



# *An International Comparative Analysis of Canada's Forest Sector Tax Competitiveness*

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## *Main Points of the Research*

- ❧ This report examines the relative level of taxation (2004) on the Canadian forest sector, benchmarking Canada against important international jurisdictions in forest products.
- ❧ Canada has a much higher than average tax burden relative to international competitors.
  - A qualitative assessment
  - Marginal effective tax rates model: King-Fullerton methodology





# Research Background

- ❧ Increased competition trends in the forest product sector.
- ❧ Dated previous research: Boulter (1984), Baker (1990), PricewaterhouseCoopers (PWC 2001).
- ❧ 20 countries are chosen for the research:
  - Sweden, Finland, and Russia
  - South Africa, New Zealand, Australia, Brazil, Chile and Argentina
  - Indonesia and Malaysia
  - Japan, the U.S. and China





# *General Form of a tax system*

- ⌘ Two components: allowable deductions and statutory rates.
  - ⌘ 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





# General Form of a tax system

$$Y = [\psi((k_{equity} + k_{debt} + k_{VAR}), L)] \cdot P_{output} - [\delta_{CCA} K_{fixed} + c_{DEF} + ik_{debt} + r_d k_{equity} + p_k k_{VAR} + Lw]$$

- ⊗  $Y$  is taxable income
- ⊗  $k_{equity}$  is fixed capital in the form of equity
- ⊗  $k_{debt}$  is fixed capital in the form of debt
- ⊗  $k_{VAR}$  is capital inputs used for the production process
- ⊗  $L$  is labour denoted in a total unit
- ⊗  $p_{output}$  is the market price of output from production
- ⊗  $K_{fixed}$  is the total fixed capital it is equitable to  $k_{debt}$  and  $k_{equity}$ .

- ⊗  $\Psi(\cdot)$  is a function describing output from a capital and labour mix
- ⊗  $i$  is the rate of return required by creditors
- ⊗  $\delta_{CCA}$  is capital cost allowance rates on fixed capital
- ⊗  $r_d$  is the rate of return required by dividend receivers
- ⊗  $p_k$  is the price of non-fixed capital production inputs
- ⊗  $c_{DEF}$  is the deferred losses from previous period(s)



# Allowable Deductions — Capital Cost Allowance

Table 1: Capital Cost Regimes across Countries

	Machinery	Buildings	Other Related*	Methods	Notes
Argentina	10%	2%	n/a	Straight-line	Buildings depreciation can be increased if the building useful life is less than 50yrs.
Australia	10%	4%	20%	Straight-line and Diminishing Value (150% Straight-line rate)	Firms can self-determine useful life of an asset as long as it can be justified.
Austria	see note	3%	see note	Straight-line	An assets useful life is prescribed so it determined within reason by the firm.
Brazil*	10%	4%	20%	Straight-line	Companies running 2 shifts depreciate items 50% faster and 3 shifts 100% faster.
Canada*	30%	4% (10%, pulp mills)	5% to 20%	Declining Balance	50% deduction for pollution control equipment. Forest resources depreciated on depletion basis.
Chile	10%	2.5% to 5%	6.7%	Straight-line	Assets in some cases can increase depreciation schedules by 1/3.
China	10%	5%	20%	Straight-line with residual	All capital items with a useful life of less than 2yrs can be expensed currently.
Finland	25%	4% to 20%	see note	Declining Balance	Short-lived assets with a useful life of less than 3 yrs are current expensed.
Germany	10% -16.7%	2% - 4%	7.1% - 16.7%	Straight-line or Declining Balance (200% Straight-line rate)	
Indonesia	5% - 25%	5% - 10%	50%	Straight-line or Declining Balance (200% Straight-line rate)	Rates are not set for specific items but are set in regard to the useful life of assets
Japan	10%	2%	4.5% - 16.7%	Straight-line or Declining Balance (200% Straight-line rate)	
Korea	see note	see note	see note	Straight-line or Declining Balance	Rates are set by a government guideline. Declining balance requires a 5% salvage value.
Latvia	40%	10%	20%	Declining Balance	Expenses related to R&D can be current expensed.
Malaysia	10% to 20% initially, then 3% to 40% per annum			Straight-line	
New Zealand	9.6% or 14.4%	3% or 4%	9.6% or 14.4%	Straight-line or Diminishing Value	
Russia	24%	2%	n/a	Straight-line or Decling Balance	35% initial deduction. When asset reaches 20% initial value the straight-line method is used.
South Africa	40% 1st yr, 20% next 3 yrs	5%	n/a	Straight-line	
Spain	12%	3%	n/a	Straight-line or Declining Balance	Declining balance method is not the traditional method. It is termed a sum-of-digits method.
Sweden	30%	3% to 5%	n/a	Declining Balance and Straight-line	Straighline is required for buildings and declining balance for machinery.
US	10% - 20%	5% - 6.7%	3.3% - 10%	Straight-line and Declining Balance combined	200% DB (or 150% DB for 15 to 20 yrs asset), then swith to straight-line at a time that will maximize the depreciation deduction.

\* Other related refers to smaller less significant items that could be used in the functioning of a firm

Source: Corporate Taxes 2004-05, Worldwide Summaries" by PricewaterhouseCoopers





## *Allowable Deductions — Capital Cost Allowance*

- ❧ Latvia has the most competitive CCA.
- ❧ U.S.'s superior combined method makes it the second competitive.
- ❧ Canada's general CCA is not competitive, but pulp mills' CCA of 10% depreciation rate for building is generous placing it in the top 3 most generous depreciation regimes for this type of asset.



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# Allowable Deductions — Loss Accounting and Inventory Accounting

Table 2: Loss and Inventory Accounting Across Countries

	Carry-Back	Carry-Forward	Group Loss Transfer	LIFO Permitted
Argentina	0	5 yrs	No	Yes
Australia	0	infinite	Yes	No
Austria	0	infinite	Yes	Yes
Brazil	0	infinite	No	No
<b>Canada**</b>	<b>3 yrs</b>	<b>7 yrs</b>	<b>No</b>	<b>No</b>
Chile	0	infinite	No	No
China	0	5 yrs	No	Yes
Finland	0	10 yrs	Yes	No
Germany	0	infinite	Yes	Yes
Indonesia	0	5 to 10 yrs*	No	No
Japan	0	5 to 10 yrs*	Yes	Yes
Korea	2 yrs	5 yrs	No	Yes
Latvia	0	5 yrs	Yes	No
Malaysia	0	infinite	No	No
New Zealand	0	infinite	Yes	No
Russia	0	10 yrs	Special Permission	Yes
South Africa	0	infinite	No	No
Spain	0	15 yrs	Yes	Yes
Sweden	0	infinite	Yes	No
US, Capital Losses**	3 yrs	5 yrs	-	Yes***
US, General Losses	2 yrs	20 yrs	Yes	Yes***
* Generally, 5 yrs carry forward is the norm.				
** Capital Losses can only be used to offset Capital Gains				
*** Only useable if book and tax valuations conforms effectively removing any tax reduction value.				
Source: International Tax Rates Library/Database				

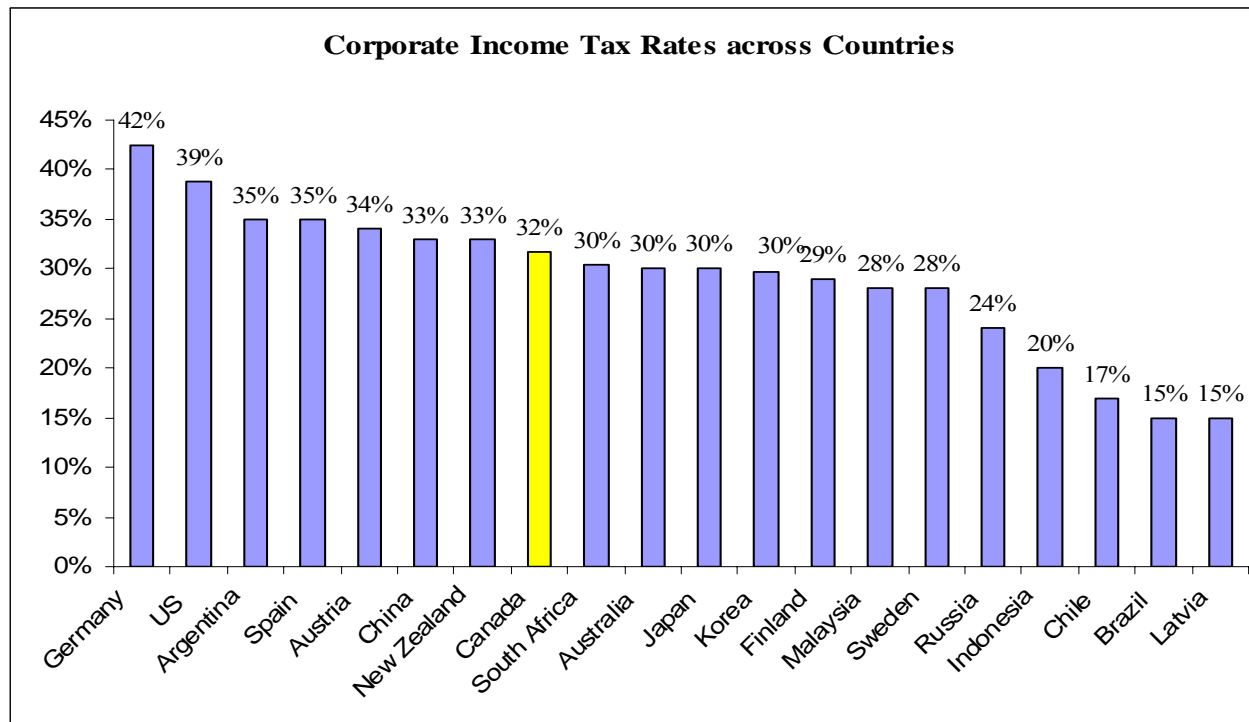




# Direct Taxes — Corporate Income Tax

- Canada's forest product sector face relatively higher corporate income tax rates compared to the other jurisdictions under study. Unfortunately for Canada, the relatively lower tax countries are important competitors in forest products, Brazil, Chile, Russia, Indonesia, Sweden and Finland.

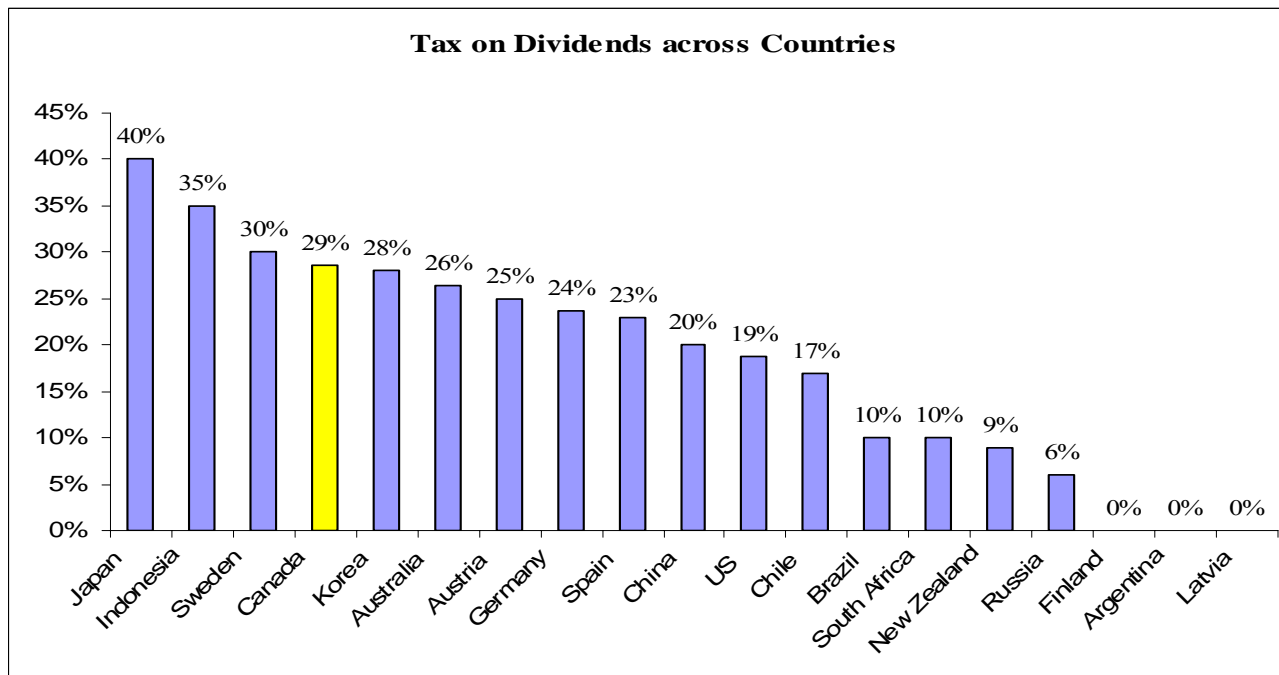
Figure 1:



# Investment Taxes — Taxes on Dividend

- Canada has on average the 4<sup>th</sup> highest rates out of the group with only Sweden, Indonesia and Japan having higher statutory rates.

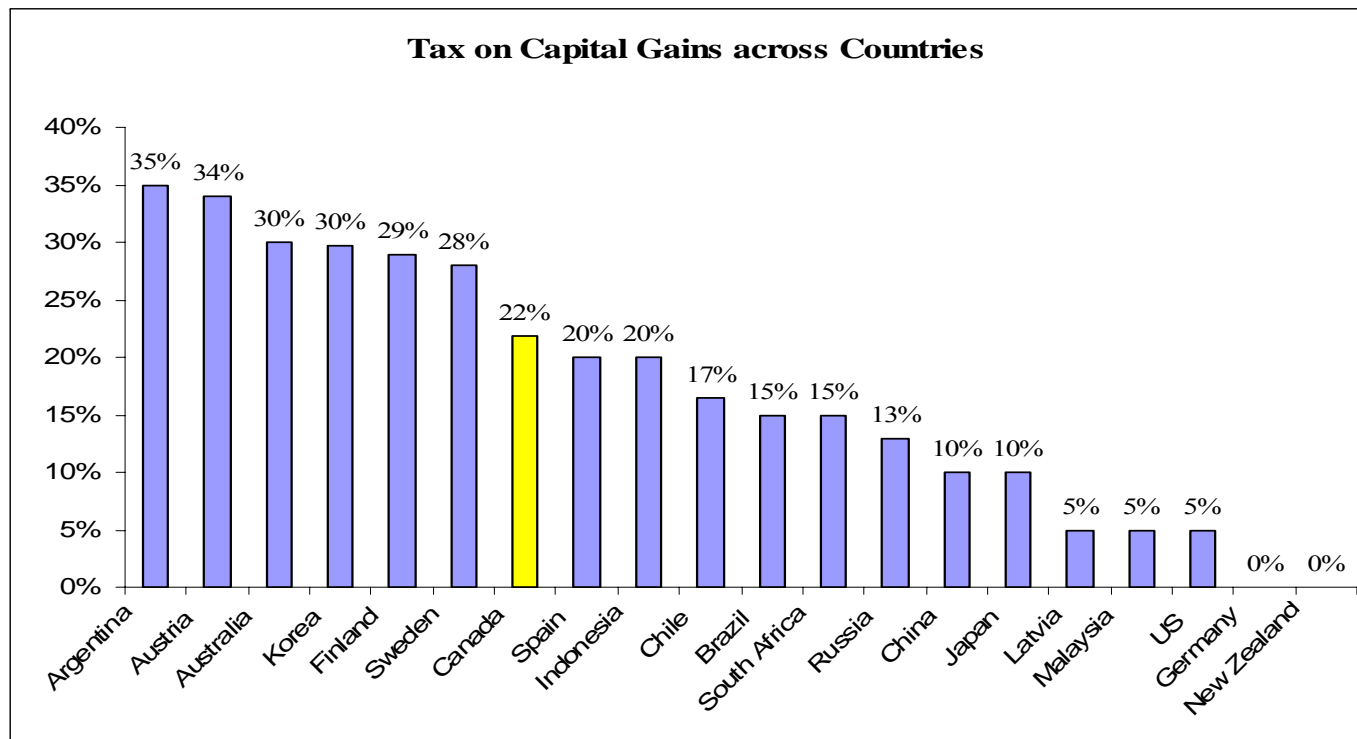
Figure 2:



# Investment Taxes — Taxes on Capital Gains

- Canada has higher taxes rates on capital gains. US and many of the Southern competitors have lower rates.

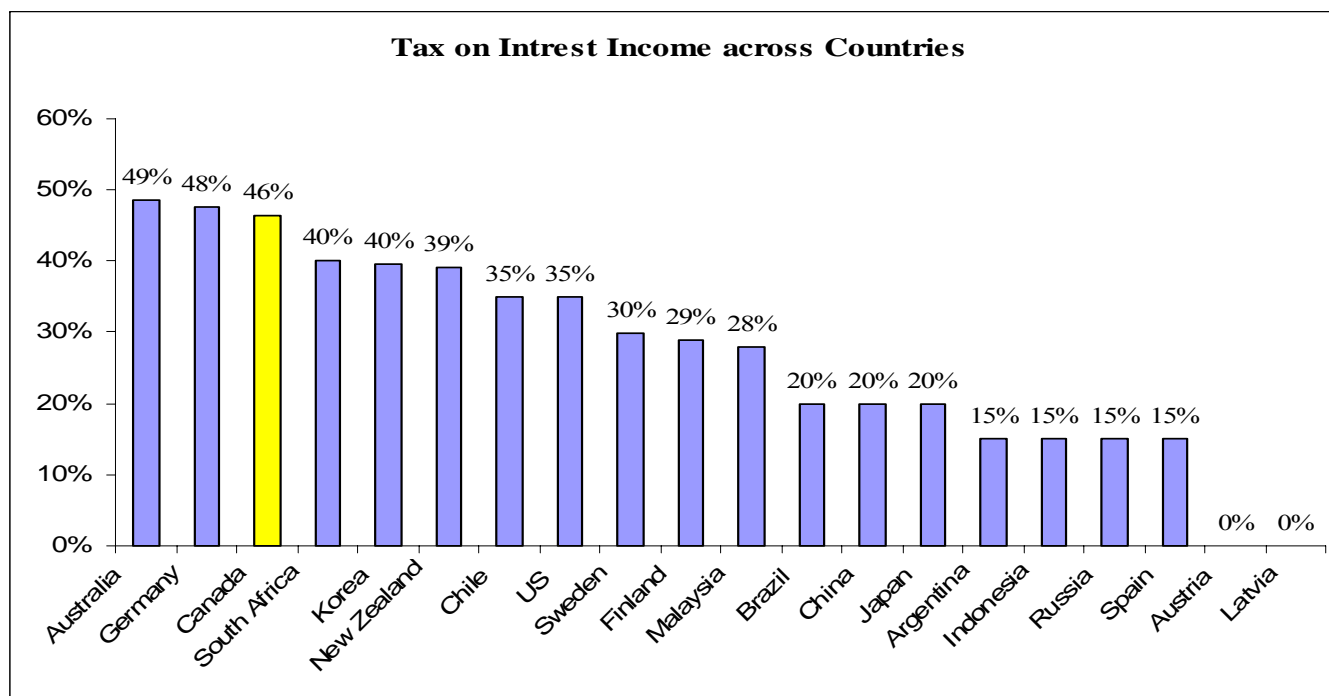
Figure 3:



## Investment Taxes — Taxes on Interest Income

- Canada has the 3<sup>rd</sup> highest rate of taxation on interest income. Most of Canada's major export competitors have lower tax rates on interest income.

Figure 4:





## *Indirect Taxes*

- ❧ Sale Taxes: either slightly above average for the group or 8th lowest dependent upon the province where the sale took place.
- ❧ Labour Taxes: much higher than the average of the group. The Canadian rates are roughly double the U.S. and much higher than major competitors like Brazil, New Zealand and Finland.



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## *A qualitative assessment*

### ⌘ Allowable deductions:

- ⌘ Capital Cost Allowances (around average to 3<sup>rd</sup> best)
- ⌘ Inventory Accounting (average)
- ⌘ Loss Accounting (average)

### ⌘ Statutory rates:

- ⌘ Direct Taxes: Corporate income tax (8<sup>th</sup> highest)
- ⌘ Investment Taxes: Dividends (4<sup>th</sup> highest), Capital Gain (10<sup>th</sup> highest), Interest income (3<sup>rd</sup> highest)
- ⌘ Indirect Taxes: Sales (average), Labour (average)





# *Marginal Effective Tax Rate Model King and Fullerton (1984)*

- ⌘ They defines the marginal effective tax rate on capital income as the expected pre-tax rate of return  $p$  minus the expected after-tax rate of return  $s$  on a new marginal investment, divided by the pre-tax rate of return.

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





# Marginal Effective Rate Model King and Fullerton (1984)

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

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

$\tau$ : corporate income tax rate;

$\tau_i$ : the personal income tax rates on interest payments;

$\tau_d$ : dividend income tax;

$\tau_g$ : capital gains income tax;

$i$ : nominal market interest rate;

$\pi$ : the inflation rate;

$\delta$ : the rate of economic depreciation;

$d$ : the dummy variable and equals 1 for inventory;

$v$ : denotes the proportion of inventories taxed on historic cost principles;

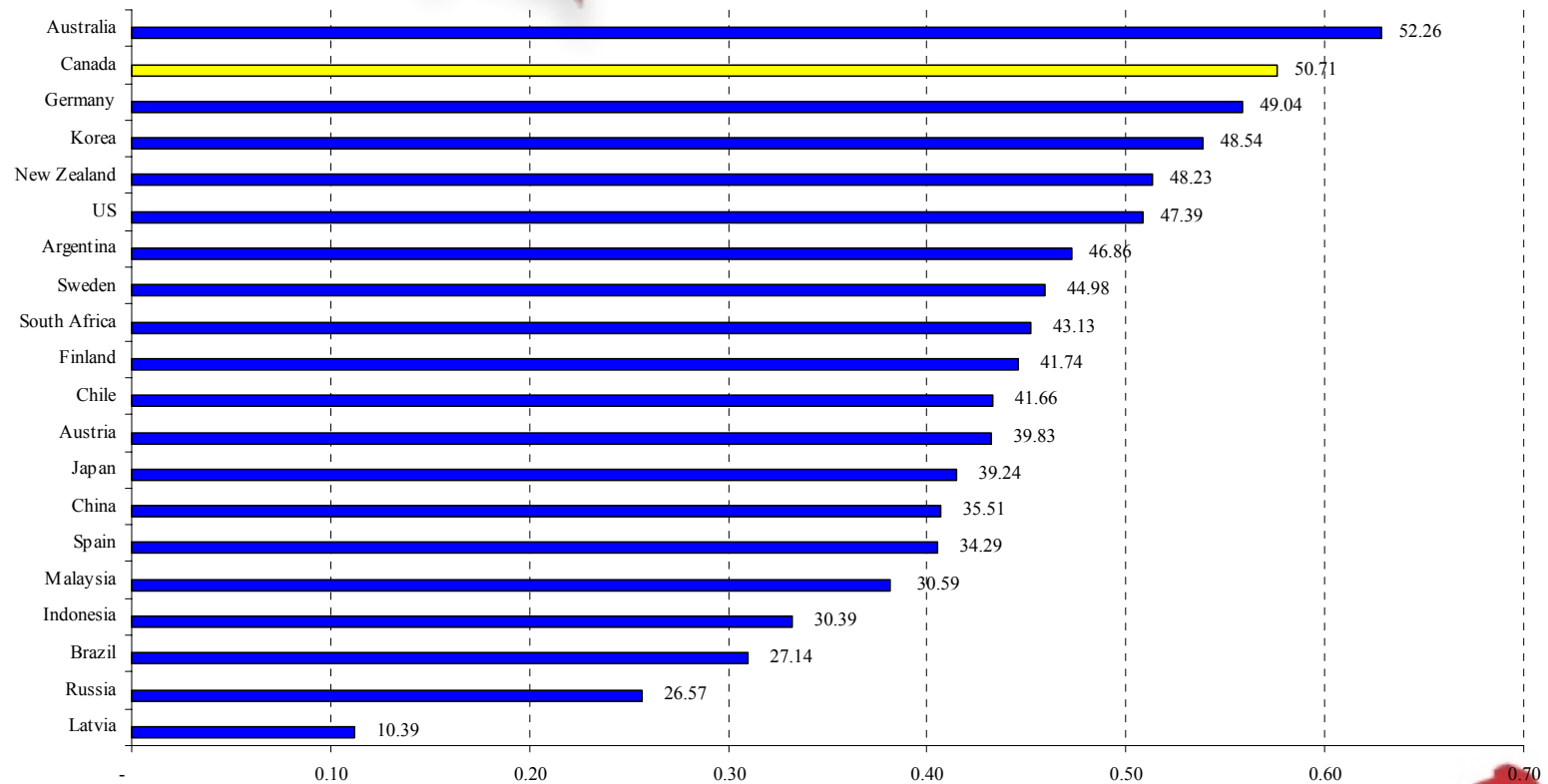
$A$ : is the present value of tax savings from capital cost allowances on a unit of investment.





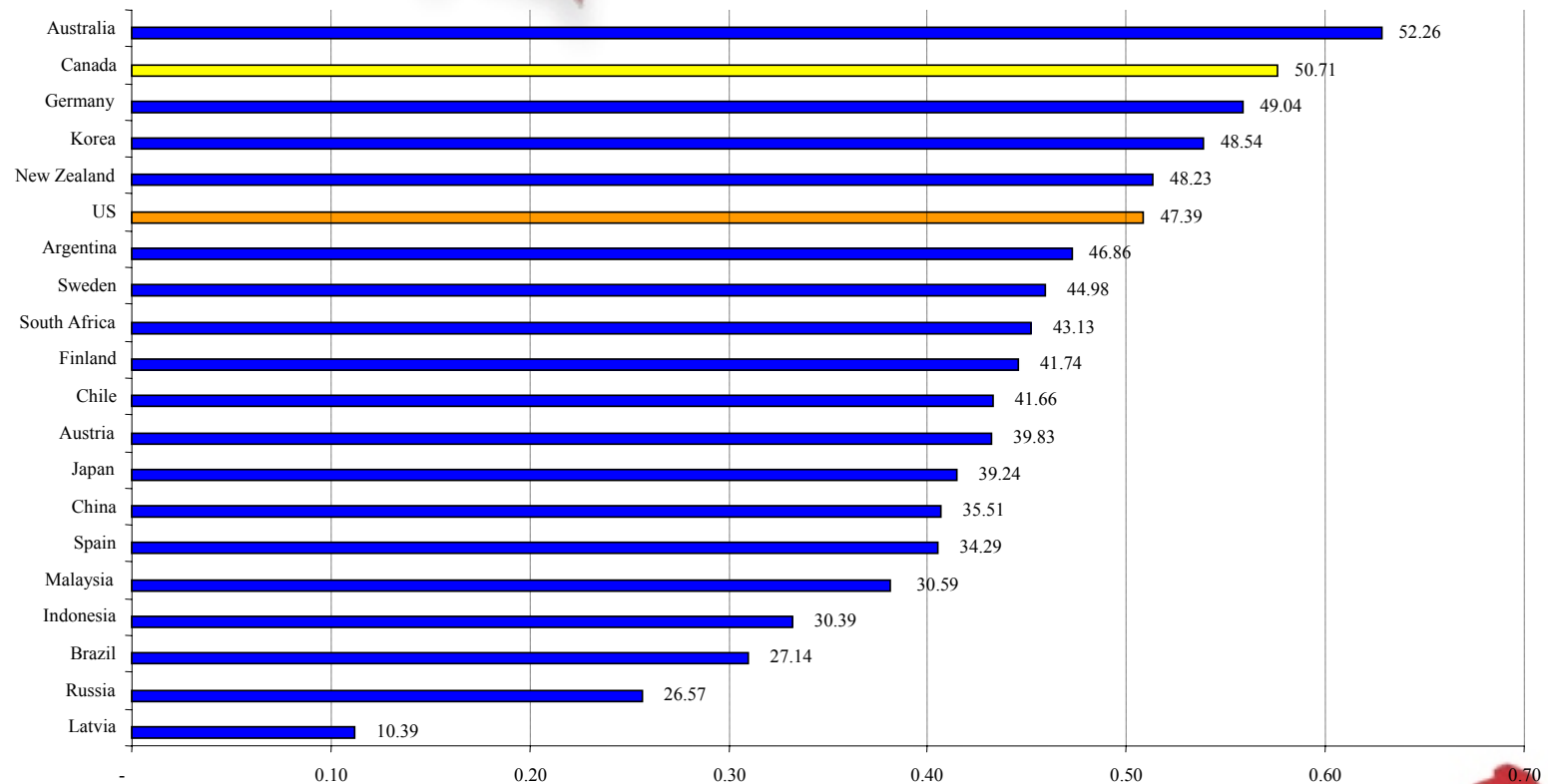
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Figure 5: Marginal effective tax rates on capital investment, by country, 2004



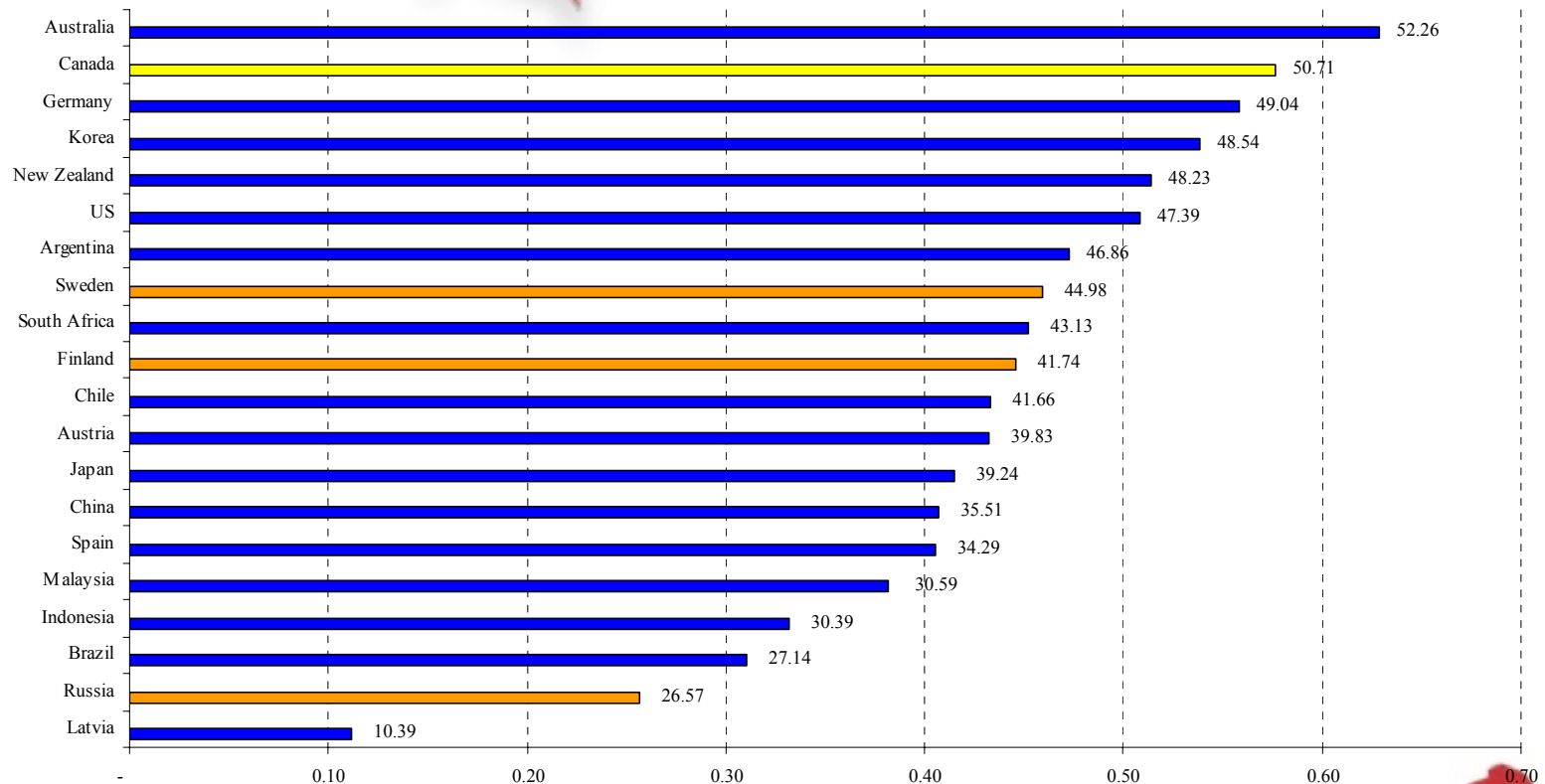
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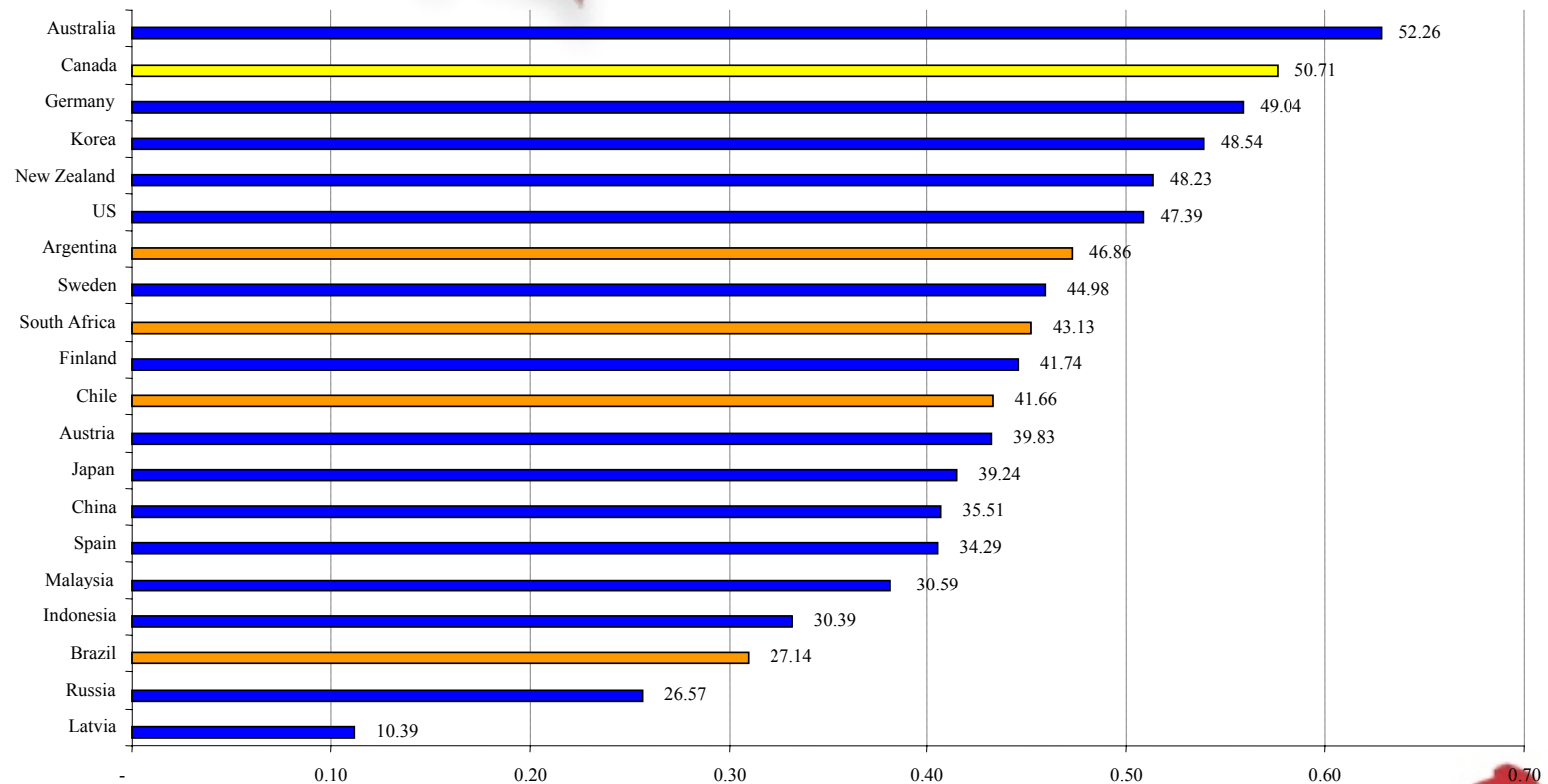
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## *What can the Federal Government Do?*

- ❧ Provide highly accelerated CCA treatment for upgrades to specific facilities, particularly in the struggling pulp and paper sector.
- ❧ Provide highly accelerated CCA treatment for any co-generation facilities creating aids in meeting Kyoto Protocol and energy conservation.



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## *What can the Federal Government Do?*

- ❧ Defer interest and dividend taxation for investors investing in secondary manufacturing firms to promote value added activity in the sector and thus leads to fuller timber utilization.
- ❧ Provide more generous loss accounting rules which will keep the government from exacerbating the cost of market cycles to firms and lead to a greater investor confidence.





## *What can the Federal Government Do?*

- ⌘ Allow for differing inventory accounting rules given they are consistently applied.
- ⌘ Allow for transferring losses within a corporate group.



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