

# Are Female Managers Effective On Economic Growth?: Selected OECD Countries

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## Abstract

It is a fact that today, it is still called the “glass ceiling” and that women have to work harder than men to gain a place in top management despite their equipment, success and skills. Since the targeted number has still not been reached, it is also among the important issues of the European Union. This study covers the period 2001-2020 and panel data analysis has been utilized for 9 selected OECD countries. Here, the relationship between female employment in senior and middle level management, financial development and financial freedom, and economic growth is examined. Whether the variables are cointegrated or not has been tested using Durbin Hausman and LM Bootstrap panel cointegration tests. The results have demonstrated that this variable increases economic growth in Norway and Sweden, which have a high rate of female employment in upper and middle level management. As financial development increases in Sweden, economic growth also increases. It has also been concluded that more financial freedom has positive contributions to economic growth in Germany.

## Introduction

Today, women are still not promoted to higher positions despite their equipment, success and hard work. Because of this situation, called the “glass ceiling”, they have to work harder than men to rise. The low number of women in senior management positions has become one of the important issues in Europe and is seriously discussed. The EU is trying to take many measures to change and improve the current situation. For example, increasing women’s representation in management is one of the five priority

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issues in the Women's Charter<sup>2</sup> document. Although female employment is at high rates, the presence of women in management has still not reached the desired rate. However, it is observed that if the top management is effectively managed by women, both the financial and corporate performance of the companies in question increases.

In addition, considering that women are mostly the main consumers, it is concluded that it is important to increase the rate of female presence in management, considering factors such as better response to customer needs, better perception of the market, and better service and product provision. For this reason, the contribution of women should not be ignored. In this context, EU countries are taking some measures to increase the rate of women in senior management. For example, in this context, there are good practices in some companies to increase the presence of female managers. Apart from this, governments also aim to increase women's representation in company management with the necessary incentives, rewards, legal regulations and voluntary initiatives. While some countries have mandatory quota practices, others have voluntary initiatives. The positive impact of women on company/market performance not only ensures that the company and the country achieve prosperity, but also ensures that women as individuals also achieve prosperity. A country's prosperity is directly related to its economic growth. Economic growth is a desirable situation if it provides welfare to individuals and countries, improves living standards and working conditions, and reduces poverty and unemployment. In fact, economic growth primarily has the potential to increase social welfare. The real increase in the standard of living can only be achieved if equal opportunities are given to both men and women and there is a widespread sharing. Only in this way can sustainable improvement of social welfare be achieved. It is observed that welfare, and therefore economic growth, is better and more sustainable, especially in countries where gender equality can be achieved both in employment and in senior management. In this context, all the reasons mentioned above show that investment in women is one of the most important factors that will contribute to economic growth and country development. It is also for this reason that the relationship between women's employment in upper and middle level management and economic growth has been a subject worth investigating by researchers over the years. As job opportunities increase and more workforce is needed, markets now ignore gender and force women to leave home and participate in labor markets.

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2 [http://ec.europa.eu/commission\\_2010-2014/president/news/documents/pdf/20100305\\_1\\_en.pdf](http://ec.europa.eu/commission_2010-2014/president/news/documents/pdf/20100305_1_en.pdf)

Other factors affecting economic growth include financial development and financial freedom. There are many studies in the literature that advocate different sights by examining the direction and existence of the relationship between economic growth and financial development variables. A developed financial system performs an important role in the economic growth and development of countries by fulfilling functions such as meeting needs by providing funds, ensuring efficient resource distribution, and mobilizing and increasing investments. In theory, there are four different sights on the relationship between financial development and economic growth, and one of them is that good financial development causes economic growth. In other words, a good financial system positively affects economic growth by increasing investments, accelerating capital accumulation and encouraging technological development. While there are studies indicating that financial development positively affects economic growth (Hermes and Lensink, 2003; Khan et al., 2005; Çeştepe and Yıldırım, 2016; Bibi, 2022; Bibi and Sumaira, 2022), there are also those who discuss that it has negative effects (Robeena ve Sumaira, 2022). However, there are also studies arguing that financial development has no significant relationship with economic growth (Levine, 2002; Merton and Bodie, 2004).

In accordance with the American Heritage Foundation, the financial freedom index evaluates the efficiency of a country's banking system and government intervention in the financial system. A higher score means less government intervention and more efficient banking. There is no definitive conclusion on the existence of a relationship between financial freedom and economic development. Some studies show that it strengthens economic growth, some show that it has negative effects, and some show that there is no significant relationship. For example, Chortareas et al. (2013) have argued that higher financial freedom contributes positively to economic growth by increasing the transparency and efficiency of the financial sector. Akıncı et al. (2015) have revealed in their studies that financial freedom has positive effects on economic growth. The effects of financial freedom on economic growth has been researched by Lopes and Jesus (2015). It is observed that the financial freedom positively affects economic growth only in countries with a high democratic system. Also, they have found that it narrows economic growth in other countries. Greater financial freedom leads to greater systematic risk. It has been demonstrated that financial freedom causes economic growth to shrink by increasing the probability of banking and financial crises in developing countries (Chang and Mendy, 2012; Akinsola and Odhiambo, 2017). Tran (2019) and Thuy (2022) have indicated that there is no significant relationship between these two variables.

In this study, the relationship between women's employment in upper and middle level management and economic growth has been examined between 2001 and 2020 for 9 selected OECD countries. At the same time, we have tried to contribute to the literature by studying the effects of financial development and financial freedom variables on economic growth. To the best of the author's knowledge, this is the first study to examine the relationship between women's employment in upper and middle level management and economic growth with global data.

In the remainder of the study, first the studies in the literature are discussed. Afterwards, the method, data and model used in the study are mentioned. Finally, the empirical findings obtained as a result of the analysis have been evaluated and conclusions and policy recommendations are included.

### **Literature Review**

Although female employment is at high rates in Europe, sufficient numbers are still not reached in decision-making mechanisms, in other words, in senior management. For this reason, this issue has been taken very seriously in Europe. For example, it is among the top five topics listed according to the Women's Charter document prepared by the European Commission. Again, according to the decision taken by the European Parliament, a women's quota has been introduced to the boards of directors of large companies in order to increase the employment of women at senior levels. With this decision, a law is obtained that could ensure gender equality and increase the number of women on the boards of directors of publicly traded companies.

According to research, it is seen that with the employment of women at senior and middle levels, companies' financial performance, ethical behavior and the quality of decisions taken increase, better service is provided and customer needs are better met. For this reason, it is emphasized that the employment of women in upper and middle level management is important in terms of contributing more to the environment and society. In order to increase this rate, many European countries have started to implement policies and strategies on the subject.

While there are many studies in the literature on the effects of female managers on the financial performance of firms with different variables, it has been observed that there are not enough studies using global data. Some of these studies have found that female managers positively affect the financial and economic development of a country/firm (Basdekis et al., 2023), while others have shown the opposite results.

There are studies examining the contribution of gender inequality to the country's economic growth. The results mostly reveal that gender inequality negatively affects economic growth (Diebolt and Perrin, 2013; Agénor and Canuto, 2015; Karoui and Feki, 2015; Giron and Kazemikhasragh, 2022).

On the other hand, studies have appeared in the literature that the strong representation of women in parliament has positive effects on economic development (Altuzarra et al., 2021; Mitra et al., 2015; Jayasuriya and Burke, 2013). The effects of women's political empowerment on economic growth and technological change have been examined by Dahlum et al (2022). This study, conducted for 182 countries, has revealed that women's political empowerment has a very strong and positive effect on both dependent variables. Mirziyoyeva and Salahodjaev (2023) have analysed the contribution of women's political empowerment to the economic growth of a country for European and Central Asian countries. According to the research, it has been concluded that women's participation in parliament has positive contributions to economic growth and therefore strategies should be adopted to encourage more participation in parliament. The reasons why increasing the proportion of women in parliament may have positive effects on economic growth can be listed as follows: women are less corrupt than men, women do not resort to corruption as much because they are more risk averse, and they attach more importance to the defense of women's rights (Altuzarra et al., 2021).

There are studies in the literature examining the relationship between gender inequality and women's empowerment variables and foreign direct investments. However, no consensus has been reached in the studies regarding the relationship between these variables. For instance, Bui et al. (2018), in a study conducted for 27 Asia-Pacific countries, have revealed that foreign investors prefer countries with lower economic and political representation of women.

There are also studies on how female managers in the management teams of companies affect their financial performance. Gudjonsson et al. (2019) have examined the financial performance of women as managers, board members and loan officers in 223 microfinance institutions. While it is observed that female managers and women responsible for loans have increased financial performance, female members of the board of directors have not contribute to performance improvement.

Gadedjisso-Tossou et al. (2022) have discussed how female managers in 208 businesses operating in the informal sector in Togo perceive the concept of financial performance and in what way they contribute. In the

light of the results, it is seen that variables such as women entrepreneurs' high risk appetite and efforts to be more involved in business, restrictions in the business environment, and management skills have positive effects on financial performance, while the difficulty of accessing finance has a negative effect.

Luci (2009) has investigated whether women in the workforce market have an effect on economic growth. Research shows that although women in the workforce market have an effect on economic growth, there is not enough data for the opposite situation. Kılıç and Öztürk (2014) have examined the effects of gender inequality on economic growth and have demonstrated that economic growth is positively affected in countries where women's participation in the workforce is more intense and effective.

Rezaee (2020) has examined the effects of female employment on economic growth for 13 selected Middle Eastern countries between 2010 and 2015 and indicated that female employment has positive effects on economic growth. It is emphasized that increasing women's employment is important because it can contribute positively to economic growth.

To the best of the author's knowledge, it is expected that this study, which examines the effects of women's employment share in upper and middle level management on economic growth for the first time within the scope of global data from selected OECD countries, will contribute to the literature.

### **Data and Model**

In the study, it is discussed how and in what direction the proportion of women in upper and middle level management, financial development and financial freedom affect the economic growth of a country. In the research, 9 selected OECD countries for the years 2001-2020 have been examined. These selected countries are Belgium, Denmark, Germany, Italy, Netherlands, Norway, Spain, Sweden and the United Kingdom. The reason for choosing these countries is that women's representation in senior management in Europe is low and the EU has sanctions on these countries in order to change the current situation. The variables GDP per capita (constant 2015 US\$) and domestic credit provided by the financial sector (% of GDP) are used to represent economic growth and financial development, respectively. The  $\ln gdp$ ,  $\ln fem$ ,  $\ln fd$ , and  $\ln ff$  denote the economic growth, the rate of women employment in upper and middle level management, financial development, and financial freedom index, respectively. While the financial freedom index has been taken from the Heritage Foundation database, other

variables have been taken from the World bank database. Each variable has been transformed into a natural logarithmic structure for analysis.

The following model is designed to examine the effects of the mentioned variables on the growth of the country's economies:

$$\ln gdp_{it} = \beta_0 + \beta_1 \ln fem_{it} + \beta_2 \ln fd_{it} + \beta_3 \ln ff_{it} + \varepsilon_{it} \quad (1)$$

Here,  $\beta_1, \beta_2,$  and  $\beta_3$  are the coefficients of  $\ln fem_{it}, \ln fd_{it},$  and  $\ln ff_{it}$ , respectively.  $\varepsilon_{it}$  denotes the error term.

### Methodology

The first preliminary analysis in panel data studies is to investigate the cross-sectional dependence of the variables and the model. To do this, two test statistics are primarily calculated in the research. In order to test the cross-sectional dependence of Eq. 1, the test statistic given below is put forward by Pesaran (2004):

$$CD_{LM1} = \sqrt{\frac{1}{N(N-1)} \sum_{i=1}^{N-1} \sum_{j=i+1}^N (T \hat{\rho}_{ij}^2 - 1)} \quad (2)$$

Here,  $\hat{\rho}_{ij}$  denotes the correlation between errors which is found by calculating Eq. (1).

In order to test cross-sectional dependency, Eq. 2 has been obtained by making some adjustments to the test statistic found by Breusch and Pagan (1980) in order to ensure its testability in large samples. Additionally, if time (T) is less than observation (N), the following test statistic has been attained by Pesaran (2004) by making some adjustments to Eq. 2:

$$CD_{LM2} = \sqrt{\frac{2T}{N(N-1)} \left( \sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{\rho}_{ij} \right)} \quad (3)$$

The hypotheses for these two test statistics mentioned above are stated as follows:

**$H_0$  : there is no cross – sectional dependency**

**$H_1$  : there is cross – sectional dependency.**

Delta tests suggested by Pesaran and Yamagata (2008) have been utilized in order to test homogeneity. Test statistics for Delta test and Delta adjusted test are as follows, respectively:

$$\hat{\Delta} = \sqrt{N} \left( \frac{N^{-1} \hat{S} - k}{\sqrt{2k}} \right) \quad (4)$$

$$\hat{\Delta}_{adj} = \sqrt{N} \left( \frac{N^{-1} \hat{S} - E(\hat{z}_{it})}{\sqrt{\text{var}(\hat{z}_{it})}} \right) E(\hat{z}_{it}) = k, \text{ var}(\hat{z}_{it}) = \frac{2k(T-k-1)}{T+1} \quad (5)$$

$\hat{S}$  is the changed statistics of Swamy (1970). The hypotheses for these two test statistics mentioned above are stated as follows:

**$H_0$  : there are homogenous slopes**

**$H_1$  : there are heterogeneous slopes.**

In the study, CIPS panel unit root test, one of the tests that takes cross-sectional dependency into consideration, is used to test whether the variables have unit roots. The test statistic to be calculated is stated as follows:

$$CIPS = \frac{1}{N} \sum_{i=1}^N CADF_i \quad (6)$$

Here, **CADF** denotes the cross-sectional augmented Dickey Fuller test statistic in Eq. 7 which is calculated for each cross-section unit.

$$\Delta y_{it} = a_i + b_i y_{i,t-1} + c_i \bar{y}_{t-1} + d_i \Delta \bar{y}_i + e_{it}, \quad (7)$$

where  $\bar{y}_t = N^{-1} \sum_{i=1}^N y_{it}$  and  $\Delta \bar{y}_t = N^{-1} \sum_{i=1}^N \Delta y_{it}$ .

The CIPS statistic, introduced by Pesaran (2007), is the average of the t statistics values calculated for each section. The hypotheses belonging to the CIPS panel unit root test are stated as follows:

**$H_0$  = The series has unit root**

**$H_1$  = The series is stationary.**

There are various panel cointegration tests those take cognizance of cross-sectional dependency. One is Durbin-Hausman cointegration test by Westerlund (2008) by investigating the presence of a long term relationship between variables.. There are two separate test statistics used here, depending on whether the panels are homogeneous or heterogeneous. These test statistics are stated below:

$$DH_g = \sum_{i=1}^N \hat{S}_i (\tilde{\phi}_i - \hat{\phi}_i)^2 \sum_{t=2}^T \hat{e}_{it-1}^2 \quad (8)$$

$$DH_p = \hat{S}_n (\tilde{\phi} - \hat{\phi})^2 \sum_{i=1}^n \sum_{t=2}^T \hat{e}_{it-1}^2 \quad (9)$$



If the panel is heterogeneous the  $DH_g$  test statistic is used, and in the opposite case, the  $DH_p$  test statistic is used. The hypotheses of the Durbin Hausman panel cointegration test are stated as follows:

$$H_0 = \text{there is no cointegration}$$

$$H_1 = \text{there is cointegration.}$$

Another method that investigates the long-term relationship between variables is a bootstrap LM panel cointegration test by Westerlund and Edgerton (2007). This test can be used if the variables are stationary at their first level. In this context, the LM test statistic is calculated as follows:

$$LM_N^+ = \frac{1}{NT^2} \sum_{i=1}^N \sum_{t=1}^T \hat{\omega}_i^{-2} S_{it}^2 \quad (10)$$

Here,  $S_{it}^2$  indicates the partial sums of the residuals and  $\hat{\omega}_i^{-2}$  denotes the long run variance of the error terms. Unlike other tests, the basic hypothesis belonging to LM test defends the entity of cointegration.

### Empirical Analysis

In the study, firstly, cross-sectional dependency has been tested. The cross-sectional dependency that is belonging to both panel model and variables is tested utilizing the Breusch and PaganLM (1980) and Pesaran scaledLM (2004), and the outcomes of the test are presented in Table 1. According to the findings of these two tests, the existence of cross sectional dependence has been revealed. In that case, the unit root test and panel cointegration tests that will follow the study are chosen to take cognizance of cross-sectional dependence.

*Table1: Cross-section dependency test*

Variables	CD_LM1	CD_LM2
lngdp	413.3303 (0.0000)	44.46880 (0.0000)
lnfem	309.3952 (0.0000)	32.21993 (0.0000)
lnfd	222.1147 (0.0000)	21.93382 (0.0000)
lnff	151.2315 (0.0000)	13.58017 (0.0000)
Model	152.6152 (0.0000)	13.74323 (0.0000)

*Note: The numbers in parentheses are probability values.*

Afterwards, the homogeneity of the model is tested and the results are placed in Table 2. As a result, the null hypothesis advocating the existence of a homogeneous slope has been rejected and it has been shown that the model has a heterogeneous slope.

*Table2: Slope homogeneity test*

	Test stat	p-value
$\hat{\Delta}$	8.525	0.0000
$\hat{\Delta}_{adj}$	9.766	0.0000

We have examined whether the variables have unit roots or not with the CIPS panel unit root test, which also takes cross-sectional dependency into account, in Table 3. In the light of the results, it is found that the first differences (I(1)) of all variables are stationary at the %1 stationary level.

*Table3: CIPS panel unit root test*

Variables	Test stat. (level)	Test stat. (first level)
lngdp	-1.804	-4.921
lnfem	-1.671	-3.436
lnfd	-1.953	-3.955
lnff	-1.613	-6.271

*Note: The critical values for constant model are -2.60, -2.34, and -2.21 at %1, %5, and %10 significance levels, respectively (Pesaran, 2007).*

The analyzes have carried forward by examining whether the variables that are stationary at their first difference are cointegrated. For this reason, Durbin Hausman and LM Bootstrap Panel cointegration tests have been applied. The results of both tests indicate that the variables are cointegrated, in other words, they move together in the long run.

*Table4: Durbin Hausman and LM Bootstrap panel cointegration test results*

	Test stat.	p-value
DH_g	1.801**	0.036
DH_p	3.245*	0.001
LM Bootstrap	1.849	1.000

Note: \* and \*\* denote that the null hypothesis is rejected at %1 and %5 significance levels, respectively. The null hypothesis belonging to LMBootstrap test demonstrates the existence of cointegration with 1000 replications.

Long-term coefficient estimations of the panel model and variables have been acquired utilizing AMG estimators. The findings obtained for both countries and the model are displayed in Table 5. When the table is examined, the following findings are attained: When the relationship between the employment rate of women in upper and middle level management and economic growth have been observed, it is seen that it is statistically significant for the countries of Germany, Norway, Spain and Sweden. In this context, while it is concluded that female employment in management positively affects economic growth in Norway and Sweden, the opposite is true in Germany and Spain. On the other hand, the effects of financial development on economic growth are discussed. It is concluded that the relationship between these two variables is statistically significant for the countries the United Kingdom, the Netherlands, Germany, Denmark, Belgium and Sweden. It has been detected that financial development has a negative effect on economic growth in all of these countries except Sweden. In Sweden, a one-unit increase in financial development increases economic growth by 0.107%.

*Table5: AMG long-run coefficients*

Countries	lnfem	lnfd	lnff
Belgium	0.039	-0.053**	-0.110*
Denmark	-0.007	-0.143*	-0.026
Germany	-0.332*	-0.419*	0.162*
Italy	-0.378	-0.133	0.045
Netherlands	0.063	-0.171*	-0.066
Norway	0.076**	0.020	-0.088**
Spain	-0.227*	-0.038	0.028
Sweden	0.133*	0.107*	0.027
United Kingdom	0.001	-0.107*	0.121
Panel	-0.070	-0.104**	0.010

*Note: The coefficients are statistically significant at %1, %5, and %10 levels, respectively.*

Besides, the relationship between financial freedom and economic growth is investigated for these nine selected OECD countries. The results are significant in Belgium, Germany and Norway. While a one-unit increase in financial freedom increases economic growth by 0.162% in Germany, financial freedom has negative effects on economic growth in Belgium and Norway.

## Conclusion and Policy Statements

In this study, it is aimed to examine the effects of women's employment in upper and middle level management, financial development and financial freedom variables on economic growth. Both the insufficient number of female managers and the prejudices against women in the employment of senior and middle level managers may hinder the performance of female managers. For this reason, in this study covering the period 2001-2020, 9 OECD countries that have strategies to increase women's representation in management have been especially selected. These countries are Belgium, Denmark, Germany, Italy, Netherlands, Norway, Spain, Sweden and the United Kingdom. For example, in Denmark, there is a "more women in management agreement" that is voluntary. Germany, the Netherlands and Sweden also have taken initiatives on a voluntary basis. In Belgium, the United Kingdom, Spain, Sweden, Germany, and Denmark, especially large companies have to ensure gender equality according to certain regulations due to pressures resulting from some media and stakeholder monitoring. As a result, the activity report is published and the public is informed. Additionally, there are mandatory quota practices imposed by governments in Spain, the Netherlands, Italy, Norway and Belgium (Toksoy Redman, 2012).

In the study, panel data analysis has been applied for 9 selected OECD countries. First of all, the cross-sectional dependence of the model and variables has been examined and the existence of cross-sectional dependence is revealed. Then, unit root and cointegration tests, which take cross-sectional dependency into account, have been utilized. First of all, by applying the CIPS panel unit root test, all variables have found to be stationary at the first level. Following the panel unit root test, we have applied Durbin Hausman and LM Bootstrap panel cointegration tests and have determined that the variables are cointegrated, in other words, they move together in the long run. Finally, the coefficients of the variables are estimated for both the model and each country using AMG coefficient estimators. According to the results, it is concluded that female employment in upper and middle level management has decreased economic growth in Germany and Spain, while it has increased it in Norway and Sweden. When we look at the female employment rates in upper and middle level management of the countries, it is seen that Norway and Sweden are higher than Germany and Spain. This indicates that a more intense and effective female representation in management also increases economic growth and development. Additionally, Norway is one of the countries that introduced the first mandatory quota application initiated by governments. In this context, in order to increase

and sustain the growth and development of other countries, governments should step in with an effective policy and strategy to increase not only employment but also the representation of women managers.

On the other hand, it has been concluded that financial development negatively affects economic growth in Belgium, Denmark, Germany, the Netherlands and the United Kingdom. However, in Sweden this effect is positive. Moreover, in Germany more financial freedom also appears to increase economic growth, while in Belgium and Norway the opposite is true.

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