

# WHICH FAMILIES BENEFITED FROM THE RECENT PERSONAL INCOME TAX REFORM IN TAIWAN – EVIDENCE FROM THE ADMINISTRATIVE DATA

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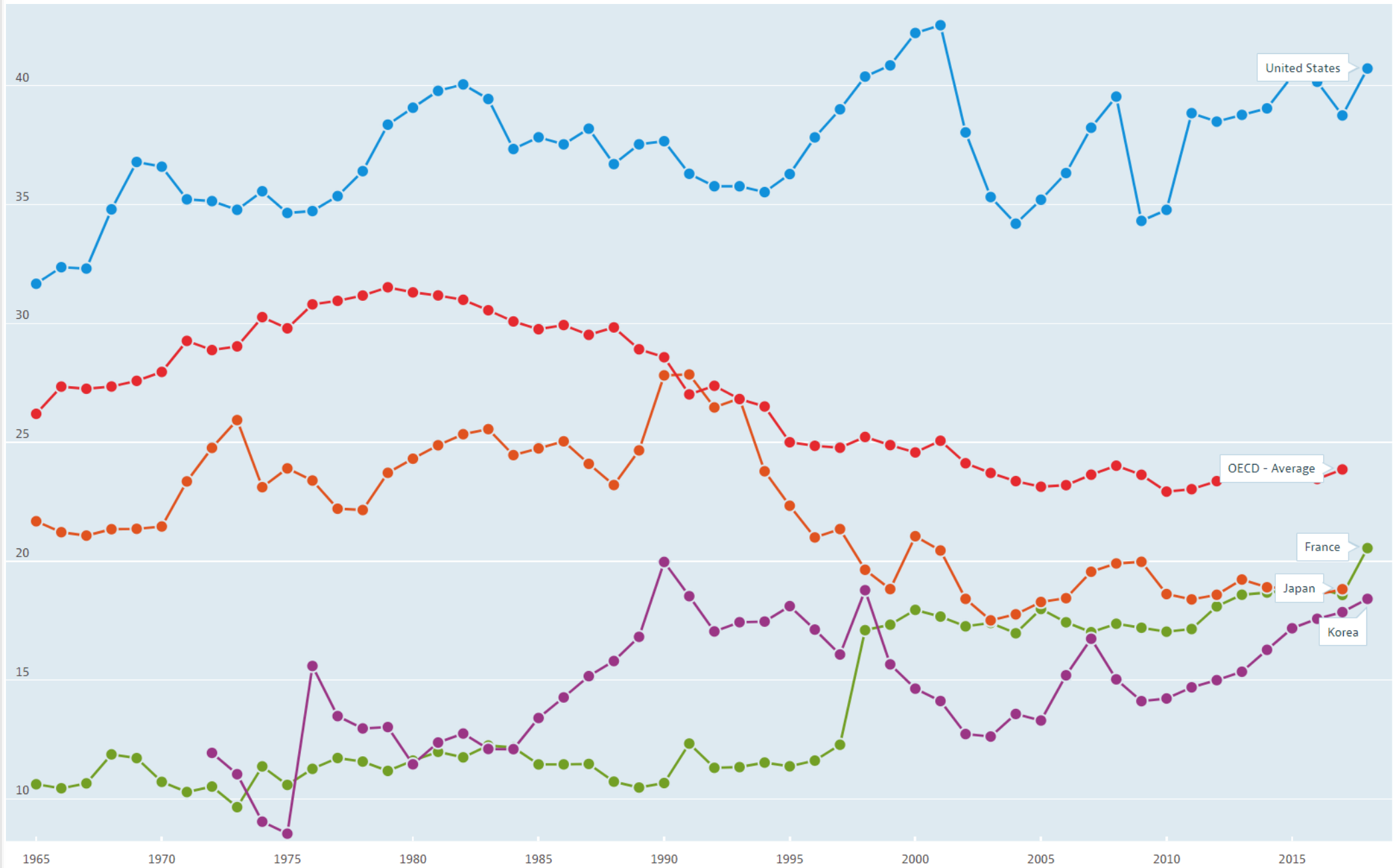
# THE NEVER ENDING PURSUIT OF A “RIGHT” PIT

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Personal income tax (PIT) continues to be a critical component of modern tax systems

- A major source of government revenue
  - Among OECD countries, personal income tax on average accounts for about **25%** of national tax revenue, or close to 8% of GDP (OECD, 2018 )
- A vital policy tool to achieve equity and other objectives of public interests.
  - “**Direct tax**”: can be levied directly on individuals and households

# PERSONAL INCOME TAX AS % OF TAX REVENUE, 1965 – 2018



Data source: OECD (2019), Tax on personal income doi: 10.1787/94af18d7-en  
Graph retrieved from <https://data.oecd.org/chart/65aa>

# RECENT REFORMS OF PIT

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- Payments of income tax should reflect a taxpayer's **ability to pay**
- The design of income taxation often incorporates various forms of **exemptions** and **deductions**.
  - Often based on personal or household characteristics to reflect one's ability to pay
  - e.g., medical expenses, mortgage interest payments, education expenses
- Recent reforms among OECD countries focused on lowering the marginal tax rate (OECD, 2016, 2017, 2018, 2019)
- Many countries have also adjusted the scope of taxable income to lower the tax burden for certain subpopulations (wage earners/ families in need of assistance) Increasing **popularity** and growth in size in many countries since they are often treated as tax cuts instead of spending programs
  - See, for example, Branco & Costa (2018), Burman & Phaup (2012)

# JUSTIFICATION FOR PIT DEDUCTIONS

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- Kahn (1960) classify the personal deductions in the US into two categories:
  - to encourage economic behaviors (such as charitable contribution)
  - to promote equity by lowering taxable income to reflect unavoidable or emergency expenditures (such as medical expense).
- The effectiveness of personal deduction as a tool to incentivize personal behavior remains an active field of research topic.
  - PIT deductions as a Pigouvian tax to correct externality
  - The socially optimal level of PIT should help the consumer internalize the social benefits or costs
  - Whether deductions of income tax can generate observable behavior changes and whether it is a cost-effective policy tool remain highly debatable (see, e.g., Sammartino & Toder (2020))

# DISTRIBUTIONAL EFFECT OF PIT DEDUCTIONS

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- The economic implications of specific provisions in personal income tax are extensively studied in the literature
  - See, e.g., Bourassa & Yin, 2008; Feldstein & Clotfelter, 1976; Jensen, 1954; King, 1983; Sommer & Sullivan, 2018; Taussig, 1967
- Fewer studies have examined the overall distributional effects of PIT deductions
  - partly due to the complexity of income tax codes
  - and the lack of quality data

# DISTRIBUTIONAL EFFECT OF PIT DEDUCTIONS

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- Burman et al. (2008) estimate the distribution of benefits and tax liabilities for the federal income tax in the US
  - The distributional effects of deductions **vary substantially** due to the differences in designs of each deduction
  - The overall net effect of tax expenditure for individual income tax is **regressive**
- Barbetta et al. (2018) use administrative data to analyze the redistributive effects of Italy's personal income tax
  - Itemized deductions tend to have **little impacts** on income redistribution.
- Our Research Objectives: despite of its importance, our understanding of income tax's impact on equity remains limited
- Provide a detailed examination of the distributional implications of Taiwan's recent income tax reform
- Utilize the administrative data to analyze the ramifications of changes in deductions and exemptions for families in various stages of life.

# Institutional Setting (I)

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- Families as the tax return units / territorial principle
- Taxpayer Protection Act (TPA, applicable to the 2017 tax year)
- Basic Living Expense (BLE) as a newly enacted Standard Deduction interplaying with many itemized deductions

## 基本生活費差額 Basic Living Expense Difference : (See Instruction I)

108年度每人基本生活費 Basic Living Expense per person in 2019 NT\$ 175,000 × 本申報戶共 Total people (輸入數字)人 = 基本生活費總額  
Basic Living Expense NT\$ (輸入金額)

基本生活費總額 Basic Living Expense (輸入金額) - ④基本生活費比較項目合計數 The Total Amount of Basic Living Expense Comparison Items (輸入金額) = ③基本生活費差額 Basic Living Expense Difference (輸入金額) (請填入正面基本生活費差額欄內 Please enter the results into the Basic Living Difference Column on the front page.) (若為負數請填寫“0” if it is negative, please fill in “0”)



# Institutional Setting (II)

- A Natural Experiment from 2016-2018

## ITEMS RELATED TO THE ADJUSTED BLE ALLOWANCE FORMULA

Items	Tax Year 2017	Tax Year 2018
<b>Exemption (per person)</b>	88,000	88,000
<b>Standard Deduction(Single/Couple)</b>	90,000/180,000	120,000/240,000
<b>Special Deduction for Savings and Investment</b>	Not included	Newly included
<b>Special Deduction for the Disabled (per person)</b>	Not included	Newly included
<b>Special Deduction for College Tuition</b>	Not included	Newly included
<b>Special Deduction for Pre-school children care</b>	Not included	Newly included
<b>Special Deduction for Wage Income</b>	128,000 (per person)	Not included
<b>Special Deduction for Loss from property transactions</b>	Not included	Not included

# Features of the Administrative Data

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- Fiscal Information Agency (FIA)
  - The de facto data czar on tax and wealth
  - Process 6 millions PIT returns annually
- Academic outputs
  - Chu, Chou and Hu (2015): Top Incomes in Taiwan 1977-2013
  - Chu and Lin (2020): Intergenerational earnings mobility in Taiwan: 1990–2010
  - Lien et. al. (2020): Wealth Distribution in Taiwan 2004–2014
- This Paper: study 2016-18 PIT with focus on exemptions and deductions applied to families

# Descriptive Statistics

Tax Year	Obs	Mean	Medium	Total AGI	Std.	Range
2016	6,224,134	933,707	621,898	5,811,520,263,601	5,159,491	10,315,644,687
2017	6,304,444	943,733	627,449	5,949,687,932,396	4,310,639	7,783,920,126
2018	6,271,521	1,011,172	650,740	6,341,596,942,310	6,592,439	6,815,622,386

## Some more statistics

<b>Tax Year</b>	<b>Average Tax Rate</b>	<b>Effective Tax Rate</b>	<b>Total Tax Payable</b>	<b>Erosion of the Tax Base</b>
<b>2016</b>	12.69%	5.57%	323,987,722,626	35.87%
<b>2017</b>	12.70%	5.56%	330,921,803,514	36.29%
<b>2018</b>	11.46%	3.66%	232,083,648,180	51.13%

# Analysis/Preliminary Results (I)

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- Which families benefited more from the BLS?
  - wage earners
  - married couples with dependents
  - lower AGI (0% & 5 % marginal tax rate returns)

# Analysis/Preliminary Results (II)

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- Which families took the advantage of itemized deductions more?
  - unearned incomers
  - married couples claiming no dependents
  - higher AGI (40% marginal tax rate returns)

# Relevant Points for future policy reforms

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- in the shadow of a worsening tax-to-GDP ratio, Taiwan's tax authority need to confront with the challenges of phasing out some of the uncapped itemized deductions such as charitable donations and the very generous special deduction for savings and investment.
- Items to be included/excluded from the BLS formula

# Future research agenda

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- More details and hence more feasible analysis on behavioral response
  - Detecting the bunching window (Saez, 2010, Am Econ J Econ Policy)
  - To shed light on legislative behavior associated with PIT reform proposals
- Thank you for your attention, comments welcome!