Tax Working Group
Te Awheawhe Tāke

Tax Working Group Information Release

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Coversheet: **Estimated fiscal impact of a 2008 style share market crash on managed fund**

Background Paper for Session 25 of the Tax Working Group
19-20 December 2018

Purpose of discussion

This paper responds to a request from the Group for an estimate of the impact on revenues from taxing managed funds on accrual if there was a sharemarket crash similar to 2008.

Key points for discussion

a. Revenue from an accruals based tax on managed fund shares is likely to be highly volatile and result in decreased overall tax revenue during a recession.

b. An accruals based tax on foreign shares is expected to a greater impact on volatility than domestic shares as managed funds hold more foreign shares than domestic.

c. Preliminary estimates from the Secretariat suggest that if an accruals based tax was applying to shares held by managed funds during the Global Financial Crisis, overall tax revenue would have declined in 2008 (the height of the crisis):

   i. By approximately 0.3% of GDP due to the accruals based tax on domestic shares (compared with just taxing dividends)

   ii. By approximately 1.6% of GDP due to the accruals based tax on foreign shares (compared with taxing on an FDR basis)

d. The estimated combined effect of these would have been to reduce core Crown tax receipts as a percentage of GDP from 29.2% of GDP (from taxing on an FDR and dividends basis) in 2008 to 27.3% (from taxing on an accruals basis).

Recommended actions

We recommend that you:

a. **note** the analysis in this paper.

b. **note** that the analysis has been prepared in a very short period of time. The results should be considered as preliminary and indicative, and subject to change as a result of further quality assurance.

Estimated fiscal impact of a 2008 style share market crash on managed funds

Background Paper for Session 25
of the Tax Working Group

December 2018

Prepared by the Inland Revenue Department and the New Zealand Treasury

1. Introduction

1. This paper responds to a request from the Group for an estimate of the impact on revenues from taxing managed funds on accrual if there was a sharemarket crash similar to 2008.

2. The paper considers:

    a. The impact on domestic shares
    b. The impact on foreign shares
    c. The combined impact on Government revenue
    d. Historic share price data and supporting methodological assumptions

3. The analysis has been prepared in a very short period of time. The results should be considered as preliminary and indicative, and subject to change as a result of further quality assurance.

2. Potential historical fiscal impact of taxing managed fund shares on accrual

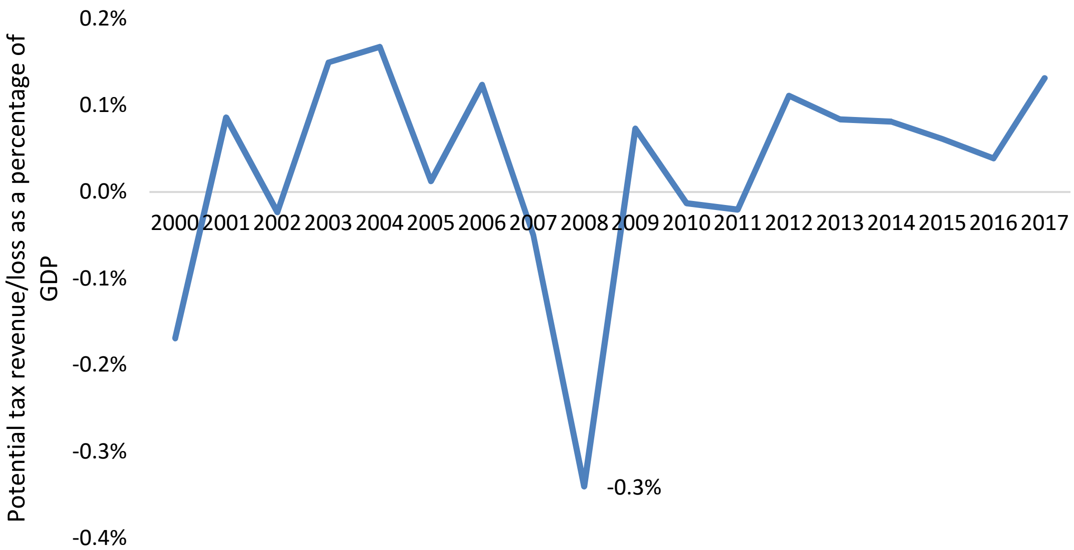
Domestic shares

4. The graph below shows the Secretariat's preliminary estimate of what the historic tax revenue would be if New Zealand taxed domestic shares held by managed funds on an accruals basis rather than just taxing dividends. The calculation uses the value of shares held by managed funds at December 2017 and treats it as a bundle of shares held by managed funds from 2000-2017.

5. The calculation assumes that managed funds can cash out losses (so revenue can be negative). Further information on the methodology for the estimate is in Part 3 of this paper.

6. The preliminary indicates that if there was an accruals based tax on domestic shares held by managed funds then in 2008, tax revenues would have reduced by 0.3% of GDP due to NZ share prices reducing 34%.

Figure 1: Historical potential tax revenue - accruals tax on managed fund domestic shares

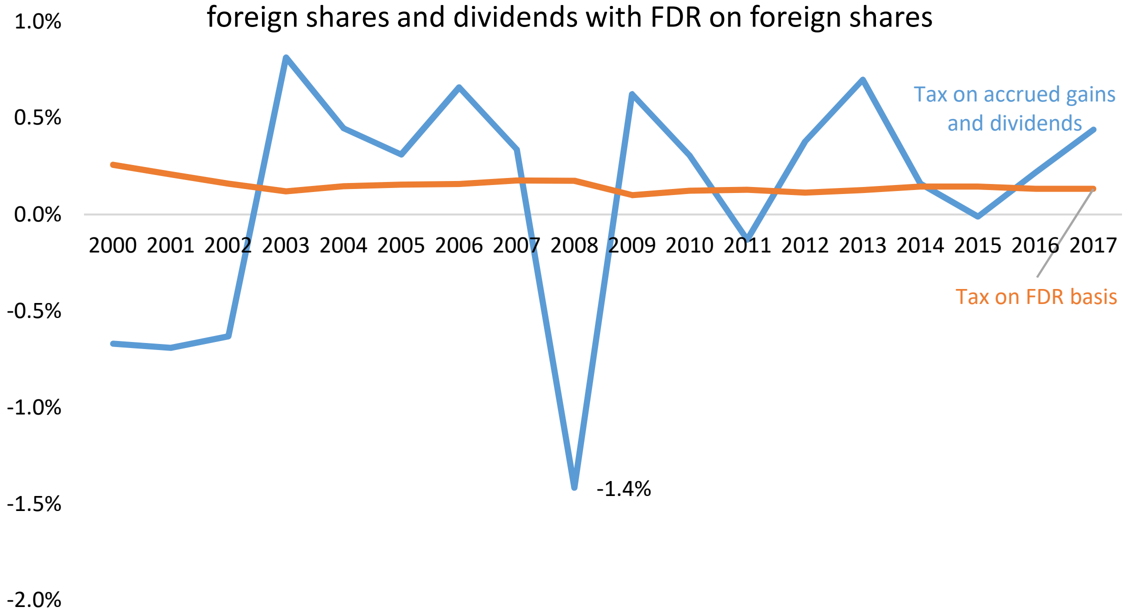


7. Using this methodology the estimated long-run fiscal impact of taxing domestic shares on an accrual basis is that:
    - From 2000-2017: Average tax revenues increase by 0.03% of GDP
    - From 1995-2017: Average tax revenues increase by 0.03% of GDP

Foreign shares

8. Figure 2 below shows the Secretariat's preliminary estimate of the historical impact on tax revenue if, for foreign shares held by managed funds, New Zealand taxed accrued gains and dividends rather than taxing on an FDR basis from 2000-2017. For simplicity, these have been calculated as if FDR was always applying over this period (rather than being introduced in 2007).

Figure 2: Historical potential tax revenue - comparing accruals tax on foreign shares and dividends with FDR on foreign shares



9. The impact of accruals taxation on foreign shares is more significant than accrual taxation on domestic shares. This is because managed funds hold more foreign shares and share prices dropped more for foreign shares in 2008. Tax losses hit a peak of 1.4% of GDP in 2008 due to share prices falling 42% during the global financial crisis. This means that tax revenue is 1.6% less than if there was tax on an FDR basis for this year.

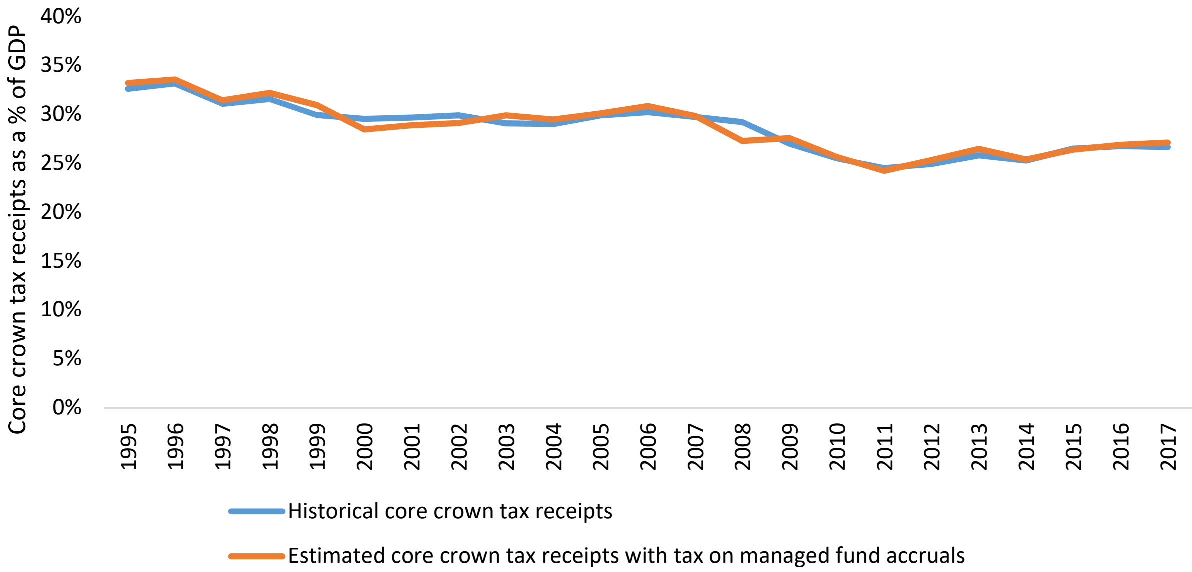
10. Using the above methodology, the long-run fiscal impact of an accruals tax on foreign shares compared with FDR is:
    - From 2000-2017: Average tax revenues decrease by 0.05% of GDP
    - From 1995-2017: Average tax revenues increase by 0.08% of GDP

11. The difference between 2000-2017 and 1995-2017 is because 2000 was the start of the dotcom crash.

How significant is this for total government revenue?

12. Figure 3 below shows the preliminary estimates of an accruals tax on both domestic and foreign shares on core Crown tax receipts.

Figure 3: Core crown tax receipts as a percentage of GDP - with accruals tax on managed funds



13. Figure 4 below provides the information from 2000-2017 with a shortened vertical axis to make the differences clearer.

Figure 4: Core crown tax receipts as a percentage of GDP - with managed fund taxation

14. In 2008, at the height of the Global Financial Crisis, these preliminary estimates suggest the impact of accruals taxation on managed funds would have been to reduce tax revenue from 29.2% of GDP to 27.3% of GDP.

3. **Historic share prices**

15. Figures 5 and 6 below show annual share price changes for NZ and international shares from 1995-2017. These show the main driver of volatility for the estimates in the figures above.

Figure 5: Annual share price changes - New Zealand

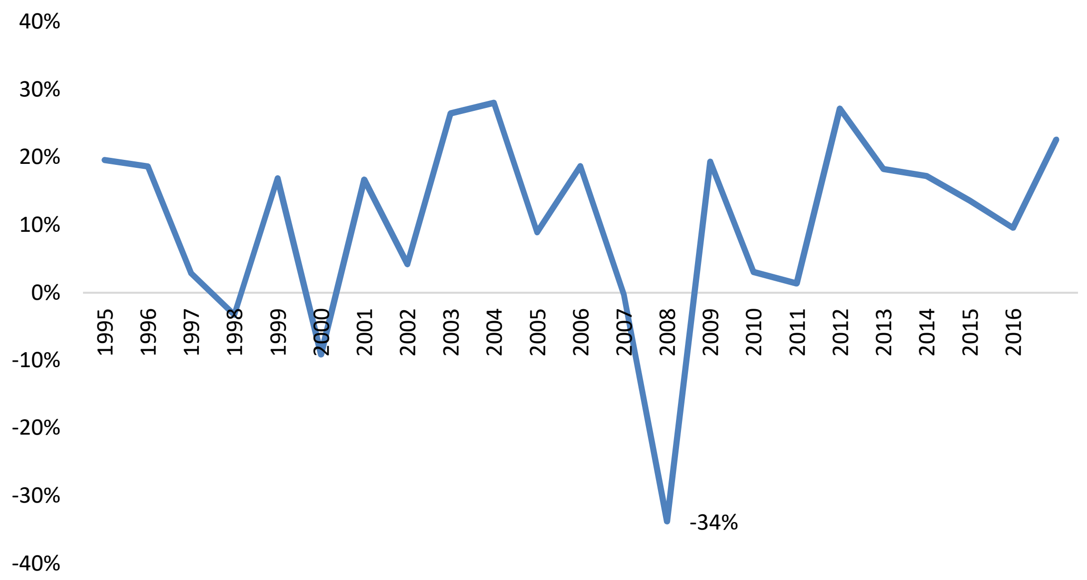
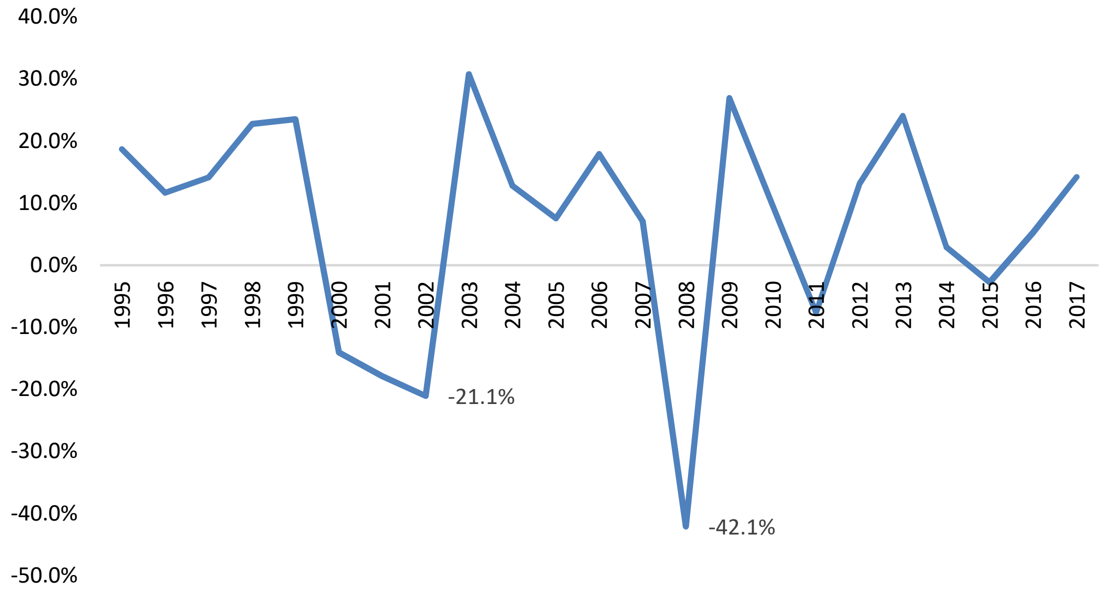


Figure 6: Annual share price changes - international



4. Methodology for estimates

16. The Secretariat has made the estimates using the value of domestic and foreign shares held by managed funds as at December 2017.

17. These shareholdings are taken as essentially a "bundle of shares" that we have assumed to be held by managed funds from 1995-2017. The value of these shares change every year based on assumed share price growth and loss. The calculations assume that managed funds distribute dividends so these do not increase the value of shareholdings.

18. Dividends are calculated using the indices outlined below.

19. From these data sources three calculations are made to determine potential tax bases:
    - The accrued gains and losses made every year (change in value of shareholding)
    - The dividends earned (value of shares x dividend yield)
    - Potential FDR revenue (value of shares x 5%)

20. Then from these three calculations, potential tax revenue is calculated for:
    - *Domestic shares:* as if there was an accruals based tax on shares and if there was just a tax on dividends (25% tax rate)
    - *Foreign shares:* as if there was an accruals based tax on shares, and taxation in dividends, or if there was just FDR (25% tax rate)

21. Due to data limitations, Australian shares are not able to be separated from other foreign shares. As a result, the estimated revenue from foreign shares include Australian shares.

Data sources:

Assumption	Data source
Value of domestic shares as at December 2017:	Reserve Bank Managed Fund Assets $9.49b held by managed funds as at December 2017
Value of overseas shares as at December 2017	Reserve Bank Managed Fund Assets $51.41b of overseas assets held by managed funds as at December 2017 65% of these are assumed to be shares – based on KiwiSaver proportions
Value of shares from 1995-2016:	Domestic shares: NZX all capital index (taken from Haver analytics) Overseas shares: MSCI all index (taken from Haver analytics)

Dividend yields	Domestic shares: comparison of NZX gross index (which includes dividends) and NZX all capital index (which does not) Domestic share dividends uplifted by (1/0.72) to include imputation credits (NZX gross index does not include imputation credits) Overseas shares: comparison of MSCI World gross and capital index
Tax revenue and tax revenue as a percentage of GDP	Treasury fiscal time series historical fiscal indicators 1972-2018