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The impact of the Adoption of IFRS 11 on the Comparability of Accounting Information

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Contextualization and Objectives

- Previous international standard (IAS 31):
  - *Choice between equity method and proportionate consolidation.*
- IFRS 11 – Joint Arrangements:
  - *Only the equity method is allowed.*
- **Basis for Conclusions on IFRS 11:** the IASB explains that the existence of this accounting choice was impairing the comparability of accounting information.
- **Objective:** the main purpose of this research is to evaluate the impact of the adoption of IFRS 11 and the elimination of the option of using proportionate consolidation on the comparability of accounting information.

Contextualization and Objectives

- Jointly with IFRS 11, the IASB also issued the IFRS 12 – Disclosure of Interests in Other Entities.

- The IASB argues that the elimination of the proportionate consolidation should not result in informational loss for users of accounting information, given that IFRS 12 improved the quality of the disclosure of interests in joint ventures.

- **Objective:** this research aims to analyze the financial information about interests in joint ventures that are being provided in the Notes, in order to evaluate whether disclosures made by firms changing to the equity method mitigate the consequences of elimination of proportionate consolidation.

Sample

We built a unique and quite comprehensive database:

- 2.059 firms with joint venture investments from 26 countries
- Period: 2005 – 2016 (12 years)
- 14,356 financial statements that were analyzed
- Data collected from the notes:
  - *Accounting practice used by firms to measure their joint venture investments*
  - *For those firms that had to change to the equity method, we also collected the financial information about their interests in joint ventures disclosed in the notes to the financial statements.*

Comparability metric

- Accounting System Comparability (Barth, Landsman, Lang & Williams, 2012)
- Relation between economic outcomes and accounting amounts
  - *Economic outcomes: stock price, stock return and future operating cash flow*
  - *Accounting amounts: assets, liabilities, revenues and expenses*

1 $$Price_{it} = \beta_0 + \beta_1 TA_{it} + \beta_2 LIAB_{it} + \beta_3 REV_{it} + \beta_4 EXP_{it} + \epsilon_{it}$$

2 $$Return_{it} = \beta_0 + \beta_1[REV_{it}/P_{it-1}] + \beta_2[\Delta REV_{it}/P_{it-1}] + \beta_3[EXP_{it}/P_{it-1}] + \beta_4[\Delta EXP_{it}/P_{it-1}] + \epsilon_{it}$$

3 $$CF_{it+1} = \beta_0 + \beta_1[REV_{it}/TA_{it-1}] + \beta_2[EXP_{it}/TA_{it-1}] + \beta_3[LIAB_{it}/TA_{it-1}] + \epsilon_{it}$$

Matching Procedure: PSM

- The comparability metric is calculated for each pair of firms and, therefore, we used a matched sample design estimated by the Propensity Score Matching (PSM).

- Our sample was classified into two groups:
  - *Treatment: firms that had to change from PC to the EM after IFRS 11 adoption*
  - *Control: firms already using the EM prior to IFRS 11*

- Variables:
  - *Industry dummies, total assets, indebtedness ratio (liabilities/assets), revenues, return on assets and market-to-book.*

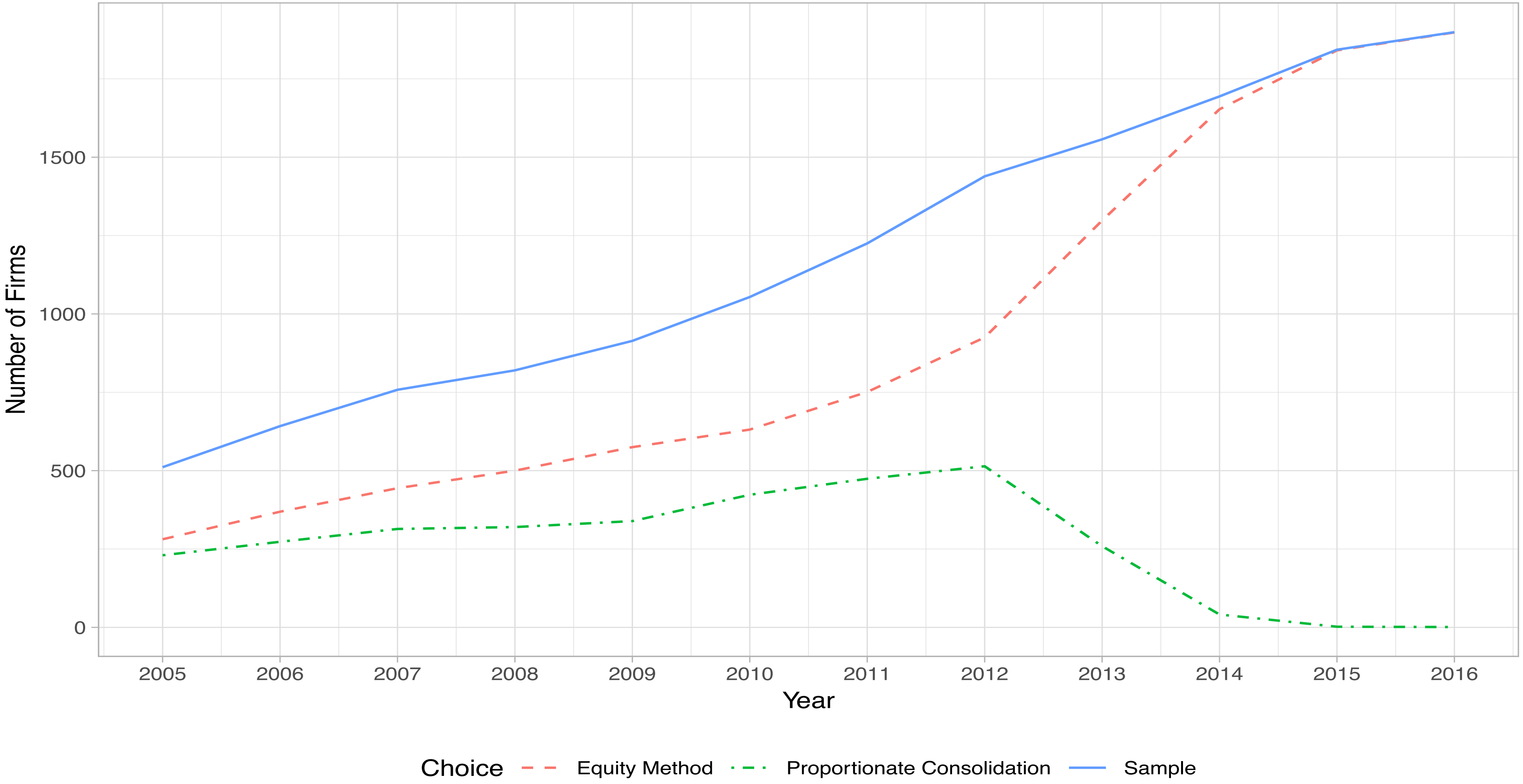
Structure of our analyses

- Descriptive analyses of our database

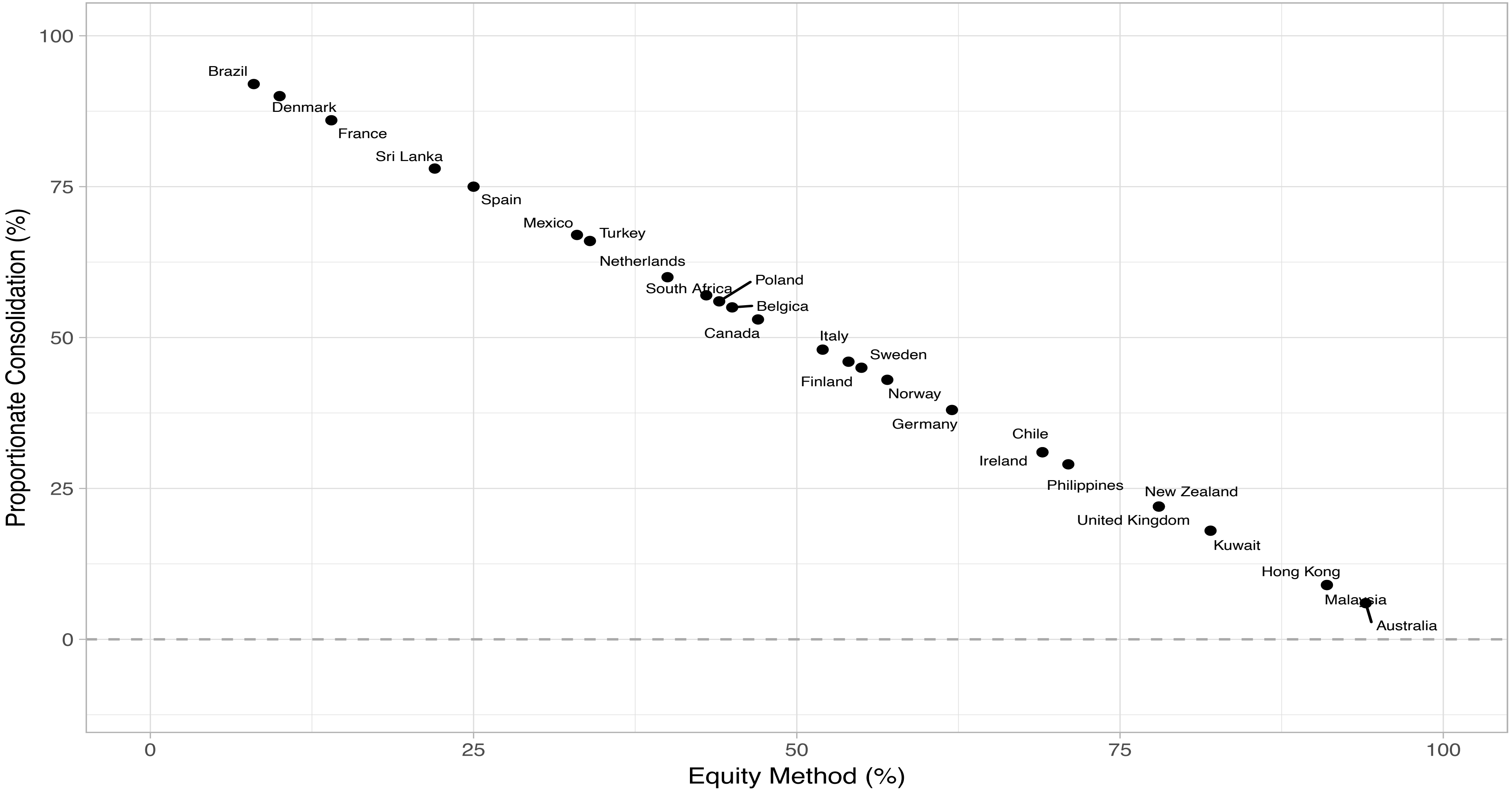
- Comparability analyses:
  - *Full Model: using all firms from all countries*
  - *Segregation by Clusters: in order to evaluate whether the results would be different when comparing firms from different countries and, at the same time, better isolate the effect of IFRS 11 using a benchmark group, we classified the 26 countries of our sample into clusters.*

- Analysis about IFRS 12 disclosures provided by firms, regarding their investments in joint ventures.

Descriptive analyses



Descriptive analyses



Logistic regression results

- We performed an analysis of the determinants of the choice for proportionate consolidation prior to IFRS 11 adoption.
- Data from 2005 to 2012.

	Estimate	**Std. Error**		
Intercept	-1.0946000	0.1342600	0.0000000	***
Leverage	-0.0000402	0.0000236	0.0877809	*
Size	0.0951570	0.0131440	0.0000000	***
Return on Assets	0.0248360	0.0055634	0.0000080	***
BIG 4	-0.6590000	0.0841840	0.0000000	***
Financing System	0.1980300	0.0161720	0.0000000	***
SIC - Finance, Insurance and Real Estate	-0.3521500	0.1012900	0.0005077	***
SIC - Manufacturing	0.0896800	0.0959450	0.3499418	
SIC - Others	0.0760170	0.1088900	0.4851038	
SIC - Services	0.0011386	0.1159600	0.9921656	
SIC - Transp., Commun., Eletric, Gas and Sanitary Services	0.1757900	0.1024100	0.0860694	*
Note:		*p<0.1; **p<0.05; ***p<0.01		
Log-Likelihood: -4229.058				

Comparability - Full Model

- Sample: 1,026 firms and 9,574 observations
  - *513 firms from the treatment group (PC → EM)*
  - *513 firms from the control group (EM → EM)*

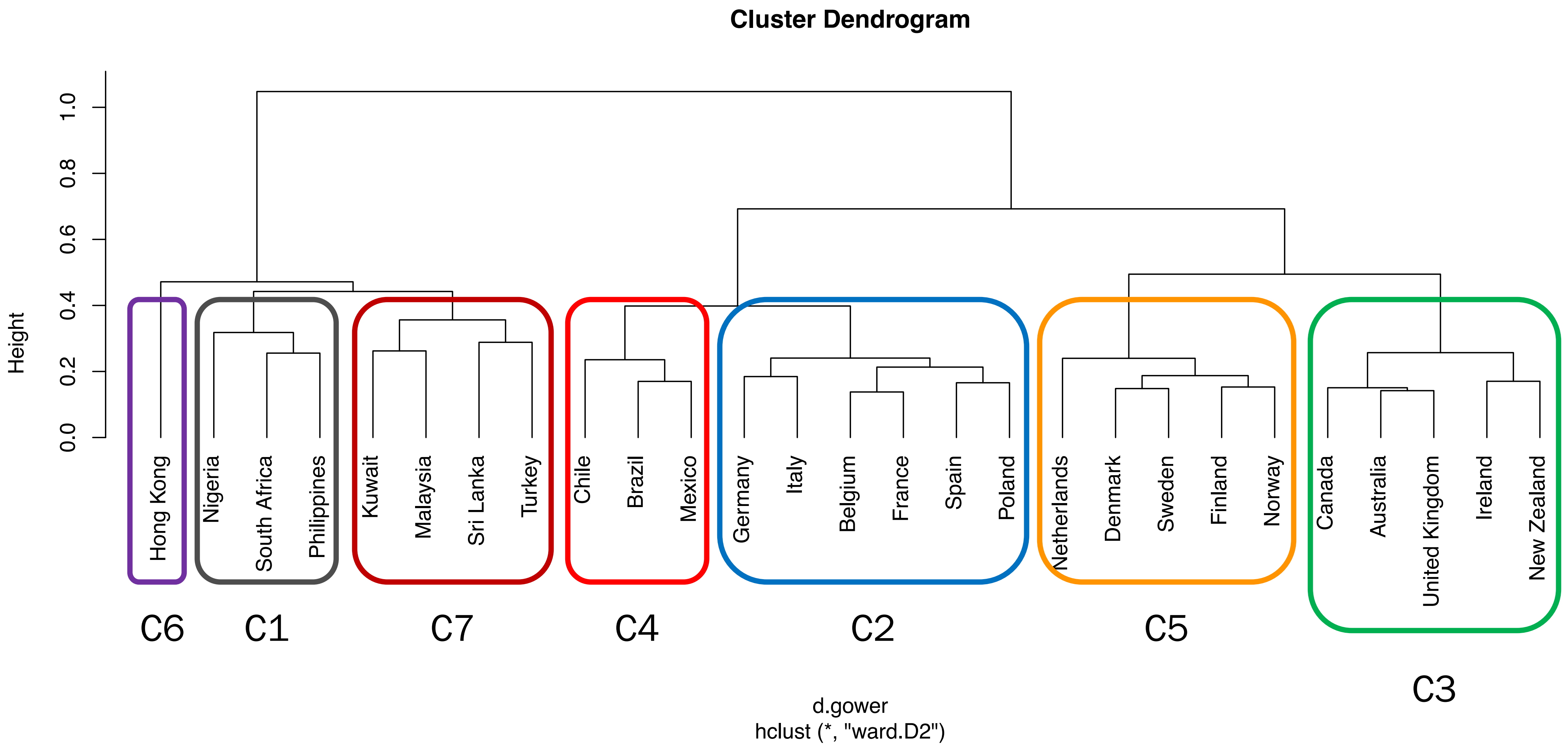
Full Model	Price		Return		Cash Flow	
	Mean	Median	Mean	Median	Mean	Median
PRE - IFRS 11	2.405	2.409	0.024	0.023	0.007	0.006
POST - IFRS 11	2.733	2.733	0.118	0.118	0.009	0.009
Difference (POST - PRE)	0.328	0.324	0.094	0.095	0.002	0.002
p-value	0.000	0.000	0.000	0.000	0.000	0.000

- The three models indicate that the differences between firms from the PRE period to the POST IFRS 11 adoption period have increased and, consequently, comparability decreased after the adoption of IFRS 11.

Comparability - Segregation by Clusters

- In order to assess whether this general decrease in comparability is being driven by specific countries, we classified the 26 countries from our sample into clusters, according to similarities and differences in their cultural and institutional environment.
- Cluster analysis was performed using a set of cultural and institutional variables:
  - *Religion*
  - *Level of development*
  - *Culture*
  - *Financing system*
  - *Legal system*
  - *Ownership concentration*
  - Protection to non-controlling shareholders
  - Enforcement
  - Political system
  - Tax
  - International exposure (FDI)
  - Inflation rate

Comparability - Segregation by Clusters



Comparability - Segregation by Clusters

- Control clusters (almost all firms using the EM):
  - *Cluster 3 (Australia, Canada, Ireland, New Zealand and United Kingdom)*
  - *Cluster 6 (Hong Kong)*
- Treatment clusters (firms using both EM and PC):
  - *Cluster 1 (South Africa and Philippines)*
  - *Cluster 2 (Germany, Belgium, Spain, France, Italy and Poland)*
  - *Cluster 4 (Brazil, Chile and Mexico)*
  - *Cluster 5 (Denmark, Finland, Netherlands, Norway and Sweden*
  - *Cluster 7 (Kuwait, Malaysia, Sri Lanka and Turkey)*
- We measured comparability between several possible combinations of clusters
  - *Total: 10 comparisons between treatment and control clusters*

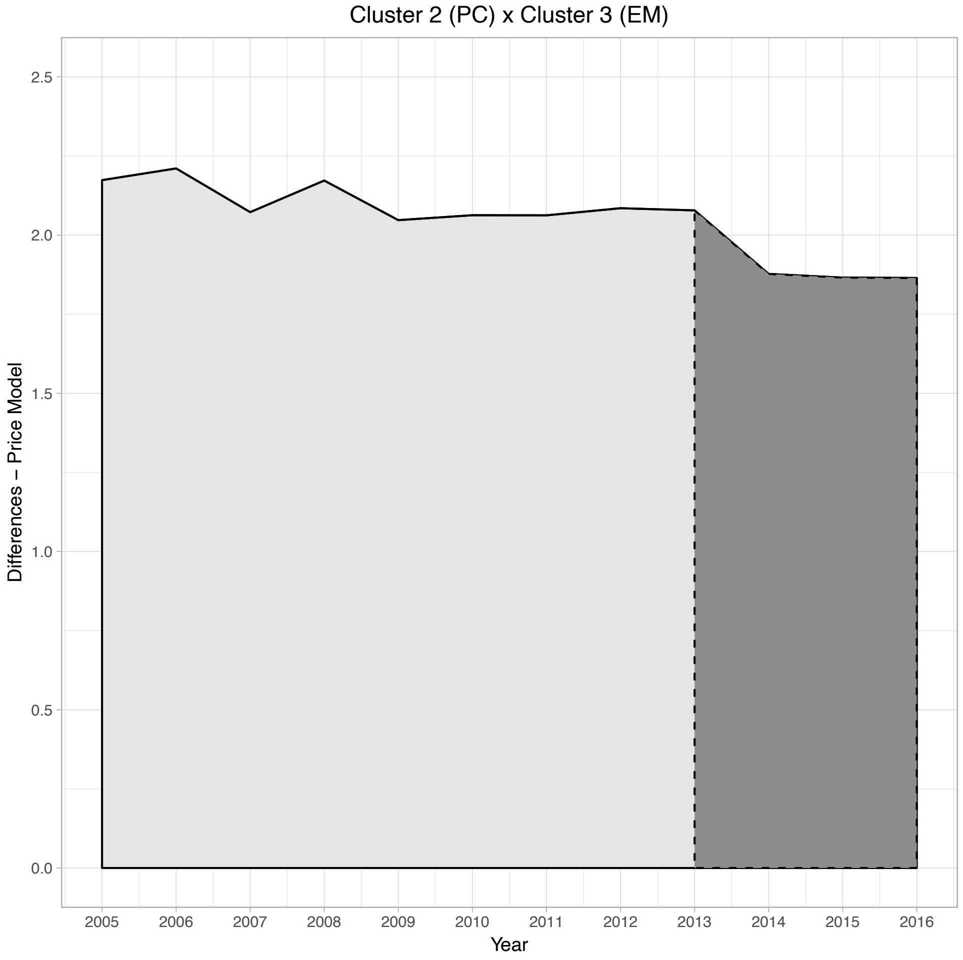
Comparability - Segregation by Clusters

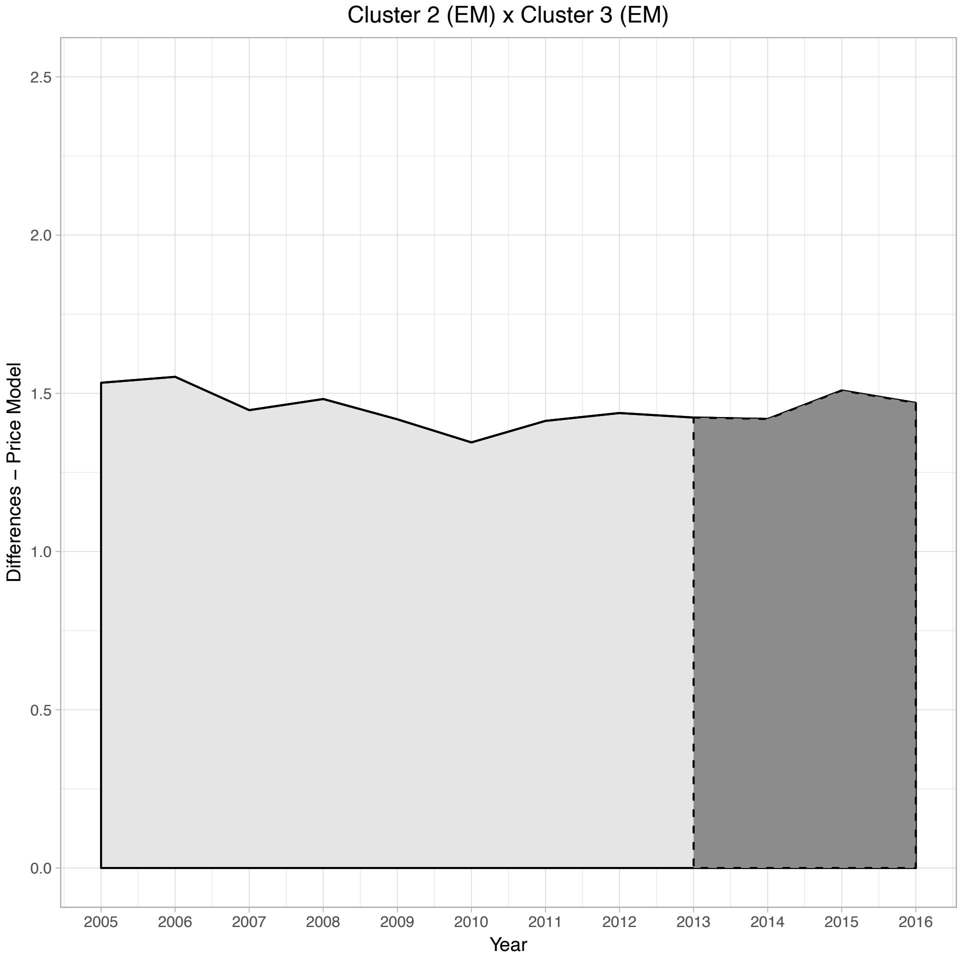
- For each comparison:
  - *Cluster 1 (Proportionate Consolidation) x Cluster 3 (Equity Method)* → *MAIN MODEL*
  - *Cluster 1 (Equity Method) x Cluster 3 (Equity Method)* → *BENCHMARK MODEL*

- The effect that may be attributable to IFRS 11 adoption is the difference in the behavior of the comparability metric between the main model and the benchmark model
- This research design better isolates the effect of the adoption of IFRS 11 on the comparability of accounting information.

Comparison between C2 x C3

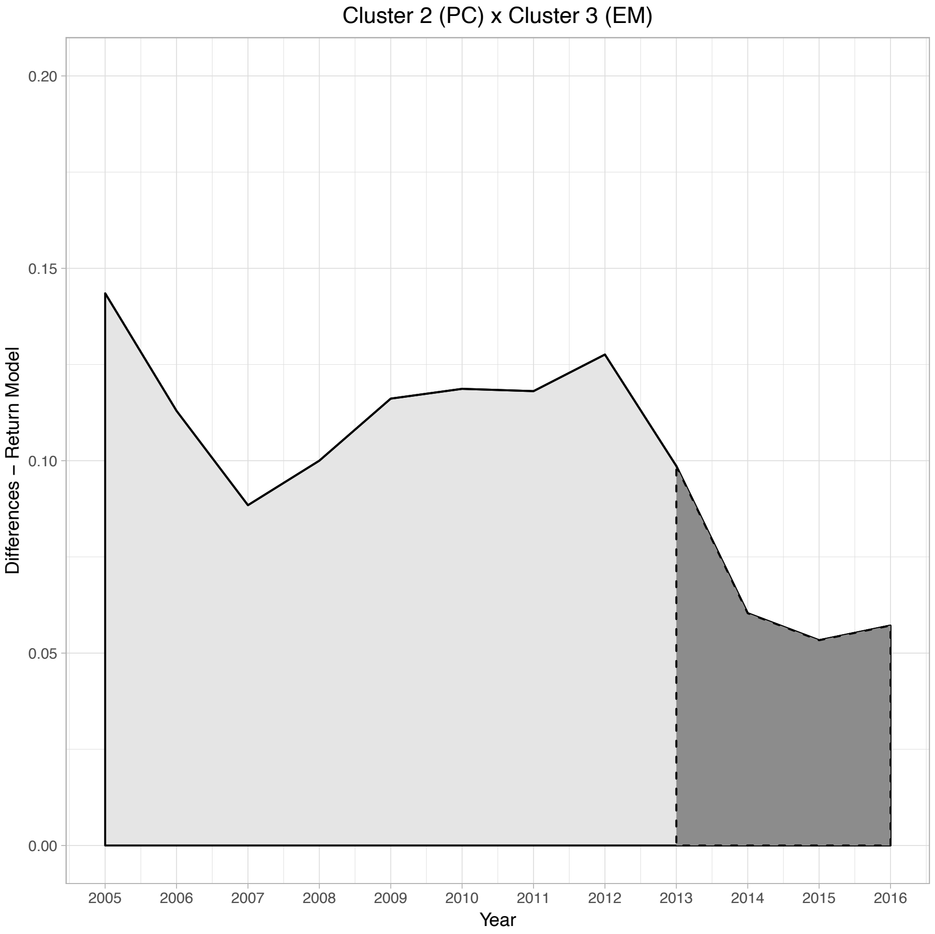
- **PRICE MODEL:** Increase in comparability

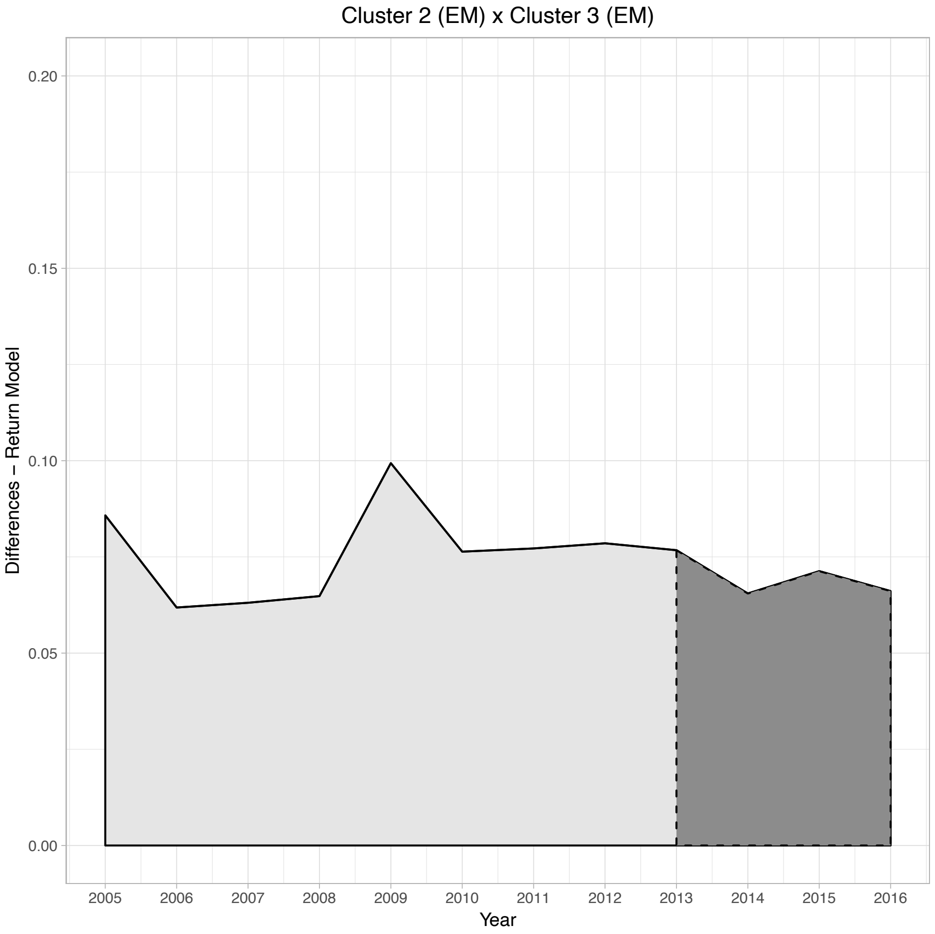




Comparison between C2 x C3

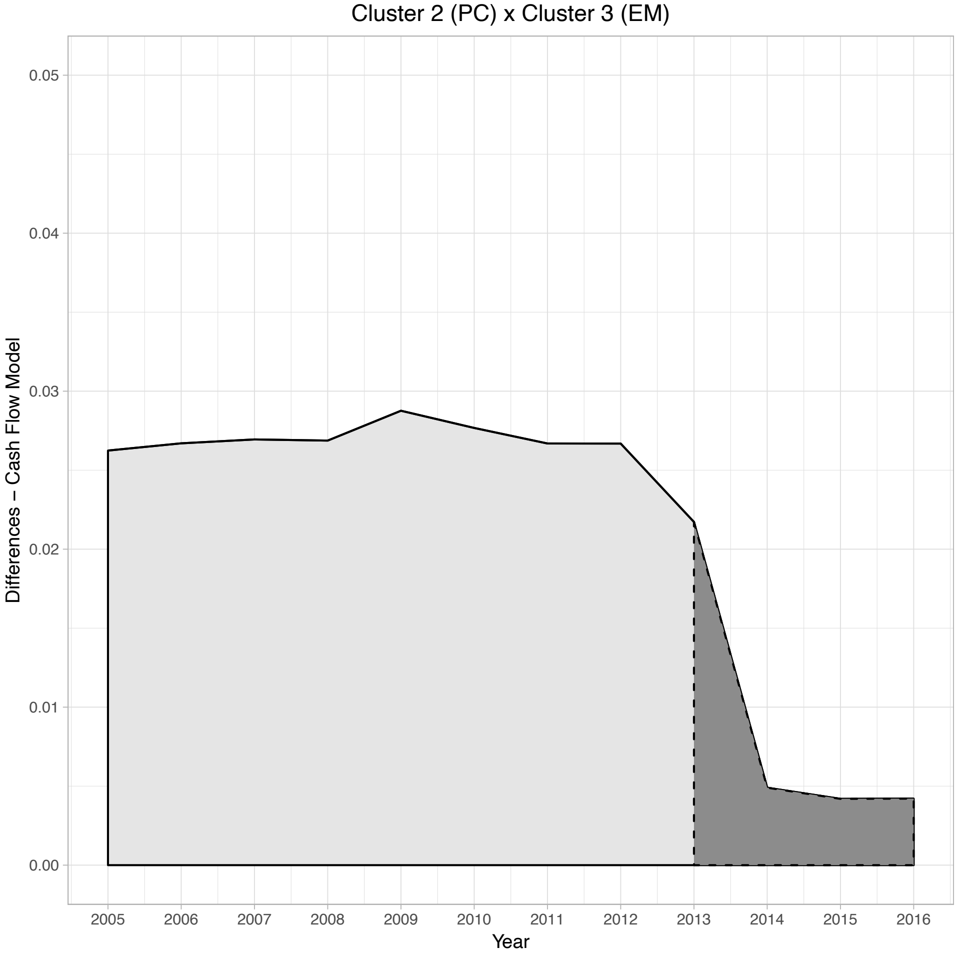
- **RETURN MODEL:** Increase in comparability

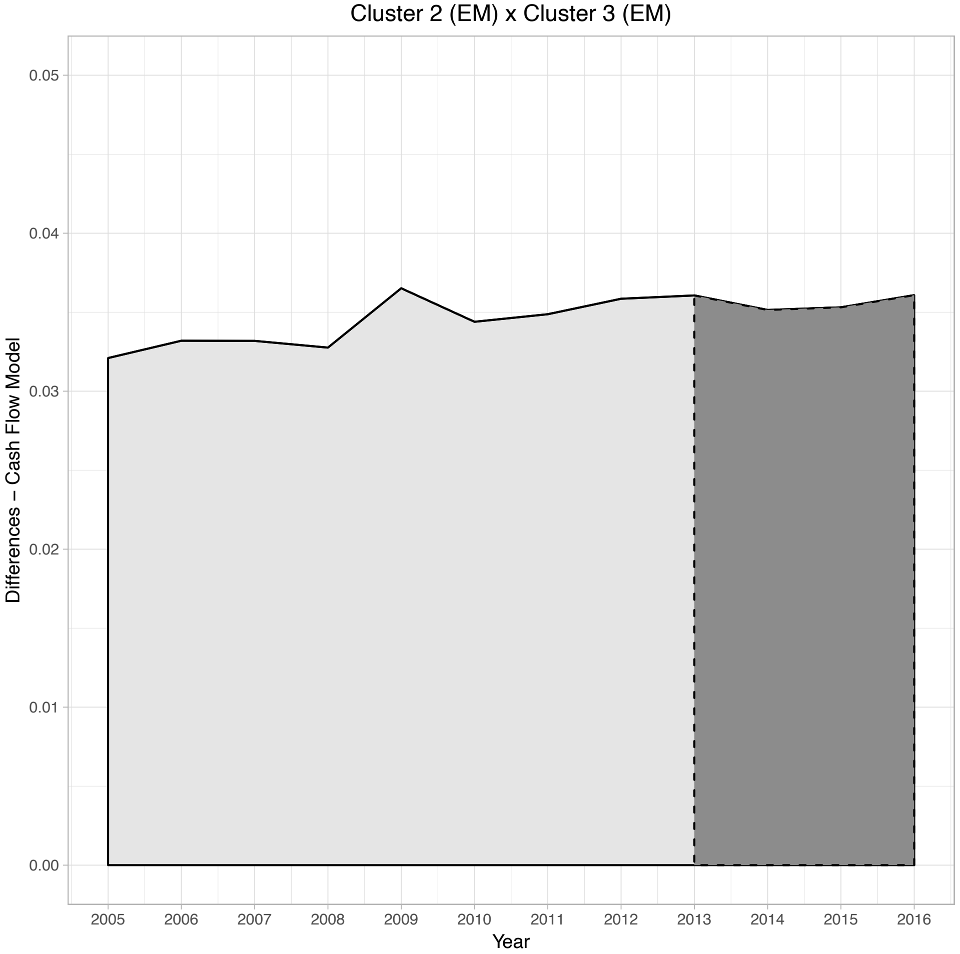




Comparison between C2 x C3

- **CASH FLOW MODEL:** Increase in comparability





Segregation by Clusters - Summary

- Increase in comparability
  - *Cluster 1* x *Cluster 6*
  - *Cluster 2* x *Cluster 3*
  - *Cluster 2* x *Cluster 6*
  - *Cluster 7* x *Cluster 3*
- Decrease in comparability
  - *Cluster 4* x *Cluster 3*
  - *Cluster 4* x *Cluster 6*
  - *Cluster 5* x *Cluster 3*
  - *Cluster 7* x *Cluster 6*
- Mixed results
  - *Cluster 1* x *Cluster 3*
  - *Cluster 5* x *Cluster 6*

Results are sensible to the comparability metric (price, return or cash flow)

Segregation by Clusters - Summary

- It is possible that the results reported in the full model (decrease in comparability) may be at least partially influenced by the results observed in specific clusters:
  - *Cluster 4 (Brazil, Chile and Mexico)*
  - *Cluster 5 (Denmark, Finland, Netherlands, Norway and Sweden)*
  - *Cluster 7 (Kuwait, Malaysia, Sri Lanka and Turkey)*

Disclosure of financial information

- This research also aims to analyze the financial information of interests in joint ventures being disclosed in the Notes, in order to evaluate whether the increase in disclosure requirements proposed by IFRS 12 would mitigate the consequences of the elimination of the proportionate consolidation.
- Subsample: firms that had to change their accounting treatment from proportionate consolidation to the equity method → 513 firms.
- Period: Post IFRS 11 and IFRS 12 adoption period → 1,886 financial statements.
- We hand collected from the Notes → **assets**, **liabilities**, **equity**, **revenues**, **expenses** and **net income** of the joint ventures.

Disclosure of financial information

- 513 treatment firms during the post IFRS 11 adoption period → 1,886 financial statements:
  - *Assets: 1,076 (57%)*
  - *Liabilities: 1,072 (57%)*
  - *Equity: 1,294 (69%)*
  - *Revenues: 984 (52%)*
  - *Expenses: 959 (51%)*
  - *Net income: 1,264 (67%)*
- These numbers indicate that firms may not always comply with disclosure requirements, not even for the most essential financial information, such as equity and net income (required even for immaterial joint ventures).
- First evidence that the increase in disclosure requirements proposed by IFRS 12 may not mitigate the consequences of the elimination of the proportionate consolidation.

Disclosure of financial information

- Using these financial data, we were able to recompose the proportionate consolidation in 920 of the 1,886 financial statements that were analyzed (49%)

Difference (%)	Financial Statements	Assets	Liabilities	Revenues	Expenses
Australia	5	2.4%	4.7%	2.6%	2.8%
Belgium	28	8.3%	13.6%	10.4%	11.0%
Brazil	139	10.1%	15.4%	18.3%	19.2%
Canada	66	2.1%	4.3%	4.0%	3.9%
Chile	18	1.4%	2.0%	2.1%	2.1%
Denmark	12	3.9%	9.0%	1.9%	2.0%
Finland	20	1.6%	2.5%	1.5%	1.6%
France	77	1.7%	2.1%	3.5%	3.6%
Germany	64	2.1%	3.4%	4.0%	4.1%
Hong Kong	63	6.7%	11.6%	14.0%	15.1%
Italy	54	2.9%	3.7%	4.6%	4.7%
Malaysia	23	11.1%	20.5%	27.4%	31.1.%
Mexico	30	108.3%	204.0%	75.2%	83.1%
Netherlands	23	0.4%	0.4%	2.3%	2.4%
New Zealand	8	2.2%	4.8%	11.2%	16.8%
Norway	44	1.7%	2.0%	17.1%	17.8%
Philippines	23	2.9%	3.8%	5.1%	5.3%
Poland	19	0.8%	1.4%	1.6%	1.6%
South Africa	49	1.7%	3.9%	8.8%	9.8%
Spain	49	5.5%	7.9%	8.0%	8.5%
Sri Lanka	22	112.3%	273.6%	421.4%	467.4%
Turkey	39	23.2%	27.9%	30.9%	33.2%
United Kingdom	45	1.6%	3.0%	3.3%	3.5%

Effects (%) of the difference between PC and EM

Disclosure of financial information

- Additional analysis: using only those firms in which we were able to restate their post IFRS 11 financial statements, we estimate the comparability metric using two different models:
- Model 1: treatment x control firms → using the real data
- Model 2: treatment x control firms → using the restatement data
- The only difference is that in the second model we restated post IFRS 11 financial statements of treatment firms, as if these firms had continued to use proportionate consolidation and had not adopted IFRS 11 → benchmark model.
- The difference in the comparability metric obtained in model (1) and (2) may be attributable to the accounting treatment used to measure joint venture investments.

Disclosure of financial information

- We found different results for the price and return model.

	Real Model				Restatement Model			
	Price		Return		Price		Return	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
PRE - IFRS 11	1.186	1.185	0.057	0.057	1.186	1.185	0.057	0.057
POST - IFRS 11	1.574	1.567	0.040	0.040	1.563	1.555	0.045	0.044
Difference (POST - PRE)	0.389	0.381	-0.017	-0.018	0.377	0.370	-0.012	-0.013
p-value	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*

- Price: comparability between treatment and control firms would be greater if firms from the treatment group could continue to use the proportionate consolidation.
- Return: treatment and control firms would be less comparable if firms from the treatment group could continue to use proportionate consolidation.

Summary and Concluding Remarks

- The results indicate that the adoption of IFRS 11, broadly speaking, **decreased** the comparability of accounting information.
- After classifying the 26 countries of our sample into 7 clusters, based on similarities and differences in their cultural and institutional environment, we found a decrease in comparability in four clusters comparisons, but we also found an increase in comparability in the other four clusters comparisons.
- The general decrease in comparability after the adoption of IFRS 11 may be at least partially explained by the results observed in specific clusters, such as:
  - *Cluster 4 (Brazil, Chile and Mexico)*
  - *Cluster 5 (Denmark, Finland, Netherlands, Norway and Sweden)*
  - *Cluster 7 (Kuwait, Malaysia, Sri Lanka and Turkey)*

Summary and Concluding Remarks

- These results may be relevant to the IASB, given that the proportionate consolidation was eliminated seeking to improve comparability, but our results indicate that this expected effect was not observed in all countries.

- Given that the increase in comparability is one of the main arguments used by the proponents of the worldwide adoption of IFRS Standards, understanding the factors that may impair comparability is quite relevant
  - *This research is the first attempt to empirically analyze the impact of the existence of accounting choices on the comparability of accounting information.*

Summary and Concluding Remarks

- Our results also provide evidence that the improvement in disclosure requirements proposed by IFRS 12 may not mitigate the consequences of the elimination of the proportionate consolidation, given that firms do not always comply with these disclosure requirements, not even for the most essential financial information.

- This research may be relevant not only for the Post-Implementation Review of IFRS 11 and IFRS 12, but also for the IASB Disclosure Initiative Project.

THANK YOU!