THE MAGNITUDE OF BASE EROSION AND PROFIT SHIFTING (BEPS) OF MULTINATIONAL ENTERPRISES (MNEs) WITH THEIR BUSINESS OPERATIONS IN NEW ZEALAND

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INTRODUCTION

What is Base Erosion and Profit Shifting (BEPS)?

WHY BASE EROSION AND PROFIT SHIFTING MATTER?

- **Loss of Revenue**

2017 OECD report finds an annual revenue loss of USD $100 – 240 billion per annum.

Zucman et al. (2018) estimated that the tax loss is closer to $ 200 billion per annum.

- **Unequal playing field**

Distortion of business competition between MNEs and domestic companies.

- **Economic inefficiency**

Misallocation of resources.

WHY DO WE NEED TO MEASURE THE MAGNITUDE OF BEPS?

Evidence on the existence of BEPS in the global economy

Author	Year	Data	Sample	Semi-elasticity Coefficient toward CIT rate difference
Hines and Rice (1994)	1982	Cross-section	United States MNEs	-2.25
Huizinga and Laeven (2008)	1999	Cross-section	European countries	-1.3
Clausing (2009)	1982 -2004	Panel	United States MNEs	-0.5
Dischinger (2010)	1995 -2005	Panel	Affiliated company located in Europe	-0.7
Lohse and Riedel (2013)	1999 -2009	Panel	European MNEs	-0.4
Heckemeyer and Overesch (2013)	1999 - 2009	Panel	Various countries based on consensus	-0.8 (“consensus” estimate)

NEW ZEALAND CORPORATE INCOME TAX RATE IN PAST 15 YEARS

Year	Corporate Tax Rate
2003 -2007	33%
2008 -2010	30%
2011 - present	28%

- New Zealand's company tax rate is the 10th highest in the OECD (2017).
- The United States had a recent corporate tax rate cut from 35% to 21%.

STATEMENT OF THE PROBLEM

Globalization and the rise of **cross-border trade and investments** open up opportunities for MNEs to relocate profit from high-tax countries to low-tax or no-tax countries.

I pay “fair share” of tax.

The analyses of International Organizations (IMF, OECD) vary substantially.

Everything is legal.

The magnitude of BEPS deviates across academic studies.

OBJECTIVE OF THE RESEARCH

To quantify the impact of profit shifting by measuring the magnitude of BEPS in New Zealand.

1. Most research are **U.S.-specific** and **EU-centric**.
2. Kristiaji (2015) studied the profit shifting activities in **developing countries**.
3. No study carried out in **Australasia**.
4. The business environment in New Zealand is specific.

- New Zealand ranked first in the World Bank's Ease of Doing Business Index 2018.
- New Zealand has been named the least-corrupt country in the world according to the Corruptions Perception Index released by Transparency International in 2017.
- Corruption increases total profit shifting of a multinational. Corruption also amplifies profit-shifting incentives (Habu and Siedel, 2017).

SCOPE OF THE RESEARCH

- To quantify the magnitude of BEPS
- New Zealand
- Firm-level financial data

CURRENTLY AVAILABLE DATA

MACRO-DATA AVAILABILITY

Data	Source
National Accounts	OECD
	IMF
Balance of Payments (BOP) Statistics	IMF BOP Statistics
	World Bank Development Indicators
Foreign Direct Investment (FDI)	OECD FDI Statistics
	IMF Coordinated Direct Investment Survey (CDIS)
Corporate Income Tax Revenue Statistics	OECD Revenue Statistics
	IMF Government Finance Statistics
	Individual country aggregate revenue statistics

MICRO-DATA AVAILABILITY

Data	Source
Company financial information	Published company financial statements
	Commercial databases
	Open access databases
	Databases administered by public authorities
Corporate income tax returns	Tax authorities
Detailed specific company tax information	Public enquiries by legislative and parliamentary committees
Custom (trade) data	Customs agencies

Adapted and modified from Public Discussion Draft – BEPS Action 11: Improving the analysis of BEPS [Annex 1]. Copyright 2015 by OECD

REVIEW OF THE EMPIRICAL LITERATURE

PROFIT MEASURE ⟷ **TAX DIFFERENCE**

- International tax differences – a tax incentive.
- The most common approach pursued in the literature (e.g. Huizinga and Laeven, 2008; Clausing, 2009; Dischinger, 2010; Heckemeyer and Overesch, 2013 and etc.).
- Inverse relation between the corporate tax rate difference and affiliates' reported pre-tax profits.
- Indirect approach.

HYPOTHESES DEVELOPMENT

Pre-tax profit ⟷ **Tax Difference**

- **Sub-group A**

MNEs' subsidiaries located in New Zealand and their foreign parent firms,

and

- **Sub-group B**

New Zealand multinational parents and their subsidiaries located in other countries.

✓ **H1**: Corporate tax rate differential is significantly associated with pre-tax profitability of **MNE's subsidiaries in New Zealand**

✓ **H2**: Corporate tax rate differential is significantly associated with pre-tax profitability of **New Zealand multinational parents**

EMPIRICAL MODEL

$$\text{Log}\mathbf{PTP}_{it} = \beta_0 + \beta_1\mathbf{TAXDIFF}_{it} + \beta_2 X_{it} + \rho_t + \varphi_i + \varepsilon_{it}$$

PTP = Unconsolidated pre-tax profit of affiliate *i* at time *t*

TAXDIFF = Statutory tax rate difference of affiliate *i* to its parent in year *t*

$\boldsymbol{X_{it}}$ = Time varying control variables which comprising firm characteristics (the fixed assets, the cost for employees and leverage ratio of affiliate *i* at time *t*) as well as host country characteristics (GDP, GDP per capita and the CPI in the affiliate's host country)

$\boldsymbol{\rho_t}$ = Year fixed effects (year dummies)

$\boldsymbol{\varphi_i}$ = Affiliate fixed effects (unobserved characteristics on the firm level and on the country level)

$\boldsymbol{\varepsilon_{it}}$ = Error term

β_0 = Constant Interception

EMPIRICAL MODEL

Dependent Variable		
Pre-tax Profit*	PTP	Amount of profit before tax of a subsidiary in log form
Independent Variables		
Tax Differential (Sub-group A)	TAXDIFF	Corporate statutory tax rate of a subsidiary – corporate statutory tax rate of its parent
Tax Differential (Sub-group B)	TAXDIFF	Corporate statutory tax rate at the parent location – the average corporate statutory tax rate at its foreign subsidiaries

***Note*. *** Unconsolidated values in absolute terms of New Zealand dollars

EMPIRICAL MODEL

Control Variables		
Firm Level:		
Fixed Assets*	Capital Input	Amount of tangible fixed assets in log form
Cost of Employees*	Labour Input	Amount of employee compensation expenses in log form
Financial Leverage Ratio		Total Liabilities/Total Assets in log form
Country Level:		
GDP	Market size	Gross Domestic Product (GDP) in log form
GDP Per Capita	Country's income and Development level	per capita GDP in log form
Corruption Perception Index	The quality of governance Institutions	The value ranges from 0 (to represent the most corrupt country) to 10 (the least corrupt country) in log form

***Note*. *** Unconsolidated values in absolute terms of New Zealand dollars

SAMPLE SELECTION

- NZ's largest companies ranked according to the **company revenues**.
- Publicly-listed firms and even larger unlisted firms.
- The New Zealand business must operate for a commercially determined profit.

- It identifies the global biggest public companies according to **sales**, **profits**, **assets** and **market values** of the companies.
- It employs other data sources such as Bloomberg and available financial statements to cross-check the quality of the financial data downloaded from FactSet Research Systems.

DATA COLLECTION PROCEDURES

The variables needed for this study will be **hand-collected** from:

1. Publicly available financial statements published by New Zealand Companies Office.

2. Commercial database – Orbis.

3. Commercial database – Bloomberg.

DATA COLLECTION PROCEDURES

The final sample of data will exclude:

FINANCIAL AND INSURANCE COMPANIES

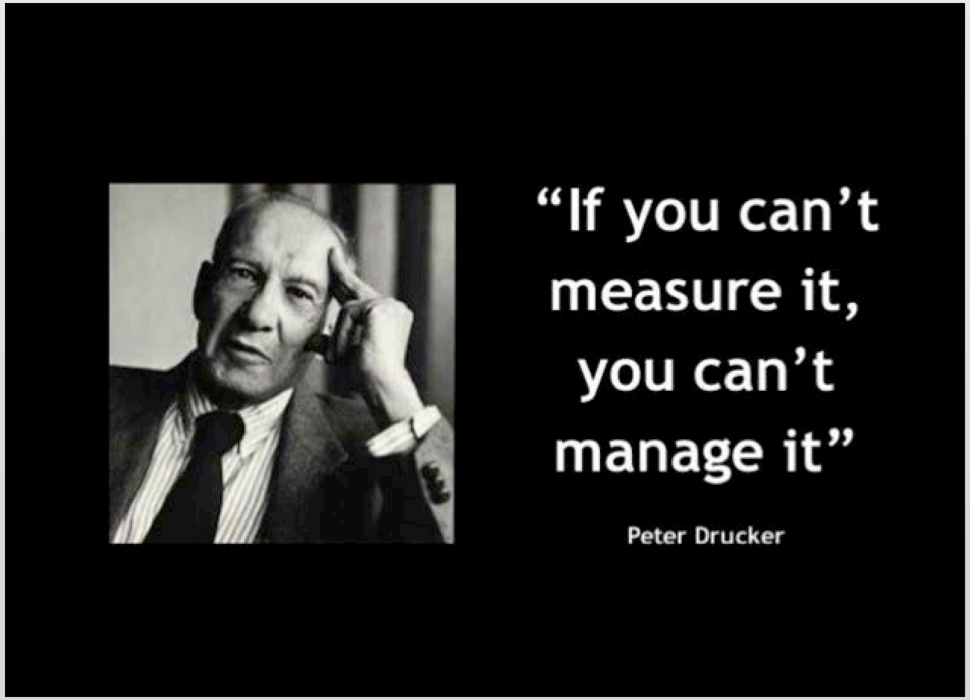
THE ENTERPRISES WITH INCOMPLETE FINANCIAL DATA

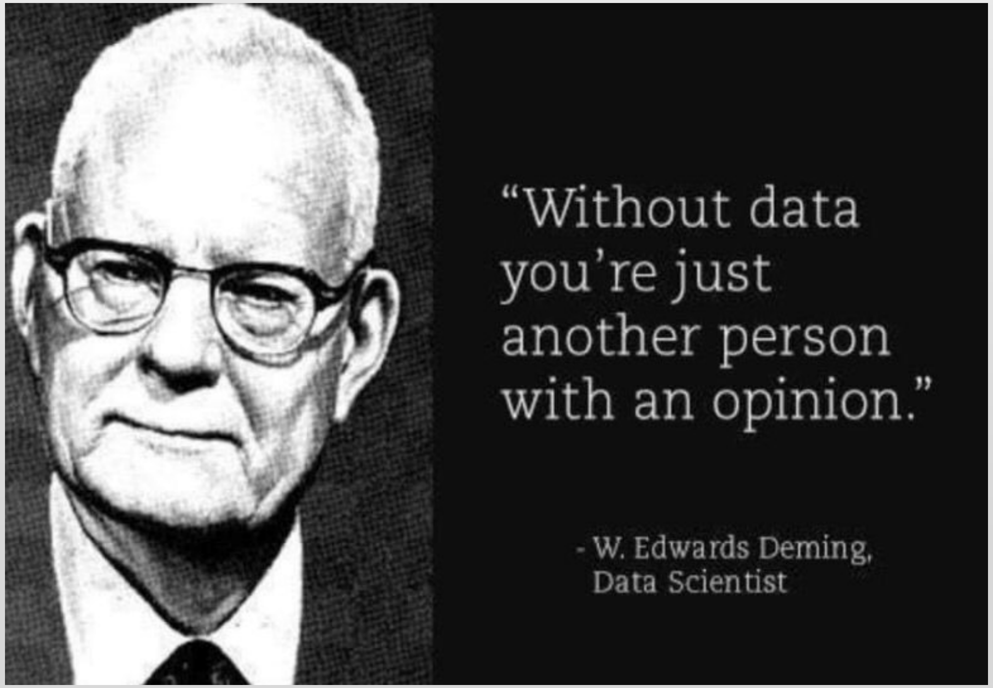
THE ENTERPRISES WITH OPERATING LOSSES AND WITH NEGATIVE OPERATING CASH FLOW

CONCLUSION

International corporate tax avoidance is a broad research topic.

Focus: to measure the extent of profit shifting among MNEs.





Successfully defended PhD proposal in December 2018.

THANK YOU !

Questions?
Comments?
Suggestions?