



Personal Characteristics of Finance Ministers as a key Determinate of Changes in Interest Rates: The Case of 35 OECD Nations



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Abstract

This research made use of a one-of-a-kind data collection including the personal characteristics of finance ministers from 35 nations that are members of the OECD (2007-2020). In this paper, an effort is made to analyze the influence of scientific publications by finance ministers on the interest rates of OECD member nations' governments. Data is collected from World Bank. A multiple regression model is employed to examine the effects of additional factors. The finding reveals that the correlation is negative and the impact is considerable, the degree of the effect is sensitive to the magnitude of the correlation. In contrast, the educational background of a finance minister, as well as other characteristics such as exports, imports, gross domestic product (GDP), and net trades, has a major influence on the short-term interest rate and long-term interest rate of OECD member nations.

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Introduction

Mexican President Vicente Fox and his creditors signed an international debt agreement, which received both praise and criticism. The Republic of Korea's Finance Minister, based on his personal knowledge and scientific publication, wrote to the International Monetary Fund about the economic benefits. According to Mexico's Foreign Minister, Pedro Aspe, the agreement opts to save the country nearly \$4 billion annually until 1994. According to the Financial Times, Lloyds Bank chairman Jeremy Morse and Midland Bank CEO Kit McMahon both calculated that the package would "save

the nation less than \$1 billion in foreign interest payments each year." Essentially, the significant disparity in these figures for the first agreement reached under the so-called Brady initiative reflects differing assumptions about the magnitude of the benefit provided by the complicated plan of the finance minister. Hence it is important to evaluate the impact of the finance minister's knowledge on the economic performance. Only a few scholars have carried out empirical research on the economic impact of policymakers and their policies. The economic effects of the death of a political leader in 130 countries,

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including the United States, have been examined by Jones and [Olken \(2005\)](#). In particular, they show the statistically significant influence of accidental policy shifts on development – particularly in totalitarian states.

Organization for Economic Cooperation and Development (OECD) has been considered the main source of providing ideas, concepts, standards, and norms that positively alter public policies and aids to improve the functioning of the global economy. Though it was established to provide a forum for policymakers from industrialized economies to address fundamental public policy issues, it has made significant contributions to the growth of global governance since its establishment. In the 1970s, (OECD) helped to mitigate the impacts of the breakdown of the Bretton Woods fixed exchange rate regime. When former communist states in Eastern Europe were transitioning to market-oriented economies in the 1990s, it played a pivotal role in facilitating that transition. Trade, investment, competition, and the environment have all been boosted by the development of standards and principles that have molded international commercial and economic interactions. The OECD's governance system is outlined in the Organization's Convention. OECD is headed and administered by a secretary-general who, more by persuasion than via inherent power, defines the organization's broad orientation. The Council of the Organization for Economic Cooperation and Development (OECD), which entails ambassadors from each member nation and a representative from the European Commission (EC), serves as a board of governors. The Council is backed up by standing committees that are responsible for the management, the budget, and external relations, among other things. With its long history of providing shared

concepts, principles, standards, and norms to regulate global economic, social, and political activities, the Organization for Economic Cooperation and Development (OECD) has played a significant role in the formation of global governance. Despite this, however, it is often considered to be the least investigated and understood of all the major international financial institutions ([Woodward, 2007](#)). The standards established by the Organization for Economic Cooperation and Development (OECD) are usually regarded in high esteem ([Marcussen, 2004](#)). Many of them are later accepted as best practices by governments, international organizations, and the business sector; as a result of this, due to the significance of its normative function, the OECD relies almost entirely on informal methods (moral suasion exercised through monitoring and peer review) to ensure conformity with its rules and regulations. It was also investigated earlier that Countries adopted the OECD standards, not because of the threat of formal sanctions but to hold the reputation among their peer group that would result from shifting away from the widely accepted practices. The Organization for Economic Cooperation and Development (OECD) has set standards for countries to follow. Although not members of the OECD, several non-member nations voluntarily subscribe to its regulations and follow them as if they were members ([Woodward, 2007: 234](#)).

Interestingly enough, the judgments of the earlier studies have been used to regulate the OECD's long-term plan model (Johannson et al., 2012), which predicts that a rise in gross external debt will also make a rise in Interest Rates at the domestic level, which will reduce the investment deficit in current accounts. Now in this study, an attempt is made to examine the impact of finance minister scientific publications on the Interest

Rate. As explained by Johanson et al., (2012), Interest Rate fluctuation has a great influence on the economic performance such as it influences the investment deficit in the current account of the OECD countries.

Considering the importance of the existing characteristics of the finance minister, it would not be wrong to do the assessment of the Finance Minister on the basis of his designed fiscal and monetary policies (Hallerberg and von Hagen 1999). In the years 1980 to 2010, researchers have tried to develop individual scale data for 161 finance ministers in 15 countries, measuring the experience, university experience, and philosophy of the finance minister. The findings show that, with each increased year, the debt-to-GDP ratio has also increased in a smaller way. Besides that, when elections are held or GDP growth is heartbroken, expertise is important because the seasoned finance minister is able to reduce the normal debt-to-GDP increase. In comparison, the education and philosophy of a minister of finance have no major impact. However, certain warnings inhibit a clear explanation. The contrary cannot be excluded, and the scope of the impact depends on how finance ministers are selected to form part of the economic model. The report is organized accordingly: In the accompanying segments, a literature study is conducted on the reliability and importance of the personality characteristics of the finance minister. This increases the scope of this study to examine the contribution of the finance minister to the economic variability, hence this study is hereby organized with the following objectives.

Objectives of the study

- i. To analyze the association and impact of scientific publications of finance minister on Interest Rates?

- ii. To detect the impact of determinants on Interest Rate?

Hypothesis Testing:

- i. **H₀:** there are significant associations between of scientific publications of finance minister and Interest Rates?
- ii. **H₀:** The effects of scientific publications of finance minister on Interest Rate of the countries are significant.
- iii. **H₁:** The determinants used significantly affect the Interest Rate of the country.

Literature Review

Von Hagen et al. (2001) in their study discussed that the task of the finance minister differs from many other cabinet members. The main responsibility of a finance minister is to achieve entire economic objectives. They have obligations ranging from the monitoring and implementation of agreed budgetary targets to setting the fiscal ideology for the years ahead in accordance with the budgetary process structure. Von Hagen exceeded and based on his further studies in 2002 his argued that the finance minister is therefore associated with that decision making groups, who would be most interested in the best public finance making. Most studies related to deficit of debt, Interest Rates yet not ignore the existing authorities of the ministers of finance. Hence following existing literature, this study also includes the existing authorities of finance ministers with its impact on the Interest Rates.

[Swank \(2002\)](#) reviewed the designed policies of the finance minister and provided his views that the consumption pattern and revenue-generating policies of finance minister could play a significant role in enforcement of budget plans, Interest Rates to meet the deficiency in

debt ratio. He argues that the rule of finance minister control over the economic indicators is significant, and it impacts the economic indicators moves in the direction based on the finance minister characteristics.

[Svaleryd \(2009\)](#) explained a positive connection between the existence of women and government spending in four different categories, including childcare, education and care for the elderly.

[Muravyev et al. \(2013\)](#) found that women's corporations in another scenario are much less likely to obtain a bank loan. In addition, there is some evidence in earlier studies that women are advocating to make adequate and beneficial plans to minimize government expenditures for female needs initiatives. [Clots-Figueras \(2011\)](#) noted that in the early years of their children's growth, Indian female leaders invest more in education and health care. According to Chattopadhyay and

The Intrinsic Worth of the Finance Minister

Besides all, Von Hagen et al. (2001) inclined that the specific consequences of the qualities of the finance minister to stabilize the Interest Rates and debt-to-GDP ratio, dependence on the institutional framework or the situation of the economy may also be conditional. The majority of advanced nations use either a delegation strategy or a fiscal decision-making contract approach. Entrustment implies that the Minister of Finance has a major strategic authority. He is the setter of the agenda and has a significant position throughout the parliamentary term. In contrast, the contract method relies on an agreement amongst the key decision-makers for binding budgetary goals in the budget process. At the planning stage, the financial minister only exercises a few powers but oversees and

enforces the financial contract. The kind of budgetary procedure chosen thus extends (delegation) or narrows (contract) the area of activity of finance ministers. While one might argue that the impact of personal features of the finance minister is greater when the delegation method is used, it can equally be assumed that personal qualities will become more significant when the role of the finance minister in the budgetary process is weakened. Therefore, a precise hypothesis about the kind of budgetary procedure is not feasible in this study. The question has to be addressed with reference to data. Regarding the effect on the status of the economy of the financial minister's qualities, it is fair to infer that personal traits, such as experience or economic and scientific education, are of particular importance in times of economic prosperity or un-affordability. In periods of strong GDP expansion, for example, most expenditure ministers fall to the lure of bringing their departments more tax money. Such conduct, however, hampers the budget consolidation process in most nations. Consequently, it is essential to examine if the financial ministers' personal qualities matter in this respect. Finally, in electoral years, the effect of personal traits may be different. Governmental parties prefer to boost public expenditure and run higher debts before elections to improve their re-election prospects ([Klomp and Haan de 2013](#)). However, the effect of the next elections on the qualities of the finance minister is not apparent ex ante. On the one hand, an experienced or economically educated finance minister might oppose his colleagues' expenditure demands. On the other side, the finance minister may also succeed in trying to advance his ruling party's (- coalition) electoral chances by increasing expenditure. Therefore, it is also important to analyse the effect on election years of the Finance

Minister's qualities but due to constraint is not possible to carry on such objective in study. In this study focused is made on the finance minister's personal characteristics with Interest Rates.

Research Methodology

This section is comprise of discussion about the variable of the study, sources of the data, sample size of the research, Hypothesis of the study, research model to be used in this study, time frame and about the statistical tools and techniques which are used in this study.

Variable

The main variables for this study are two in number in which one is the dependent variable, and another is the independent variable. The dependent variable is the Interest Rate of OECD countries, and the independent variable is the scientific publication of ministers of the OECD countries.

Interest Rate

It is the amount charged by the lender to borrower on the principal amount to be lent. It is always in percentage term. Interest Rate covers inflation as well as real rate for the lender. It may be nominal or real Interest Rate. We used real Interest Rate in this study. In economy Interest Rate is being set by the central bank of the country. Interest Rate is most often fluctuated due the government policies and the flow of capital in the market.

Scientific Publications

Hereby this variable, the study is measuring the competency of finance minister in term and research and technicality. Scientific publication term, mean a research that is conducted in a systemic way in order to find a solution towards some issue using quantitative

techniques. The finance ministers who are having more publications in the relevant area is considered as more competent than the one who have less. A study was conducted with the aim to find the effects of competency and characteristics of finance ministers on public debt ([Moessinger, 2014](#)).

Data

The study has taken the data of Interest Rate of each country of OECD from OECD website and scientific publication of finance minister is taken from SCOPUS the bibliometric dataset of ELSEVIER. The time frame of the data is from 2007 till 2020.

Analysis

Inferential statistical technique is used to find out the relationship between Interest Rate and scientific publications for the duration from 2007 to 2020. The study check for the stationary of the data for which ADF test is used, then the regression model is used to analyze the magnitude of the relationship between variables and the model used for the analyses are the pooled OLS model, fixed-effect model and the random effect model.

Model specification

The study used pooled OLS model for analysis in order to find the relationship and magnitude of impact between variables. The benchmark regression model is as follow Interest Rate = $\alpha + \beta_1$ Scientific Publication + error -- -- (1)

Completed Model to check both of the hypotheses is as follows:

$$\begin{aligned} \text{Interest Rate} = & \alpha \\ & + \beta_1 \text{ Scientific Publication} \\ & + \beta_2 \text{ Export} + \beta_3 \text{ Imports} \\ & + \beta_4 \text{ GDP} + \beta_5 \text{ Net} \\ & - \text{trade} + \text{error} -- (2) \end{aligned}$$

Regression Analysis

The analysis is done through regression analysis which shows the relationship between determinants (independent variables) and dependent variables. R-squared (R^2) is the statistical tools that find the degree to which the determinants in the model explain the changes observed in the dependent variable. In regression we use three models for measurements.

Results and Discussions

This chapter describe and determines the analytical results from the Economic

parameter of the two models, which are discussed in the methodology. In this chapter we calculate the necessary descriptive statistics, interprets its results and also analyses all data for obtained the cause and effect relationship between short term and long term Interest Rate with various independent/explanatory variables of the two models, of the total variables such as i-e scientific publication of finance ministers, Total annual Gross Domestic Products, Imports, Exports, Debt and net trade of the countries.

Table 1. Descriptive Statistics of Short-term and Long-term

Variable	Obs	Mean	Std. Dev.	Min	Max
Interest Rate	426	3.279374	2.584432	-.489	22.4975
Publication	426	3.180751	11.9299	0	137
Net-Trade	426	1801.396	107477.2	-696451.5	295385.6
Stir	426	1.72434	2.410191	-.78375	15.82383
GDP	426	40970.36	15794.27	14233.03	120670.5
Exports	426	51.80457	32.77031	10.94888	221.1966
Imports	426	48.71295	27.4693	11.9706	187.1654

The table-1 reveals the output of descriptive statistics of the model about short term and long term Interest Rate with other explanatory variables like Scientific Publication, Total annual Gross Domestic Products, Imports, Exports, Debt and net trades. The mean value of long term Interest Rate is 3.27% and for scientific publications, the mean value is about 3. The maximum value of Interest Rate is 22.4%, and a maximum number of publication is 137. The minimum value of long term interest is negative 0.4% and short term Interest Rate is negative 0.78%

minimum number of publications is zero. The standard deviation of long term Interest Rate is 2.5% and short term interest is 2.4% standard deviation for publication is 12. The reason for high value of standard deviation is, that most of the ministers have zero publications and some of the ministers have high number of publications which are way far from their mean value. However the summary statistics does not provides the image for relationship in the variable it's just provide us the short insight about the data.

Table 2. Correlation

	St-interest	Lt-interest	S-pub	GDP	Exports	Imports	Net-trade
St-interest	1.0000						
Lt-interest	0.6116	1.0000					
S-pub	-0.1081	0.6116	1.0000				
GDP	-0.3033	-0.5057	0.1279	1.0000			
Exports	-0.1931	-0.1742	-0.0034	0.4803	1.0000		
Imports	-0.1666	-0.1332	-0.0277	0.3843	0.9868	1.0000	

	St-interest	Lt-interest	S-pub	GDP	Exports	Imports	Net-trade
Net-trade	-0.1057	-0.1045	0.0792	-0.0047	0.2651	0.2319	1.0000

Table-2 provides a complete insight about the correlation between various variables, the range of correlation is from -1 to +1 while zero shows that there is no relationship between variable -1 reveals negative while +1 reveals complete positive relationship between variables. According to the above table our main variables i-e, long and short term Interest Rate having very weak relationship -0.1081 and -0.1106 is with scientific publication of finance ministers while exports and imports having strong

correlation 0.9868. While there is a slight good 0.6116 relationship of the variables long term Interest Rate with short term Interest Rate. in spite of the fact the correlation analysis is only show the possible existed relationship with other, No other information is obtained from correlation analysis for obtaining the causal and effect relationship between our Dependent variable against other predictors we would perform the Multiple Linear Regression analysis.

Table 3. Regressions: Multi-collinearity

Variable	VIF	1/VIF
Exports	84.49	0.011836
Imports	74.01	0.013512
GDP	2.63	0.380342
Net-trade	1.31	0.764201
St-Interest	1.12	0.889762

Table-3, Variance inflicted factor (VIF) Reveals the multicollinearity in the model for the sake of regression analysis there is a common assumption that there is no correlation between explanatory variables in the model. So according to the above

table, the VIF value is greater than 10 will declare multi-collinearity, so according to the rule, the variable exports and imports are collinear predictors. The suggested remedy is to drop only one explanatory variable from the model and retains one.

Table 4. Regressions: Remedial Measures of Multi-collinearity

Variable	VIF	1/VIF
GDP	1.46	0.686912
Exports	1.45	0.689572
Net-trade	1.13	0.888695
St-interest	1.12	0.891927
S-pub	1.04	0.962194

Table-4, after dropping imports now all the variables VIF values are less than 10

so we have to conclude that there is no more multicollinearity in the predictors

Table 5. Regressions: Long Term Interest Rate as Dependent variable

Lt-interest	Co-efficient	Std. Err.	t	P> t	[95% Conf. Interval]
S-pub	-.0068416	.008984	-0.76	0.047	-.0245008 .0108175
GDP	-.0001185	.0000106	-11.22	0.000	-.0001393 -.0000978
Exports	.1156415	.0295083	3.92	0.000	.0576391 .1736438
Imports	-.1181255	.0329395	-3.59	0.000	-.1828723 -.0533787
Net-trade	-4.88e-06	1.11e	-4.38	0.000	-7.07e-06 -2.69e-06
Cons	7.929126	.4833986	16.40	0.000	6.978944 8.879308

Note: No. Observations: 426, $F(5, 420) = 36.46$, $Prob > F = 0.0000$, $R\text{-squared} = 0.3027$, $Adj R\text{-squared} = 0.2944$

See Appendix-A, Table-A-1

Table-5 reveals that the variable satisfies the main Assumption of the linear regression that is the continuity and Normality. The $Prob > F = 0.0000$ reveals that the overall model is significant while the R-Square value reveals that only 30% of the variation for the dependent variable

long term Interest Rate is explained by the predictors while very small values of standard errors reveal that there is no Heteroscedasticity. Hence we accept the alternative hypothesis that the determinants significantly affect the Interest Rates.

Table 6. Regression model for short term Interest Rate as Dependent variable

Lt-interest	Co-efficient	Std. Err.	t	P> t	[95% Conf. Interval]
S-pub	-.01353	.009464	-1.43	0.041	-.0321327 .0050727
GDP	-.0000501	.0000111	-4.50	0.000	-.000072 -.0000282
Exports	.028581	.031085	0.92	0.358	-.0325206 .0896826
Imports	-.0350761	.0346995	-1.01	0.313	-.1032825 .0331304
Net-Trade	-2.52e-06	1.17e-06	-2.14	0.033	-4.83e-06 -2.09e-07
Cons	4.052059	.5092278	7.96	0.000	3.051107 5.053012

Note: No. Observations: 426, $F(5, 420) = 10.41$, $Prob > F = 0.0000$, $R\text{-squared} = 0.1102$, $Adj R\text{-squared} = 0.0996$

See Appendix-A, Table-A-2

The Table-6 is containing the output of the multiple linear regression analysis for obtaining the best fitted model. The study variable satisfies the main Assumption of the linear regression that is the continuity and Normality. The $Prob > F = 0.0000$ reveals that the overall model is significant while the R-Square value reveals that only 11% of the variation for the dependent variable long term Interest

Rate is explained by the predictors while very small values of standard errors reveal that there is no Heteroscedasticity. Hence the alternative hypothesis is accepted that the determinant affect the shorter Interest Rates.

Conclusions

In this research study, an attempt is made to analyse the personal characteristics of

finance minister and its impact on the Interest Rates of the OECD countries. The study has taken the data of Interest Rate of each country of OECD from World Bank the data of scientific publication has been retrieved from the personal profile of each finance minister. The time frame of the data is from 2007 till 2020. The sample countries for the study to be analysed is OECD countries as previously by [\(Moessinger, 2014\)](#).

It is also explored to examine the impact of various other economic indicators i-e scientific publication of the finance ministers of OECD Countries, countries Exports, Imports, Gross Domestic Products (GDP) and Net-trades on short term Interest Rate and long term Interest Rate of OECD member's countries. Some descriptive statistics were calculated from the data to get quick insight about the data while some inference statistical analysis i-e Correlation and Multiple Linear Regression Analysis were also be

performed. From the results inferential statistical analysis it has been finally concluded that there is sufficient evidence that the scientific publication have impact on short and long term Interest Rate.

It turns out that the finance minister's scientific publication has an inverse correlation with the Interest Rates of the OECD (Hypothesis-1). It has also been determined that the scientific publication of fiancé minister has a significant impact on the Interest Rates of OECD (Hypothesis-2). The other determinant such as GDP, Exports, Imports etc have also significant impact on the Interest Rates of OECD (Hypothesis-3).

It is therefore suggested that the indicators which influence the interest rates should be considered in the key financials and monetary policy implementations. The significant results of the financial minister publication should be used as an indicator during the process of interest rates adjustment.

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Appendix-A

Table-1

Source	SS	df	MS	
Model	859.213193	5	171.842639	Number of obs = 426 F(5, 420) = 36.46
Residual	1979.48443	420	4.71305817	Prob > F = 0.0000
Total	2838.69762	425	6.67928852	R-squared = 0.3027 Adj R-squared = 0.2944 Root MSE = 2.171

Table-A-2

Source	SS	df	MS	
Model	272.159626	5	54.4319252	Number of obs = 426 F(5, 420) = 10.41
Residual	2196.6737	420	5.23017548	Prob > F = 0.0000
Total	2468.83333	425	5.8090196	R-squared = 0.1102 Adj R-squared = 0.0996 Root MSE = 2.287