

## IFRS Adoption and Economic Consequences

## UFRS'nin Benimsenmesi ve Ekonomik Sonuçları

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**Abstract**

This paper examines the association between the macroeconomic performance of countries and the adoption of IFRS. For this purpose, IFRS scores are developed using the information in the literature and these scores are quantitatively examined in relation to various macroeconomic variables. The results show that IFRS adoption is positively associated with economic development (measured by GDP per capita level) and financial development (measured by the size of banking sector credits as a ratio to GDP). In addition, IFRS scores are negatively associated with inflation and positively associated with international trade. Overall, the paper finds that IFRS adoption has favourable economic consequences in terms of macroeconomic performance, while more detailed analyses are needed to establish causal links between IFRS and economic consequences. Considering the variation over time and across countries in the adoption of IFRS, this paper has aimed at examining the association between IFRS adoption and macroeconomic consequences.

**Keywords:** Accounting, IFRS, Macroeconomic Performance.**Jel Codes:** M41, M48, M49**Öz**

Bu makale, ülkelerin makroekonomik performansı ile UFRS'nin benimsenmesi arasındaki ilişkiyi incelemektedir. Bu amaçla literatürdeki bilgilerden yararlanılarak UFRS puanları geliştirilmekte ve bu puanların çeşitli makroekonomik değişkenlerle ilişkisi nicel olarak incelenmektedir. Sonuçlar, UFRS'nin benimsenmesinin ekonomik gelişme (kişi başına düşen GSYİH düzeyi) ve finansal gelişme (GSYİH'ya oran olarak bankacılık sektörü kredilerinin büyüklüğü) ile olumlu bir şekilde ilişkili olduğunu göstermektedir. Ek olarak, UFRS puanları enflasyonla negatif, uluslararası ticaretle pozitif ilişkilidir. Genel olarak, makale, UFRS'nin benimsenmesinin makroekonomik performans açısından olumlu ekonomik sonuçlara sahip olduğunu bulmaktadır. UFRS ile ekonomik sonuçlar arasında nedensel bağlantılar kurmak için ise daha ayrıntılı analizlere ihtiyaç duyulduğunu belirtilmektedir. UFRS'nin benimsenmesinde zaman içinde ve ülkeler arasındaki farklılıklar göz önüne alındığında, bu makale, UFRS'nin benimsenmesi ile makroekonomik sonuçlar arasındaki ilişkiyi incelemeyi amaçlamıştır.

**Anahtar Kelimeler:** Muhasebe, UFRS, Makroekonomik Performans**Jel Kodları:** M41, M48, M49

## 1. INTRODUCTION

The development of common accounting standards among countries is considered important to ensure the harmonisation of financial reporting and improve transparency. Instead of each country having its separate accounting standards, having a common accounting system allows investors to assess the performance and financial health of companies from different countries in a similar fashion (Ball, 2006; Ahmed et al., 2013). In this context, the adoption of International Financial Reporting Standards (IFRS) would be expected to increase the efficiency of financial markets and enable further financial globalisation (Callao et al., 2007; Barth et al., 2012; De George et al., 2016). While by the 2020s many countries have already adopted the IFRS standards, this process was not very smooth in the sense that some countries were latecomers in adopting IFRS and others followed a gradual process involving some exceptions and modifications in the adoption of IFRS (Trimble, 2017). Given this variation over time and across countries in the adoption of IFRS, the present paper aims to understand the economic consequences of IFRS adoption.

In order to examine the economic consequences of IFRS adoption, the paper utilises the IFRS dataset by Song and Trimble (2022) covering the 1986-2020 period. This dataset is completed with macroeconomic variables from the World Development Indicators (WDI) database of the World Bank (2023) for a sample of 54 countries. Then, quantitative methods such as correlation and regression analyses are employed to document the association between IFRS scores and macroeconomic performance. Zaidi and Paz (2015) argue that studies on the macroeconomic effects of IFRS are relatively scarce. Hence, the present paper fills this research gap by providing empirical evidence on the economic consequences of IFRS adoption.

## 2. LITERATURE REVIEW

There is a large body of literature examining the evolution of accounting standards and the adoption of IFRS (Daske et al., 2008; Horton et al., 2013; Sarioglu et al., 2019). For example, De George et al. (2016, p.890) review the relevant literature and find that

- “(i) improved transparency,
- (ii) lower costs of capital,
- (iii) improved cross-country investments,
- (iv) better comparability of financial reports, and
- (v) increased following by foreign analyst” (De George et al., 2016, p.890).

Similarly, Daske et al. (2008) find that market liquidity increases and the cost of capital declines after the introduction of IFRS. These effects are found to be stronger with higher levels of transparency and legal enforcement in countries. It can also be argued that the adoption of international standards would reduce the likelihood of creative accounting or earnings management (Susmus and Demirhan, 2013). Hence, in the relevant literature, the positive effects of IFRS adoption has been displayed, while the relevant findings are generally based on firm-level datasets.

An important point in the adoption of IFRS is that this process can be gradual over time and heterogenous across countries (Song and Trimble, 2022). For example, Cagle et al. (2015) examine the adoption of IFRS in Turkey and find that it took around 15 years for regulators to move towards a close to full adoption. In addition, Demir and Bahadir (2014) document partial adoption levels, ranging between 64 percent and 92 percent, among public Turkish companies. In a comparative study, Akdogan and Ozturk (2015, p.60) examine the IFRS adoption practices in the European, Australian and Turkish contexts and show that “as long as diversity in accounting policies of IFRS is present, entities are expected to be inclined to select their local accounting policies by leading to the comparability of financial statements within the country rather than between countries in the IFRS context”. Hence, it is important to take these differences into account when examining the economic consequences of IFRS adoption.

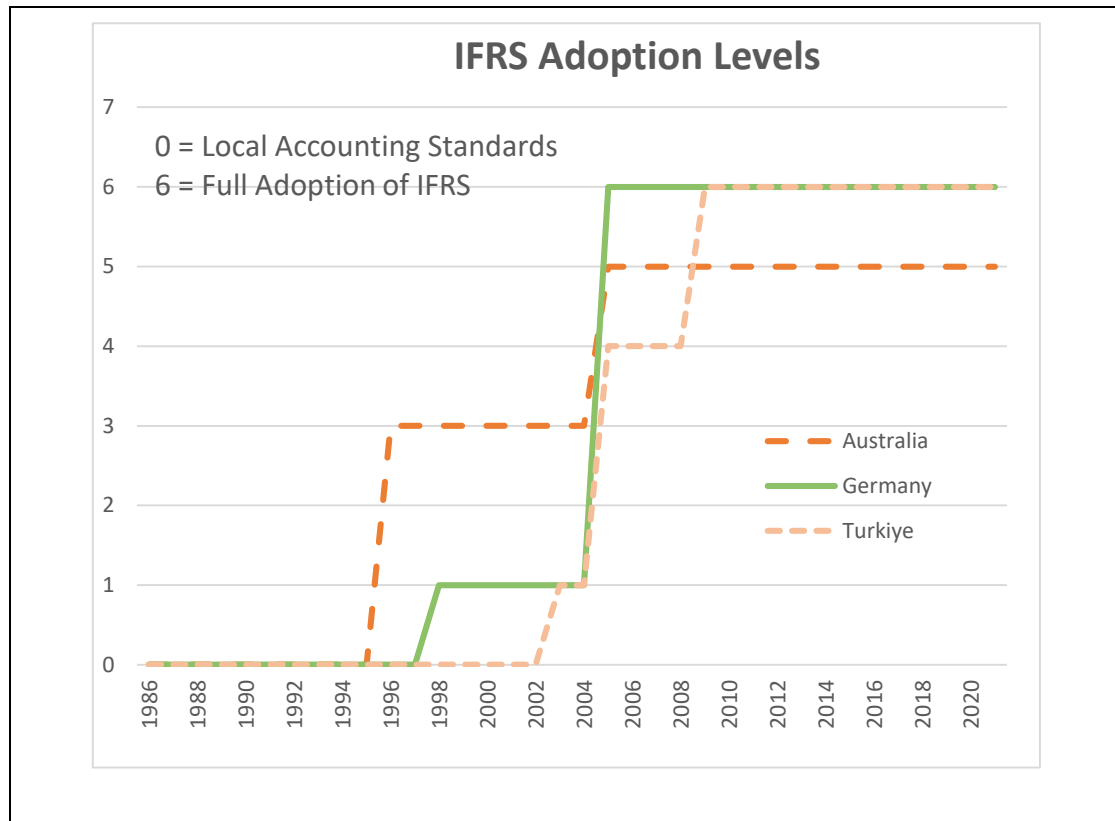
While there are many studies that examine the consequences of IFRS adoption at the firm level, country-level studies are relatively scarce. For example, Ozerhan et al. (2017) examine the evolution of regulations, including in the accounting area, during the economic expansion period in Turkey, but the authors do not conduct any detailed quantitative analyses such as regression estimations. In a cross-country study, Zaidi and Huerta (2014) examine the association of country-level indicators (such as GDP per capita growth rate, foreign direct investment, education level, regulatory enforcement level, corruption index, political stability, and the EU membership) with the adoption of IFRS (measured as a dummy variable). The use of a dummy indicator for IFRS adoption becomes a data limitation given the heterogeneities mentioned above. Still, the authors get important results on the economic consequences of IFRS adoption and find partial support for the positive relationship between IFRS adoption and economic growth. The review of the relevant studies indicates that studies looking at the association between IFRS adoption and macroeconomic variables. The present paper fills this research gap by collecting a large dataset of advanced and developing countries covering the 1986-2020 period and by conducting detailed empirical analyses.

### 3. DATA AND METHODOLOGY

The literature review presents that the adoption of IFRS can be gradual and heterogeneous across countries. In this context, Song and Trimble (2022) create a database of IFRS adoption. The authors consider the adoption of local GAAP (non-IFRS) as the base case; hence, the present paper assigns a value of zero for this category. Then, if IFRS is permitted but not required, a value of one is assigned, while partial implementation gets a score of two (Song and Trimble, 2022). Similarly, if local GAAP has been converged with IFRS, a score of three is assigned, and modified adoption of IFRS gets a score of four. Lastly, IFRS for SMEs gets a score of five and full implementation of IAS/IFRS gets a full score of six (Song and Trimble, 2022). Hence, the dataset of Song and Trimble (2022) is quantified using these scores. The sample is chosen as 1986-2000 based on the data availability and includes 54 advanced and developing countries<sup>1</sup>.

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<sup>1</sup> Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Czechia, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland,



**Figure I.** IFRS Adoption Levels in Some Countries

(Source: Adapted by the author from the database of Song and Trimble, 2022).

In order to document the variation in the dataset, Figure I show the evolution of IFRS adoption in the case of Australia, Germany, and Turkey. These countries had local GAAP until 1995 (a score of zero), while Australia started a convergence process towards IAS in 1996 (a score of three), transitioned to a modified version of IFRS in 2005 (a score of five), and stayed at this level of adoption for the rest of the sample. Germany followed local GAAP until 1997, started permitting IAS in 1998 (a score of two), and transitioned to full IFRS adoption in 2004 (a score of six) under the corresponding EU regulations. In the case of Turkey, the country used local GAAP until 2002 and started permitting IFRS in 2003 (a score of two). Then, Turkey started to implement IFRS with some exceptions (a score of four) in 2005 and transitioned to full adoption (a score of six) in 2009. Hence, the graph shows that countries can follow very different IFRS adoption paths.

The IFRS scoring data created from Song and Trimble (2022) is combined with a macroeconomic dataset obtained from the World Bank (2003) to form the final dataset. In terms of methodological approach, the created dataset is examined using descriptive statistics, correlation analysis, and regression analyses to uncover the association of

Israel, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, Tunisia, Türkiye, United Kingdom, United States, Uruguay, and Vietnam.

macroeconomic variables with the IFS scores. In this context, two main research hypotheses are also formed as follows:

*Hypothesis 1:* IFRS adoption is positively associated with economic development.

*Hypothesis 2:* IFRS adoption is positively associated with financial development.

The next section provides the empirical analysis to test above mentioned two hypotheses.

#### 4. RESULTS

Table I presents the summary statistics of the variables used in the empirical analysis. It is seen that the IFRS score ranges from zero to six, with a mean value of 2.07 and a standard deviation of 2.67.

Table I. Summary Statistics					
Variable	Obs	Mean	Std.Dev.	Min	Max
IFRS Score	1890	2.069	2.665	0	6
GDP Size (\$)	1834	8.41e+11	2.10e+12	3.99e+09	2.14e+13
GDP per capita (\$)	1834	19671.07	18718.8	96.13	103000
Bank Credits/GDP (%)	1579	70.945	45.081	0	304.575
Stocks Trade Value/GDP (%)	1475	42.27	76.155	.001	952.667
Market Capitalisation/GDP (%)	1356	74.279	127.651	.023	1777.283
Inflation (%)	1813	25.675	231.809	-4.478	7481.664
International Trade/GDP (%)	1825	80.512	62.807	12.219	442.62
Public Debt/GDP (%)	923	59.742	38.714	0	252.286
External Debt/GDP (%)	613	45.443	32.62	7.887	384.012
Savings/GDP (%)	1817	24.893	7.872	4.39	62.242
Investments/GDP (%)	1817	23.987	5.642	1.157	54.955
FDI/GDP (%)	1824	3.871	7.716	-40.087	109.025

Regarding the macroeconomic variables, the GDP per capita has a mean value of \$19,671, with a standard deviation of \$18,719, while the average bank credit-to-GDP ratio is 71

percent, the average value of traded stocks is 42 percent of GDP, and the mean market capitalisation is 74 percent. Inflation averaged 26 percent (as the sample includes the 1980s-1990s and emerging countries with high inflation levels), while international trade was 81 percent of GDP, public debt was 60 percent, external debt was 45 percent, savings were 25 percent, investments were 24 percent, and FDI was 4 percent of GDP. Table I indicates that the sample varied greatly in terms of economic performance.

As the first stage of empirical analysis, Table II shows the pairwise correlation coefficients between the IFS score and the macroeconomic indicators.

<b>Variables</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
(1) IFRS Score	1.000			
(2) GDP Size	0.003	1.000		
(3) GDP per capita	0.416*	0.256*	1.000	
(4) Bank Credits	0.291*	0.137*	0.619*	1.000
(5) Stocks Trade Value	0.112*	0.319*	0.337*	0.503*
(6) Market Capitalisation	0.131*	0.051	0.251*	0.465*
(7) Inflation	-0.075*	-0.028	-0.083*	-0.067*
(8) International Trade	0.251*	-0.197*	0.251*	0.326*
(9) Public Debt	0.196*	0.205*	0.296*	0.200*
(10) External Debt	-0.087*	-0.245*	-0.203*	-0.202*
(11) Savings	0.019	0.020	0.288*	0.333*
(12) Investments	-0.107*	0.082*	-0.024	0.207*
(13) FDI	0.190*	-0.075*	0.151*	0.192*

\* shows significance at the 0.05 level

The star sign implies that the corresponding correlation coefficient is statistically significant at the 5 percent level. The results show that the IFS score is positively associated with the GDP per capita level, with a correlation coefficient of 0.416. Hence, this finding provides supportive evidence for the first research hypothesis. Table II also shows that the IFS score is also positively and statistically significantly associated with the financial development indicators of bank credits, the traded value of stocks, and the stock market capitalisation. Then, these findings provide support for the second research hypothesis. Regarding the

other macroeconomic indicators, Table II finds negative associations with inflation, external debt, and investments, and positive associations with trade, public debt, and FDI. Overall, the results of Table II show that IFRS adoption can be associated with strong economic consequences.

While correlation coefficients provide important insights into the association between IFRS scores and macroeconomic indicators, the bivariate nature of the empirical analysis is a limitation as the effects of other factors are not taken into account in this analysis. One way to move beyond bivariate analyses is to use multiple regression analyses, where the researcher can look at the partial effects of many independent variables at the same time (Wooldridge, 2015). In this context, the fixed-effects regression model is estimated for the sample, where the IFRS score is chosen as the dependent variable. The results are presented in Table III.

<b>Table III. Regression Results (Dependent Variable: IFRS Score)</b>							
<b>IFRS Score</b>	<b>Coef.</b>	<b>St.Err.</b>	<b>t-value</b>	<b>p-value</b>	<b>[95% Conf</b>	<b>Interval]</b>	<b>Sig</b>
GDP per capita	0.000	0.000	8.16	0.000	0.000	0.000	***
GDP pc growth	-0.023	0.020	-1.15	0.250	-0.062	0.016	
Bank Credits	0.032	0.003	9.45	0.000	0.025	0.038	***
Market Capitalisation	0.000	0.002	0.04	0.970	-0.004	0.004	
Inflation	-0.062	0.008	-8.21	0.000	-0.076	-0.047	***
International Trade	0.015	0.004	3.31	0.001	0.006	0.024	***
Public Debt	0.021	0.003	6.53	0.000	0.015	0.027	***
Investments	0.021	0.019	1.09	0.275	-0.017	0.058	
FDI	0.008	0.007	1.06	0.288	-0.007	0.023	
Constant	-4.086	0.744	-5.49	0.000	-5.548	-2.624	***
Mean dependent var		2.634	SD dependent var		2.703		
R-squared		0.525	Number of obs		648		
F-test		73.646	Prob > F		0.000		
Akaike crit. (AIC)		2225.551	Bayesian crit. (BIC)		2270.290		

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The results indicate that the IFRS scores are positively associated with the economic development level (as measured by the GDP per capita), and this association is statistically significant at the 1 percent level. Bank credits are also positively associated with IFRS adoption, while the regression coefficient of market capitalisation is not statistically

significant. Hence, these findings support both research hypotheses. It is also found that the IFRS scores are negatively associated with inflation, while they are positively associated with public debt and international trade. Overall, the regression results imply that IFRS adoption is generally associated with superior economic performance.

## 5. CONCLUSION

Considering the variation over time and across countries in the adoption of IFRS, this paper has aimed at examining the association between IFRS adoption and macroeconomic consequences. Utilising a large sample of 54 advanced and developing countries and utilising various empirical methods, the paper finds that IFRS adoption is positively associated with both economic and financial development. In this regard, these results provide important insights into the economic consequences of IFRS. However, considering future research, it should be noted that more detailed results would allow the researchers to establish the possible causal association between IFRS adoption and macroeconomic performance.

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## DECLARATION OF THE AUTHORS

**Publication Ethics Statement:** Publication ethics were taken into consideration at all stages of the study.

**Declaration of Contribution Rate:** The author has all contributions.

**Declaration of Support and Thanksgiving:** No support is taken from any institution or organization.

**Declaration of Conflicts of Interest:** The author declare no conflict of interest.

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