# Does Breaking Through the "Final Glass Ceiling" Really Pave the Way for Subsequent Women to Become Heads of State?

## By

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## Abstract

Women's ascension to the role of national president or prime minister of any country is a relatively new phenomenon in world history. The first woman to break the "final glass ceiling," Sirinavo Bandaranaike of Ceylon (Sri Lanka today), did it in 1960, just 58 years ago. Since then, the ceiling has been broken in about 83 nations worldwide, but we still know little about what it takes for women to achieve such national leadership roles. Previous research (e.g., Jalalzai, 2013; Skard, 2015) has pointed to the importance of family connections, political turmoil, and the nature of a country's political system. But only one study (Jalalzai, 2013) provided quantitative, cross-national support for any of these observations. Our paper replicates Jalalzai's analysis, done using data from the first decade of the twenty-first century, with data from the second decade. We find that there have been dramatic changes over time. We find that family connections are now no more useful for explaining women's rise to presidencies and prime ministerial positions than men's; that, in fact, women are now more likely to rise in politically stable nation states than in fragile ones. And, perhaps most importantly, women are much more likely to ascend to the highest positions in countries where they have already broken the "final glass ceiling."

**Keywords:** final glass ceiling, women presidents, women prime ministers

## Introduction

Following Hillary Clinton's loss in the 2016 U.S. presidential election, it was reasonable to ask about the degree to which a "final" glass ceiling really does exist on women's ascendance to the apex of political power. Clinton's Republican opponent was a flawed candidate and, while many, including that candidate, observed that she was flawed as well, there were nearly as many who claimed that she was uniquely qualified to be president. At the Democratic National Convention that nominated her then President Obama suggested, "there has never been a man or a woman—not me, not Bill [Clinton], nobody—more qualified than Hillary Clinton to serve as president of the United States of America." Given these comments, is it reasonable to believe that there were in fact extra barriers, associated with being female, that made Clinton's candidacy more challenging than if she'd been male: is there, in effect, a genuine "glass ceiling"?

In a course on the Sociology of Gender we had learned that, while such a ceiling might exist in individual countries, it could certainly be shattered. By the middle of 2018, for example, 83 countries had had a female head of government or state (see Appendix). We also knew two other things that seemed important. The first was that the number of women ascending to the role of head of government or state has increased every decade after 1960, when Sirinavo Bandaranaike, of Ceylon (now Sri Lanka), became the world's first elected female leader. Three women had been elected in the 1960s; five had ascended in the 1970s; nine (some being repeats) in the 1980s; 33 gained either a presidency or prime ministerial position in the 1990s; 37 in the 2000s; and 60 in the 2010s by middle of 2018 when we began this project (Wikipedia, 2018a). The second thing we thought we knew is that, increasingly, women were ascending to presidential and prime ministerial positions in countries where there had been a previous woman president or prime minister. Having had a

woman in high office seemed to make some difference for the chances of women's future. Thus, we were aware that Theresa May was not the first female Prime Minister of the United Kingdom; Jacinda Ardern, not the first in New Zealand; Erna Solberg, not the first in Norway. This led us to wonder whether we might not now find sufficient global evidence to show conclusively that breaking of the "final" glass ceiling (i.e., access to the presidency or the position of prime minister) makes a real difference for subsequent women aspirants to a nation's top political job?

**Previous Research**

Cross-national research on women presidents and prime ministers remains somewhat meager and is largely based on qualitative analyses of individual cases. Michael Genovese's groundbreaking (1993) study examined seven women presidents and prime ministers, suggesting that women could rise to top positions in situations that covered the complete ideological spectrum. Indira Gandhi, for instance, who was not a feminist, claimed for her self the "title of only man in a cabinet of old women" (Jalalzai, 2013: 13). On the other hand, Gro Harlem Brundtland, prime minister of Norway enacted what many regard as a feminist agenda and appointed numerous women to cabinet posts. There have been several book-length biographies and autobiographies (e.g., Thatcher, 1995; Brundtland, 2002). There have also been article-length biographies that placed their subjects in larger regional contexts (Adams, 2008; Hodson, 1997).

Two wonderful books provide details about all of the women who had become presidents and prime ministers before 2010: Farida Jalalzai's (2013) *Shattered, Cracked, or Firmly Intact?* and Torild Skard's (2015) *Women of Power: Half a Century of Female Presidents and Prime Ministers Worldwide*. We used these two books extensively in the preparation of this article, first for the details they supply and second for their larger contextual insights. Jalalzai's book has a chapter, in fact, in which she provides what we believe to be the only cross-national quantitative analysis of the variables that are associated with women's ascension to the highest executive offices in their countries during the 2000s. The purpose of our essay is to replicate Jalalzai's analysis for the post-2010 decade, with particular focus on the salience of being in a country where a woman has already broken through the "final glass ceiling."

## THE EFFECT OF BREAKING THE FINAL GLASS CEILING

There are several reasons to believe that once the "final glass ceiling" has been broken subsequent women candidates will find it easier to attain the highest executive offices in a nation. One of course is our anecdotal "sense" that this may be the case. In Bangladesh, for instance, two women, Khaleda Zia and Sheikh Hasina, widely known as the "Battling Begums," have fought over and exchanged the position of prime minister ever since Zia broke that glass ceiling in 1991. If women in a predominantly Muslim country, our intuition tells us, can not only acquire, through election, the dominant position of executive power, but also maintain it for over 27 years, there must be something going on. Of course, the history of women in politics would, unfortunately, challenge our intuition that it has been particularly difficult for women in Muslim countries to attain the most prominent executive position. In addition to Bangladesh, Indonesia, Pakistan, Turkey, Senegal, Kosovo, Kyrgyzstan and Mali have to date had female presidents or prime ministers. But we wanted to be careful about generalizing from anecdotal evidence. History records quite a few "one offs"—women (like Prime Minister Edith Cresson of France) who, so far, have been the only woman to attain high executive office in their country. So, even after nearly 60 years of women having first broken the ultimate glass ceiling, and even with the increasing number of countries in which this has been done, our intuition alone may be misleading.

There are other, more theoretically satisfying, reasons to believe that once a woman has attained the highest executive office, she has successfully paved the way for others. One has to do with what sociologists and political scientists call "demonstration effects," or the effects on individuals' behavior after having observed of the actions of others and their consequences. Once a woman has become president or prime minister, other women may be inspired to try to do so. Moreover, the social meaning of high executive office is apt to be altered, as both men and women become less likely to associate such offices with men and as beliefs in the possibilities of women as political figures are enhanced (e.g., Sapiro, 1981; Dahlerupe, 2006).

More specifically, students of women's pursuit of high office point to a number of reasons why women fail to win, or even compete. Lawless and Fox (2010), for instance, stress how the majority of women see sexism in politics, underestimate their own qualifications, fail

to be recruited by political elites, and/or doubt their chances, should they run. Partly as a consequence, women have been more likely to direct their energies to changing the world by participating in non-governmental organizations (NGOs) than into running for office (Kenschaft, Clark and Ciambrone, 2016: 262). Once one female candidate proves successful, however, party elites are likely to view women candidacies more favorably, as are voters (Jalalzai, 2013: 120).

In her quantitative analysis of women in premier executive offices around the world during the first decade of the 21st century, Jalalzai (2013) found that there was already a weak relationship between women being in such positions and another woman already having been there, other things being equal. Our hunch is that after 2010, with more women achieving high office than ever before, and with more women having done so before then, that the relationship will prove even stronger than it did in Jalalzai's analysis. In short, we speculate that *the more cracks there have been in final glass ceilings, the more women will be found to have successfully broken through them*.

We identify our hypotheses regarding other variables in the next section.

**Method**

We had to be a little imaginative in our attempt to update Jalalzai's (2013) analysis for women in office. But in doing so, we had a good model. Unlike most cross-sectional analysts, Jalalzai used the whole decade rather than a single year as the focus for her examination. Thus, a nation was counted as having had a woman leader if, at any time during the decade, a woman had been president or prime minister. Women whose terms had begun in the 1990s but extended into the 2000s were counted as well.

Our "women leader" variable, 2010-2018, was coded "1" if the country had a female president or prime minister at any time between the beginning of 2010 and June of 2018, when we completed our analysis; "0", if it did not. We did not count "acting" presidents or prime ministers in our analysis. We do this on grounds that we are interested in what it takes for women to get full-term leadership positions in nations, and "acting" presidents and prime ministers are far more likely than others to have had terms that ended in days or weeks. Our data for this variable came from Wikipedia (2018a). Despite Wikipedia's well-known disadvantages for academic research, it had one great advantage for ours: no other easily available source keeps as current about

basic facts about the world as it does. We similarly used Wikipedia to measure our main independent variable: that is, the countries that had had female presidents or prime minister before the current decade.

Things got more complicated when we measured the control variables. Jalalzai (2013) had found that the best predictor of whether a woman led a country was whether a family member (parent, spouse, sibling, uncle/aunt) had led the country at an earlier point in time. Many of the early women leaders had, in fact, been related to such a leader. Indira Gandhi (daughter) and Eva Peron (wife) are but two famous examples. However, the variable, "family connection," requires not only that we know about the family background of women leaders during the 2010-2018 period, but also the background of male leaders for countries that had no female leaders. This raised the question: which male leader(s)? During the typical decade, the United States might, for instance, have either two or three leaders, all of whom, so far, have been male. Jalalzai is not clear about how she selected the male leader(s) about whom she garnered information. Consequently, we made the decision that we would gather information about the most recent male leader (as of 2018) or leaders (in countries that have dual executives—both a president and a prime minister). Again we relied on Wikipedia's data on which male leader(s) was (were) the most recent. Then we read Wikipedia's descriptions of all male and female leaders to determine who had had a relative (parent, uncle/aunt, sibling or spouse) who had also been a president or prime minister. If a country had two males in top leadership positions, we classified it as a country where the leader had a familial connection if only one of the leaders had such a connection. Because we needed to read more than 400 Wikipedia entries (first to find out who current leaders were and then to glean backgrounds about all leaders), we will refrain from listing all our references here. *We hypothesized that women national leaders would ascend more regularly in contexts where they had family ties than would male leaders.*

Jalalzai found that two political variables were strongly, and significantly, associated with women's ascension to executive leadership during the decade of the 2000s. We have already mentioned one variable: whether a country had a dual executive (both a president and a prime minister). In dual-executive systems, Jalalzai reasoned, women have a better chance of being elected, since there are twice as many executive positions open to them. Here again we relied on whether the Wikipedia description of a nation's political system showed that

there was both a president and prime minister present. Following Jalalzai, *we hypothesized that countries with dual executive systems are more likely to have had women leaders than those with single executive systems.*

The second political variable was a country's electoral system. Jalalzai found the presence of a multiparty electoral system to be associated with the presence of a female executive. She believed this was the case because, in both presidential and prime ministerial systems, *the presence of more than two viable parties gives women a better chance of being elected*: in presidential systems, because women gain a chance of making it into run-off elections and thereby gaining widespread recognition; in prime ministerial systems, because coalition governments give women a chance of becoming a consensus candidate. We used the Wikipedia (2018b) "List of Ruling Parties by Country" to determine whether a country had a multiparty system in 2018.

Jalalzai examined three variables that can be considered indicators of the potential supply of women candidates for high executive office: the percentage of a national legislature (the lower house, if there is more than one chamber) that is female (Women Legislators); the percentage of cabinet members or ministers that is female (Women Ministers); and the number of years women have had the right to vote (Suffrage). *We hypothesized that all three of these variables, Women Legislators, Women Ministers, and Suffrage, would be positively associated with the presence of a women president or prime minister*, even though only Women Legislators proved to have a significant association in Jalalzai's analysis.[1]

There are three more political-system variables that Jalalzai thought would be associated with women's presence in high executive office. Along with Skard (2015), Jalalzai felt that *purely presidential systems (Presidential) were less likely than most other systems to have female leaders* because successful candidates depend on a plurality of the voting public choosing them—and women need to overcome widespread prejudice. Jalalzai thought, on the other hand, that *two kinds of dual executive systems are particularly likely to elevate women candidates: those with a strong, but not dominant, president and a stronger prime minister (Strong Presidential) and those with a weak president*

*and dominant prime minister (Weak Presidential).* [2]

There are four more variables that rounded out Jalalzai's model for predicting women's access to high executive office: the fragility of the state; the gender-related development of the country; whether the country is a nuclear power; and whether it ranks among the world's largest economies (i.e., is a member of the G-20 group of nations). Based upon their observation that many of the early women presidents and prime ministers emerged in states that were politically unstable (e.g., Gandhi in India, Isabel Peron in Argentina, Corazon Aquino in the Philippines and Benazir Bhutto in Pakistan), both Jalalzai (2013) and Skard (2015) believed that women were more likely to fill the vacuum in relatively fragile states than in ones where political institutions were more firmly set. Consequently, Jalalzai (2013) hypothesized that *countries with higher levels of state fragility are more likely to be governed by a woman.*[3]

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[1] We obtained data about Women Legislators from the Inter-Parliamentary Union (2018); about Women Ministers from the Inter-Parliamentary Union (2017); and about Suffrage from Wikipedia (2018c).

[2] When the Wikipedia described the president of a dual-executive country as purely a head of state, we classified it as Weak Presidential; when it suggested the president had more powers than a simple head of state, but not as many as the prime minister, we classified it as Strong Presidential. Weak and Strong Presidential systems may very well have female presidents because, ultimately, the relevant countries are not ruled by their presidents and women may be elevated on largely symbolic grounds. The main Wikipedia entries on all countries supply enough information to determine whether a political system is Presidential, Strong Presidential or Weak Presidential.

[3] To measure state fragility, we use the fragility index supplied by the Fund for Peace (2018). The fragility index aims to assess states' vulnerability to conflict or collapse. The index is based on the sum of 12 indicators, for each of which the numbers range from 0 (most stable) to 10 (least stable), creating a scale spanning from 0-120. The twelve indicators include: demographic pressures; refugees and internally displaced persons; group grievance; human flight and brain drain; uneven economic development; poverty and economic decline; state legitimacy; public service; human rights and rule of law; security apparatus; factionalized elites; and external intervention.

also proposed that countries in which gender equity is approached on the societal level are ones in which women are more likely to rise to the top politically. The Gender Development Index (GDI), supplied by the United Nations Development Programme (2016), combines indicators of gender equality in health, education and income. Jalazai expected that *countries that scored higher on the GDI would be more likely to have women presidents or prime ministers than those that scored lower.*

The final two hypotheses relate to nations' international stature. Based on survey research, Jalalzai concluded that people feel less comfortable with women than men when it comes to economic and military matters. As a consequence, she *predicted that G-20 countries and countries with nuclear capabilities would be less likely to have female executives.* Jalalzai found support only for the hypothesis about nuclear capability with her 2000s data. However, since one of our goals is to see how things may have changed between the 2000s and the 2010s, we incorporated data on both G-20 membership (Department of Foreign Affairs, 2018) and whether a country has a nuclear capability (Wikipedia, 2018d) in our analysis as well.

We use four kinds of quantitative analysis. To describe bivariate relationships, we utilize both cross-tabulation, to show the strength of our key relationship, and correlation analysis to compare the zero-order relationships of each of the independent variables with women's presence in high executive office. To examine the controlled associations of these variables and to compare these controlled associations in our more recent time frame (2010-2018) with Jalalzai's earlier one (2000-2010), we use logistical regression, because women's presence in either a presidential or prime ministerial role is a dichotomous variable. As a further check on our findings we use forward conditional logistical regression, to determine the most economical model, given the 13 independent variables, for predicting women's presence in either role.

## Results

Our first question concerned the relationship between the presence of a woman president or prime minister in a country in the 2010s and the presence of a previous women leader earlier in the country's history. **Table 1** shows that, of the 44 countries that had a women leader before the 2010s, more than half (56.8 percent, or 25) had a woman president or prime minister between 2010 and 2018. In contrast, of the 173 countries that had not

had a female leader before 2010, only 13.9 percent (or 24) added one between 2010 and 2018. Thus, the data indicate that women were about four times more likely to attain a presidency or prime ministerial position in countries where a woman had already done so than in countries where a woman still needed to break through this glass ceiling for the first time. **(See Table 1.)**

**Table 1. Relationship between the Ascension of a Woman to the Position of President or Prime Minister and Having Had a Woman as President or Prime Minister in the Past**

| A Woman *Previously* President or Prime Minister | A Woman *Currently* President of Prime Minister | | |
| --- | --- | --- | --- |
| | **Yes** | **No** | **Total** |
| **Yes** | 56.8% | 43.2%c | 100% |
| | (25) | (19) | (44) |
| **No** | 13.9% | 86.1% | 100% |
| | (24) | (149) | (173) |
| | | | N total = 217 |

Notes: Chi-square = 37.0; significance < .001; Cramer's V = .41

The rivalry that has developed between Khaleda Zia and Sheikh Hasina in Bangladesh is perhaps the most vivid example of the significance of the final glass ceiling's shattering, as well as other patterns pointed to by Jalalzai (2013) and Skard (2015). First, both Zia and Hasina were related to former leaders of Bangladesh: Zia was the widow of Ziaur Rahman, former president; Hasina, the daughter of Sheihk Mujibur Rahman, the first president and political leader of the country. Bangladesh is also a country with a multi-party system, and while Zia's Bangladesh National Party won a plurality of the seats in the 1991 parliamentary elections, she would not have attained the position of Prime Minister had she not been able to negotiate a coalition government with one of the other parties. After that point, the Bangladeshi electorate has gone into elections, knowing that Zia or Hasina would become prime minister.

Bangladesh thus illustrates three propositions: first, that, once the final glass ceiling is opened, women find it easier to attain top executive positions; second, that women are more likely than men to benefit from a relative who's been in high office; and third, that multi-

party systems can enable women's access to the most prominent political roles in their countries.

But how do these propositions, and others, stand up to cross-national scrutiny? **Table 2** suggests mixed results. A Pearson r of .41 suggests, again, that countries that have had a previous female leader were much more likely than others to have done so during the 2010s. Moreover, a Pearson's r of .25 suggests both a moderately-strong and a significant zero-order association between the presence of a multi-party system and the presence of a woman executive. But a correlation of -.02 suggests that, during the 2010s, women presidents and prime ministers were no more advantaged by family connections than their male counterparts. There was Sheikh Hasina, daughter of Sheikh Mujibur Rahman, of Bangladesh, but so was there Justin Trudeau, son of Pierre Trudeau, of Canada.

Some of the other variables we thought might be associated with the presence of women presidents and prime ministers proved to be so, when no controls were used. However, one of these was strongly related to it in exactly the opposite way to which we anticipated. Thus, the second strongest zero-order correlate of women's presence was the degree to which a state was fragile, but the correlation (-.32) was negative, not positive. There are still some examples of women, like Hasina in Bangladesh, who head fragile states. But, increasingly over time, this has become the exception, not the rule. Thus, Australia, Chile, Estonia, Finland, Germany, Iceland, Ireland, South Korea, Latvia, Mauritius, New Zealand, Norway, Peru, Romania, Singapore, Slovenia, Switzerland, and Great Britain, among other countries that the Fund for Peace classifies as relatively non-fragile states, had female leaders during the 2010s. In fact, if countries are dichotomously divided into more and less fragile states (dividing them at the median of the fragility index), about 38 percent of less fragile states had a woman president or prime minister in the 2010s, while only about 16 percent of more fragile states did so. Of the twenty *least* fragile states, ten (United Kingdom, France, Germany, Canada, New Zealand, Portugal, Iceland, Ireland, Norway, and Finland) had a woman president or prime minister during the 2010s.

Other variables that had a significant zero-order association with the presence of women in a top executive position during the 2010s were the presence of a dual executive (r=.14), the presence of a weak presidency (r=.21), the percentage of the legislature that is female (r=.22), the percentage of government ministers or cabinet members that is female (r=.18), how long women have had the vote (r=.26), and the gender development index (r=.20). G-20 membership was another variable that had a significant relationship (r=.12) with women's presence in an executive leadership position, but its relationship was positive, not negative as expected. Angela Merkel (Germany), Teresa May (England), and Park Geun-hye (South Korea) had occasion to attend G-20 meetings during the 2010s. Two variables that we did not find to have a significant zero-order association with the presence of a woman president or prime minister were the presence of a strong president and the holding of a nuclear arsenal. **(See Table 2.)**

**Table 2. Correlation of the Presence of Women Presidents and Prime Ministers with 13 Independent Variables**

| Independent Variables | Pearson's r |
|---|---|
| Dual Executive | .14* (185) |
| Weak President | .21*** (177) |
| Strong President | -.05 (177) |
| Women in Legislature | .21*** (188) |
| Women in Ministries or Cabinets | .18** (187) |
| Number of Years Women Have Had Vote | .26**** (197) |
| Gender Development Index | .20** (156) |
| Fragile State Index | -.32**** (179) |
| Multi-party System | .25**** (208) |
| Family Connection | -.02 (181) |
| Previous Women President or Prime Minister | .41**** (217) |
| Nuclear State | .01 (217) |
| G-20 Member | .12* |

Notes: N is in parentheses. * indicates significance at the.10 level; **, at the .05 level; ***, at the .01 level; and ****, at the .001 level.

We performed logistical regressions to determine which of the independent variables retained a significant relationship with the presence of women presidents and prime ministers when other variables were controlled. **Table 3** presents three sets of regressions: the first column shows Jalalzai's regression results for independent variables and women leaders from 2000 to 2010; the second column shows regression results for the same independent variables and women leaders from 2010 to 2018; the third column presents a forward conditional regression for women leaders from 2010 to 2018. [4] **(See Table 3.)**

**Table 3: Logistic Regressions of the Presence of Women Leaders on 13 Independent Variables**

**Regression Coefficients**

| | Jalalzai's Model | Full Model 2010-2018 | Forward Conditional 2010-2018, Final Model |
|---|---|---|---|
| Dual Executive | 2.87** | - .93 | |
| Presidential | 1.47 | -.25 | |
| Weak President | -.45 | 1.84 | |
| Strong President | -.61 | 1.31 | |
| Women in Legislature | 06* | 1.42 | |
| Women as Ministers | -.00 | .01 | |
| Time Since Women Vote | .00 | -.01 | |
| Gender Development Index | 2.37 | | |
| Fragility of State | -.01 | -.02 | -.03*** |
| Multi-party System | 2.07*** | 1.22** | 1.14** |
| Family Connection | 1.43*** | .30 | |
| Prior Women Rule | .87* | 1.57*** | 1.60**** |
| Nuclear | -2.42* | -1.69 | |
| G-20 Membershi | .50 | .11 | |
| Constant | -13.2 | 13.5 | -.63 |
| N | (147) | (140) | (140) |

Notes: Ns are in parentheses in the last row of this table.     * indicates significance at the .10 level; **, at the .05 level; ***, at the .01 level; and ****, at the .001 level.

[4] Forward conditional regression does for logistic regression analysis what stepwise regression does in the case of multiple linear regression analysis. It picks out, first, the variable that has the most significant relationship with the dependent variable; then, it adds a second that has a significant relationship; and continues to do so until there is no variable among the remaining independent variables that has a relationship that is related with a significance level of the user's choice (in our case, .05).

Perhaps most notable about the comparison of the 2000s and 2010s models is the diminution over time of the importance of family connections and the increasing salience of both the presence of previous women leaders and the lack of fragility in the state. The final model for the forward conditional regression for the period 2010-2018 finds only three variables having significant relationships with the presence of women as presidents and prime ministers in this period. And the variable with the strongest and most significant relationship is the one that confirms the hunch that was the springboard of this analysis: the presence of a previous woman president or prime minister.

**CONCLUSION**

One lesson of the current analysis is that, perhaps given the historical novelty of woman presidents and prime ministers, identifying the best predictors of their presence is challenging. What was useful for doing so during the first decade of the twenty-first century has become less useful in the second. For instance, while the presence of a family tie to a previous president or prime minister was one of the best predictors for Jalalzai (studying that first decade), it was no longer a very good predictor at all in the decade we studied. Male presidents and prime ministers were just as likely as female ones in the second decade to have had a relative who had been a previous president or prime minister.

But the instability of relationship to female leadership had already become evident in Jalalzai's analysis. Both she and Skard (2015) had noted that women's chances of becoming president or prime minister seemed to be better in relatively fragile states during the twentieth century. By the first decade of the twenty-first century (upon which Jalalzai focused her attention), however, this relationship had disappeared. And in the second decade, as our analysis suggests, it had completely changed its valence. These stable states, in should be noted, are much more likely to score high on the gender development index[5] than unstable states. Thus, we find that relatively stable states, ones that tend to value gender equality, were more likely in the second decade of the twenty-first century to have had women ascend to the position of president or prime minister than fragile ones.

Interpreting this trend must be somewhat speculative at this point. Our guess is that this outcome has something to do with two other trends, both of which our analysis provides some evidence for. The first trend

[5] The Pearson's correlation between instability and the GDI is -.65.

is that, other things being equal, family connections have become less crucial for women's ascendance, at least compared to men's, than in the past. The second trend is that women seem to be doing better in countries with lower levels of gender discrimination (as measured by the Gender Development Index) than elsewhere. We speculate, then, that, as countries become less biased against women as high-ranking leaders, they will tend to evaluate potential women leaders, more and more, on the basis of achieved rather than ascribed characteristics.

Consonant with this speculation is the main finding of this paper: that, during the second decade of the twenty-first century, the best predictor of women's ascendance to a presidency or prime ministerial position was whether a woman had done so before. When a woman breaks through the final glass ceiling, it does seem to make a lasting impression on a country. Leaders of political parties, as well as the electorate as a whole, seem to become more comfortable with a woman in a leadership position when a woman (or women) has (have) held that position before.

We caution that correlation is not the same as causation. Whether the ascendance of a woman leader affects the level of gender equality which in turns affects the chances of subsequent ascendancies, or whether the level of gender equality affects both the first and subsequent ascendancies, or whether some other variable affects all of these others must remain a story for another day. But what does seem clear, based on our evidence, is that the shattering of the final glass ceiling is unlikely to be a one-time experience. Breaking the final glass ceiling appears to pave the way for more women to achieve the highest political offices of their lands.

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**Appendix. Women Presidents and Prime Ministers by Country (as of July, 2018)**

| Country | Woman/Women | Position | Year Entering Office |
|---|---|---|---|
| Argentina | Isabel Martinez de Peron | President | 1974 |
| | Cristina Fernandez de Kirchner | President | 2007 |
| Australia | Julia Gillard | Prime Minister | 2010 |
| Austria | Doris Bures | Co-acting President | 2016 |
| Bangladesh | Khaleda Zia | Prime Minister | 1991 |
| | Sheikh Hasina | Prime Minister | 1996 |
| | Khaleda Zia | Prime Minister | 2001 |
| | Sheikh Hasina | Prime Minister | 2009 |
| Barbados | Mia Mottley | Prime Minister | 2018 |
| Bolivia | Lidia Gueiler Tejada | Acting President | 1979 |
| Brazil | Dilma Rousseff | President | 2011 |
| Bulgaria | Reneta Indzhova | Acting Prime Minister | 1994 |
| Burundi | Sylvie Kinigi | Acting President | 1993 |
| Canada | Kim Campbell | Prime Minister | 1993 |
| Central African Republic | Elisabeth Domitien | Prime Minister | 1975 |
| | Catherine Samba-Panza | Acting President | 2014 |
| Chile | Michelle Bachelet | President | 2014 |
| China | Soong Ching-ling | Acting Co-Chairperson | 1968 |
| Costa Rica | Laura Chinchilla | President | 2010 |
| Croatia | Jadranka Kosor | Prime Minister | 2009 |
| | Kolinda  Grabar-Kitarovic | President | 2015 |
| Cyprus | Sibel Siber | Prime Minister | 2013 |

**Appendix.  Women Presidents and Prime Ministers by Country (as of July, 2018)**

| Country | Woman/Women | Position | Year Entering Office |
|---|---|---|---|
| Denmark | Helle Thorning-Schmidt | Prime Minister | 2011 |
| Dominica | Dame Mary Eugenia Charles | Prime Minister | 1980 |
| Ecuador | Rosalia Arteaga | Acting President | 1997 |
| Estonia | Kersti Kaljulaid | President | 2016 |
| Finland | Tarja Halonen | President | 2000 |
|  | Mari Kiviniemi | Prime Minister | 2010 |
| France | Edith Cresson | Prime Minister | 1991 |
| Gabon | Rose Francine Rogombé | Acting President | 2009 |
| Georgia | Nino Burjanadze | Acting President | 2007 |
| Germany | Angela Merkel | Chancellor | 2005 |
| Greece | Vassiliki Thanou | Acting Prime Minister | 2015 |
| Guinea-Bissau | Carmen Pereira | Acting President | 1984 |
|  | Adiato Djaló Nandigna | Acting Prime Minister | 2012 |
| Guyana | Janet Jagan | President | 1997 |
| Haiti | Eartha Pascal-Trouillot | Acing President | 1990 |
|  | Claudette Werleigh | Prime Minister | 1995 |
|  | Michele Pierre-Louis | Prime Minister | 2008 |
| Iceland | Johanna Siguroardottir | Prime Minister | 2009 |
|  | Katrín Jakobsdóttir | Prime Minister | 2017 |

**Appendix. Women Presidents and Prime Ministers by Country (as of July, 2018)**

| Country | Woman/Women | Position | Year Entering Office |
|---|---|---|---|
| Indonesia | Megawati Sukarnoputri | President | 2001 |
| Ireland | Mary Robinson | President | 1990 |
| | Mary McAleese | President | 1997 |
| Israel | Golda Meir | Prime Minister | 1969 |
| Jamaica | Portia Simpson-Miller | Prime Minister | 2006 |
| Korea (South) | Han Myeong-Sook | Prime Minister | 2006 |
| | Park Guen-hye | President | 2013 |
| Kosovo | Atifete Jahjaga | President | 2011 |
| Kyrgyzstan | Roza Otunbayeva | President | 2010 |
| Latvia | Vaira Vīķe-Freiberga | President | 1999 |
| | Laimdota Straujuma | Prime Minister | 2014 |
| Liberia | Ellen Johnson Sirleaf | President | 2006 |
| Lithuania | Kazimira Danutė Prunskienė | Prime Minister | 1990 |
| | Irena Degitiene | Acting Prime Minister | 1999 |
| | Dalia Grybauskaitė | President | 2009 |
| Macedonia | Radmila Šekerinska | Acting Prime Minister | 2004 |
| Madagascar | Cécile Manorohanta | Acting Prime Minister | 2009 |
| Malawi | Joyce Banda | President | 2012 |
| Mali | Cissé Mariam Kaïdama Sidibé | Prime Minister | 2011 |
| Malta | Agatha Barbara | President | 1982 |
| | Marie-Louise Coleiro Preca | President | 2014 |
| India | Indira Gandhi | Prime Minister | 1966 |
| | Pratibha Patil | President | 2007 |

**Appendix. Women Presidents and Prime Ministers by Country (as of July, 2018)**

| *Country* | *Woman/Women* | *Position* | *Year Entering Office* |
|---|---|---|---|
| Marshall Islands | Hilda Cathy Heine | President | 2016 |
| Mauritius | Monique Ohsan Bellepeau | Acting President | 2015 |
| | Ameenah Gurib | President | 2015 |
| Moldova | Zinaida Greceanîi | Prime Minister | 2008 |
| Mongolia | Nyam-Osoryn Tuyaa | Acting Prime Minister | 1999 |
| Mozambique | Luisa Diogo | Prime Minister | 2004 |
| Myanmar | Aung San Suu Kyi | State Counsellor | 2016 |
| Namibia | Saara Kuugongelwa | Prime Minister | 2015 |
| Nepal | Bidhya Devi Bhandari | President | 2015 |
| New Zealand | Jenny Shipley | Prime Minister | 1997 |
| | Helen Clark | Prime Minister | 1999 |
| | Jacinda Ardern | Prime Minister | 2017 |
| Nicaragua | Violeta Chamorro | President | 1990 |
| Norway | Gro Harlem Brundtland | Prime Minister | 1990 |
| | Anne Enger | Acting Prime Minister | 1998 |
| | Erna Solberg | Prime Minister | 2013 |
| Pakistan | Benazir Bhutto | Prime Minister | 1988 |
| Panama | Mireye Elisa Moscoso | President | 1999 |
| Paraguay | Alicia Puchetta | President | 2018 |
| Peru | Beatriz Merino | Prime Minister | 2003 |
| | Rosario Figueroa | Prime Minister | 2011 |
| | Ana Jara | Prime Minister | 2014 |
| | Mercedes Araos | Prime Minister | 2017 |
| Philippines | Corazon Aquino | President | 1986 |

**Appendix.  Women Presidents and Prime Ministers by Country (as of July, 2018)**

| Country | Woman/Women | Position | Year Entering Office |
|---|---|---|---|
| Poland | Hanna Suchocka | Prime Minister | 1992 |
| | Ewa Kopacz | Prime Minister | 2014 |
| Portugal | Maria de Lourdes Pintasilgo | Prime Minister | 1979 |
| Romania | Vasilica Viorica Dăncilă | Prime Minister | 2018 |
| Rwanda | Agathe Uwilingiyimana | Prime Minister | 1993 |
| Sao Tome | Maria das Neves | Prime Minister | 2002 |
| Senegal | Mame Madior Boye | Prime Minister | 2001 |
| | Aminata Touré | Prime Minister | 2013 |
| Serbia | Ana Brnabić | Prime Minister | 2017 |
| Singapore | Halimah binti Yacob | President | 2017 |
| Slovakia | Iveta Radičová | Prime Minister | 2010 |
| Slovenia | Alenka Bratušek | Prime Minister | 2013 |
| South Africa | Ivy Florence Matsepe-Casaburri | Acting President | 2008 |
| Sri Lanka | Sirimavo Bandaranaike | Prime Minister | 1960 |
| | Chandrika Kumaratunga | Prime Minister | 1994 |
| Switzerland | Simonetta Sommaruga | President Swiss Federation | 2015 |
| Taiwan | Tsai Ing-wen | President | 2016 |
| Thailand | Yingluck Shinawatra | Prime Minister | 2011 |
| Tranistria | Tatiana Turanskaya | Prime Minister | 2016 |
| Trinidad | Paula-Mae Weekes | President | 2018 |

**Appendix.  Women Presidents and Prime Ministers by Country (as of July, 2018**

| Country | Woman/Women | Position | Year Entering Office |
|---|---|---|---|
| Turkey | Tansu Ciller | Prime Minister | 1993 |
| Ukraine | Yulia Tymoshenko | Prime Minister | 2007 |
| United Kingdom | Margaret Thatcher | Prime Minister | 1979 |
|  | Theresa May | Prime Minister | 2016 |
| Yugoslavia | Milka Planinc | Prime Minister | 1982 |

Source: Wikipedia, 2018a.

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