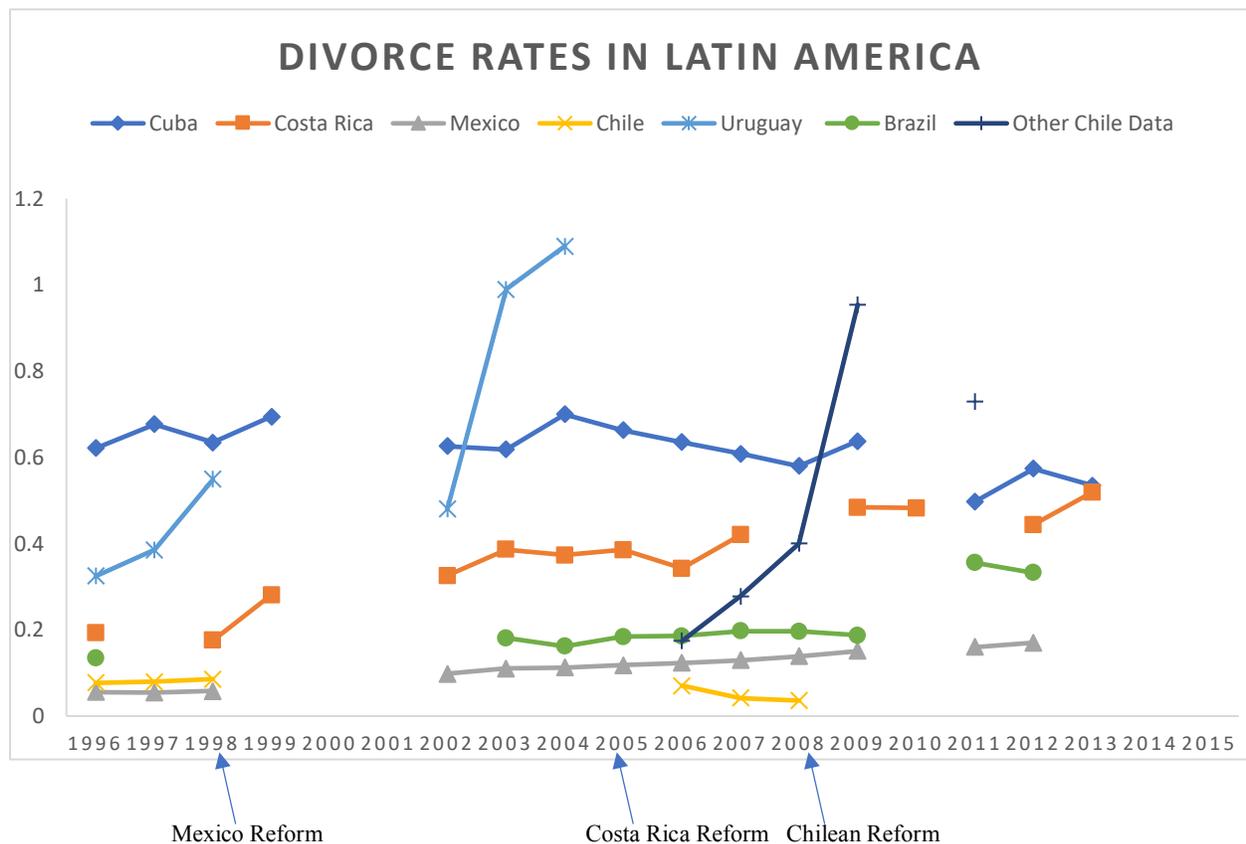
While the rest of Latin America was experiencing neoliberal policies, Cuba was in a closed economy. From the time of the rule of Fidel, Cuba shifted its policies, and began to keep its focus inward. So, it's no surprise, that Cuba did not follow the lead of Chile for private pension. Rather instead, they kept their public pension program. Fidel universalized the Cuban pension shortly after coming to power in 1963. However, different than Brazil, because the country is a centrally planned economy, most were employed by the government, tax evasion on pensions is more difficult. The pension program remained basically the same throughout all of Castro's rule. (Perez, 1998). Cuba operated under a strict PAYG-DB pension program for all citizens, and still does to this day. Cuba has experienced one reform, when in 2008, Raul Castro raised the age of retirement, by five years. However, Cuba's population continues to age, and the pension program continues to be a large expense, despite much of the population living on minimum pensions. (Mesa-Lago, 2014). Despite this, with the changing politics of Cuba we do not see a large push for any pension reform.

Although there is this clear ripple effect of the privatization of pensions. It is clear that each country experienced this influence and reformed pensions differently. We are able to see this swing from public to private, however as countries like Mexico and Chile have politicians and the public pushing towards subsidies and forms of “public” again. While other countries like Costa Rica and Brazil are experiencing concern of the ageing population are experiencing a push from politicians and the public to “privatize” or reform the public system. The experience of the women varies in each situation. As we know from the literature, certain changes of retirement ages can sometimes increase a pension inequality, if mortality tables are used. Yet some countries with basic pensions help support women, specifically poor women, and although all of these countries now have a basic system of support, often times these minimum pensions are not enough money to sufficiently support the vulnerable. On the other hand, recognition of gaps, and subsidies for children like in Uruguay and Chile can help close some of these gender gaps. Although many countries above have not experienced multiple reforms, or gender specific reforms, it is still important to consider future reforms and the gender effects of these reforms.

### ***Divorce Data Section***

In the scheme of history, divorce is a relatively new concept, and a relatively new thing to measure. In many Latin American countries divorce didn't become legal until the last few years, as late as 2004 in Chile. While other countries like Uruguay have had divorce law since 1913. The UN defines divorce as “a final legal dissolution of marriage, that is, that separation of husband and wife which confers on the parties the right to remarriage under civil, religious and/or other provisions, according to the laws of each country” (United Nations, 2001). The data I gathered is from the UN, from there I gathered divorce numbers, and marriage numbers, and created the divorce rate by dividing divorced over people married each year. I also included a double set of data, one from the UN, one from the Chilean Census Bureau, to display the varying divorce rates depending on data.

**Figure 2:** Graph of Divorce Rates in Latin America



As seen in the Figure B, Latin America overall has an increasing trend of divorce rates, with no obvious trend with pension reform. We also can see unsurprisingly that the more conservative nations, like Chile and Mexico tend to have very low rates over time. Chile decreased rates from 2006 from 2008. But the last data available from the UN was in 2008, and so we are unable to see what the rates were after the 2008 Chilean reform. However, the other Chilean data we see a large spike in divorce rates from 2007-2009. As you can see depending on what data is gathered the increase in divorce rate could vary quite drastically. Mexico similarly has steady rates, with a slight increase over time. Uruguay is by the far the outlier of data. Because I calculated all of the divorce rates using divorce data over marriage data, meaning the marriages in that particular

year, because that was what was available to me. This explains why Uruguay was such an outlier, as it clearly didn't have high marriage rates those specific years. Uruguay has some of the highest rates, and there is a large spike from 2002- 2004. Costa Rica experiences higher rates, but in 2006, the year after the 2005 private pillar of pensions were introduced rates drop slightly, however after that begin to rise again. Brazil has fairly steady rates with little change, but after the 2005 reform there is a slight increase in 2006, but overall pretty steady. Lastly, in Cuba there is a fluctuation of rates, and an increase in 2009 of rates after 2008 when Raul Castro raised age minimum. Overall we see that over time divorce rates increase in Latin America, but see no obvious trends.

### *Analysis of findings*

From my findings, I found that the relationship between pension policy and divorce is a complicated one. Although I was unable to make a correlation between the two things, I think one can see in my findings that a relationship between the two exist, and although they are different, the two connect in ways.

In the first section I was able to find a lot of literature connecting economic policy with divorce rates and/or behavior. The first section just consisted on research on how economic behavioral theories, and economic development affects divorce rates/behavior. The second section specifically focusing on how economic policy or divorce laws influence divorce rates/behavior. This showed me that economics influence divorce. Pension policy is an economic component of politics; therefore, pension policy also affects divorce. This section I was able to broaden the conversation of this topic, to then be able to point back to the connection of these two with stronger evidence.

From there in the section on pension reform, we begin to see how complicated pension reform and policy becomes. It is more than just private or public, each country was slightly different, and reformed at different times. Here, we are able to see that the pension systems contain these inequalities previously mentioned. However, we also are able to see the intricate differences in these pension systems. The study on current wishes for reform was important piece of the story, because although many of the countries have yet reformed, it is interesting to observe how hard pressed many are to change and reform. I think that this push for new reform,

highlights new issues, like the demographic transition in Latin America. This reform was key to understand what new and previous reform means for women.

Lastly, I gathered divorce data to illustrate what divorce rates were during the time of these reforms. There were not any specific trends, besides in all countries the divorce rates seemed to increase over time. I had expected to find that depending on time of reform, if reform was directed at woman's equality we would see an increase in divorce rates, however I did not find this to be the case. Additionally, it is unknown if the reform would affect divorce rates immediately or if it would experience a lag for some reason. Despite the divorce data being not what I had expected, I think that my findings generally describe a different manner to view both pension systems and divorce behavior.

### ***Limitations***

The limitations I had were very specific on finding the data for divorce, as well as for marriage. The divorce data I found was a wide mix. Most of the data I ended up using was from the UN, however I did the calculations for divorce rates, because the divorce rates were unavailable for many countries and for many years. I decided to calculate the divorce rate by taking the number of divorces that year and dividing it over the number of marriages that year. This was the most consistent rate that was available to me. However, even with calculated divorce rates, I was limited by the fact that data was not available for marriage numbers, or for divorce numbers. This gave me only the divorce rate of certain years.

An important thing to note, is that many newspaper articles from various different countries had different marriage numbers, and divorce numbers, often these newspaper sources cited their sources as the national census bureau. This was difficult, because I wanted to keep my numbers from one source, the UN, but it's clear there is a discrepancy in the data. In addition to this, often times the numbers from the news sources were higher. Hence why I had chosen to use one source to show this discrepancy in the data.

These limitations themselves could be an interesting topic of research. Why is that divorce rates are so difficult to find? I think there could be various different reasons for this, however, I think the negative connotation divorce has, could be a potential reason that much data for divorce is nonexistent in Latin America, but in the world in general. I would argue that important indicator of a country.

Another crucial limitation to note is the lack of knowledge on reasons for divorce. Of course, there can be many reasons a couple decides to divorce. Although some data exists in certain studies on reasons for divorce, it is impossible to know why each couple decides to divorce. It is also key to explain that often times it is not one reason, but rather a combination of various reasons.

## **CONCLUSION**

Although I was unable to draw a direct correlation between these two things, it is clear that there is this potential correlation for those able to develop further research. In general, I think the relationship between divorce and pensions is an important topic to develop further research. Although there is research on economics and divorce, the research community should look into more studies outside of the US, and studies focusing on the exact relationship of divorce and pensions. Additionally, as seen in the history and reform section, the pensions systems in Latin America can be a complicated system to study. It is ever changing, but this change overtime of privatization has many effects, some of which we still do not see. It is clear that both the PAYG-DB and FF-DC systems create gender gaps in pensions, and so how these systems change over time, and what reforms are created to try and remedy these gaps are crucial when trying to evaluate gender inequalities in Latin America. Lastly, I think that divorce trends overall should be studied, and as seen in Latin America this general trend of increasing divorce rates tells an important story, one in which I think has a lot to do with women's empowerment, and access to more opportunity. However, the lack of data currently out there on divorce numbers and rates is surprising. I think that potentially there could be interesting research, on this lack of data. Lastly, I believe that some of these political decisions, like privatization of pensions, could potentially have a large effect on social decisions like divorce. Overall, I hope that as seen in my research, that others going forward could establish some sort of correlation and path the way for further research in this topic. Because in the scheme of development in Latin America, it is important to think about how pension policy affects the population. As Latin America moves towards being more developed countries and economies, they hopefully move to be more equal societies as well, and this question of pensions and gender equality is an important step towards this type of society.



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