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Are Immigrants The Next Great Appliance? The Effects of Immigration on Female Labor Force Participation

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by

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Acknowledgements

It is a wonder how these five years have flown by in the way that they have. While I feel like I was never quite able to capture the magic that so many others do while here, I know that I am still better for all of my experiences in Annandale-on-Hudson.

My time here at Bard has been short lived but often arduous. I am not certain that I would even recognize the child that started here just a few years ago. I am not certain that I have grown into an adult yet either. Rather, all is in flux. I have struggled with my own dreams and my own demons. All I hope to achieve through this project is to leave some sort of ripple in the pond; to make a contribution in a way that there was none before me and that could inspire someone else.

I must admit that I did not dedicate all the time and effort that most students would or should to this project. That is something I will certainly carry with me. I have always felt that I led two lives on this campus. The life of my dreams leading me in one direction while the societal expectations of college, a degree, the job, the car, the house, the cul-de-sac, rinse and repeat… that was always pulling me the other way.

With this, the only option is to move forward. Those pulling hands may finally let go. All I can say is I gave it the best I could with what I was equipped with at the time. In life, things can always be better. The key is learning from our mistakes and making better choices so that we can really achieve happiness for what *we* want it to be.

I would like to thank my parents for always supporting me in whatever ways they could, loving me throughout my ups and downs and believing in me when I could not.s

To Sullivan, the little brother of whom always wanted my attention, and of whom my attention I always wanted to give. Do not forget that I will always be your best friend no matter how busy I may be. Here is to no longer putting things off for one another.

To Laura, you have dealt with so much from me this past year or so. School became so much more difficult for me to tackle once I realized where I wanted to take my life. Then, my life became *our* lives. Thank you for standing by my through it all. I only hope to one day be able to express all of the gratitude I have for that alone.

To Professor Mitra, thank you for your inquisitive mind, your sharp tongue and your dedication to me and all of the other rascals you have to call your advisees. While my path has sometimes been clouded and difficult, you were always there for support and a different point of view. I know you have always had my best interests in mind; I am forever grateful.

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Abstract

This paper argues the burgeoning idea that an inflow of low-skilled immigrants into a receiving country can provide benefits for high-skilled native women. In considering the often increased responsibilities held by women in the household, when compared to men, the introduction of immigrants of certain occupations can help ease these responsibilities. A series of regressions explain that the effect is statistically significant, especially when considering low-skilled female immigrants. Policy implications are discussed as well as areas for future research. The paper concludes with a brief secondary theory and discourse on the labor constraints of women.

[JEL F22, J13, J16, J21]

1. Introduction

This paper argues the burgeoning idea that an inflow of low-skilled immigrants into a receiving country can provide benefits for high-skilled native women. In considering the often increased responsibilities held by women in the household, when compared to men, the introduction of immigrants of certain occupations can help ease these responsibilities. The paper begins with a brief history of the role of women in the household and their increased presence in the labor market with the advent of appliances. Then the immigrant theory is discussed with a brief review of studies done thus far. While this phenomenon has been observed in a few countries, this paper utilizes a panel analysis of data concerning immigrants and female labor force participation cross-nationally. A small number of controls are used to ensure the accuracy of the models. The results from the regressions and their implications lead to consideration of policy implications and areas for future study. Finally, a brief theory of the constraints on female labor and the subsequent effect that immigrants have on these constraints is explored.

2. History and Theory

2.1 - The Female U and Education

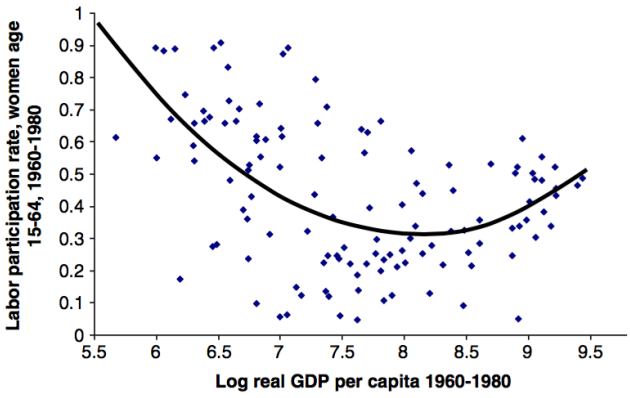
Claudia Goldin (1994) presents a great narrative of the role of women within a country. In her framing of the female U curve in terms of labor, there are three major stages. The first involves a society in which many products can be made through household production. In these cases, women are employed at a much higher level as they can contribute goods. These goods can be anything from hand-sewn clothing to agricultural products from farms or everything in between. Once a society becomes more manufacturing oriented, the role of women diminishes as men enter these new market occupations. In this phase women often "retreat into the home, although their hours of work may not materially change." The final upward section of the U is in thanks to education and its role in giving women greater opportunities within the labor market:

> At relatively low incomes and low male schooling levels, the ratio of male to female education is extremely high. As resource constraints are reduced, both male education and female education rise, but female education rates rise faster and begin to converge on those of males. The sources of reduced resource constraints can be found at the household and government levels.

The lessening of government resource constraints is easy to understand. As an economy grows, its government is more able to provide public schooling opportunities for its citizens. This allows more females access to an otherwise male dominated classroom. When it comes to household constraints, "increase income, as reflected in the increase in education levels for the male adult population, at some point leads families to endow

their girls with relatively more education." This in turn further extends public education with a greater demand. Goldin cites the coupling of both increased education and the increased availability of white-collar jobs for women as a source of cementing women's place in the work force, especially if they were married: "there is a discernible tendency for a young wife to retain a clerical job until her husband begins to get established." In all, economic development gives way to education and education is what allows women to obtain the skills necessary to hold jobs that avoid social stigmas. Tam (2011) replicated Goldin's research but with a larger observation group. Whereas Goldin only observed women aged 45-59, Tam took a sample of women aged 15-64. The results in Figure 1 are a key representation of Goldin's curve. Although the curve explains in part how women were pushed into the labor market, it is only part of the cause.

Figure 1



2.2 - The Advent of the Appliance

The idea that the increased role of women in the labor force at large went hand-in-hand with the greater availability of majors appliances is thanks to Greenwood et al. (2005). The authors conclude their paper:

> Popular wisdom states that the increase in female labour-force participation was due to a narrowing of the gender gap or a change in social norms, spawned by the

> women's liberation movement. This may well be true, but without the labour-saving household capital ushered in by the Second Industrial Revolution it would not have been feasible for women to spend more time outside of the home, notwithstanding any shift in societal attitudes.

With the major technological changes brought about by said "labour-saving household capital," women were faced with a lessened time commitment to responsibilities at home. As this capital became available to a wider selection of classes, the time of women was exponentially freed up. A prime example of this change comes from Greenwood et al. when citing a study undertaken by the Rural Electrification Authority (REA) from 1945-1946. The REA studied twelve farms wives and the time taken to do loads of laundry by hand as opposed to those same loads completed with electrical appliances and tools. In one particular case, "They estimated it took her about 4 h to do a 38 lb load of laundry by hand and then about 4.5 h to iron it using old-fashioned irons. By comparison it took 41 min to do a load of the laundry using electrical appliances and 1.75 h to iron it." On average women would be capable of completing the same loads of laundry with only 30% of the time utilized. In terms of physical activity, the women were able to complete the same loads with only 10% of the original activity needed for non-electrified laundry duties. As

Figure 2

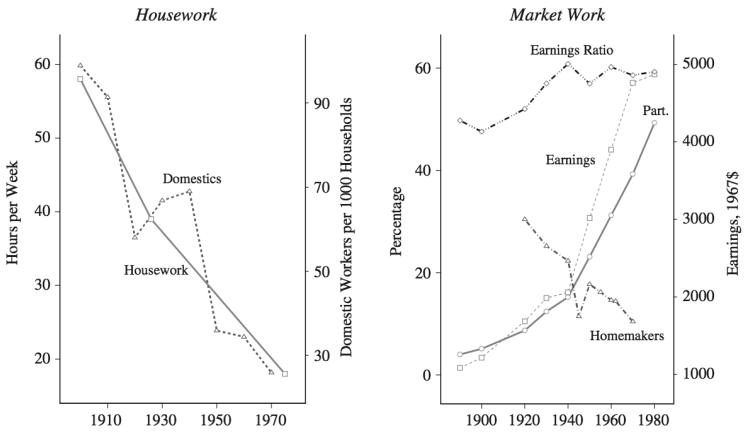


Figure 2 displays from Greenwood et al., the amount of hours worked per week within the home declined steadily between 1900 and 1980 from about 58 hours to less than 20 within the United States. In turn, the amount of overall domestic workers also decreased at a comparable rate, with certain shocks such as the increased wealth of the Roaring Twenties and World War II accounting for increases. At the same time, overall female labor force participation rose from around 5% to almost 50% from 1900 to 1980 with the number of homemakers (or unemployed married women) decreasing from roughly 30% of all women to about 10%. Furthermore, Greenwood et al. uses their model to reinforce the role that durable goods played in increasing female labor force participation. When considering the narrowing gender gap and applying no change in household technology from 1900, the amount of women employed in 1980 would only be 10%. To contrast, when holding the gender gap fixed and analyzing household technology, female labor force is at 40% in 1980. Only by coupling these two effects together do the authors observe the largest number. As iterated before, it certainly would have been much more difficult for women to exit the household and pursue roles in the labor market at large had society not underwent such a drastic change in household capital.

2.3 - Immigrants as Washing Machines?

International migration is a constantly prevalent political issue. A prevailing general consensus is concerned with the harms immigrants bring to a receiving country. These harms are typically considered to be a depression of wages, a lessened availability of jobs and a leeching of welfare benefits. Recent studies have begun to show a

phenomenon that is instead in favor of the increase of a population of immigrants in a host country. Peri (2104) gives a great description of how this works:

> The inflow of less-educated immigrants increases the labor supply of highly educated natives with family responsibility. High-skilled female workers may now buy household services at a lower cost and then participate in the labor market with potential positive effects on the whole economy and natives' wages.

As low-skilled immigrants enter a country, there are a handful of things that can occur. When we consider the societal role of women in the household, they often take on the responsibilities of caring for children and performing housework. As such, when low-skilled immigrants are available at a low cost to perform basic tasks such as lawn care, cleaning, cooking and babysitting, this allows the mother to return to work.

A handful of studies over the last decade have begun to explore the motivations behind this theory and seek to prove the existence of a relationship between the two groups of individuals. The most notable works include Barone and Mocetti (2011), Farré, González, and Ortega (2011), Furtado & Hock (2010), Furtado (2015). These studies explore Italy, Spain and the United States respectively. Germany and Lebanon have also been explored with Forlani et. al (2016) and Fakih & Marrouch (2014), but little to no research has examined whether this effect occurs cross-nationally. This paper will explore that case with regressions over a panel series.

3. Empirics

3.1 - Data

The sample observed within this paper consists of seventeen countries, Australia, Austria, Canada, Switzerland, Germany, Denmark, Spain, Finland, France, the United Kingdom, Greece, Ireland, the Netherlands, Norway, Portugal, Sweden and the United States. The countries are observed over the course of five time periods: 1990, 1995, 2000, 2005 and 2010. These periods were necessary based on data available for the two most crucial variables: female labor force participation and immigration. Immigration data comes from Brücker, Capuano, and Marfouk (2013). The data are disaggregated across gender and skill level for all periods. Female labor force participation data, as well as that of GDP, GDP per capita, exports, imports, school enrollment rates for both men and women and the percentage of parliamentary seats held by women all come from the World Bank (2017) and their world development indicators. Finally, the financialization variable, which collects all finance, investment and real estate expenses made by the sample countries, comes from the EU KLEMS database thanks to the work of O'Mahony and Timmer (2009).

The measurements of each variable are important to note as they inform how the models and results will follow. The immigration data is a complete catalog of all individuals who have immigrated to the sample countries for all five time periods. Again, this data accounts for gender and skill level. Skill level is explained with three factors of low, medium and high skill. Low skill includes individuals who worked towards the cusp of obtaining a high school diploma or GED or have no education at all. Medium skill

accounts for individuals who have completed high school and have received a diploma or GED. The high skill variable includes individuals who have completed at least one year of college or greater. This data was also manipulated to obtain the number of immigrants who entered in each period as the data otherwise only explains the total foreign-born population within the country at each period rather than the flow of immigrants. Female labor force participation is measured as a percentage of the total labor force within a country. For this variable, I took the average over each period to more closely resemble the immigration data.

The gross domestic product, GDP per capita measurement, and the measures of imports and exports are in current United States dollars. Using the GDP data, I calculated the amount with which GDP grew (or shrunk) over each five-year period. That is the growth variable you see in the appendices. Imports and exports are averaged over each five-year period. The natural logarithmic function of the GDP per capita is included for a greater robustness check of the models. The trade openness variable is the sum of imports and exports divided by the overall GDP in each period. The financialization data is in millions of dollars from O'Mahony and Timmer (2009) and remains as such for the models. A variable for the gender gap in secondary education, used as a benchmark for a country's overall openness and accessibility to education, was calculated by dividing the male education rate over the female education rate. As such, observing a quotient of one means there is no gender gap. A number less than one indicates a country favoring women, or that women are more enrolled in secondary schooling. A number greater than one indicates men have a higher overall enrollment and access to education. Finally, the

variable for parliamentary seats held by women is another indicator of a country's attitude towards women like that of the gender gap in education. The World Bank measured this variable as a percentage of seats held by women compared to all available seats within a country's houses of government.

3.2 - Models

This paper will observe eight models regressing the data to determine a relationship between female labor force participation and immigration. The first two involve the trade openness variable. Models three through six swap trade openness for individual measures of imports and exports. Finally, models seven and eight change the measure of the gender gap in education for that of the female seats in parliament while retaining trade openness. Each model is run at first using GDP per capita and overall GDP growth. Those two variables are then exchanged for the natural logarithmic function of GDP per capita. Finally, each model is run thirteen separate times for each disaggregated portion of the immigration data. The individual immigration variables include: total immigrant population, the population increase over a five-year period, total male, total female, low, medium and high skill female, low, medium and high skill male and total low, medium and high skilled immigration populations.

Trade Openness

(1) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \beta_6\chi_{6it} + \in_{it}$$

Where χ_1 is GDP per capita, χ_2 is GDP growth, χ_3 is trade openness, χ_4 is financialization, χ_5 is the gender education gap and χ_6 is the immigration variable.

(2) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \in_{it}$$

Where χ_1 is log GDP per capita, χ_2 is trade openness, χ_3 is financialization, χ_4 is the gender education gap and χ_5 is the immigration variable.

Imports and Exports

(3) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \beta_6\chi_{6it} + \in_{it}$$

Where χ_1 is GDP per capita, χ_2 is GDP growth, χ_3 is imports, χ_4 is financialization, χ_5 is the gender education gap and χ_6 is the immigration variable.

(4) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \beta_6\chi_{6it} + \in_{it}$$

Where χ_1 is GDP per capita, χ_2 is GDP growth, χ_3 is exports, χ_4 is financialization, χ_5 is the gender education gap and χ_6 is the immigration variable.

(5) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \in_{it}$$

Where χ_1 is log GDP per capita, χ_2 is imports, χ_3 is financialization, χ_4 is the gender education gap and χ_5 is the immigration variable.

(6) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \in_{it}$$

Where χ_1 is log GDP per capita, χ_2 is exports, χ_3 is financialization, χ_4 is the gender education gap and χ_5 is the immigration variable.

Female Parliament

(7) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \beta_6\chi_{6it} + \in_{it}$$

Where χ_1 is GDP per capita, χ_2 is GDP growth, χ_3 is trade openness, χ_4 is financialization, χ_5 is the female parliament seats and χ_6 is the immigration variable.

(8) $$\gamma_{it} = \alpha + \beta_1\chi_{1it} + \beta_2\chi_{2it} + \beta_3\chi_{3it} + \beta_4\chi_{4it} + \beta_5\chi_{5it} + \in_{it}$$

Where χ_1 is log GDP per capita, χ_2 is trade openness, χ_3 is financialization, χ_4 is the female parliament seats and χ_5 is the immigration variable.

The attached appendices note the pertinent observation numbers for each regression as they changed slightly depending on the model. The data set began with 85 observations over the 17 countries. While no country ever dropped out entirely from the regression data, the observations fell as low as 64 in models seven and eight due to the holes in the parliament data.

3.3 - Robustness

All regressions and pools of data can fall victim to a variety of problems. As such almost all issues that may have arisen within these models have been accounted for either through tests of the variables or in the creation of the models themselves. To test for multicollinearity of the variables, I performed variance inflation factor (VIF) tests of every model and between two and four of the immigration variables. All VIF tests for models one and two resulted in mean VIF results of less than 2. Tests for models three

and five involving imports averaged at 2.5 for their mean VIF results, with models four and six for exports averaging at 2. Finally, VIF tests for models seven and eight were just below a mean VIF result of 2. All of these tests shows that the data does not have an issue with multicollinearity, or in other words none of the variables are highly correlated and can predict one another.

Heteroskedasticity is a situation in which the plot of a variable produces a cone like shape the further the results are from zero. Put simply, a line of best fit will miss most points of the variable as it grows larger. This was accounted for as every model was computed with robust random effects. These robustness check account for any issues in the standard error that heteroskedasticity might create.

Serial correlation, where a variable's future values are dependent on those that came before it in sequence was a concern for GDP as said variable is, usually, always increasing. This was accounted for by utilizing two variables to test for the GDP effect on the model, per capita and growth.

The final potential issue in the model could be that of the endogeneity of the immigration variables. An argument could be made that there is a causal link between immigration and the dependent variable of female labor force participation. This means that an increase in immigration increases female labor force participation and vice versa. I do not believe that they create and motivate each other wholly. Rather, there is an effect of one (immigration) on the other (female labor force participation) in certain instances as the results will show.

3.4 - Results

In this section I will address only the results of the models in terms of immigration, our main variable of concern. The following discussion section will expand more on all of the other variables. In model one, all but low-skill male immigrants had an effect on female labor force participation (FLFP) at the 10% level of significance. Interestingly, the only variable with a greater instance of significance was that of low-skilled female immigrants, or the nannies and maids that the theory presupposes. That variable was significant at the 5% level. Each coefficient for immigration was very small, somewhere on the order of roughly $2(10^{-7})$ but this is to be expected. The coefficients measure the effect on the dependent variable of a one unit change in the independent variable. In other words, a single immigrant (since the immigration variables are measured an individual basis) has a slight effect on the total FLFP rate which accounts for millions of women. Upon taking the log of GDP per capita, the only variable still significant at the 10% level are those of the total immigrant population, the 5 year increase of immigrants, the total female population, and again the low-skill female immigrant population. The results still hold and are interesting.

Models three through six change the results up greatly. In all of these models, the only immigration variable that is statistically significant is the 5 year increase of immigrants at the 10% level. I believe that this occurred in this way because of the introduction of the import and export variables. Whereas trade openness was a variable that hovered around values of 1, the measurements of imports and exports remained quite large. As such, the other immigration variables had much more to compete with in the

regression to display significance. The 5 year increase on the other hand was small enough to still show an effect on FLFP.

Finally, the parliament models had great results. Model seven which included GDP per capita and GDP growth saw significance at the 10% level with total immigration, the 5 year variable, total male, medium-skill and high-skill females and low-skill males. On the other hand, I found interesting that along with low-skill female and total female immigrants, high-skill male immigrants, and the total low-skill and total high-skill variables were all significant at the 5% level. I am curious as to the explanation of these results. I imagine that the appeal of a perhaps more liberalized country, being that they have a number of females in parliament positions might attract highly educated men to immigrate. Rather than immigrating because of those female politicians, the parliament variable can act as a quasi-indicator of a country's liberal stance. Model eight which utilized log GDP per capita only saw significance, again, of the low-skilled female immigrant population at the 10% level.

Overall I believe that the models show that immigration has some effect on female labor force participation, particularly when it comes to low-skilled female immigrants who can fill the role of maid, nanny, babysitter, etc. For four out of eight models, that particular immigration variable was consistently significant even when all others were not. It is a shame that models three through six did not yield better results, but nevertheless what was found is a fantastic indicator for future research and lends more credence to the theory that immigration has an effect on female labor force participation.

4. Discussions

It is important to note first the reasoning behind the signs of each variable on average between every model. A positive coefficient means that the variable has an effect that increases female labor force participation (FLFP). A negative coefficient means the effect decreases overall FLFP. While there are certainly some oddities, for the most part, the following conditions hold true. The effect of GDP per capita on FLFP is always a positive one. This is easily explained; the greater a country's wealth, the more jobs there are and the greater labor force participation by all. Now, interestingly the sign for GDP growth is almost always negative. While once might think at first that this is odd being that GDP per capita is positive and growth should equate more FLFP, we must consider Goldin (1994). The female U curve explains that during certain periods of growth, overall FLFP decreases as women exit the workforce. While it is not so believable today as society has become more advanced and norms have changed, it follows past theoretical models. Trade openness is another variable which is consistently positive. This again can relate to greater GDP, greater goods and services being imported and exported lead to more jobs overall. The same can be said we the model swaps openness for solely imports or exports; both of those variables also remain positive. Financialization, on the other hand, is always negative. If the Great Recession of the late 2000s is any indication, finance, and the banking sector does not create jobs. The more wealth accumulated in areas such as finance, insurance, and real estate, the fewer people are employed within the bottom 99%. The gender gap of education is an odd one. While it is always negative, this is an artifact of how it was calculated. As stated previously, the gender gap is the

quotient of male enrollment over that of female enrollment. The lower the number is, the greater the female enrollment. While the coefficients make it seem as though the effect is negative, that is a computational error. Anytime we see the gender gap as negative; we can assume that the effect is positive on FLFP. The final variable is the natural logarithmic function of GDP per capita which is also consistently positive.

As far as the variables go, GDP per capita and GDP growth were consistently significant at the 1% level of significance across almost every model. One important point to make in regards to the education gap, is that although the variable rarely has an asterisk next to it in the appendices, indicating statistical significance, it remains one of the largest coefficients and was consistently significant, just not at conventional levels. The variable itself was usually significant at the 15% level.

While all of the immigration data appears great, I am cautious as to whether or not the results are spot on. The only concern with said results is that while low-skill female immigrants have the most effect on FLFP, perhaps they are the most likely immigrant skill group to work out of the three female groups tested. For obvious reasons, we cannot always expect the male variables to effect the female labor force numbers. Brücker, Capuano, and Marfouk (2013) state that their data is the sum of all foreign born populations within a country. As such, these numbers could merely indicate that the immigrants are working themselves and not necessarily motivating other women into the labor force. Regardless, even if the results are taken with a pinch of salt, it is very interesting that the most likely group to motivate a fulfillment of the theory proposed in this paper is the one that provides a statistical significance.

4.1 - Policy Implications

There are various policy implications to be discussed following the results of models one, two, seven and eight. To start, Clemens (2011) discusses the removal of barriers for emigration:

> Emigration of less than 5 percent of the population of poor regions would bring global gains exceeding the gains from total elimination of all policy barriers to merchandise trade and all barriers to capital flows. For comparison, currently about 200 million people—3 percent of the world—live outside their countries of birth (United Nations, 2009).

This is a daunting result. Rather than removing barriers to trade, removing barriers to the movement of individuals, just 5 percent of the poorest populations, can result in equal gains for the world at large. Clemens continues, "all of this suggests that the gains from reducing emigration barriers are likely to be enormous, measured in tens of trillions of dollars." In other words, expansion of more open immigration and emigration policies would have profound effects on the global economy. This would be a world in which everyone is free to move themselves to the place in which their comparative advantage is being the most utilized.

The results show that certain immigrant classes have a positive effect on overall female labor force participation. We can infer that from that increased participation that the economy itself would grow as a result of the increased labor. Many articles attempt to establish the gains of immigration, while others focus on some slightly negative statistical

effects. Regardless, in theory immigration is a method that can increase economic activity and put more bodies into the labor market.

4.2 - Areas for Further Research

These results are exciting for a variety of reasons as discussed above, but the possibility for further research is very open. While the studies of Barone and Mocetti (2011), Farré, González, and Ortega (2011), Furtado & Hock (2010), Furtado (2015) and Peri (2014) are at the core of this theory, no studies have explored this theory on a cross-national level. As my results show, there is an effect between both female labor force participation and immigration, so where to go from here?

To start, I would be quite interested in seeing the dependent variable of female LFP disaggregated by skill level. Although my results show a statistically significant effect, my dependent variable accounted for all women across all skill levels in the labor force. This choice was made due to the lack of complete data for enough observations at the cross-national level. By narrowing the analysis of female labor force participation, further research could really pinpoint what skill levels are affected by an influx in immigration.

A major idea that I had looked into during my research, but unfortunately could not flesh out due to lack of data, was how this effect is observed within countries that have greater access to family benefits such as paid maternity and paternity leave or state-provided daycare. For example in Nordic countries, Kvist (2012) states that “education, active labour market policies, childcare, taxation, social assistance, healthcare and

various forms of social care all have the aim of enabling participation in the labour force and more generally in society at large." If Nordic countries have policies in place to provide care for children or allow for more children through their substantial leave programs, the effect on female labor force participation would extend to more skill levels than just high-skill females. I imagine that in these situations, immigration would not have much of an effect. Still, I would be very interested in a study examining individual countries over multiple periods where greater comparisons could be made to determine the differences across the globe. Then, more research could be committed to what works and what does not as far as policies go.

Another major point of interest would be a greater sample pool with more varies countries. My current sample countries are all very developed and have similar cultural expectations. Most are either European, or arose as a result of European colonization. The only country of a mildly different cultural makeup would be Portugal. Kremer and Watt (2009) explore these types of effects in Singapore and Hong Kong, but with more of a focus on the employment of immigrant women rather than their employment increasing the labor force participation rates of all women within the country. Regretfully, my paper does not include any Asian countries and again this was due to the limited immigration data. Still, I believe there is considerable work that could be done within those countries in addition to certain Middle Eastern countries that utilize immigrant labor in high-income households. Both Varia (2008) and the Human Rights Watch (2014) explore the lack of labor laws in place for immigrant women and how these groups are quite often exploited. They often face discrimination because their voices aren't often heard or laws

may not apply to them. The nature of female immigrant work also lends itself to this outcome due to the more hidden and home oriented nature of the work as opposed to a male immigrant who may work in a construction field.

Finally, I would be remiss to not address the fact that this entire model assumes a sort of neoclassical and heterosexual home structure. While my particular paper did not study this, it would be interesting to observe the same effects of immigration on labor force participation for homosexual couples. What is interesting about homosexual couples is the general idea that the "double burden" women normally adopt is not as clear cut when a couple is of the same sex. Whereas in a heterosexual couple the woman may be expected to care for the children, cook and clean, homosexual couples may share these home responsibilities and thus blurring the relationship of who would benefit from the hiring of immigrant labor.

5. An Exploration of the Constraints on Female Labor

With the empirical model completed, I think it is necessary to expand more upon the motivations behind the theory. Why does immigration have an effect on the labor force participation of women? When it comes to the division of the labor market, men and women have a considerable number of factors that affect their entries to employment. While certain factors can be shared between both gender groups, women have historically had more constraints placed on them in relation to their roles in the home and at large. I would argue that most of these constraints strictly stem from the difference of gender that women possess; it is these same constraints that will motivate the place that immigrants have in the overall theory and how their presence affects these constraints.

5.1 - The Double Burden

Women face an increased burden compared to men based on their "role of reproduction" as stated by Benería and Sen (1981). Furthering this, Callahan (2016) states:

> When we consider the reproductive responsibilities that women possess, often creating a "double day" work situation in which they must labor at work and at home, it is easy to see why female labor force participation is a wavering thing. Since the most basic care of children is often not shared between a husband and wife, there is a separation between societal expectations of male and female roles.

The double burden itself is the idea that women work two full-time jobs. One being paid market labor and the other being household responsibilities of caring for the children, cooking, cleaning and more. The constraints extend beyond household labor

5.2 - Constraints Explained

a. Fertility

The first major constraint to consider is fertility. Historically, women have been forced to make a decision as to whether it would be more economically sound to have a child and rear them or pursue a job in the labor market. Furtado (2015) notes that "Within-country analyses indicate a consistently negative association between fertility and female labor force participation. However, Engelhard, Kögel, and Prskawetz (2004) find that this relationship has weakened substantially since the 1960s." Although the historical fertility decision was one that possessed only two choices, to have children or work, there is evidence to support that this has and is continuing to change as time progresses. Why is this? For one thing, the presence of both private and public child care services has greatly decreased the negative correlation between fertility and labor force participation (Furtado 2015). In regards to Nordic countries, their approach to maternity benefits and other state provided family services show a positive relationship between fertility and female labor force participation. In countries that lack such benefits and services we observe the private use of child care, especially in the United States. As the cost for this private service decreases, we observe a greater access to its usage and as such overall female labor force participation can increase across income levels, rather than being reserved for those that obtain higher incomes. Another option that Furtado points toward is that "it is also possible that women respond to less expensive child care by having an additional child which then depresses labor supply, perhaps temporarily." Furthermore she states that women:

> May also work more hours given that their net take-home pay increases when childcare costs decrease However, because of the highly time-intensive nature of caring for young children, labor force participation may, at least initially, decrease if women respond to lower childcare costs by having an additional child.
>
> Similarly, if upon entering the labor force (as a result of decreased childcare costs) women start valuing their roles as breadwinners, they may choose to not have a second or third child.

The argument here is rather complex and creates multiple paths in which a woman of the labor force can choose. On the one hand, the use of private child care at reduced cost allows for more income to be in the pocket of the woman herself, leading to either more leisure or a motivation to work more hours. On the other hand, this benefit that reduced child care costs provide can lead to a decision to have more children. This constraint is one not experienced by men deciding to enter the labor market.

b. Care Labor

The second major constraint on female labor force participation is care labor itself. While somewhat related to that of the fertility decision, this constraint is solely focused on the care necessary after the birth of a child. At first thought, it seemed as if this was the only facet of care labor, but when considering certain family structures and the norms of other cultures, we can also observe an attitude that supports elder care in the home. Barone and Mocetti (2011) when discussing trends in Italy remark that “the presence of elderly people (i.e., over 65 years old) in the family has an unclear effect on labour force participation. On the one hand, some older people might need special care,

thus inducing women to stay at home." In another paper focused on Spain, Farré, González and Ortega (2011) further the discussion on both child and elder care in Europe where "fertility rates are low but the population is aging rapidly due to large increases in life expectancy. Between 2010 and 2050, the elderly population in the European Union will increase by 77% while the working-age population will decrease by 16%." A major difference when comparing the United States to certain European countries comes from the greater privatization of care within the United States in terms of nursing and retirement homes. The authors note that for Spanish females in particular, who culturally possess a greater sense of family, they "bear a larger burden on their time than women in countries where the government plays a larger role (e.g. Scandinavian countries) or where there is a larger supply of market-provided care (e.g. retirement homes in the US)." Regardless, Barone and Mocetti go on to point out that the presence of elderly family members can also aid in reducing the care labor burden for the mothers of households if the elders are physically able to care for children. This in turn allows mothers to work more, or it could result in the decision to have another child. Still, the presence of children in the household does make it more difficult for women to be in the labor force. The authors state "the number of children is one of the most important determinants of labour supply decisions. The impact is stronger for small children; on average, having a child under the age of three reduces … the probability of being active in the labour force." It is very evident that the presence of both children and elders in a home presents a situation where care labor is needed. As such this puts a constraint on women from entering the labor force or working optimal hours.

c. Household Non-care Labor

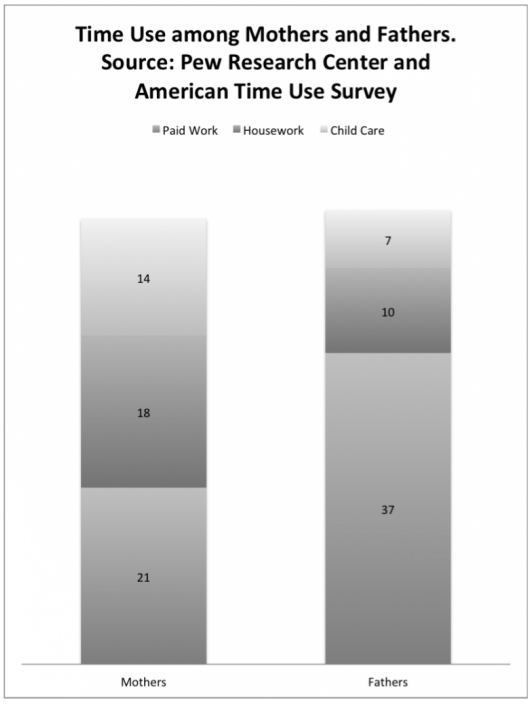


Figure 3

Women in the household are also constrained by labor that does not pertain to the care for individuals. Cooking, cleaning, yard work and general home maintenance are all activities that can hinder a woman's ability to work. In a 2014 article posted by the Austin Institute for the Study of Family and Culture, statistics within the United States point to a severely reduced role of men within the household. Figure 3 explains the amount of hours worked per week for both men and women at work, in the home and through child care. While both genders work roughly the same number of hours on average, the role of women in the household has a much larger presence. This reflects women earning less and having a lessened presence within the labor market. As such, household non-care labor also represents a large constraint on women wanting to enter or increase participation with the labor market.

d. Labor Market Discrimination

A fourth major constraint on women in the labor market is gender discrimination. This constraint is greatly associated with wages and their differentials between genders. A prime example of these differences can be observed by again referring to Figure 1. From 1900 to 1980, the earnings of women grew by almost five times, whereas the ratio of income between men and women only increased from around 50% to 60%. This is a

starling example of gender discrimination at work. As women increased their share of the labor market and their incomes increased, the incomes of men increased at an even greater rate. This fact does much to topple all the progress made by women within the 20th century. Although their place within the labor market grew, their worth within it was not equally reflected. According to Miller (2016), thanks to research done by the American Association of University Women in their annual *Simple Truth* report, they have found that the gender gap is now at 80%. While this increase has been great since 1980, the report projects that the gap will not equalize itself until 2152. Should women be faced with another century and a half of discrimination of their wages? Certainly this is a great constraint on the employment of women. No matter the work they put in women can, on average in the United States, expect to make eighty cents on the dollar that a man makes in a comparable occupation. Miller's summation of various studies goes on to point out that no matter the factor, the gender gap is unaffected. Even with an increase in education, "it is not effective against the gender pay gap. At every level of academic achievement, women's median earnings are less than men's median earnings, and in some cases, the gender pay gap is larger at higher levels of education." The report shows that in the case of advanced degrees (master's degree or higher), the gender gap is still at 74%. This is not entirely surprising. While the education of women has increased greatly within the last century, it is certainly the case that the share of men in white-collar professions with an advanced degree compared to the entire male population is not on par with the share of women within their population. Discrimination in terms of gender is

rampant for women, particularly in the United States when it comes to wages, but also worldwide for reasons ranging from pay, education, and other basic rights.

e. Imposed Social Norms

Certain societal pressures and stigmas arise when and if a woman enters or returns to the labor market. This is especially the case if the woman is married and has a family. Goldin (1994) describes some of these stigmas and how they are "widespread and strong." When considering certain industries, Goldin states that "it almost always attaches to the work of women in male-intensive industries (e.g., mining, iron and steel), but also exists in female-intensive (e.g., clothing, textiles) and mixed industries (e.g., food processing)." This stigma describes how the role of a husband must be inferior if his wife needs to be working in manual labor. This is an historical mindset that is dedicated to the role of the woman in the household. Goldin states "only a husband who is lazy, indolent, and entirely negligent of his family would allow his wife to do such labor." Since the stigma is more attached to the husband, it reinforces the norm that "obliges men to provide for their families." Interestingly, the stigma does not tend to attach to women employed in white-collar work. There are a few reasons why this occurs. First of all, women that are employed within the white-collar sector typically come from a greater educational background. These women "across many cultures are given license to work for pay. The women thus employed are often teachers and nurses, but also in a variety of white-collar occupations such as sales and office work." A second reason is by not entering into a manual labor occupation, these women are never signaling the stigma to begin in the first place. Goldin gives the example that "no educated, higher-income man

would allow his wife to work in the manufacturing sector; thus the wife in such families must come from a lower-income household." Women of a higher class, education and income level do not face the same stigmas that women of lower class and income do. These imposed social norms are only signaled with the presence of blue-collar work being completed by the wife of a household. Either way, these norms are still a constraint placed on a large population of women across many countries and cultures if they are seeking employment in the labor market.

5.3 - Constraints with Immigration

a. Fertility

In considering the fertility decisions of mothers, how can an inflow of immigrants affect these decisions when it comes to the choice to have another child or return to the work force? Furtado (2015) states that "low-skilled immigration resulted in a weakening of the negative correlation between fertility and work and a sizable increase in the joint likelihood of childbearing and labor force participation." This effect is observed due to what low-skilled immigrants present to the labor market. By working for even lower wages than women have previously observed in the childcare sector, the option of employing low-skill immigrant labor becomes more attractive for all parties involved, whether the career-driven woman who can dedicate more hours at the office, or the stay-at-home mom with an MBA who can now have another child. Education attainment here is an important note. In another paper from the same year, Furtado (2015) states that "women with graduate degrees are more likely than women with only a college degree to

respond to immigration by having an additional child. This makes sense in that highly educated women are more likely to use market-provided childcare." Simply put, they are the women that can afford these services the most easily. She goes on to state that "while the predominant impact of low-skilled immigration is to increase the labor supply of high-skilled native-born women, some women respond by having an additional child. These women may, at least temporarily, exit the labor force." While immigrants can provide for child care, there is also the fertility option. Furtado states that "regardless of whether women respond to less expensive and more convenient childcare option by working more or having an additional child, the trade-offs they face for either decision should unambiguously decrease." As an aside, immigrants can also affect countries that are having issue with fertility rates in other ways. Furtado cites Europe as an example of how "immigrants are typically working age and tend to have larger families than natives, policymakers are using immigration, at least temporarily, as a way to alleviate below-replacement fertility rates." When it comes to fertility as a constraint of female labor force participation, the introduction of low-skill immigrant labor can present an overall decrease to this constraint by giving women more room to make the economic decision of having another child.

b. Care Labor

Aside from wages, immigrants are more attractive in the child care sector for other reasons. As Furtado (2015) notes, "immigrant nannies may be able to watch children into the late evening and on weekends with little advance notice, while childcare centers typically close at a set time in the early evening and are only open on weekdays."

By having less strict controls on when they can work, immigrant schedules provide for a greater ease of access for native women. The introduction of low-skilled immigrants into the care labor sector allows for women to spend less time providing care for children or elders in the household. This time can then be spent on leisure or a greater number of work hours, but there is a concern with this shift. Do these women nurture their families in the same way as before? Furtado discusses research done on this exact matter and how "mothers in areas with increased immigration spend less time overall with their children." While this might seem like a cause for alarm, closer observations reveal "immigrant inflows result in large declines in the amount of time mothers spend on basic childcare activities, such as feeding and changing diapers, but no change in the amount of time they spend on educational actives with their children." This is a positive effect then. If women can work more and still spend the same amount of quality time with their children and all the while spending less on child or elder care, then immigrants have a negative effect on the constraint that care labor puts on women.

c. Household Non-care Labor

How do immigrants affect the constraint that household non-care labor places on women? For countries like the United States, Cortes and Tessada (2008) discover that "low-skill immigration has allowed highly-skilled women to increase significantly their probability of working more than 50 to 60 hours." Interestingly, the authors find no effect on the extensive margin, but significant effect on the intensive margin. In other words, this is not an increase that can be explained by more women returning to the labor force, but rather those already employed are working more. These results could perhaps point

toward the fertility decisions previously explained as an answer to why little effect is shown on the extensive margin. They go on to state that low-skilled immigration has decreased "the amount of time this group devotes to household work and has increased the amount of services purchased in the market." In the case of Spain, Farré, González and Ortega (2011) discovered that "female immigration into a region leads to higher employment and lower wages in the household services sector. We have also shown that the labor supply of skilled women with family responsibilities increase." The authors are keen to point out how there are certain discrepancies between their results and those found by Cortes and Tessada. They state that the "discrepancies between their results and ours may relate to the large institutional differences between the US and Spain's labor markets, such as the more flexible work schedules and the higher baseline female employment rates in the US." This is an important crux of the overall theoretical framework; there are many factors to consider across a cross-national basis that will have an effect on results depending on what countries are surveyed. Whether an inflow is of a greater number of male or female low-skill immigrants, both genders can contribute to aiding women in the household. Men would be more prone to complete labor such as yard work, electrical, plumbing and carpentry. Women can aid in cooking, cleaning and care labor. Either way, low-skilled immigrants have a contribution to make to household non-care labor.

d. Labor Market Discrimination

Do immigrants have an effect on gender discrimination? This is the most difficult constraint to address. For one, there is little to no previous research concerning a

relationship between these factors. Second, in essence they seem to be in conflict with one another. If we consider that both men and women are regarded differently in the labor force, the introduction of immigrants is not changing this regard at all. Rather, it is adding more individuals to each pool of male and female workers. The key point to recognize here is how discrimination against immigrants as outsiders may lessen the overall effects that gender discrimination has on women wanting an equal place in the work force. I would argue that the race of a native has significant importance in the example I will outline. Consider the case of a male and female employee at a factory. If there is a proclivity of a manager to pay the male employee more than the female, then we observe a basic gender discrimination of wages. Now consider a situation where we have those same two employees and a newly immigrated foreigner who is hired on by the factory. When we look at wages, I do not think it is out of the question to assume that the same manager will pay the foreigner a lower wage than both previous employees, especially if the male and female identify with the most prevalent race of the country in question. If the factory begins to output more than was previously able without the foreigner, its possible that the manager may give raises to both the male *and* female employee. This raise for the female employee may be one not observed without the presence of the newly hired foreign worker. I imagine that this proclivity to natives would remain across skill levels and sectors if we consider the worldwide suppression of immigration, but difference would certainly be found if the race of both the male and female worker differed. This result is a bit murky; the role of immigrants in terms of gender discrimination is not a clear one to sort out.

e. Imposed Social Norms

What does the introduction of immigrants do when we look at imposed social norms? As has been discussed, the inflow of low-skill immigrants has the greatest effect on high-skill native women. Therefore, their introduction does not directly have any positive or negative effect on the stigmas placed on these women, because there are none should they enter the labor market. What of other skill levels? Various papers have discussed the work that immigrants can do to change the shape of labor markets. Peri (2014) in particular addressed some of the roles immigrants play that can explain a change in the social norms and stigmas. Although the general consensus focuses on the harms of immigration, Peri shows that firm adapt well to the changes brought about by new immigrant labor and adjust capital and labor accordingly. As such, many native workers will acquire new positions to supervise the hiring of low-skill labor. These natives, in their new roles as managers, supervisors, etc. would face considerably less stigmas if they are women. Rather than continuing blue-collar manual labor, these women could potentially be hired on to new positions of greater responsibility and clout. It appears that immigration has an overall neutral effect on stigmas affecting high-skilled women. Since there are none, an influx of immigration will not change this. When observing the rest of the female labor force, it appears that immigrants may have a slight positive effect on the reduction of certain stigmas. The immigrants do not change the stigmas themselves, but rather allow for women to be displaced from their old jobs and put into positions of slightly higher respectability.

6. Counterarguments

Before concluding, I think it is important to address the paper as a whole and present some key counterarguments to the theories and ideas put forth. The first major point to address is the arguments of both Goldin (1994) and Greenwood et. al (2005). While they are the crux of this paper's theory, one could argue that the ideas both authors put forth are not the only solution. In economics, we consider that "a" leads to "b" and often seek to prove that relationship. In doing so, we can lose sight of the fact that often "b" can also lead to "a" for a similar result, but a different path to get there. Take for example the idea of women being liberated from their households by the advent of appliances. There is nothing to say that this occurred could not occur conversely. Women are eager to gain employment and seek careers, and as such then it is necessary for them to purchase appliances as their available time at home changes.

Another major counterargument to the idea that immigration increases labor force participation of high-skilled women is a feminist one. While this situation certainly empowers the high-skilled woman, the low-skilled immigrants who are now hired to work are typically doing so at a lower wage. When we consider nannies who can work more flexible hours than native daycare systems, we can see how one individual is put down while the other is allowed to rise. As such, work needs to be done to find a solution that ultimately benefits both parties involved at a greater level. While the high-skilled woman makes out with greater income due to more access to the labor force and less of an expense due to cheap immigrant labor, the low-skilled immigrant is little more than a convenience or alternative to the more stringent native options.

A final point to regard is the role of culture. While I only briefly touched on cultural and institutional stigmas in my discussion on further research, the impact that culture has on this model is quite astounding. Across all countries, the decisions that both the immigrant and the native worker makes in regards to labor is shaped. Take the anecdote of a career woman in France who has to choose between a French care worker and an immigrant. The immigrant becomes more attractive because, for one they have fewer restrictions, and two their culture may be disposed toward it. Looking at a Bangladeshi woman who has just immigrated into France, she can either work in a factory or as a nanny. She is tending toward the position as a nanny due to her cultural norms from her home country. Therefore, the French woman is shaped by her social norms and the double care burden. The Bangladeshi immigrant woman is shaped perhaps by her stricter social norms and the institutional burdens of her receiving country.

In all, it is important to remember that each study is not the be all and end all for a subject. While I attempted to explore my topic as much as possible, there are always other facets worth addressing and expanding.

7. Conclusion

Immigration is a prevalent issue and one that is ever a topic of conversation in the public lexicon. My time studying the movement of people across barriers, borders, and oceans has taught me above all that there are always rewards to reap from immigration. This paper only captures a glimpse of the possible benefits that more open borders hold. The results of my regressions and my theoretical framework merely operate as a skeleton for more intensive research, both into immigration itself and the ways in which it affects various facets of life from the labor market, firms, the household, governments and more.

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Appendices

Each table represents the coefficient of a variable in a
model's regression accompanied by its standard error in parentheses

*Asterisks indicate levels of significance, with * indicating significance at the 10 percent
** indicating significance at the 5 percent and *** indicating significance at the 1 percent level.*

Models 1 and 2 contain 82 observations over 17 countries

Table 1: The Effect of Immigration on Female Labor Force Participation - Model 1

GDP Per Capita	.00009(.0003)***	.00009(.00003)***	.00009(.00003)***	.00009(.00003)***
GDP Growth	-.009(.003)***	-.01(.003)***	-.009(.003)***	-.009(.003)***
Trade Openness	2.64(.653)***	2.63(.745)***	2.63(.662)***	2.66(.644)***
Financialization	-1.75e-07 (9.61e-08)*	-1.09e-07 (4.87e-08)**	-1.75e-07 (9.58e-08)*	-1.75e-07 (9.603-08)*
Secondary Education Gender Gap	-2.52 (1.82)	-2.55(1.83)	-2.53(1.83)	-2.50(1.80)
Immigration	1.66e-07 (9.18e-08)*	5.08e-07 (2.88e-07)*	3.22e-07 (1.81e-07)*	3.39e-07 (1.84e-07)*
	Total	5 Year Increase	Male	Female
Constant	41.9(2.32)***	42.2(2.39)***	41.9(2.32)***	41.9(2.31)***
R squared	0.755	0.739	0.754	0.756

Table 2: The Effect of Immigration on Female LFP - Model 1 (By Female Skill)

GDP Per Capita	.00009(.00003)***	.00009(.00003)***	.0009(.00003)***
GDP Growth	-.0097(.003)***	-.0097(.003)***	-.010(.003)***
Trade Openness	2.65(.697)***	2.52(.664)***	2.55(.693)***
Financialization	-1.54e-07 (7.96e-08)*	-1.8e-07 (9.55e-08)*	-1.56e07 (7.51e-08)**
Secondary Education Gender Gap	-1.79(1.71)	-2.03(1.61)	-2.10(1.84)
Immigration	1.04e-06 (5.30e-07)**	1.18e-06 (6.84e-07)*	5.01e-07 (2.84e-07)*
	Low Skill	Medium Skill	High Skill
Constant	40.9(2.28)***	41.6(2.25)***	41.8(2.43)***
R squared	0.732	0.759	0.731

Table 3: The Effect of Immigration on Female LFP - Model 1 (By Male Skill)

GDP Per Capita	.00009(.00003)***	.00009(.00003)***	.00009(.00003)***
GDP Growth	-.01(.003)***	-.009(.003)***	-.01(.003)***
Trade Openness	2.49(.726)***	2.54(.559)***	2.53(.698)***
Financialization	-1.54e-07 (7.77e-08)**	-1.76e-07 (9.21e-08)*	-1.58e-07 (7.71e-08)**
Secondary Education Gender Gap	-1.88(1.79)	-2.135(1.63)	-2.05(1.82)
Immigration	6.34e-07 (3.99e-07)	1.14e-06 (6.83e-07)*	5.56e-07 (3.11e-07)*
	Low Skill	Medium Skill	High Skill
Constant	41.4(2.30)***	41.7(2.26)***	41.7(2.39)***
R squared	0.726	0.759	0.731

Table 4: The Effect of Immigration on Female LFP - Model 1 (By Total Skill)

GDP Per Capita	.00009(.00003)***	.00009(.00003)***	.00009(.00003)***
GDP Growth	-.0099(.003)***	-.0097(.0028)***	-.01(.003)***
Trade Openness	2.56(.71)***	2.53(.67)***	2.54(.695)***
Financialization	-1.56e-07 (8.00e-08)*	-1.78e-07 (9.43e-08)*	-1.57e-07 (7.62e-08)**
Secondary Education Gender Gap	-1.87(1.75)	-2.09(1.62)	-2.07(1.83)
Immigration	4.15e-07 (2.37e-07)*	5.85e-07 (3.44e-07)*	2.64e-07 (1.49e-07)*
	Low Skill	Medium Skill	High Skill
Constant	41.2(2.28)***	41.7(2.25)***	41.8(2.41)***
R squared	0.729	0.759	.731

Table 5: The Effect of Immigration on Female Labor Force Participation - Model 2

Log GDP Per Capita	3.13(.419)***	3.14(.415)***	3.15(.417)***	3.116(.423)***
Trade Openness	2.65(.416)***	2.62(.443)***	2.64(.418)***	2.66(.414)***
Financialization	-1.16e-07 (5.92e-08)**	-6.80e-08 (2.11e-08)***	-1.15e-07 (5.85e-08)**	-1.17e07 (5.97e-08)*
Secondary Education Gender Gap	-2.98(1.96)*	-3.04(1.66)**	-2.98(1.70)**	-2.96(1.68)*
Immigration	1.30e-07 (7.88e-08)*	4.06e-07 (2.26e-07)*	2.53e-07 (1.55e-07)	2.68e-07 (1.59e-07)*
	Total	5 Year Increase	Male	Female
Constant	12.8(4.76)***	12.9(4.82)***	12.6(4.71)***	12.9(4.79)***
R squared	0.809	0.803	0.809	0.810

Table 6: The Effect of Immigration on Female LFP - Model 2 (By Female Skill)

Log GDP Per Capita	3.23(.461)***	3.16(.421)***	3.24(.485)***
Trade Openness	2.63(.452)***	2.61(.428)***	2.55(.436)***
Financialization	-1.00e-07 (4.42e-08)**	-1.16e-07 (5.69e-08)**	-9.77e-08 (4.00e-08)**
Secondary Education Gender Gap	-2.43(1.59)	-2.59(1.51)*	-2.62(1.73)
Immigration	8.11e-07 (4.76e-07)*	9.08e-07 (5.84e-07)	3.32e-07 (2.32e-07)
	Low Skill	Medium Skill	High Skill
Constant	11.0(4.86)**	12.2(4.77)***	11.6(5.24)**
R squared	0.796	0.811	0.793

Table 7: The Effect of Immigration on Female LFP - Model 2 (By Male Skill)

Log GDP Per Capita	3.33(.474)***	3.15(.420)***	3.26(.479)***
Trade Openness	2.53(.452)***	2.62(.427)***	2.55(.440)***
Financialization	-9.80e-08 (4.13e-08)**	-1.13e-07 (5.42e-08)**	-9.93e-08 (4.11e-08)**
Secondary Education Gender Gap	-2.51(1.66)	-2.66(1.53)*	-2.59(1.71)
Immigration	4.82e-07 (3.48e-07)	8.63e-07 (5.76e-07)	3.83e-07 (2.59e-07)
	Low Skill	Medium Skill	High Skill
Constant	10.5(4.89)**	12.4(4.81)***	11.4(5.11)**
R squared	0.793	0.811	0.794

Table 8: The Effect of Immigration on Female LFP - Model 2 (By Total Skill)

Log GDP Per Capita	3.29(.466)***	3.15(.420)***	3.25(.482)***
Trade Openness	2.57(.450)***	2.62(.427)***	2.55(.438***
Financialization	-1.00e-07 (4.36e-08)**	-1.15e-07 (5.60e-08)**	-9.86e-08 (4.07e-08)**
Secondary Education Gender Gap	-2.49(1.63)	-2.63(1.52)*	-2.61(1.72)
Immigration	3.19e-07 (2.09e-07)	4.45e-07 (2.92e-07)	1.79e-07 (1.23e-07)
	Low Skill	Medium Skill	High Skill
Constant	10.73(4.86)**	12.3(4.79)***	11.5(5.18)**
R squared	0.795	0.811	0.793

Models 3, 4, 5 and 6 contain 76 observations over 17 countries

Table 9: The Effect of Immigration on Female Labor Force Participation - Model 3

GDP Per Capita	.0001(.00003)***	.00009(.00002)***	.0001(.00003)***	.0001(.00003)***
GDP Growth	-.012(.003)***	-.010(.003)***	-.012(.003)***	-.012(.003)***
Average Imports	3.27e-13 (1.04e-12)	1.17e-12 (3.82e-13)**	4.00e-13 (1.02e-12)	2.53e-13 (1.06e-12)
Financialization	-1.83e-07 (9.09e-08)**	-1.56e-07 (6.23e-08)**	-1.82e-07 (9.17e-08)**	-1.83e-07 (8.98e-08)**
Secondary Education Gender Gap	-3.22(2.19)	-3.73(1.83)**	-3.20(2.20)	-3.24(2.17)
Immigration	1.25e-07 (1.62e-07)	4.92e-07 (2.82e-07)*	2.30e-07 (3.14e-07)	2.70e-07 (3.30e-07)
	Total	5 Year Increase	Male	Female
Constant	44.53(2.07)***	45.3(1.99)***	44.5(2.07)***	44.53(2.07)***
R squared	0.654	0.677	0.653	0.656

Table 10: The Effect of Immigration on Female LFP - Model 3 (By Female Skill)

GDP Per Capita	.00009(.00003)***	.00001(.00002)***	.00009(.00003)***
GDP Growth	-.011(.003)***	-.012(.003)***	-.011(.003)***
Average Imports	1.24e-12 (8.12e-13)	7.34e-14 (8.88e-13)	1.26e-12 (7.56e-13)*
Financialization	-1.49e-07 (7.26e-08)**	-1.91e-07 (8.84e-08)**	-1.50e-07 (7.12e-08)**
Secondary Education Gender Gap	-2.62(1.76)	-2.86(1.73)**	-2.57(1.99)
Immigration	-1.60e-07 (9.16e-07)	1.14e-06 (1.08e-06)	-9.01e-08 (5.08e-07)
	Low Skill	Medium Skill	High Skill
Constant	44.3(2.05)***	44.2(1.92)***	44.1(2.09)***
R squared	0.629	0.666	0.629

Table 11: The Effect of Immigration on Female LFP - Model 3 (By Male Skill)

GDP Per Capita	.00009(.00003)**	.0001(.00003)***	.00009(.00003)***
GDP Growth	-.011(.003)***	-.012(.003)***	-.011(.03)***
Average Imports	1.39e-12 (7.77e-13)*	1.77e-13 (8.65e-13)	1.25e-12 (7.58e-13)*
Financialization	-1.43e-07 (7.83e-08)*	-1.87e-07 (8.55e-08)**	-1.49e-07 (7.40e-08**
Secondary Education Gender Gap	-2.57(1.85)	-2.96(1.78)*	-2.58(1.92)
Immigration	-2.85e-07 (7.15e-07)	1.04e-06 (1.04e-06)	-9.72e-08 (5.40e-07)
	Low Skill	Medium Skill	High Skill
Constant	44.3(1.96)***	44.4(1.92)***	44.2(2.02)***
R squared	0.629	0.664	0.629

Table 12: The Effect of Immigration on Female LFP - Model 3 (By Total Skill)

GDP Per Capita	.00009(.00003)**	.0001(.00003)***	.00009(.00003)***
GDP Growth	-.011(.003)***	-.012(.003)***	-.011(.003)***
Average Imports	1.35e-12 (8.41e-13)	1.10e-13 (8.88e-13)	1.26e-12 (7.62e-13)*
Financialization	-1.45e-07 (7.71e-08)*	-1.90e-07 (8.73e-08)**	-1.49e-07 (7.26e-08)**
Secondary Education Gender Gap	-2.59(1.81)	-2.92(1.75)*	-2.58(1.96)
Immigration	-1.34e-07 (4.38e-07)	5.52e-07 (5.35e-07)	-4.73e-08 (2.64e-07)
	Low Skill	Medium Skill	High Skill
Constant	44.3(1.98)***	44.3(1.92)***	44.2(2.06)***
R squared	0.629	0.666	0.629

Table 13: The Effect of Immigration on Female Labor Force Participation - Model 4

GDP Per Capita	.0001(.00003)***	.00009(.00002)***	.0001(.00003)***	.0001(.00003)***
GDP Growth	-.011(.003)***	-0.10(.003)***	-.011(.003)***	-.011(.003)***
Average Exports	5.29e-13 (9.08e-13)	1.29e-12 (3.56e-13)***	5.88e-13 (8.76e-13)	4.70e-13 (9.36e-13)
Financialization	-1.80e-07 (9.30e-13)**	-1.46e-07 (5.70e-08)**	-1.80e-07 (9.36e-08)*	-1.80e-07 (9.21e-08)*
Secondary Education Gender Gap	-3.15(2.21)	-3.55(1.85)*	-3.14(2.21)	-3.16(2.19)
Immigration	1.18e-07 (1.41e-07)	4.93e-07 (2.91e-07)*	2.223-07 (2.74e-07)	2.48e-07 (2.89e-07)
	Total	5 Year Increase	Male	Female
Constant	44.5(2.08)***	45.2(2.02)***	44.5(2.08)***	44.5(2.08)***
R squared	0.656	0.674	0.655	0.657

Table 14: The Effect of Immigration on Female LFP - Model 4 (By Female Skill)

GDP Per Capita	.0001(.00003)***	000.1(.00003)***	.0001(.00003)***
GDP Growth	-.011(.003)***	-011(.003)***	-.011(.003)***
Average Exports	1.17e-12 (7.32e-13)	3.60e-13 (7.92e-13)	1.10e-12 (6.94e-13)
Financialization	-1.46e-07 (7.30e-08)**	-1.88e-07 (9.16e-08)**	-1.49e-07 (7.15e-08)**
Secondary Education Gender Gap	-2.48(1.79)	-2.83(1.76)	-2.55(2.04)
Immigration	8.19e-08 (8.14e-07)	1.02e-06 (9.78e-07)	8.74e-08 (4.49e-07)
	Low Skill	Medium Skill	High Skill
Constant	44.0(1.94)***	44.2(1.90)***	44.1(2.15)***
R squared	0.628	.0667	0.628

Table 15: The Effect of Immigration on Female LFP - Model 4 (By Male Skill)

GDP Per Capita	.0001(.00003)***	.0001(.00003)***	.0001(.00003)***
GDP Growth	-.011(.003)***	-.011(.003)***	-.011(.003)***
Average Exports	1.25e-12 (6.75e-13)*	4.32e-13 (7.73e-13)	1.11e-12 (6.81e-13)
Financialization	-1.44e-07 (7.75e-08)*	-1.85e-07 (8.91e-08)**	-1.49e-07 (7.39e-08)**
Secondary Education Gender Gap	-2.46(1.88)	-2.92(1.81)	-2.54(1.98)
Immigration	-1.85e-08 (6.07e-07)	9.54e-07 (9.49e-07)	9.24e-08 (4.75e-07)
	Low Skill	Medium Skill	High Skill
Constant	44.0(1.94)****	44.3(1.92)***	44.1(2.06)***
R squared	0.627	0.666	0.629

Table 16: The Effect of Immigration on Female LFP - Model 4 (By Total Skill)

GDP Per Capita	.0001(.00003)***	.0001(.00003)***	.0001(.00003)***
GDP Growth	-.011(.003)***	-.011(.003)***	-.011(.003)***
Average Exports	1.22e-12 (7.28e-13)*	3.86e-13 (7.90e-13)	1.11e-12 (6.90e-13)
Financialization	-1.45e-07 (7.68e-08)*	-1.87e-07 (9.08e-08)**	-1.49e-07 (7.27e-08)**
Secondary Education Gender Gap	-2.47(1.85)	-2.88(1.79)	-2.55(2.01)
Immigration	9.40e-09 (3.69e-07)	4.99e-07 (4.86e-07)	4.52e-08 (2.32e-07)
	Low Skill	Medium Skill	High Skill
Constant	44.0(1.93)***	44.3(1.91)***	44.1(2.11)***
R squared	0.628	0.667	0.628

Table 17: The Effect of Immigration on Female Labor Force Participation - Model 5

Log GDP Per Capita	3.63(.589)***	3.35(.468)***	3.63(.594)***	3.62(.586)***
Average Imports	5.55e-13 (8.09e-13)	1.06e-12 (4.07e-13)***	5.97e-13 (7.84e-13)	5.12e-13 (8.30e-13)
Financialization	-1.10e-07 (5.02e-08)**	-1.02e-07 (3.66e-08)***	-1.10e-07 (5.06e-08)**	-1.10e-07 (4.96e-08)**
Secondary Education Gender Gap	-3.74(2.07)*	-4.27(1.65)***	-3.73(2.077)*	-3.75(2.05)*
Immigration	7.03e-08 (1.25e-07)	4.10e-07 (2.28e-07)*	1.29e-07 (2.41e-07)	1.52e-07 (2.56e-07)
	Total	5 Year Increase	Male	Female
Constant	10.8(5.60)*	14.1(4.83)***	10.8(5.61)*	10.8(5.59)*
R squared	0.714	0.737	0.713	0.714

Table 18: The Effect of Immigration on Female LFP - Model 5 (By Female Skill)

Log GDP Per Capita	3.51(.621)***	3.64(.562)***	3.51(.572)***
Average Imports	1.26e-12 (5.78e-13)**	4.19e-13 (6.77e-13)	1.60e-12 (5.62e-13)***
Financialization	-9.17e-08 (3.65e-08)**	-1.14e-07 (4.93e-08)**	-8.97e-08 (3.65e-08)**
Secondary Education Gender Gap	-3.32(1.67)**	-3.56(1.70)**	-3.06(1.86)*
Immigration	-4.07e-07 (6.65e-07)	6.52e-07 (8.52e-07)	-4.11e-07 (3.89e-07)
	Low Skill	Medium Skill	High Skill
Constant	11.8(6.13)*	10.5(5.55)*	11.3(5.43)**
R squared	0.707	0.718	0.710

Table 19: The Effect of Immigration on Female LFP - Model 5 (By Male Skill)

Log GDP Per Capita	3.47(.650)***	3.62(.550)***	3.50(.590)***
Average Imports	1.31e-12 (5.43e-13)**	4.75e-13 (6.69e-13)	1.49e-12 (5.48e-13)***
Financialization	-8.92e-08 (3.96e-08)**	-1.13e-07 (4.84e-08)**	-9.03e-08 (3.75e-08)**
Secondary Education Gender Gap	-3.26(1.77)*	-3.62(1.75)**	-3.16(1.82)*
Immigration	-3.67e-07 (5.06e-07)	5.98e-07 (8.18e-07)	-3.76e-07 (4.00e-07)
	Low Skill	Medium Skill	High Skill
Constant	12.0(6.20)*	10.8(5.44)**	11.6(5.55)**
R squared	0.707	0.718	0.709

Table 20: The Effect of Immigration on Female LFP - Model 5 (By Total Skill)

Log GDP Per Capita	3.48(.645)***	3.63(.556)***	3.50(.580)***
Average Imports	1.32e-12 (5.82e-13)**	4.40e-13 (6.81e-13)	1.55e-12 (5.58e-13)***
Financialization	-8.96e-08 (3.83e-08)**	-1.14e-07 (4.91e-08)**	-8.99e-08 (3.70e-08)**
Secondary Education Gender Gap	-3.28(1.73)*	-3.60(1.72)**	-3.11(1.84)*
Immigration	-2.12e-07 (3.12e-07)	3.17e-07 (4.22e-07)	-1.99e-07 (1.99e-07)
	Low Skill	Medium Skill	High Skill
Constant	12.0(6.23)*	10.6(5.50)*	11.4(5.47)**
R squared	0.707	0.718	0.709

Table 21: The Effect of Immigration on Female Labor Force Participation - Model 6

Log GDP Per Capita	3.56(.581)***	3.29(.474)***	3.56(5.82)***	3.56(.580)***
Average Exports	7.31e-13 (6.69e-13)	1.20e-12 (3.60e-13)***	7.63e-13 (6.41e-13)	6.99e-13 (6.96e-13)
Financialization	-1.11e-07 (5.22e-08)**	-9.71e-08 (3.29e-08)***	-1.11e-07 (5.27e-08)**	-1.10e-07 (5.16e-08)**
Secondary Education Gender Gap	-3.66(2.08)*	-4.11(2.32e-07)*	-3.66(2.08)*	-3.67(2.07)*
Immigration	7.07e-08 (1.11e-07)	4.12e-07 (2.32e-07)*	1.34e-07 (2.15e-07)	1.48e-07 (2.29e-07)
	Total	5 Year Increase	Male	Female
Constant	11.4(5.44)**	14.5(4.88)***	11.4(5.43)**	11.4(5.44)**
R squared	0.718	0.738	0.717	0.718

Table 22: The Effect of Immigration on Female LFP - Model 6 (By Female Skill)

Log GDP Per Capita	3.50(.621)***	3.57(.558)***	3.50(.585)***
Average Exports	1.22e-12 (5.26e-13)**	6.43e-13 (5.91e-13)	1.35e-12 (5.40e-13)**
Financialization	-9.07e-08 (3.62e-08)**	-1.15e-07 (5.20e-08)**	-8.98e-08 (3.61e-08)**
Secondary Education Gender Gap	-3.19(1.72)*	-3.49(1.73)**	-3.07(1.92)
Immigration	-1.57e-07 (6.21e-07)	6.16e-07 (7.92e-07)	-1.57e-07 (3.51e-07)
	Low Skill	Medium Skill	High Skill
Constant	11.6(5.97)*	11.2(5.41)**	11.4(5.50)**
R squared	0.706	0.722	0.707

Table 23: The Effect of Immigration on Female LFP - Model 6 (By Male Skill)

Log GDP Per Capita	3.49(.638)***	3.55(.547)***	3.50(.595)***
Average Exports	1.22e-12 (4.83e-13)**	6.84e-13 (5.77e-13)	1.29e-12 (5.16e-13)**
Financialization	-9.03e-08 (3.93e-08)**	-1.14e-07 (5.12e-08)**	-9.08e-08 (3.70e-08)**
Secondary Education Gender Gap	-3.17(1.80)*	-3.55(1.77)**	-3.13(1.87)*
Immigration	-1.25e-07 (4.54e-07)	5.83e-07 (7.64e-07)	-1.31e-07 (3.68e-07)
	Low Skill	Medium Skill	High Skill
Constant	11.6(5.98)*	11.4(5.32)**	11.5(5.57)**
R squared	0.706	0722	0.770

Table 24: The Effect of Immigration on Female LFP - Model 6 (By Total Skill)

Log GDP Per Capita	3.49(.635)***	3.56(.552)***	3.50(.590)***
Average Exports	1.22e-12 (5.17e-13)**	6.58e-13 (5.88e-13)	1.32e-12 (5.30e-13)**
Financialization	-9.02e-08 (3.83e-08)**	-1.15e-07 (5.18e-08)**	-9.03e-08 (3.66e-08)**
Secondary Education Gender Gap	-3.17(1.77)*	-3.52(1.75)**	-3.10(1.90)
Immigration	-7.43e-08 (2.78e-07)	3.03e-07 (3.93e-07)	-7.30e-08 (1.81e-07)
	Low Skill	Medium Skill	High Skill
Constant	11.6(6.01)*	11.3(5.4)**	11.5(5.53)**
R squared	0.706	0.722	0.707

Models 7 and 8 contain 64 observations over 17 countries

Table 25: The Effect of Immigration on Female Labor Force Participation - Model 7

GDP Per Capita	.00005(.00003)*	.00004(.00003)*	.00005(.00003)*	.00005(.00003)*
GDP Growth	-.004(.004)	-.004(.004)	-.004(.004)	-.004(.004)
Trade Openness	1.96(.656)***	1.93(.672)**	1.95(.658)***	1.97(.654)***
Financialization	-1.13e-07 (8.16e-08)	-7.63e-08 (4.68e-08)	-1.13e-07 (8.18e-08)	-1.12e-07 (8.12e-08)
Female Parliament	.139(.033)***	.140(.030)***	.139(.032)***	.139(.033)***
Immigration	8.95e-08 (4.69e-08)*	3.21e-07 (1.82e-07)*	1.76e-07 (9.45e-08)*	1.81e-07 (9.21e-08)**
	Total	5 Year Increase	Male	Female
Constant	37.8(1.21)**	37.9(1.19)***	37.8(1.21)***	37.8(1.21)***
R squared	0.789	0.793	0.789	0.789

Table 26: The Effect of Immigration on Female LFP - Model 7 (By Female Skill)

GDP Per Capita	.00004(.00003)*	.00004(.00003)*	.00004(.00003)*
GDP Growth	-.004(.004)	-.004(.004)	-.005(.004)
Trade Openness	1.95(.686)***	1.89(.660)***	1.78(.702)**
Financialization	-1.02e-07 (7.67e-08)	-1.23e-07 (8.64e-08)	-9.51e-08 (6.03e-08)
Female Parliament	.142(.034)***	.136(.032)***	.139(.035)***
Immigration	7.43e-07 (3.26e-07)**	6.78e-07 (4.07e-07)*	2.03e-07 (1.07e-07)*
	Low Skill	Medium Skill	High Skill
Constant	37.6(1.23)***	37.9(1.18)***	38.1(1.23)***
R squared	0.782	0.796	0.782

Table 27: The Effect of Immigration on Female LFP - Model 7 (By Male Skill)

GDP Per Capita	.00005(.00003)*	.00005(.00003)*	.00005(.00003)*
GDP Growth	-.004(.004)	-.005(.004)	-.005(.004)
Trade Openness	1.85(.709)***	1.87(.673)***	1.80(.694)***
Financialization	-1.07e-07 (7.64e-08)	-1.19e-07 (8.23e-08)	-9.99e-08 (6.60e-08)
Female Parliament	.142(.033)***	.135(.031)***	.140(.035)***
Immigration	5.72e-07 (3.12e-07)*	5.80e-07 (3.95e-07)	2.87e-07 (1.37e-07)**
	Low Skill	Medium Skill	High Skill
Constant	37.8(1.27)***	38.0(1.19)***	38.0(1.22)***
R squared	0.783	0.795	0.782

Table 28: The Effect of Immigration on Female LFP - Model 7 (By Total Skill)

GDP Per Capita	.00005(.00003)*	.00005(.00003)*	.00005(.00003)*
GDP Growth	-.004(.004)	-.005(.004)	-.005(.004)
Trade Openness	1.90(.698)***	1.89(.667)***	1.79(.698)***
Financialization	-1.05e-07 (7.71e-08)	-1.21e-07 (8.46e-08)	-9.74e-08 (6.30e-08)
Female Parliament	.142(.034)***	.135(.031)***	.139(.035)***
Immigration	3.30e-07 (1.63e-07)**	3.15e-07 (2.01e-07)	1.21e-07 (6.00e-08)**
	Low Skill	Medium Skill	High Skill
Constant	37.7(1.25)***	38.0(1.19)***	38.0(1.22)***
R squared	0.783	0.796	0.782

Table 29: The Effect of Immigration on Female Labor Force Participation - Model 8

Log GDP Per Capita	2.11(.565)***	2.09(.571)***	2.12(.562)***	2.11(.567)***
Trade Openness	1.87(.653)***	1.84(.653)***	1.87(.654)***	1.87(.653)***
Financialization	-8.94e-08 (5.59e-08)	-6.34e-08 (2.72e-08)**	-8.98e-08 (5.59e-08)	-8.88e-08 (5.57e-08)
Female Parliament	.110(.034)***	.111(.032)***	.110(.034)***	.110(.035)***
Immigration	6.61e-08 (4.67e-08)	2.52e-07 (1.78e-07)	1.31e-07 (9.42e-08)	1.33e-07 (9.19e-08)
	Total	5 Year Increase	Male	Female
Constant	18.2(5.72)***	18.4(5.78)***	18.1(5.69)***	18.3(5.74)***
R squared	0.819	0.822	0.819	0.819

Table 30: The Effect of Immigration on Female LFP - Model 8 (By Female Skill)

Log GDP Per Capita	2.13(.544)***	2.14(.566)***	2.21(.559)***
Trade Openness	1.86(.672)***	1.86(.653)***	1.73(.669)***
Financialization	-8.42e-08 (5.41e-08)	-9.55e-08 (5.95e-08)	-7.21e-08 (3.61e-08)**
Female Parliament	.112(.036)***	.108(.032)***	.111(.037)***
Immigration	5.57e-07 (3.34e-07)*	5.27e-07 (4.12e-07)	9.56e-08 (9.82e-08)
	Low Skill	Medium Skill	High Skill
Constant	17.9(5.62)***	18.03(5.73)***	17.5(5.74)***
R squared	0.815	0.824	0.816

Table 31: The Effect of Immigration on Female LFP - Model 8 (By Male Skill)

Log GDP Per Capita	2.18(.541)***	2.16(.569)***	2.19(.555)***
Trade Openness	1.81(.675)***	1.84(.658)***	1.76(.666)***
Financialization	-8.63e-08 (5.32e-08)	-9.17e-08 (5.53e-08)*	-7.72e-08 (4.16e-08)*
Female Parliament	.111(.036)***	.108(.032)***	.111(.037)***
Immigration	4.40e-07 (3.22e-07)	4.40e-07 (3.96e-07)	1.73e-07 (1.28e-07)
	Low Skill	Medium Skill	High Skill
Constant	17.5(5.58)***	17.9(5.75)***	17.6(5.69)***
R squared	0.816	0.823	0.82

Table 32: The Effect of Immigration on Female LFP - Model 8 (By Total Skill)

Log GDP Per Capita	2.16(.543)***	2.15(.567)***	2.19(.558)***
Trade Openness	1.83(.674)***	1.85(.655)***	1.75(.668)***
Financialization	-8.58e-08 (5.41e-08)	-9.37e-08 (5.75e-08)	-7.46e-08 (3.87e-08)*
Female Parliament	.112(.036)***	.108(.032)***	.111(.037)***
Immigration	2.50e-07 (1.67e-07)	2.42e-07 (2.03e-07)	6.55e-08 (5.55e-08)
	Low Skill	Medium Skill	High Skill
Constant	17.7(5.59)***	17.9(5.74)***	17.5(5.72)***
R squared	0.816	0.824	0.815