The economic consequences of IFRS on valuation

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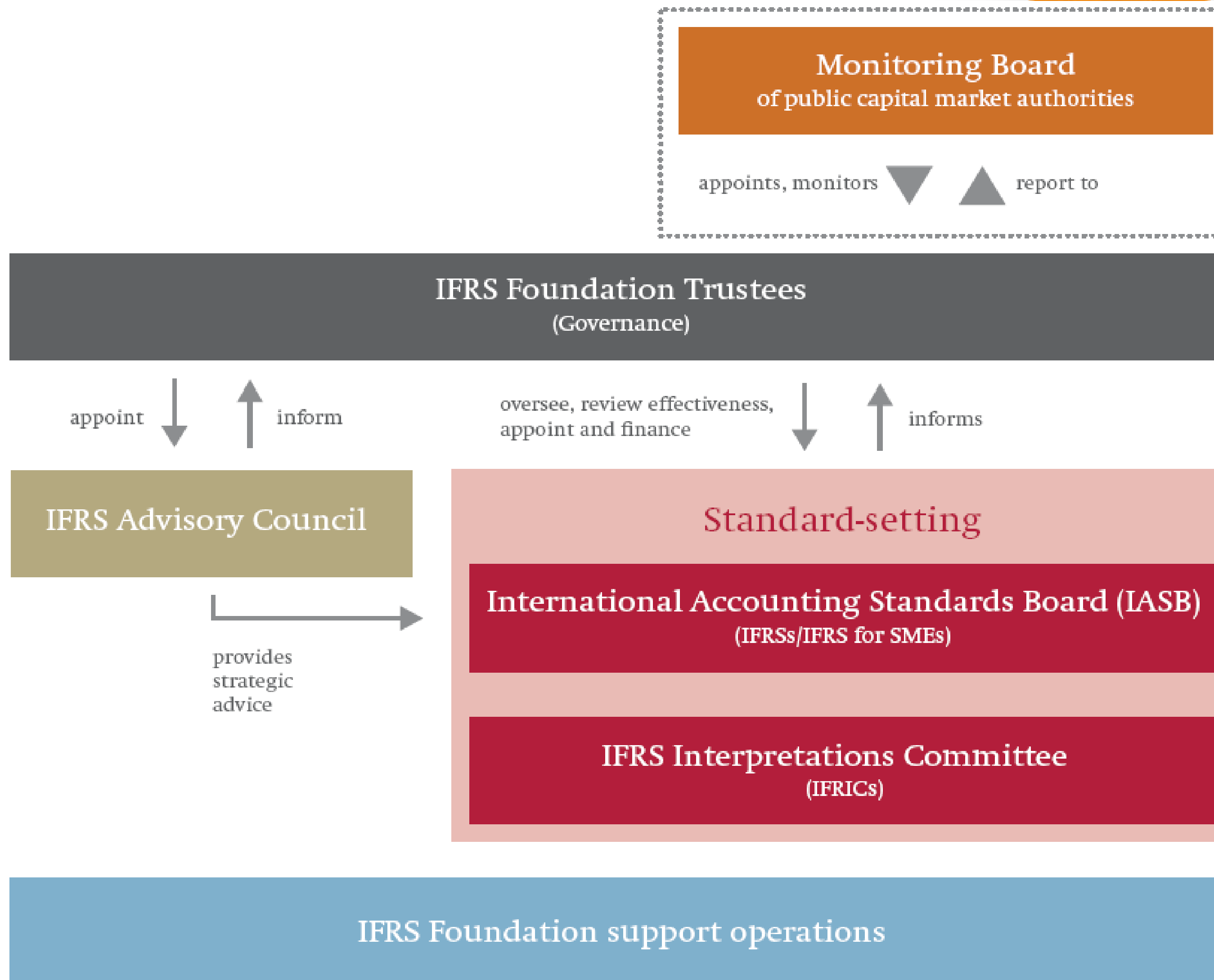
AN INTRODUCTION TO IFRS

- Reasons for global accounting harmonization:
  - General reasons (credibility of financial statements, public confidence, consistent cross-border regulation…)
  - Cross-country investment reasons (comparability of global financial information, increase in cross-border capital flows…)
  - Firm-specific reasons (impact on managerial incentives, recruiting of high-skilled international labor, access to capital markets, valuation consequences).
- IFRS is a reasonable candidate: US GAAP vs IFRS or HGB vs IFRS

A brief history of IFRS and global accounting harmonization

- IASC created in 1973 in London
  - Responsible for developing the International Accounting Standards and promoting the use and application of these standards.
  - IAS standards issued.
- IFRS Foundation established in 2001. IASB replaces IASC
- 2002: IASB and FASB agree on convergence program
- 2003: IFRS 1 issued.
- 2005: the EU makes IFRS “as adopted by EU” mandatory for listed companies
- 2007: SEC permits non-US companies to issue accounts prepared under IFRS
- 2012: SEC issues a staff report on adoption of IFRS by the US

The IFRS Foundation Organization



Current IFRS adoption

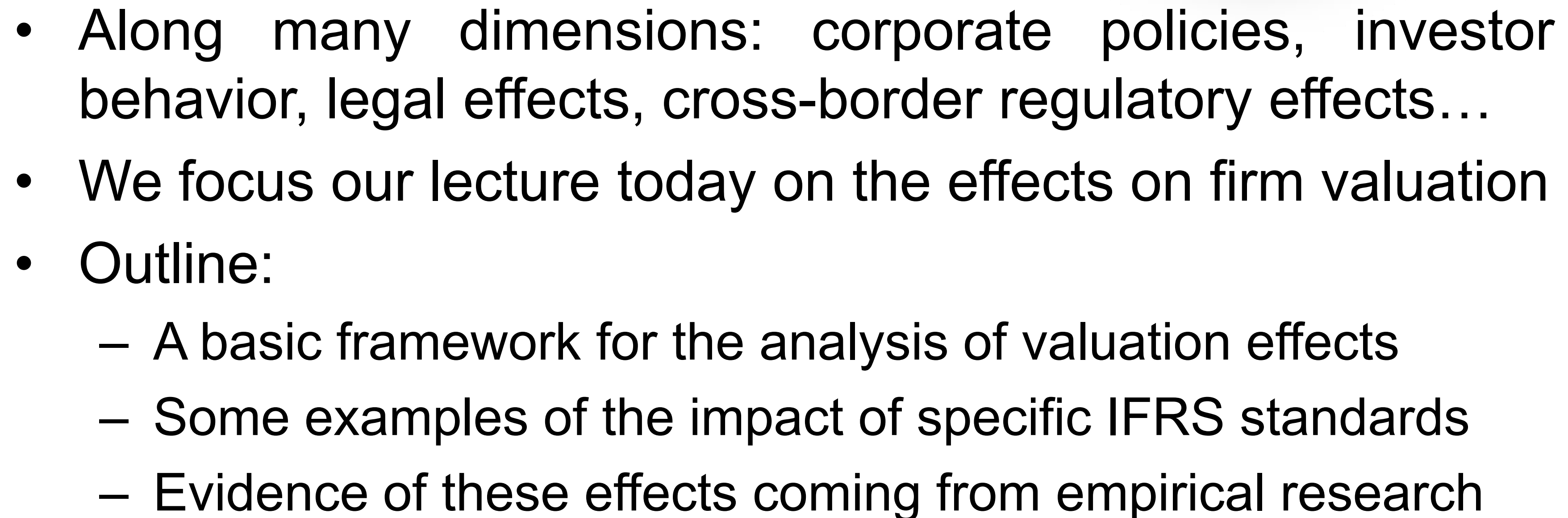
- EU
- Canada / Hong-Kong / Australia & NZ / China
- Chile /South Africa / Brazil / Argentina
- Etc…
- http://www.iasplus.com/en/resources/use-of-ifrs
- Convergence process with US GAAP: now focused on joint “projects”

- The conceptual framework
- International Financial Reporting Standards (IFRS)
  - 13 standards
- International Accounting Standards (IAS)
  - 28 standards
- Interpretations:
  - By the IFRS Interpretations Committee
  - By IFRIC and SIC
- IFRS for SMEs

The main features of IFRS

- Principles-based
  - Allow for accounting choices
- Conceptual Framework
  - Qualitative characteristics
  - Elements – Recognition / Measurement /Disclosure
- Broad use of Fair-value standards
  - Balance-sheet focus
  - Timely recognition (“Neutral”)
- Shareholder-oriented
  - Disclosure requirements

Consequences of IFRS adoption



- Along many dimensions: corporate policies, investor behavior, legal effects, cross-border regulatory effects…
- We focus our lecture today on the effects on firm valuation
- Outline:
  - A basic framework for the analysis of valuation effects
  - Some examples of the impact of specific IFRS standards
  - Evidence of these effects coming from empirical research

A BASIC FRAMEWORK FOR THE ANALYSIS OF VALUATION EFFECTS

A basic framework for our analysis

In order to assess the consequences on valuation of IFRS standards, we use a basic framework for our analysis:

-Stand-alone firm valuation can be computed using basic valuation principles, by which the firm is seen as an "asset" which generates a stream of cash-flows.

-Firm value will be the present value of those cash-flows –obtained by discounting at a rate which depends on the riskiness of the cash flows:

$$V = \frac{E[CF_1]}{(1+r)} + \frac{E[CF_2]}{(1+r)^2} + \frac{E[CF_3]}{(1+r)^3} + \ldots$$

-Accounting rules will, therefore, have an impact of firm valuation:

A basic framework for our analysis

If they *directly* affect the cash flows generated by the company

If they affect the ability or accuracy to forecast future cash flows

$$V = \frac{E[CF_1]}{(1+r)} + \frac{E[CF_2]}{(1+r)^2} + \frac{E[CF_3]}{(1+r)^3} + \dots$$

If they affect the cost of capital (i.e. risk of the firm's cash-flows)

- Cost of adoption and application
  - IFRS for SMEs
  - Consolidated financial statements when all members follow IFRS (and have chosen similar accounting methods)
- Enhanced personnel policies:
  - Possibility of recruiting international employees
- Management compensation plans:
  - If compensation as a function of an accounting-based target → effect on investment decisions + contract negotiation

- Direct effects of signaling:
  - IFRS adoption may be seen as a signal of a higher quality company and product → increased brand recognition and possible increase in future revenues
- Improvements in managerial investment decisions:
  - IFRS imply higher accountability and better enforcement mechanisms
- Government regulations:
  - Restrictions on activities based on accounting numbers: rate of return regulations, capital requirements.
    - Treatment of OCI for capital requirements
    - Effect of development expense capitalization for ROA calculations

- Lending agreements:
  - Restrictions on activities of borrower firms based on accounting ratios (dividends, issue of new debt, M&As).
    - IFRS treatment of finance leases increases the debt/equity ratio of the company → may lead to more frequent violation of debt covenants and conditions
    - IFRS treatment of preference shares as a liability → increase of 35% in debt ratios

- Political visibility:
  - Criticism of the firm by consumers, employees, politicians → subsidies, taxes, penalties, legal actions.
    - IFRS principle-based philosophy may lead to higher expected costs of lawsuits based on accounting malpractice

IFRS and the ability to FORECAST expected cash flows

- **The positives**:
  - Increase analyst following and accuracy (less volatile forecasts)
  - IFRS adoption as a signal of current undervaluation or future growth opportunities
  - More value relevant items recognized: capitalization of intangibles
  - More timely recognition of value relevant items: FV gains on assets
  - Higher level of disclosure of information relevant for CF prediction
  - FV may lead to decreased possibility of earnings management
  - Further split of income (earnings / OCI) may allow for better income prediction
  - More persistent (and informative) book values

IFRS and the ability to FORECAST expected cash flows

- **The negatives**:
  - Accounting choices reduce cross company comparability
  - The use of many judgements and estimates may make the numbers appear “less objective”
  - Accounting choices still allow for earnings management practices: earnings figures less value relevant
  - Fair value estimates can be quite inaccurate
    - Illiquid asset markets: intangibles, PPE
    - Level 2 and level 3 estimates
  - FV leads to more volatile and transitory (noisy) income

IFRS and the COST of capital

- IFRS change the risk of the company's cash-flows:
  - **Positive** effects (decreases) on cost of capital:
    - Possible reduction on "estimation risk" ("The positives")
    - Increased liquidity (and visibility) of shares of listed companies
    - Increased transparency from disclosure requirements and perceived quality of financial reporting: reduced informational asymmetries ("accounting information risk")
    - Increased protection of minority shareholders (reduction in trade discount)
    - Limited disclosure of contingent liabilities
    - Reduced debt ratios stemming from some standards:
      - Treatment of hybrid instruments

- IFRS change the risk of the company's cash-flows:
  - **Negative** effects (increases) on cost of capital:
    - Possible increase on "estimation risk" ("The negatives")
    - Increases in debt ratios stemming from some regulations:
      - Capitalization of leases
      - Treatment of pension plans
    - Available choices may lead to perceived risk of managerial "accounting manipulation"
    - FV regulations usually lead to more volatile accounting numbers

A comment on valuation by comparables

- Direct impact on ratios (for example, changes in P/E ratios or EV/EBIT ratios) due to IFRS application should, in principle, be relatively homogeneous across companies, so relative valuation should be relatively unaffected, although…
  - Adoption of IFRS should **increase** the available set of comparables (or reduce accounting-based discrepancies for comparison of valuation ratios)
  - However, the number of accounting choices and the need to use judgments and estimates may **reduce cross-company comparability** –which might be higher in a rules-based system

SOME EXAMPLES OF THE IMPACT OF SPECIFIC IFRS STANDARDS

Some examples of the impact of specific IFRS standards (1)

- **Intangibles** (IAS 38)
- Recognition at cost if it is probable that will be future economic benefits from the asset and its cost can be measured reliably
- After recognition, measurement at cost (-amort-impairm) but can be revalued (-amort-impairm) if there is an active market and, thus, a reliable valuation:
  - taxi license vs trademark or patent
- Some development expenses can be capitalized
- Impact:
  - Future cash-flows affected if intangibles recognized: revaluation, amortization, better prediction of revenues
  - Increase in the value of assets
  - Accounting choice for valuation (need for disclosure)

Some examples of the impact of specific IFRS standards (2)

- **PPE** (IAS 16) and **Investment property** (IAS 40)
- Recognition at cost
- After recognition, PPE measured at cost (-amort-impairm) but can be revalued (-amort-impairm). IP measured at cost or fair value
- Depreciation of separate components
- Impact:
  - Future cash-flows affected: revaluation (OCI for PPE, P&L for IP) and depreciation, better prediction of revenues
  - Increase in the value of assets if revaluation model chosen
  - Accounting choice for valuation (need for disclosure)

Some examples of the impact of specific IFRS standards (3)

- **Leases** (IAS 17) – Project in progress
- Classified as finance (capital) leases and operating leases (based on economic substance of transaction)
- Finance leases are capitalized, and a liability (lower of FV of asset and discounted minimum payments) is recognized
- Operating leases not capitalized…
- The new proposal will require capitalization of operating leases of more than 12 months and require enhanced disclosure
- Impact:
  - Greater transparency about the true leverage
  - Improved accuracy and comparability of the effects of leverage → reduced costs for analysts and investors
  - Better forecastability of future payments
  - Increased leverage ratios → higher cost of capital?

Some examples of the impact of specific IFRS standards (4)

- **Fair Value levels of Analysis** (IFRS 13)
- Fair value reflects in the balance sheet the true "value" of the assets (the expected cash flows from those assets)
  - Fair value defined as the price received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date
- But fair values may be difficult to estimate if illiquid markets or no market for the asset (PPE, intangibles).
- Several valuation methods and "levels of inputs" used in the valuation:
  - Level 1: market prices for identical assets
  - Level 2: observable inputs other than Level 1
  - Level 3: unobservable inputs

Some examples of the impact of specific IFRS standards (4)

- Level 2 and Level 3 valuations may be subject to severe "estimation risk": complex financial instruments, financial investments without liquid markets, PPE
- Intense disclosure of information, especially for level 3 valuations
- Impact:
  - Volatile balance-sheet and income information: real macroeconomic volatility or accounting (valuation) volatility?
  - Large measurement error, especially for level 3 valuations
  - More timely recognition of gains / losses → Higher value relevance of book and earnings numbers
  - Procyclicality of FV

Some examples of the impact of specific IFRS standards (5)

- **Financial instruments** (IFRS 7, 9, IAS 32, 39) – Current joint project with FASB
- Assets classified on the basis of the business model and the contractual CF characteristics → intensified use of fair value. Amortised cost only for assets that meet two characteristics (~the HTM class)
- Revaluation of some assets in OCI
- Most financial liabilities at amortised cost (exceptions).
- If liability at FV, effects of own credit risk to OCI, not P&L
- Hybrid liabilities bifurcated
- Intense disclosure requirements (IFRS 7)

Some examples of the impact of specific IFRS standards (5)

- Impact:
  - Same as FV case
  - If domestic GAAP not at fair value, large impact on first adoption
  - Unintuitive implications of own credit risk
  - Especially complex –and suspect- valuations of derivative instruments → high perceived risk of accounting numbers (a behavioral "financial asset in balance-sheet" risk)
  - Procyclicality effects may be large in financial institutions with large proportions of assets outside of amortised cost
  - OCI components typically outside the "focus of analyst attention"

Some examples of the impact of specific IFRS standards (5)

- **Treatment of hybrid liabilities** (IFRS 9)
- Instruments that include an equity and a liability component (convertible bonds) must be bifurcated, and the value of each component separately identified.
- Impact:
  - Changes in the equity ratios with respect to domestic GAAP that do not require bifurcation

Some examples of the impact of specific IFRS standards (5)

- An interesting example of financial asset (mis)valuation: the ECB Securities Markets Program, in which the ECB bought sovereign debt of troubled eurozone countries
- "This decision is in line with the envisaged transparency stance for the Outright Monetary Transactions."

Issuer country	Outstanding amounts		Average remaining maturity (years)
	Nominal amount	Book value [1]	
Ireland	14.2	13.6	4.6
Greece	33.9	30.8	3.6
Spain	44.3	43.7	4.1
Italy	102.8	99.0	4.5
Portugal	22.8	21.6	3.9
Total	**218.0**	**208.7**	**4.3**

[1]The SMP holdings are classified as held-to-maturity and consequently valued at amortised cost.

Some examples of the impact of specific IFRS standards (6)

- Defined benefit pension plans (part of IAS 19)
- The company must recognise the DF obligation based on actuarial assumptions, net of the fair value of plan assets – some domestic GAAP allowed for off-balance sheet
- Actuarial gains or losses in OCI
- Future compensation is included in calculation
- Impact:
  - Usually large equity losses or increased liabilities on first adoption (changes in equity ratios) → may affect contracts, debt covenants, regulatory capital
  - Incentive to change to defined contribution plans (and reduce uncertainty → future discount rates)

Some examples of the impact of specific IFRS standards (7)

- **OCI** (IAS 1)
- May appear in a separate statement or towards the bottom of a single performance statement – a statement of comprehensive income.
- Components of income (broadly) stemming from changes in value of assets not directly related to the main line of business
- Impact:
  - May lead to better predictions of future earnings (finer split of components)
  - Some recycling rules may lead to earnings management (FVTOCI in financial assets)

Some examples of the impact of specific IFRS standards (8)

- IFRS usually eliminate tax-book conformity, so tax calculations will differ under IFRS and under domestic GAAPs that are tax oriented.
- IFRS allows less flexibility in recognizing provisions than some domestic GAAP, thereby decreasing opportunities to set up reserves to smooth income
- Inventory valuation may differ slightly (IFRS do not allow LIFO) and lead to a tax adjustment on first adoption.
- Etc…

SOME EVIDENCE COMING FROM ACCOUNTING VALUATION RESEARCH

Is there evidence of real effects of IFRS?

- We have reviewed many effects of IFRS, suggesting both positive and negative potential impacts on valuation
- How these effects "combine" is, ultimately, an empirical issue
- Empirical evidence of these effects has looked at:
  - Direct balance-sheet effects
  - Stock market effects of IFRS adoption
  - Changes in the implied cost of capital after IFRS adoption
  - Value relevance of IFRS accounting numbers

Direct financial statement effects

- Equity book values and total assets tend to be larger under IFRS when compared to conservative domestic standards (e.g. German HGB)
- Variability of book and assets is also larger → differences across companies increase
- Debt/Equity ratios, however, also tend to be larger due to capitalization of leases, pension plans, treatment of preference shares
- Significant increases in disclosure
- Increase in balance-sheet comparability and apparent decreases in private information benefits

Stock market effects of IFRS adoption

- Liquidity:
  - Stock market liquidity increases modestly after IFRS adoption
  - Effect more pronounced for voluntary adopters at time of adoption
- Returns on adoption:
  - Price increases in response to news of IFRS adoption or even to events that point at increased likelihood of adoption
- Analyst following:
  - Significant increase in analyst following and forecast accuracy

Impact of IFRS adoption on the cost of capital

- Overall positive evidence of significant reduction in the implied cost of capital for IFRS adopters.
- Effect due to:
  - A clear reduction in “accounting risk”:
    - Improved transparency and credibility
    - Improved understanding by users of accounting information
    - IFRS perceived to be “future cash flow” oriented
    - IFRS perceived to be subject to better enforcement
  - Increased market liquidity
  - Lower transaction costs (especially regarding cross-border investment)

Valuation through formal accounting models

Accounting value relevance models typically estimated:

$$V_t = \beta_0 + \beta_1 b_t + \beta_2 e_t + \beta_3 x_{1t} + \beta_4 x_{2t} + \ldots$$

where V_t is market value, b_t is book value of equity, e_t is earnings and x_{1t}… are other accounting figures

Significant response coefficients *Bk* suggest value relevance of the accounting variable (they may be interpreted literally as functions of deep parameters of a formal valuation model or simply estimated as reduced-form coefficients)

R2 of empirical estimation of these models may be interpreted as a measure of total value relevance

Valuation through formal accounting models: A simple example

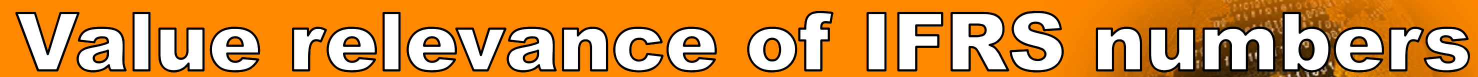
We start from a dividend discount formula $p_t = \sum_{j=1}^{\infty} E_t\left[d_{t+j}\right] / (1+r)^j$ combined with an RIV expression for book value evolution $b_t = b_{t-1} + e_t - d_t$ and some dynamic behavior of earnings

$$e_{t+1} = \omega e_t + \varepsilon_{t+1}$$

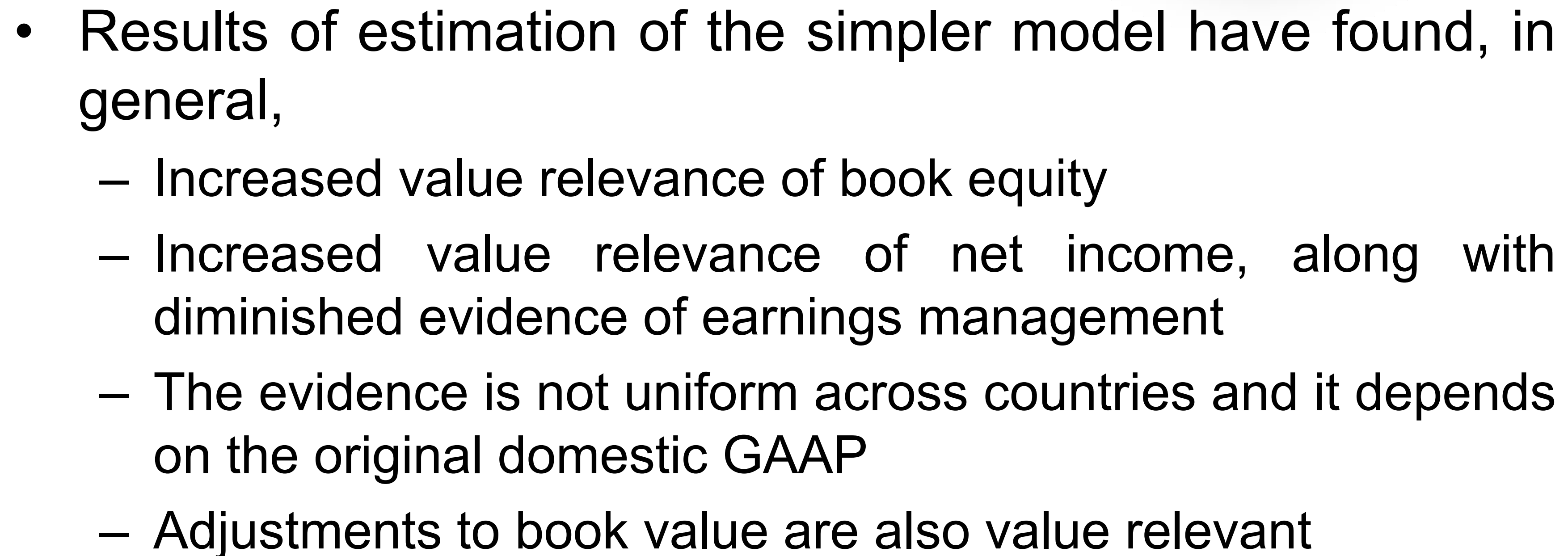
Solving for p_t as a function of b_t and e_t we get:

$$p_t = b_t + \frac{\omega}{R-\omega} x_t$$

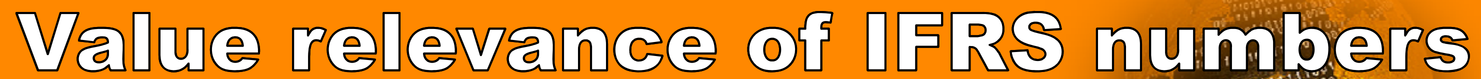
So the implied coefficients in the reduced-form equation are one for book value and a function of R=(1+r) and earnings persistence ω for earnings.

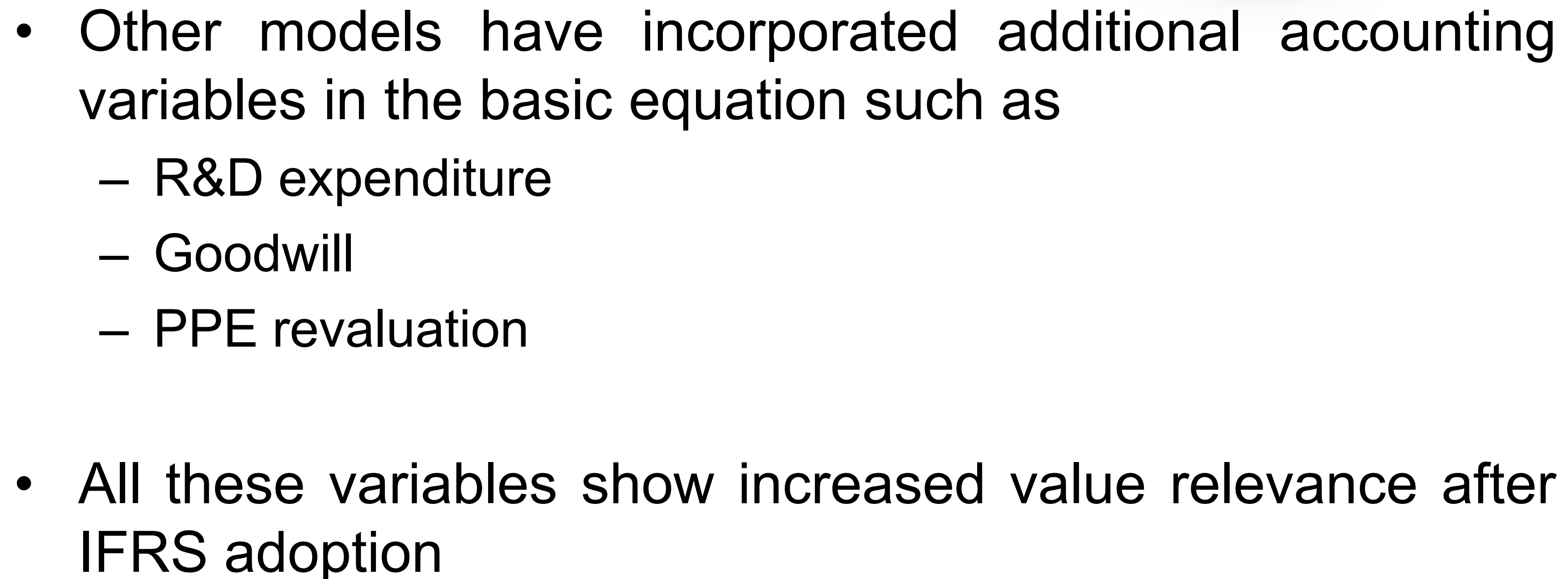


Value relevance of IFRS numbers



- Results of estimation of the simpler model have found, in general,
  - Increased value relevance of book equity
  - Increased value relevance of net income, along with diminished evidence of earnings management
  - The evidence is not uniform across countries and it depends on the original domestic GAAP
  - Adjustments to book value are also value relevant





- Other models have incorporated additional accounting variables in the basic equation such as
  - R&D expenditure
  - Goodwill
  - PPE revaluation

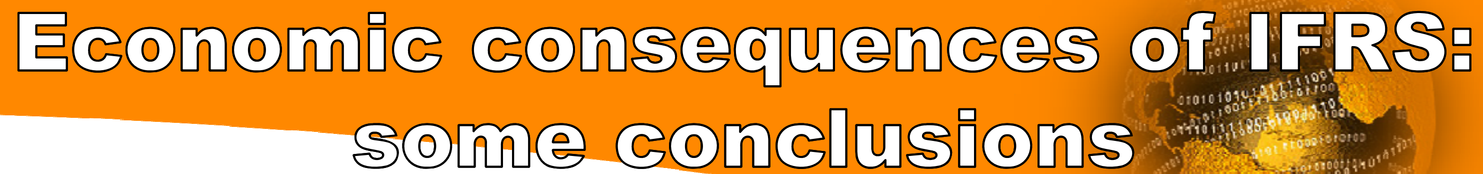
- All these variables show increased value relevance after IFRS adoption

The real “deal”

- Most of the evidence suggests positive valuation effects of IFRS adoption, but…

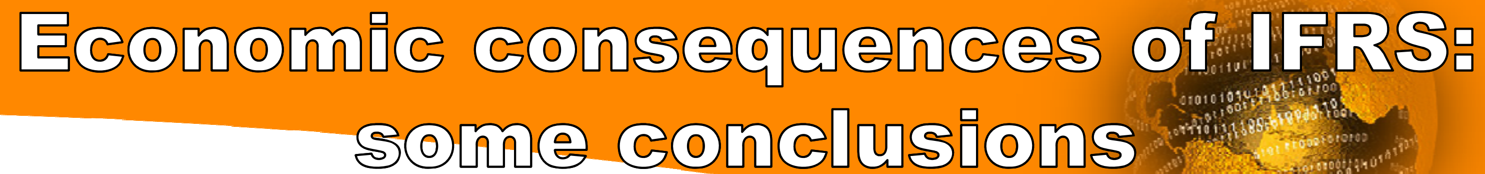
- These effects are more pronounced:
  - The further the original domestic GAAP are from IFRS
  - **The stronger the mechanisms of enforcement and the legal system in general (including, for example, if the company is audited by a Big 4)**
  - For voluntary adopters
  - For mandated adoption in firms with high agency costs

SOME CONCLUSIONS



- IFRS are still under development
  - The conceptual framework
  - IFRS 9 to fully replace IAS 39 – joint with FASB
  - Regulation of leases (IAS 17) – joint with FASB
  - Regulation of insurance contracts (IFRS 4)
  - Revenue recognition (IAS 18) – joint with FASB
  - IFRS for SMEs - comprehensive review
  - Convergence with FASB limited to joint projects

- The process of IFRS adoption is probably going to continue, although countries tend to be reluctant to give full authority to IFRS ("IFRS equivalent domestic standards").
- Cross-country and cross-company comparability simplify the process of capital investment



- The evidence so far tends to be favorable. IFRS introduction leads to:
  - More informative financial statements
  - Lower cost of capital
  - Higher valuation
  - Higher liquidity
  - Less earnings management
- Although the effects are not extremely large…
- …and there could be an issue of self-selection into IFRS
- Good enforcement mechanisms and legal institutions are needed to ensure that these benefits arise.

Thank you for your attention!

ADDITIONAL INFORMATION

IFRS

	IFRS		IFRS
1	First-time adoption of IFRS	8	Operating Segments
2	Share-based Payment	9	Financial Instruments
3	Business Combinations	10	Consolidated Financial Statements
4	Insurance Contracts	11	Joint Arrangements
5	Non-current Assets Held for Sale and Discontinued Operations	12	Disclosure of Interests in Other Entities
6	Exploration for and Evaluation of Mineral Resources	13	Fair Value Measurement
7	Financial Instruments: Disclosures		

Back

IASs

1	Presentation of Financial Statements	24	Related Party Disclosures
2	Inventories	26	Accounting and Reporting by Retirement Benefit Plans
7	Statement of Cash Flows	27	Separate Financial Statements
8	Accounting Policies, Changes in Accounting Estimates and Errors	28	Investments in Associates and Joint Ventures
10	Events after the reporting period	29	Financial Reporting in Hyperinflationary Economies
11	Construction Contracts	32	Financial Instruments: Presentation
12	Income Taxes	33	Earnings per Share
16	Property, Plant and Equipment	34	Interim Financial Reporting
17	Leases	36	Impairment of Assets
18	Revenue	37	Provisions, Contingent Liabilities and Contingent Assets
19	Employee Benefits	38	Intangible Assets
20	Accounting for Government Grants and Disclosure of Government Assistance	39	Financial Instruments: Recognition and Measurement
21	The Effects of Changes in Foreign Exchange Rates	40	Investment Property
23	Borrowing Costs	41	Agriculture

Back

IFRS vs US GAAP: some differences

	IFRS	US GAAP
"Philosophy"	More principles-based	More rules-based
Inventory	LIFO not allowed; allows for revaluation if previous reduction	LIFO allowed; no subsequent revaluation
Asset impairment	Single step process	Two-step process
Revenue	Simple principle (IAS 18)	Very specific guidance
Contingencies	Disclosure can be limited	More detailed disclosure
R&D	Development can be capitalized	Expensed
Entity consideration	Based on power to control	Based on control of financial interest
Financial instruments	Some differences in securities classification and disclosures; treatment of hybrid financial instruments	
Extraordinary items	Not allowed	Allowed

Back

IFRS vs a domestic GAAP

	IFRS	German HGB
Orientation	Shareholder (disclosure)	Stakeholder (contracting and tax-book conformity)
Approach to recognition	Neutral	Conservative ("prudent")
R&D	Revaluation model allowed	Revaluation not allowed
Asset valuation	Revaluation allowed (FV always disclosed)	Revaluation not allowed: assets at lowest to minimize tax liability
Income	Volatile	Allows smoothing through loss reserves and delayed recognition
Financial instruments	Differences in disclosure of fair values	
Lease classification	Specific set of "principles"	Tax regulation
Disclosure notes	Around 3000	Around 270

Back

IFRS adoption in the world

Totals for listed companies	Totals for unlisted companies
Information for 174 jurisdictions for domestic listed companies •IFRS not permitted — 28 jurisdictions •IFRS permitted — 25 jurisdictions •IFRS required for some — 9 jurisdictions •IFRS required for all — 91 jurisdictions* •No stock exchange — 21 jurisdictions *Includes 30 EU/EEA member states and 5 jurisdictions that have adopted full IFRS equivalents Of the 125 jurisdictions that permit or require IFRS for domestic listed companies: •In 88 jurisdictions the audit report refers to conformity with IFRS •In 30 jurisdictions the audit report refers to conformity with IFRS as adopted by the EU	Of the 174 jurisdictions: •IFRS not permitted — 35 jurisdictions •IFRS permitted for all or some — 42 jurisdictions •IFRS required for some — 33 jurisdictions •IFRS required for all — 27 jurisdictions

Back

Principles vs Rules

	PRINCIPLES	RULES
Definition	Conceptual basis based on broad parameters or boundaries:	Specific guidance with little room for judgement
Considerations	Will usually involve judgement: may lead to reduced comparability Broad guidelines may be more generally applicable Simpler standards May lead to more" faithful" numbers	Reduces accountability of preparers Creates more consistent numbers
Ex. 1: A lease will be classified as financial if (among other criteria)	"the lease term is for the major part of the economic life of the asset" or "the present value of the minimum lease payments amounts to at least substantially all of the fair value of the leased asset"	"the lease life exceeds 75% of the life of the asset" or "the present value of the lease payments [...] exceeds 90 percent of the fair market value of the aset"
Ex. 2: Revenue recognition	Based mostly on two general IFRS (11 and 18) of approx. 15 pages	Based on a general principle and more than 100 standards

Back

Fair Value content of IFRS (IFRS 13)

- Relatively similar to US GAAP
- "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date"
- Applicable to financial assets and liabilities, intangible assets and tangible assets with specific principles for each.
- Valuation techniques: Market-based, Income-based, Cost based
- Inputs to valuation:
  - Level 1: quoted prices in active markets
  - Level 2: Observable inputs other than Level 1
  - Level 3: Unobservable inputs
- Intense disclosure requirements

Back

Qualitative characteristics of IFRS information

- Relevance
- Faithful representation:
  - Complete
  - Neutral
  - Free from error
- Enhancing qualitative characteristics:
  - Comparability
  - Verifiability
  - Timeliness
  - Understandability

Back