A Comparative Analysis of Canada's Forest Sector Tax Competitiveness

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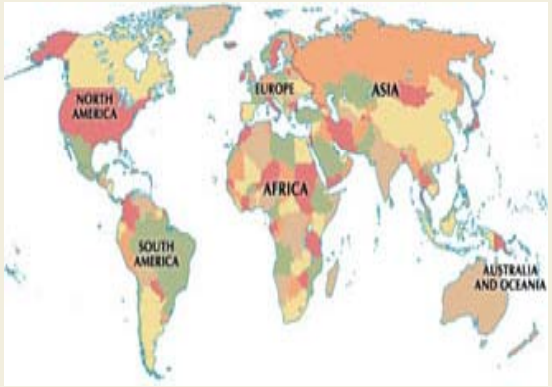


Main Points of the Research

- This report examines the level of taxation (2008) on the forest sector across major forest product countries with special focus on Canada.
- The effective tax burden on Canada's forest sector is much higher than average on the marginal investments in forestry and around average on discrete choice investments.
  - Effective marginal tax rates
  - Effective average tax rates

Research Background - Purpose

- Increased competition trends in the forest product sector.
- Tax policy can be used to strengthen the industry
  - 1% point reduction in corporate tax increases a country's capital stock by 0.5% to 2%.
  - 1% drop in the effective tax rate on capital would increase foreign direct investment by 3.3%. (Chen and Mintz, 2004)
- 20 countries are chosen for the research:
  - Japan, the U.S., Korea and China
  - Indonesia and Malaysia
  - South Africa, New Zealand, Australia, Brazil, Chile and Argentina
  - Sweden, Finland, and Russia
  - Germany, Spain, Austria, Latvia

Two General Components of a Tax System

- Allowable deductions
  - Capital Cost Allowances
  - Loss Accounting
  - Inventory Accounting
- Statutory rates
  - Direct taxes: corporate income tax, capital tax, property tax
  - Investment taxes: tax on dividends, interest and capital gains
  - Indirect taxes: sale tax, labour tax

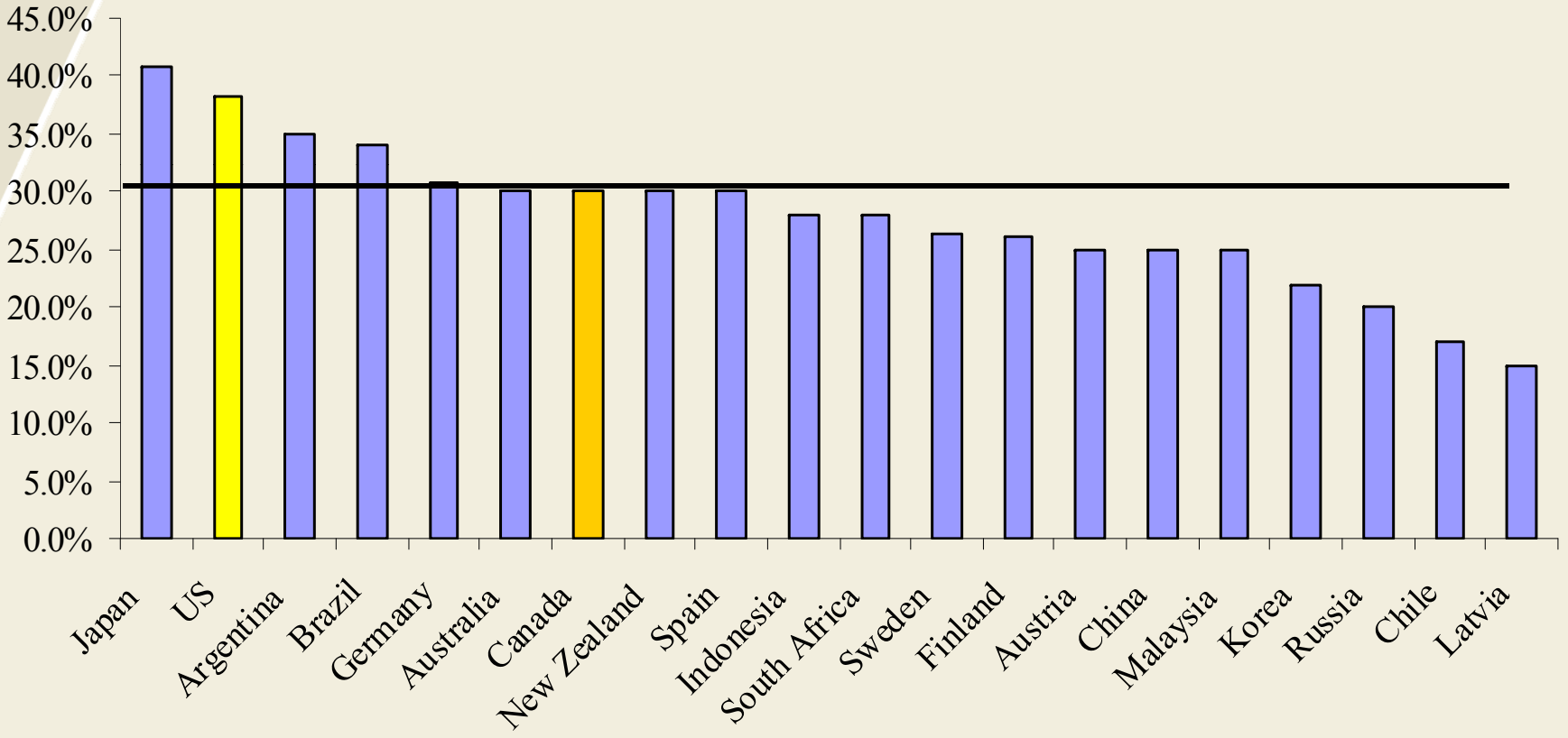
Allowable Deductions — Capital Cost Allowance

	Machinery	Buildings	Vehicle	Methods
Argentina	10%	2%	20%	Straight-line
Australia	12.5%	2.5 or 4%	see note	Straight-line and Declining balance
Austria	10 - 20%	3%	12.5%	Straight-line
Brazil	10%	4%	20%	Straight-line
Canada	**20%**	**4%**	**30%**	**Declining Balance**
Chile	6.7%	2.5 to 5%	14.3%	Straight-line
China	10%	5%	20%	Straight-line with residual
Finland	25%	4 to 20%	n/a	Declining Balance
Germany	6-10%	2 - 3%	16.6%	Straight-line or Declining Balance
Indonesia	5 - 25%	5 - 10%	n/a	Straight-line or Declining Balance
Japan	4-50%	2-14.2%	5-50%	Straight-line or Declining Balance
Korea	5-20%	2.5-5%	20%	Straight-line or Declining Balance
Latvia	30-70%	10%	30-70%	Declining Balance
Malaysia	Initial 20% and 10% to 20% after	Initial 10% and 3% after	20%	Straight-line
New Zealand	20%	2%	10.5%	Straight-line or Declining Balance
Russia	24%	2%		Straight-line or Declining Balance
South Africa	40% 1st yr, 20% next 3 yrs	5%	20%	straight-line or diminishing balance method
Spain	10 or 12%	3%	16%	Straight- line or Declining Balance
Sweden	20%	2-5%		Straight-line and Declining Balance
US	**8.3-14.3%**	**2.6%**	**20%**	**Declining Balance and Straight-line**

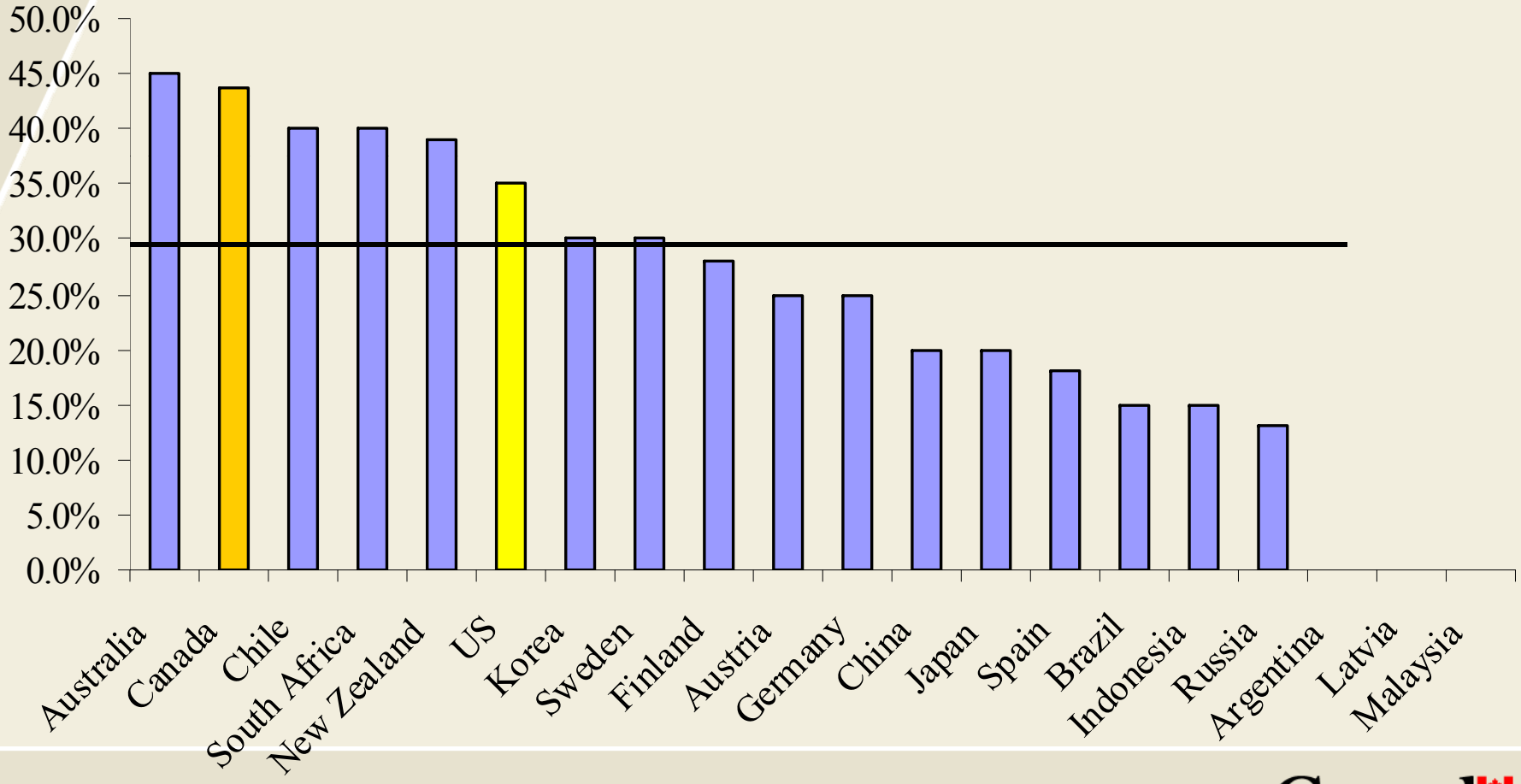
Allowable Deductions — Loss Accounting and Inventory Accounting

	Carry-Back	Carry-Forward	Group Loss Transfer	LIFO Permitted
Argentina	0	5 yrs	No	No
Australia	0	infinite	Yes (100% holding)	No
Austria	0	infinite	Yes (>50% holding)	Yes
Brazil	0	infinite	No	No
Canada	**3 yrs**	**20 yrs**	**No**	**No**
Chile	0	infinite	No	No
China	0	5 yrs	No	Yes
Finland	0	10 yrs	No	No
Germany	1[d]	infinite	Yes (>50% holding)	Yes
Indonesia	0	5 yrs	No	No
Japan	1 yrs	7 yrs	Yes (100% holding)	Yes
Korea	1 yrs	5 yrs	Yes (100% holding)	Yes
Latvia	0	5 yrs	Yes (>90% holding)	No
Malaysia	0	infinite	Yes ((>70% holding)	No
New Zealand	0	infinite	Yes (>66% holding)	No
Russia	0	10 yrs	No	Yes
South Africa	0	infinite	No	No
Spain	0	15 yrs	Yes (>75% holding)	No
Sweden	0	infinite	Yes (>90% holding)	No
US	**2 yrs**	**20 yrs**	**Yes (>80% holding)**	**Yes**

Direct Taxes — Corporate Income Tax



Investment Taxes — Taxes on Interest Income



Approaches to Measuring Taxation I

Two Groups: backward-looking measures and forward-looking measures.

- Backward-looking measures are based on current information arising from macroeconomic or firm data.
  - an average tax rate - the ratio of tax paid over profit
  - distributional aspects of a tax system

Approaches to Measuring Taxation II

- Forward-looking measures are based on future investments.
  - suited for estimating investment behaviour
  - useful in analysis of the impact of taxation on competitiveness

- Two types of forward-looking measures:
  - Effective Marginal Tax Rate (King and Fullerton 1984):

  applied to marginal investment decisions - scale of investment

  - Effective Average Tax Rate (Devereux and Griffith 1999, 2003): applied to discrete choices - whether or not to invest in a project

Effective Marginal Tax Rate Model

(King and Fullerton 1984)

$$EMTR = \frac{p - s}{p}$$

$$s = (1 - \tau_i) \cdot i - \pi$$

$$p = \frac{(1 - A) \cdot (\rho + \delta - \pi) + d\,\tau\,v\,\pi}{1 - \tau} - \delta$$

τ: corporate income tax rate; τ_i: the personal income tax rates on interest payments;
τ_d: dividend income tax; τ_g: capital gains income tax; i: nominal market interest rate;
π: the inflation rate; δ: the rate of economic depreciation;
d: the dummy variable - = 1 for inventory;
v: denotes the proportion of inventories taxed on historic cost principles;
A: is the present value of tax savings from capital cost allowances on a unit of investment.

Effective Average Tax Rate Model

Devereux and Griffith (1999, 2003)

- The EATR is defined as the difference between the pre-tax net present value (NPV) of investment and the after-tax NPV of investment over the NPV of the pre-tax rate of return on capital.

$$EATR = \frac{R^* - R}{p/1+r}$$

Firm Specific EMTR and EATR

- EMTR and EATR able to account for different assets (building, machinery, inventory and intangible assets) and different sources of finance (retained earnings, new equity and debt).
- **Country specific** EMTR and EATR for the forest product sector are computed using a representative asset combination and sources of finance.
- **Firm specific** EMTR and EATR (Egger *et. al.* 2009). Asset combinations and finance information are from company's balance sheets.

Firm Specific Data Source: ORBIS

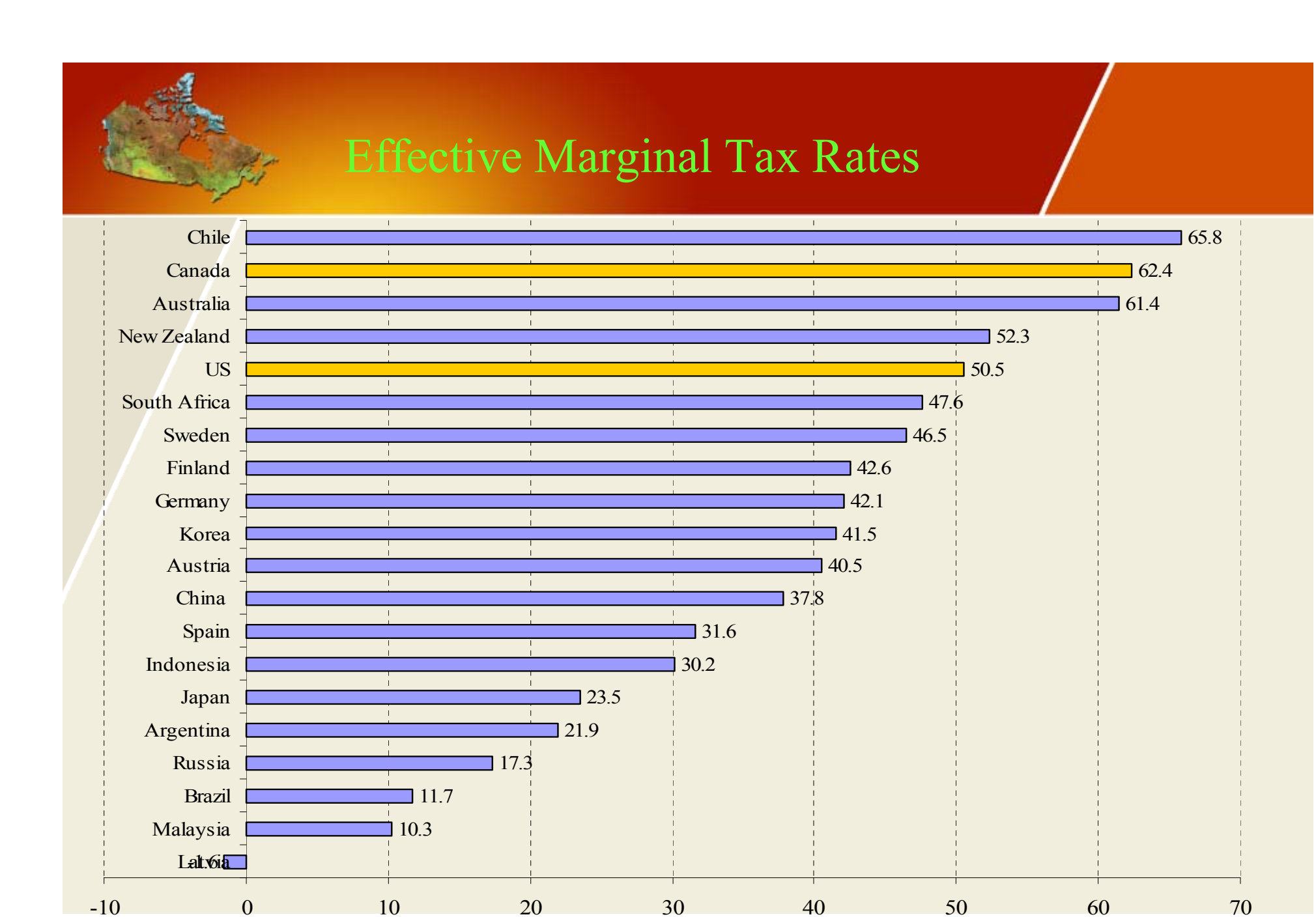
- We use firm-level information from the Bureau van Dijk's ORBIS data-base, covering necessary balance sheet information for more than 650,000 firms including 69,843 forestry companies.

Fixed Assets: *Intangible Fixed Assets, Tangible Fixed Assets, Other Fixed Assets*
Current Assets: *Stocks, Debtors, Other Current Assets, Cash and Cash Equivalent*
Total Assets

Shareholders Funds: *Capital, Other Shareholders Funds*
Non Current Liabilities: *Long Term Debt, Other Non Current Liabilities*
Current Liabilities: *Loans, Creditors, Other Current Liabilities*

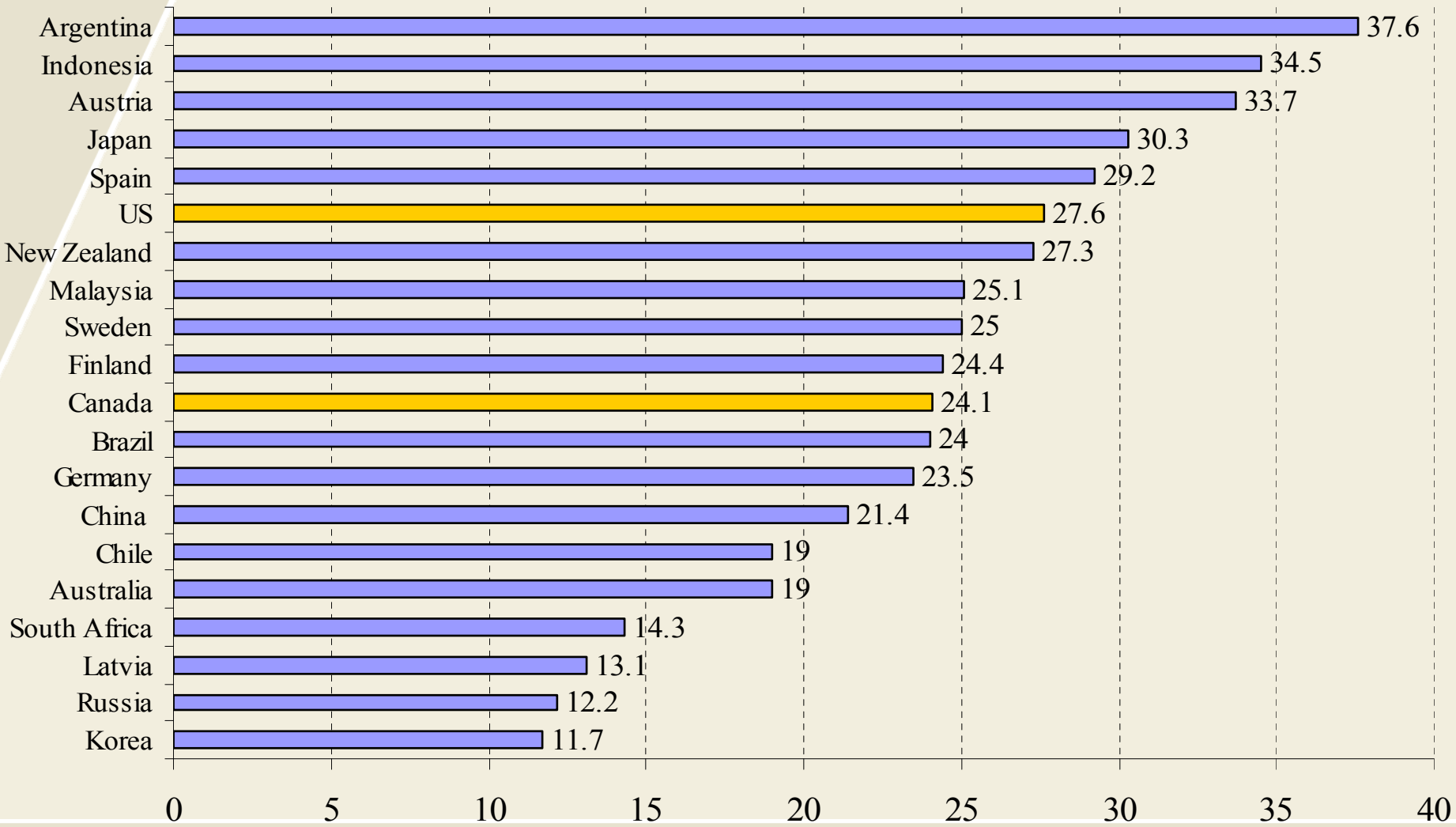
Total Shareholders Funds and Liabilities

Effective Marginal Tax Rates

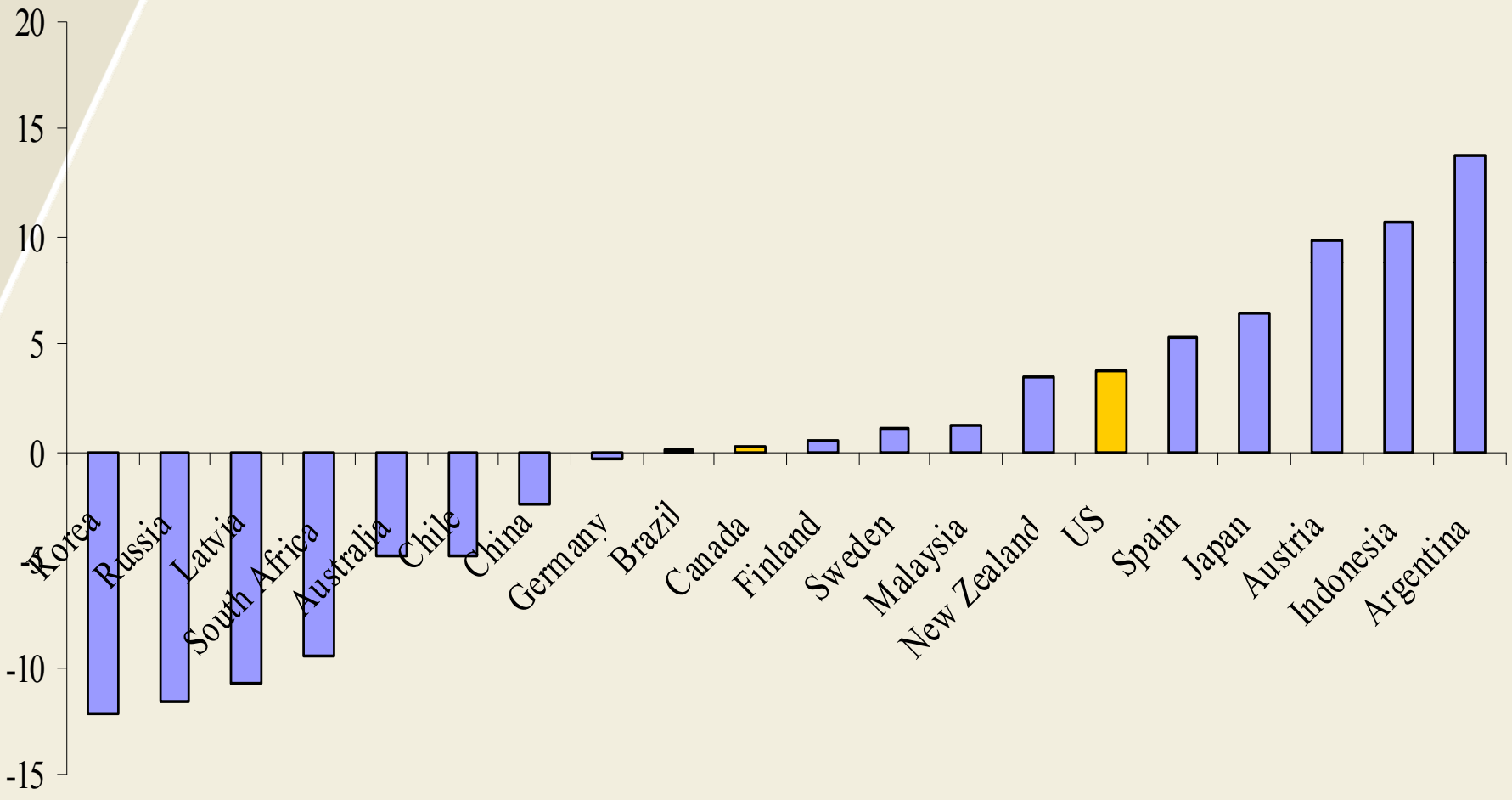


Relative EMTR

Effective Average Tax Rates



Relative EATR



Conclusions - Impact of Canada's Tax Regime

- Limitations – non tax factors play an important role in investment decisions
- Canada's effective marginal tax rate on the forest sector is the second highest in the group.
  - Canadian forest companies less likely to expand than companies in other countries
- Canada's effective average tax rate on the forest sector is average.
  - Multi-national forestry companies are just as likely to invest in Canada as other countries

Thank you!

Questions and Comments?