

# The Personal Income Tax

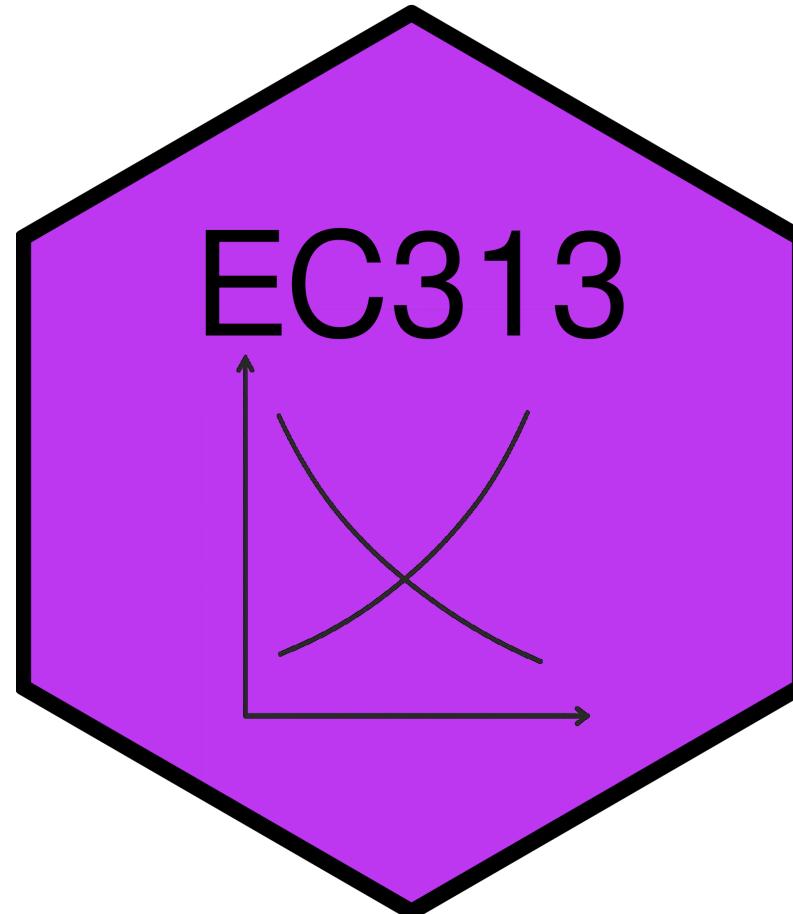
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EC313 - Public Economics: Taxation

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# Goals of This Section



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- Outline history of personal income taxes in Canada
- Describe how taxes are calculated
- Discuss different concepts of income
- Discuss tax rates
- Explore other issues in income taxation



# History



# Origins

- Income tax first introduced federally in Canada in 1917 to help finance WWI
  - Initially a temporary measure, but became permanent in 1949
- Provinces began introducing income taxes earlier, in the late 1800s (BC, PEI)
  - Most others followed after the Great Depression
  - Newfoundland was last to introduce income tax in 1949
- Currently, both federal and provincial governments levy personal income taxes
  - Authority comes from Constitution Act

# Revenues

TABLE I7.I

Personal Income Tax Revenues in Canada, 1933–2019

**PERSONAL INCOME  
TAXES AS % OF:**

Year	Number of Returns (thousands)	PIT Revenues (millions \$)	Per Capita 2014 \$*	Total Revenues	GDP
1933	52	38	60	5.1	1.1
1946	3,162	671	668	17.9	5.6
1955	4,923	1,318	682	19.2	4.6
1965	7,163	3,563	1,253	20.8	6.2
1975	12,002	18,538	3,300	28.4	10.7
1985	15,864	53,262	3,815	30.5	11.0
2000	22,237	143,951	5,833	30.7	13.4
2012 <sup>†</sup>	25,453	164,692	4,970	23.7	10.0
2019	27,815	227,404	5,463	24.2	13.1



# Revenues

TABLE I7.2

## Personal Income Taxes as a Percentage of GDP, Selected Countries, 1965–2020

Year	Canada	U.S.	U.K.	Australia	Sweden
1965	5.7	7.4	9.7	7.1	15.1
1980	10.4	10.0	9.8	11.5	17.7
1990	14.4	9.7	10.0	12.1	18.8
2000	12.9	11.9	10.2	11.5	17.7
2010	10.7	7.9	9.4	9.8	12.1
2020	12.5	10.5	9.5	11.6	12.4

# Other Details

- Canada Revenue Agency (CRA) administers federal and most provincial income taxes
  - Quebec administers its own provincial income tax
- Because of this integration, people fill out one tax return for both federal and provincial taxes
  - Except in Quebec, where two returns are filed
- Up to 2000 provincial taxes operated on a “tax on tax” system
  - Provincial taxes were a fraction of federal taxes owed
- Since then provinces have moved to a “tax on income” system
  - Provincial taxes are calculated on income before federal taxes are deducted



# Other Details

- System based on self-assessment
  - Taxpayers are responsible for reporting their income and calculating their taxes owed
- Taxpayers have until April 30 of the following year to file their tax returns
  - Penalties apply if taxes are owed
- If you don't earn income, you don't have to file a tax return
  - But strong incentive to file to claim benefits or credits
  - About 12% of working age Canadians do not file a tax return



# Computing Personal Income Tax

# Tax Forms

- The computation of your tax liability can be complicated
  - Income comes from many sources
  - Many deductions and credits are available
- The CRA provides tax forms to help you compute your taxes
  - Forms are available online or in paper format
  - Many people use tax software to help with the process
- The main federal tax form is the T1
  - There are many additional forms (schedules) for specific types of income or deductions
  - These forms are federal and provincial
- Packages available here: <https://www.canada.ca/en/revenue-agency/services/forms-publications/tax-packages-years.html>



# Calculating Taxes

- The tax forms guide you through a series of steps to calculate your taxes
- The process is algorithmic, and can be summarized in six main steps outlined in the next slides
- Some key things to note
  - Not all income sources are taxable
    - Gifts, inheritances, lottery winnings, strike pay, legal settlements, first nations income on reserve, capital gains on principal residence, refundable tax credits are not taxable
  - Not all income from taxable sources is subject to tax
    - Certain income is deducted
    - Deductions happen for different reasons
  - Taxes are remitted to the government through withholding at source
    - So at end of the year you pay the difference or get a refund



# Step 1: Calculate Total Income

## STEP 1: Calculate Total Income

ADD: Income from taxable sources:

- Wages, commissions, tips, and other employment income
- Pension income including income from Old Age Security, Canada/ Quebec Pension Plan, RRSPs, and other pension income
- Employment Insurance income
- Interest and other investment income
- Dividends (grossed-up)
- Rental income
- Income from partnerships
- Taxable capital gains
- Taxable support payments received
- Royalties
- Pension and employment insurance benefits
- Net self-employment income
- Provincial workers' compensation benefits and income assistance
- Net federal supplements including the Guaranteed Income Supplement  
= Total Income (line 15000 on the tax return)



# Step 2: Calculate Net Income

## STEP 2: Calculate Net Income

SUBTRACT from total income certain deductions:

- Pension contributions including RPP, RRSP, CPP, and QPP
- Pension income transferred to spouse (pension income splitting)
- Union dues and certain employment expenses
- Childcare expenses
- Disability supports
- Allowable business losses
- Moving expenses
- Deductible support payments
- Interest expenses
- Other special deductions
- Any repayments to Old Age Security, Employment Insurance,

and any economic recovery benefits (e.g., CERB)

= Net Income (line 23600 on the tax return)



# Step 3: Calculate Taxable Income

## **STEP 3: Calculate Taxable Income**

SUBTRACT from net income certain deductions:

- Canadian Forces personnel and policy deduction
- Employee home relocation deduction
- Security options deduction
- Provincial workers' compensation and income assistance benefits
- Net federal supplements
- Various losses
- Northern residents deduction
- Additional other special deductions  
= Taxable Income (line 26000 on the tax return)



## Step 4: Calculate Federal Tax

### **STEP 4: Calculate Federal Tax Owing**

APPLY: Tax rate schedule to Taxable income

= Income tax before tax credits

# Step 5: Calculate Non-Refundable Credits

## **STEP 5: Calculate Nonrefundable Tax Credits**

SUBTRACT from tax owing:

Nonrefundable tax credits for

- Taxpayer and dependents
- Medical expenses and disabilities
- Age and pension income
- Contributions to QPP and CPP
- Premiums paid for EI
- Eligible tuition and education expenses
- Gifts to charities and to the Crown
- Any other tax credits  
= Federal tax payable



## Step 6: Calculate Provincial Tax

### **STEP 6: Calculate Provincial Tax Payable**

REPEAT steps 4 and 5 for provincial taxes.

# Concepts of Income



# Haig-Simons Income

- No definition of income in the Income Tax Act
- **Haig-Simons definition** is often used in public finance
  - Net increase in ability to consume during a period
  - $\text{Income} = \text{Consumption} + \text{Additions to Net Wealth}$
- Includes actual and potential increase in consumption ability
  - E.g., unrealized capital gains are included
- Also means decreases in consumption ability are negative income
  - E.g., losses on investments are deductible



# Included Items

- Employer pension contributions
  - Adds to pension fund
  - Increases ability to consume (in the future)
- Transfer payments
  - Retirement benefits, unemployment insurance, social assistance, workers' compensation
  - All increase ability to consume
- Capital gains/losses
  - Increase in wealth from assets
  - Realized (value gained after sale) and unrealized (value held prior to sale) gains
  - Increases ability to consume
  - Losses deducted because they decrease ability to consume



# Included Items

- In-kind income
  - Income received as goods/services rather than cash
  - Employer perks (e.g., company car, subsidized housing)
  - Free tuition for dependents of university employees
  - Imputed rent from owner-occupied housing
- Gifts and inheritances
  - Increase wealth and ability to consume
  - Not currently included in income for tax purposes in Canada (but is elsewhere, e.g., US)



# Problems with Haig-Simons

- This concept of income is sometimes hard to implement in practice.
- Business expenses
  - Supposed to be expenses incurred to earn income
  - Some expenses are part consumption part business
    - E.g., meals, travel, home office expenses
- Capital gains/losses
  - Sometimes hard to measure
  - Easy for financial assets traded on markets
  - Hard for other assets
    - Cars, wine, jewelry, art, collectibles
    - Cryptocurrencies and NFTs



# Problems with Haig-Simons

- Imputed rent
  - Hard to measure
  - Varies by location, type of housing, size, amenities
  - Also applies to non-housing assets that might be rented
- In-kind income
  - Markets exist for some of these, but not for others
  - Household labour, volunteer work, parenting, merchandise discounts, etc. are hard to value



# Why Public Economists Use Haig-Simons

- Haig-Simons income is a comprehensive measure of ability to pay
  - Includes all sources of consumption and accumulation
  - Forms a good base on which to tax individuals
  - It is “fair” in that it captures all sources of income
- Horizontal and vertical equity
  - We noted that people with the same ability to pay should pay the same amount of tax
  - People with greater ability to pay should pay more tax
  - Basing it on this definition uses all income as basis for ability to pay
- Efficiency
  - Treats all forms of income the same
  - No incentives to alter behaviour to avoid tax



# Income in Canada's Tax System

- Much of the income counted in personal income taxes aligns with Haig-Simons
- But there are some departures
  - Some income sources are excluded (e.g., gifts, inheritances, lottery winnings, employer contributions to benefits)
  - Some income sources are only partially included (e.g., capital gains)
  - Some deductions are allowed that do not fit the concept (e.g., RRSP contributions)
- Capital gains are a notable departure
  - Only 50% of capital gains are included in income
  - Gains on principal residences are not counted at all
  - In the past there were large gains exemptions (i.e. gains below exemption not taxed)
  - Only realized gains are taxed



# Income in Canada's Tax System

- These departures can lead to differences in asset value over time
- To see this with realized vs unrealized gains, consider this example
  - A person buys an asset for \$100
  - It appreciates in value by 20% per year over the next 5 years
  - Asset is sold at the end of year 5
  - Assume a 50% tax rate and an inclusion rate of 50%
  - We will go over the tax implications of taxing realized versus unrealized gains



# Income in Canada's Tax System

- Table below illustrates taxation on realized gains

Year	Start Year Value	Gain	Taxable Gain	Tax	End Year Value
1	100.00	20.00	0.00	0.00	120.00
2	120.00	24.00	0.00	0.00	144.00
3	144.00	28.80	0.00	0.00	172.80
4	172.80	34.56	0.00	0.00	207.36
5	207.36	41.47	0.00	0.00	248.83

- At the end of the 5 years, the gain is  $\$248.83 - \$100 = \$148.83$
- Tax paid is  $\$148.83 * 50\% * 50\% = \$37.21$
- After-tax value is  $\$248.83 - \$37.21 = \$211.62$
- After tax gain is  $\$111.62$

# Income in Canada's Tax System

- Table below illustrates taxation on unrealized gains

Year	Start Year Value	Gain	Taxable Gain	Tax	End Year Value
1	100.00	20.00	10.00	5.00	115.00
2	115.00	23.00	11.50	5.75	132.25
3	132.25	26.45	13.23	6.61	152.09
4	152.09	30.42	15.21	7.60	174.90
5	174.90	34.98	17.49	8.75	201.14

- Now the value at the end of year 5 is \$201.14
  - After-tax gain is  $\$201.14 - \$100 = \$101.14$
  - Total gains are  $\$20 + \$23 + \$26.45 + \$30.42 + \$34.98 = \$134.85$
  - Tax paid is  $\$5.00 + \$5.75 + \$6.61 + \$7.60 + \$8.75 = \$134.85 * 50\% * 50\% = \$33.71$
-   Less because the gains are smaller

# Income in Canada's Tax System

- Taxation of realized gains locks in investments
  - People may be reluctant to sell assets to avoid paying tax
- This can lead to inefficiencies in the economy
  - People hold onto assets that are not the best use of their resources
  - Capital is not allocated to its most productive use
- Conservatives proposed an deferral of taxation for investing in Canadian companies
  - No gains tax if reinvested in Canadian companies
  - Aimed at reducing lock-in effect and encouraging investment in Canada



# Income in Canada's Tax System

- What if a person holds unrealized gains at death?
  - CRA deems gains realized on date of death
  - Taxes are owed by the estate
  - If assets are bequeathed to someone else, the change in asset value since date of death is subject to gains tax
- Why preferential treatment of capital gains?
  - Encourages investment and risk-taking
  - Compensates for deferring consumption
  - Offsets increased tax burden from inflation (nominal gains)



# Income in Canada's Tax System

- Contributions to pension plans (employee and employer) are not included in income until paid out
  - Allows people to defer taxes until retirement
    - Beneficial if people are in lower tax brackets when retired
  - Interest also not taxed until withdrawn
  - Encourages saving for retirement
  - But a departure from Haig-Simons definition of income
- Finally gifts and inheritances are not taxed
  - By Haig-Simons, they should be included in income because they increase ability to consume

# Tax Deductions and Credits



# Introduction

- We discussed how income is calculated for tax purposes
- There is a difference between
  - Total income and taxable income
    - **Deductions** exclude some income from being taxed
  - Taxes owing and taxes payable
    - **Credits** reduce taxes owing
- There are various reasons for deductions and credits
  - Social policy goals
  - Economic efficiency
  - Equity considerations



# Deductions

- **Tax Deduction:** An amount that can be subtracted from total income to arrive at taxable income
- In Canada, the main goals of deductions are to
  - Recognize certain unavoidable expenses to earn income (e.g., child care, moving expenses)
  - Encourage certain behaviours (e.g., saving for retirement, a home)
  - Other reasons (e.g., spousal support)
- Most deductions are for expenses to earn income
  - E.g., moving expenses, child care, union and professional dues, interest expenses
  - Applies the tax only to the “net” additions to income after the expenses



# Deductions

- Most others are to encourage saving
  - E.g., RRSP contributions, registered pension plan contributions
  - Tax is not paid on these amounts until withdrawn
  - Most beneficial when people are in high tax brackets when income is earned, and lower ones when withdrawn
- First home buyers plan is deductible **and** not taxed when withdrawn
  - Encourages saving for first home purchase
- Some savings plans are *not* tax deductible but interest grows tax free
  - Tax Free Savings Plans
  - Registered Education Savings Plans



# Deductions

- Finally, some deductions exist for other reasons
  - E.g., spousal support payments, child support payments
  - These payments reduce the income of the payer, who is assumed to have greater ability to pay
  - Support is included in the income of the receiver
  - Recognizes who ultimately receives the income and consumes it



# Tax Credits

- **Tax Credit:** An amount that can be subtracted from taxes owing to arrive at taxes payable
- These are different from deductions
  - Deductions reduce the income that is ultimately taxable
  - Credits occur after taxes are calculated, and reduce the amount owed
- There are two types:
  - **Non-refundable tax credits:** Reduce taxes owing, but not below zero
  - **Refundable tax credits:** Can reduce taxes owing below zero, resulting in a refund
- There are many credits available for different purposes
  - Encourage behaviour
  - Recognize certain costs
  - Equity considerations



# Tax Credits

- Many credits are 15% of the eligible amount
  - 15% is the lowest federal tax rate
  - So these credits reduce taxes by the same amount as if the eligible amount were deducted from income
- Others are different amounts
  - Charitable donations credit is much higher



# Tax Credits

- Some notable credits are:
- Basic personal amount credit
  - All taxpayers get a credit on the first portion of their income
  - Recognizes that everyone has some basic consumption needs
- Age amount credit
  - For seniors over age 65
  - Recognizes higher costs of living for seniors
- CPP and EI credit
  - Recognizes that these amounts are expenses to earn income
  - Argument could be made that this is better as a deduction



# Tax Credits

- Medical expenses
  - Recognizes that medical expenses are necessary consumption
  - Only expenses above a certain threshold are eligible
- Charitable donations
  - Encourages charitable giving
  - Credit rate increases for donations above certain levels
- Canada Workers Benefit
  - A refundable credit for low-income workers
  - Encourages work and supplements income for low earners



# Tax Credits

- Boutique credits
  - Targeted at specific groups or behaviours
  - E.g., credits for digital news subscriptions, home accessibility, volunteer firefighters, fitness
  - Often criticized for complexity and inequity
- GST/HST credit
  - A refundable credit to offset sales taxes paid
  - Targeted at low and moderate income households
- Tuition credit
  - For students to offset costs of education
  - Unused amounts can be carried forward or transferred to others

# Credits, Deductions, and Prices

- One effect of deductions and credits is to alter prices for certain types of consumption
- A good example is charitable donations
- In Ontario, for a \$100 donation you would receive a federal credit of \$15 and a provincial credit of \$5.05
  - Total credit of \$20.05
  - So the effective “price” of a \$100 donation is \$79.95 after tax savings
- In the United States, donors receive a deduction rather than a credit
  - A \$100 donation would reduce taxable income by \$100
  - The reduction in the price of the donation depends on the donor’s tax bracket
  - Someone in the 24% tax bracket avoids \$24 in taxes for the \$100 donation
  - So the effective “price” of a \$100 donation is \$76 after tax savings
  - Wealthier people (in higher brackets) pay a lower price for donations



# Credits vs Deductions: Fairness

- Above example highlights a more general issue: benefits from deductions depend on tax bracket
  - People in higher brackets receive more benefit from deductions than those in lower brackets
  - Some view that as unfair
- Many credits in Canada were deductions prior to 1988
  - Converted to credits so that the benefit is the same for all taxpayers
- Likely not optimal from an efficiency perspective
  - People differ in their responses to prices
  - You want to give larger incentives to those who respond more
  - Credits do not do that
- But credits are simpler and viewed as more equitable



# Tax Expenditures

- Deductions and credits reduce taxes collected by the government
  - Foregone tax revenue
  - Money that is not available to fund public services
- These can be substantial amounts of money
- This reduction in taxes is viewed as a form of indirect government spending called **tax expenditures**



# Tax Expenditures

TABLE I7.3

Summary Information from Individual Income Tax Returns, 2017  
(\$ millions)

A. SOURCE OF INCOME	
Employment income	\$894,540
Income from OAS, CPP, QPP, and pensions	210,572
Employment Insurance and other benefits	19,398
Dividends, interest, rents, RSP, capital gains, and investment income	164,657
Business and professional income	54,022
Workers' Compensation payment, income assistance benefits, and federal supplements	30,847
Other income	28,849
<b>Total Income Assessed = \$1,404,221</b>	
B. DEDUCTIONS (Total: \$119,825)	
RPP contributions	24,033
RRSP contributions	44,238
Deduction for elected split-pension amount	14,883
Union and professional dues	4,587
Split-pension amount	14,883
Childcare expenses	5,841
Moving expenses	459
Capital gains deduction	6,655
Other deductions	58,265
<b>Taxable Income Assessed = \$1,246.567</b>	
C. NONREFUNDABLE TAX CREDITS (Total: \$80,348)	
D. TAXES PAYABLE	
Net federal tax	149,026
Net provincial tax	66,139
<b>Total Income Tax Payable = \$219,389</b>	

Source: Canada Revenue Agency, *Income Statistics 2019*, Table 2, [https://www.canada.ca/content/dam/cra-arc/prog-policy/stats/t1-final-stats/2017-tax-year/table2\\_ac-eng.pdf](https://www.canada.ca/content/dam/cra-arc/prog-policy/stats/t1-final-stats/2017-tax-year/table2_ac-eng.pdf).



# Tax Expenditures

- The Canadian government tracks tax expenditures and reports them annually
  - Current and historical reports here: <https://www.canada.ca/en/department-finance/services/publications/federal-tax-expenditures.html>
- In 2025, projected to be \$183 billion federally (6% of GDP)
  - Biggest items: pension deduction, partial inclusion of capital gains, zero-rating of groceries



# Personal Tax Rates in Canada

# Introduction

- Canada has a progressive tax system
  - Higher income earners pay a larger fraction of their income in taxes
- Uses a bracket system
  - Ranges of income where a particular tax rate applies
- The tax you pay on an additional dollar of income is called the **marginal tax rate**
  - Important for understanding incentives to work, save, invest
  - Different from the **average tax rate** which is total taxes paid divided by total income
- The rate in a particular bracket is the marginal tax rate on each dollar in the bracket



# Federal and Provincial Rates

TABLE I7.4

Federal and Provincial Tax Rates, and Surtaxes, 2022

## I. Rates of Federal Income Tax

TAXABLE INCOME	TAX RATE
\$50,197 or less	15%
\$50,198 to \$100,392	20.5%
\$100,393 to \$155,625	26%
\$155,626 to \$221,708	29.38%
over \$221,708	33%

## 2. Provincial Income Tax Rates and Surtaxes

Province	Lowest Rate (%)	Highest Rate (%)	Surtax (%) (if any)	Basic Exemption (\$)
Newfoundland and Labrador	8.70	21.80		9,804
Prince Edward Island	9.80	16.70	10.00	11,250
Nova Scotia	8.79	21.00		8,481
New Brunswick	9.40	20.30		10,817
Quebec	15.00	25.75		16,143
Ontario	5.05	13.16	20.0–36.0	11,141
Manitoba	10.80	17.40		10,145
Saskatchewan	10.50	14.50		16,615
Alberta	10.00	15.00		19,814
British Columbia	5.06	20.50		11,302
Northwest Territories	5.90	14.05		15,609
Nunavut	4.0	11.50		16,862
Yukon	6.40	15.00		14,398

Source: Tax Tips, [www.taxtips.ca](http://www.taxtips.ca).



# Federal and Provincial Rates

TABLE I7.5

## Maximum Federal and Provincial Combined Rates for Three Types of Income, by Province, 2022

Province	Ordinary Income (%)	Dividends (%)	Capital Gains (%)
Newfoundland and Labrador	54.80	46.20	27.40
Prince Edward Island	51.37	34.22	25.69
Nova Scotia	54.00	41.58	27.00
New Brunswick	53.30	33.51	26.65
Quebec	53.31	40.10	26.65
Ontario	53.53	39.34	26.76
Manitoba	50.40	37.78	25.50
Saskatchewan	47.50	29.64	23.75
Alberta	48.00	34.31	24.00
British Columbia	53.50	36.54	26.75
Northwest Territories	47.05	28.33	23.53
Nunavut	44.50	33.08	22.25
Yukon	48.00	28.93	24.00

*Note:* These tax rates do not reflect various preferences given to certain investments in some provinces. Rather, they reflect the top marginal rates that may apply where such preferences do not exist or already have been fully realized.

*Source:* Tax Tips, [www.taxtips.ca](http://www.taxtips.ca).



# Statutory vs Effective Marginal Taxes

- The rates shown are **statutory marginal tax rates**
  - The rates specified in the tax code
- But earning one dollar more income can affect other government programs that affect how much of that dollar you keep
  - E.g., eligibility for benefits, credits, social assistance
  - These changes can act like a tax or subsidy on additional income
- The total effect is called the **effective marginal tax rate**
  - Statutory rate plus any changes in benefits/credits/social assistance



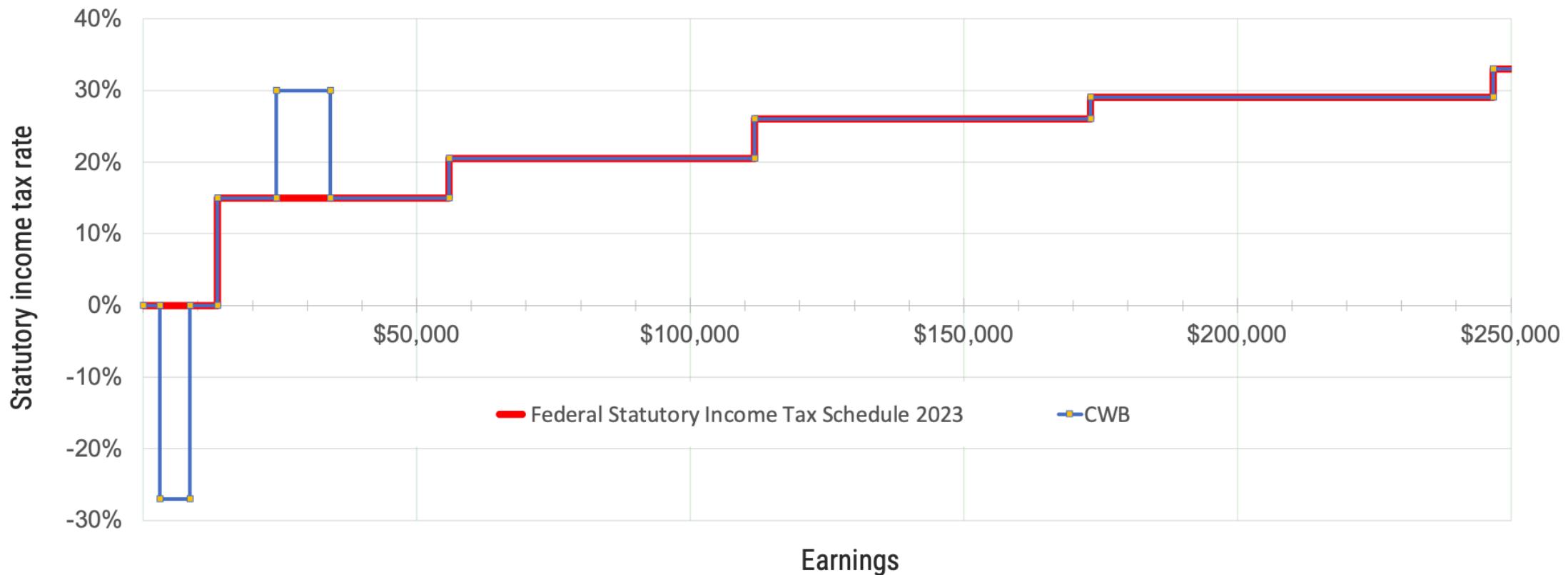
# Statutory vs Effective Marginal Taxes

- Several factors can drive a wedge between statutory and effective marginal tax rates
  - Surtaxes: additional taxes applied when income exceeds certain thresholds
    - Canada has mostly eliminated these, but some provinces still have them
  - Payroll taxes: taxes on earnings to fund social programs (e.g., CPP, EI)
    - These increase the effective marginal tax rate on labour income
  - Clawbacks: as income increases, eligibility for certain programs decreases
    - E.g., GST/HST credit, Canada Child Benefit, Old Age Security
- What matters for individual decision making is the effective marginal tax rate



# Statutory vs Effective Marginal Taxes

**Figure 2: Interaction between federal statutory income tax rates and Canada Workers Benefit, 2023**



Source: Author's calculation using Statistics Canada's SPSD/M. See footnote 11.

# Statutory vs Effective Marginal Taxes

TABLE I7.6

Factors Affecting Marginal Tax Rates: A British Columbia Example  
in 2019\*

Income (\$)	Tax Provision†	Change in Marginal Tax Rate (%)	Marginal Tax Rate (%)
0	Start of EI premiums	+ 1.62	1.62
3,000	Start of the CWB phase-in	-26.00	-24.38
3,500	Start of CPP premiums	+ 4.95	-19.43
11,981	End of CWB phase-in	+26.00	6.57
17,025	Start of CWB clawback: first threshold	+12.00	18.57
20,744	Start of 1st provincial bracket	+ 5.06	23.63
24,138	Start of 1st federal bracket	+15.00	38.63
31,711	Start of CCB clawback	+13.50	52.13
36,483	End of CWB clawback	-12.00	40.13
38,507	Start of GST clawback	+ 5.00	45.13
40,707	Start of 2nd provincial bracket	+ 2.64	47.77
47,630	Start of 2nd federal bracket	+ 5.50	53.27
53,100	Maximum EI premiums	- 1.62	51.65
56,547	End of GST clawback	- 5.00	46.65
57,400	Maximum CPP premiums	- 4.95	41.70
69,708	Start of CCB clawback: second threshold	- 7.80	33.90
76,137	End of CCB clawback	- 5.70	28.20
81,416	Start of 3rd provincial bracket	+ 2.80	31.00
93,476	Start of 4th provincial bracket	+ 1.79	32.79
95,259	Start of 3rd federal bracket	+ 5.50	38.29
113,506	Start of 5th provincial bracket	+ 2.41	40.70
147,667	Start of 4th federal bracket	+ 3.00	43.70
153,900	Start of 6th provincial bracket	+ 2.10	45.80
210,371	Start of 5th federal bracket	+ 0.25	40.00

\*This is for a one-earner couple with two children between ages 7 and 17. Applicable credits include those for self, spouse, and employment and maximum EI and CCP contributions. Only the employee shares of EI and CPP premiums are reflected in the table. B.C.'s statutory marginal tax rates in 2019 were 5.06, 7.70, 10.50, 12.29, 17.70, 16.80, and 20.00.

†EI = Employment Insurance; CPP = Canada Pension Plan; CWB = Canada Worker Benefit; CCB = Canada Child Benefit; GST = Goods and Services Tax.

Source: Kevin Milligan, Canadian Tax and Credit Simulator, Database, Software, and Documentation, Version 2019 (working version), 2019.



# Alternative Minimum Tax

- With the myriad of deductions and credits, it is possible to pay little or no tax despite high income
  - Wealthier people can hire accountants to find ways to reduce tax liability
- Canada has an **Alternative Minimum Tax (AMT)** to ensure high-income earners pay a minimum level of tax
- To calculate AMT, taxpayers add back certain deductions and credits to their taxable income
- Applies the normal tax rates to this adjusted income to calculate a minimum tax liability



# Effective vs Statutory Taxes Again

- We already discussed the differences between statutory and effective marginal tax rates
- This discussion can be broadened to consider these economic factors
  - The economic incidence of a tax is not always on the person who writes the cheque to the government
  - Taxes involve excess burden (deadweight loss) beyond the tax revenue collected
- Simply looking at the statutory tax rates ignores these factors
- Some economists have proposed a **flat tax** as a way to simplify the tax system and reduce excess burden
  - A single tax rate on all income, with few deductions or credits
  - Would reduce compliance costs and economic distortions



# Effective vs Statutory Taxes Again

- Pros of a flat tax would be
  - Simplicity: easier to understand and comply with
  - Lower compliance costs: less time and money spent on tax preparation
  - Reduced economic distortions: fewer incentives to alter behaviour to avoid tax
- Cons are
  - Equity concerns: flat tax is less progressive, may increase inequality
  - Some deductions and credits might be eliminated to broaden the tax base
  - Political feasibility: difficult to implement due to vested interests in current system



# Tax Unit



# Introduction

- The current tax unit in Canada is the individual
  - Each person files their own tax return
  - Income and taxes are calculated separately for each person
  - Some tax incentives exist for families
- Some countries use the family or household as the tax unit
  - Income and taxes are calculated for the family as a whole
  - Can lead to different tax liabilities compared to individual filing
- Which is the better approach?



# Individual vs Family as Tax Unit

- Individual filing is when each person files their own tax return
  - Even in couples, each income is taxed separately
  - Means that deductions and credits are calculated for each person individually
  - Though sometimes deductions and credits can be shifted between spouses
- Family filing is when the family unit files a single tax return
  - Income is combined and taxed as a whole
  - Deductions and credits are calculated for the family as a whole



# Individual vs Family as Tax Unit

- Next slide outlines an example showing difference for two types of families
  - A breadwinner family where one spouse earns most income
  - One where both spouses earn equal amounts
- Hypothetical progressive tax schedule is
  - 10% tax up to \$6000 in income
  - 50% tax for income beyond \$6000

TABLE I7.7

Tax Liabilities Under a Hypothetical Tax System

	Individual Income	Individual Tax	Family Tax with Individual Filing	Joint Income	Joint Tax
Lalan	\$ 1,000	\$ 100	\$12,200	\$30,000	\$12,600
Rahi	29,000	12,100			
Emile	15,000	5,100	10,200	30,000	12,600
Forian	15,000	5,100			

# Individual vs Family as Tax Unit

- With joint filing, it does not matter who earns income
  - Tax applies to the sum of the income, so who earns it is irrelevant
  - Both families pay the same tax
- With individual filing, it does
  - In example, one spouse earns almost all income
  - Means that more income is taxed at higher rates
  - Leads to higher burden
  - Means the two families pay different tax
- For both families, joint filing increases the tax burden



# Individual vs Family as Tax Unit

- Efficiency issues with the family as the taxable unit
  - With family as the taxable unity, everyone in the family pays the same marginal tax rate
  - Recall that using a Ramsay Rule argument, we want to tax labour differently depending on elasticity of supply
  - Using family as the tax unit means that people with different elasticities may face the same marginal tax rate
- Equity issues with family taxation
  - Some people believe that tax burdens should be equal across families
  - But taxing as a family can discourage work by the lower earning spouse
    - As noted, second earner faces higher marginal tax rates than if taxed individually
    - The lower earner in many families is female
    - Could discourage female labour supply



Some types of families may not actually share income

# Individual vs Family as Tax Unit

- Equity issues with the individual as the filing unit
  - Families who earn the same amount are taxed differently
  - Income splitting with individual filing
    - In Canada this happens with Canadian-Controlled Private Corporations (CCPCs)
    - Professionals like doctors, dentists, etc can incorporate
    - Inside a CCCP, income is split among family members through “income sprinkling”
    - Allows wealthy to lower their tax burden
- Other issues
  - What is a family?
    - Married couples, common-law partners, single parents, multi-generational households?



# Taxes and Inflation

# Introduction

- Inflation is the general increase in prices in the economy
- Nominal wages and asset prices tend to rise with inflation
  - Some wage contracts are directly indexed to inflation
- But income taxes are based on nominal income
- This can lead to some problems in the tax system



# Bracket Creep

- In a progressive tax system, there are different marginal tax rates for different ranges on incomes
- As nominal incomes rise with inflation, people can be pushed into higher tax brackets
  - Even if their real income (purchasing power) has not increased
- Example
  - Suppose tax on first \$6000 of income is 10%, and income above \$6000 is taxed at 50%
  - In 2024, a person earns \$6000 and pays \$600 in taxes
  - Suppose that between 2024 and 2025 there is 10% inflation, and the person's nominal income rises to \$6600
  - Now the person pays  $\$600 + 0.5 * (\$6600 - \$6000) = \$900$  in taxes
  - But their real income is the same
- The movement into higher tax brackets due to inflation is called **bracket creep**



# Bracket Creep

- To avoid bracket creep, governments can index tax brackets to inflation
  - Adjust the income thresholds for tax brackets based on inflation rate
- But this only works with anticipated inflation
  - Unanticipated inflation can still lead to bracket creep
- Canada does adjust the brackets for inflation to avoid this problem



# Deductions and Credits

- Some deductions and credits are fixed amounts
  - E.g., basic personal amount, age amount, medical expenses threshold, child care deduction limit
- These amounts may not be indexed to inflation
- The real value of these deductions and credits erodes with inflation
  - People may pay more taxes in real terms even if their real income has not increased
- Example: child care deduction limit is \$8000 per child under 7
  - If this stays constant over time, purchasing power of this deduction decreases with inflation



# Capital Income

- We briefly discussed the issue of inflation and capital income
- Assets grow with inflation
  - Stocks, real estate, etc.
- But when assets are sold, the capital gains tax is based on nominal gains
- Means part of tax is based on inflation, part based on real gains
- Example: An asset increases in nominal value by 5% in a year, and inflation is also 5%
  - If a person sells the asset, capital gains tax is based on 5% nominal gain
  - But their real gain is 0%
  - Taxes based entirely on inflation



# Interest Income

- Like with capital gains, interest income is taxed on nominal amounts
- If you earn interest on a savings account, the interest is included in income
- But part of that interest is just compensating for inflation
  - Real return may be lower than nominal return
- The real return on an investment is  $r = i - \pi - ti$ 
  - Where  $i$  is the nominal interest rate,  $\pi$  is the inflation rate, and  $t$  is the tax rate on interest income
- So a \$100 investment that earns 6% nominal interest with 3% inflation and a 50% tax rate has a real return of
  - $r = 0.06 - 0.03 - 0.5 * 0.06 = 0$



# Solving The Inflation Problem

- Main solution to brack creep and deduction/credit erosion is to index to inflation
  - Canada has been partially indexing the personal income tax system since 1973
  - Indexing has expanded over time
  - Still not all parts are indexed
  - Remember also that unanticipated inflation can still cause problems
- Tables on next slides outline the current state of indexing



# Solving The Inflation Problem

**TABLE 2 Examples of Indexation in the Canadian Income Tax System**

Personal income tax system	Corporate tax system
Fully indexed	
Tax brackets	
Basic personal amount	
Disability credit	
Medical expense threshold	
Canada caregiver credit and thresholds	
Canada employment amount	
Canada Pension Plan and employment insurance amounts	
Old age security amounts	
Canada child benefit	
Adoption expenses credit	
Registered retirement savings plan limit	
Capital gains exemption	
Partially indexed (triggered indexation)	
Tax-free savings account amount	
Money purchase plan amounts	



# Solving The Inflation Problem

## Not indexed

- Non-cash gifts or rewards
- Registered education savings plan amounts
- Transfer of education tax credit amount
- Child care expense limits
- Housing loss for employee moved for work
- Simplified method of calculating home office expense
- Volunteer emergency service fees
- Minimum amounts for capital gains calculations
- Pension tax credit
- Home accessibility credit
- Minimum tax basic exemption
- Multigenerational home renovation credit
- Home buyer's credit
- Tax-free first home savings account
- Teacher's school supplies credit
- Canadian news media credit
- Small business deduction amount
- Limit on passive income for small business deduction
- Limit on capital for small business deduction
- Refundable scientific research and experimental development amount

# Solving The Inflation Problem

- There are also equity issues that are solved by indexing
- Without indexing, the value of tax credits erodes over time
  - Lower income people using more credits are disproportionately affected
  - The burden of inflation would be worse for them
- Indexing is important to maintain the real value of these income support measures



# International Income

# Introduction

- We have only talked about income earned within Canada
- Many Canadians earn income abroad
- Should Canada or the other country (or both) tax this income?
- Different countries take different approaches



# Taxation of Foreign Income in Canada

- Taxation in Canada is based on residency
- Residents of Canada pay tax on income earned worldwide
- To avoid double taxation, Canada offers a foreign income tax credit
  - Foreign tax paid lowers Canadian tax owed on that income
  - Credit can offset part or all of Canadian taxes
  - But Cannot exceed Canadian tax owed on that income
- In contrast, US citizens are taxed regardless of residency
  - US citizens pay tax on worldwide income even if they live abroad
  - Foreign tax credit also available to avoid double taxation

# Taxation of Foreign Income in Canada

- Is a residency-based system better than citizenship-based?
- Equity considerations
  - Residents of the same foreign country can be taxed differently based on citizenship
    - E.g. Canada versus US citizens living in the same foreign country
  - Citizens of the same country can be taxed differently based on residency
    - E.g. Canadian citizens living in Canada versus abroad
  - Different definitions of horizontal equity would make one more equitable



# Taxation of Foreign Income in Canada

- Efficiency considerations
  - Taxes can affect decisions on production
    - American firms abroad may face higher taxes if owners are US citizens
    - Could discourage investment abroad
    - Canadian firms would not face this issue
  - Taxes can affect decisions on migration
    - US citizens face no tax advantage to moving abroad
    - Canadian citizens may face tax advantages to moving and residing abroad



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