

Attachment 7.31

Hathaway, Imputation Credit Redemption ATO data 1988-2011

May 2014



Imputation Credit Redemption ATO data 1988-2011

Where have all the credits gone?

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1. Introduction

- 1 My name is Neville Hathaway. I have a Ph. D, an M.Sc. and B. Sc (Hons) in Mathematics. I have held academic positions for 16 years culminating as an Associate Professor of Finance at Melbourne Business School, The University of Melbourne. I am currently employed in the Australian investment industry and have 15 years of experience in that capacity. My curriculum vitae is provided separately.

1.1 Terms of reference

- 2 I have been asked to examine the following issues.

The Australian Energy Regulator (AER) is developing Rate of Return Guidelines that will form the basis of the regulated rate of return applied in energy network decisions. The AER published an issues paper in late December 2012, a formal consultation paper in early May 2013 and released its draft Rate of Return Guidelines in August 2013 under the recently revised National Electricity Rules (NER) and National Gas Rules (NGR).

Having read the AER's draft Rate of Return Guidelines and Explanatory Statement, the ENA requests your opinion on the following:

1. Please review and explain the data made available by the ATO concerning the utilisation of imputation credits including their creation, retention, distribution and redemption.
2. What additional relevant statistics have become available over time either due to tax law changes, filing requirements or publication policies.
3. To what extent can the various statistics available from the ATO provide a direct, accurate and internally consistent foundation for establishing the utilisation of imputation credits.
4. What possible causes have you identified for any inconsistencies or anomalies in the above data and what have you been able to conclude in relation to these inconsistencies or anomalies.
5. Please consider the AER's quotations of your 2004 report titled 'The value of imputation tax credits: Update 2004'. In relation to that report, can you please identify whether you were required to make any estimations at that time that are not necessary to make today as a result of the changes in item 2 or your further investigation of tax statistics conducted since that time.
6. Going forward, would you recommend that the AER employ the conclusions of the report you are now writing in response to these terms of reference or the report you authored in 2004.

1.2 Statement of Conclusions

3. I conclude that the ATO statistics cannot be relied upon for making conclusions about the utilisation of franking credits. The data contains an apparently very large internal discrepancy.
4. The ATO publishes data of taxation statistics which are a component of the filings by companies which are in turn calculated from the reported profit & loss of companies. After changes that were introduced from 1 July 2002, the income reported by companies now explicitly includes franking credits as well as cash dividend income. Companies receive a tax credit for the tax arising from their franking credit income. These data about franking credits flowing between companies are now visible whereas before they were hidden and this new visibility is very helpful in understanding the overall flow of franking credits.
5. The ATO also publish data about company financials, this data is reported on the Company Tax Form. Companies report to the ATO their payments to investors of franked and unfranked dividends as well as the franking credits issued along with the franked dividends. They also report the resultant level of their Franking Account Balance (FAB) after these flows.
6. The two sets of taxation data and financial data do not reconcile with each other. They differ by the amount of approximately \$87.5 billion of franking credits over the period 2004-2011. In context, this is 32% of the reported total distribution of \$270.7 billion of credits. It is also 21% of the total net tax payment of \$421.5 billion.
7. I have explored reasons for why such large a discrepancy exists in the ATO data. The discrepancy is a fundamental one between two subsets of data published by the ATO about ostensibly the same data (franking credits distributed as fully franked dividends). I have discounted the explanation that arises from foreign investors as they are adequately included in the data on dividend payments. I have discounted the explanation of under-estimates arising from zero tax companies as they are too small in size to explain such a large discrepancy.
8. I have informed the ATO Statistics Department of this discrepancy. I have asked them if the explanation is the National Tax Equivalence Regime (NTER) whereby, since 1993, the ATO oversees the tax affairs of State Owned Enterprises but does not collect any such tax or record dividends flowing from those businesses to their respective state or territory governments. They have not yet responded to me in any form.
9. Until that reconciliation has occurred or it can be explained to me how to account for those credits, I urge all caution in using ATO statistics for any estimates of parameters concerned with franking credits.
10. The paper I co-wrote in 2004 titled 'The value of imputation tax credits: Update 2004' was based on ATO taxation statistics for years up to and including 2002. The ATO publishes data two years in arrears. The company tax system has changed substantially since that period. As I cautioned in that paper "We have to be very careful in using these data as there is much double counting in the flow data produced by the ATO."¹ This was followed by the

¹ The value of imputation tax credits: Update 2004', paragraph 2, page 4

explicit description of the problem: “To demonstrate the problem with double counting in ATO company statistics we need only consider franking credits distributed. The aggregate credits distributed according to ATO statistics over the period 1988-2002 was \$280 billion (estimated from franked dividends paid out). This exceeded aggregate net tax paid and would be quite inconsistent with \$77 billion remaining within FAB accounts.”²

11. The tax system has changed substantially since the period covered by that earlier paper and in particular the problem with the lack of visibility of flows of credits between companies has been overcome. In this current work I only consider franking credit flows for the period for 2004 onwards and can provide a much more detailed insight into the flows and utilisations of franking credits for that period.
12. I would caution anyone, including the AER, against relying on those parts of my earlier reports which focussed on ATO statistics. The data was then not as clear as it is today. I had to rely on separate analyses of ATO tax data and the ATO financial data. As I am now aware with the new data, there is an extremely large discrepancy between these two subsets of data. The missing link was the data on the flows of credits between companies which is now visible after the changes of 1 July 2002. I would recommend that the AER do not rely on that earlier report.
13. I acknowledge that I have read, understood and complied with the Federal Court of Australia’s Practice Note CM 7, Expert Witnesses in Proceedings in the Federal Court of Australia. I have made all inquiries that I believe are desirable and appropriate to answer the questions put to me. No matters of significance that I regard as relevant have to my knowledge been withheld. I have been provided with a copy of the Federal Court of Australia’s Guidelines for Expert Witnesses in Proceeding in the Federal Court of Australia, and confirm that this report has been prepared in accordance with those Guidelines.
14. All the analysis upon which this report is based and the opinions set out in this report are entirely my own.

Neville John Hathaway

21 September, 2013.

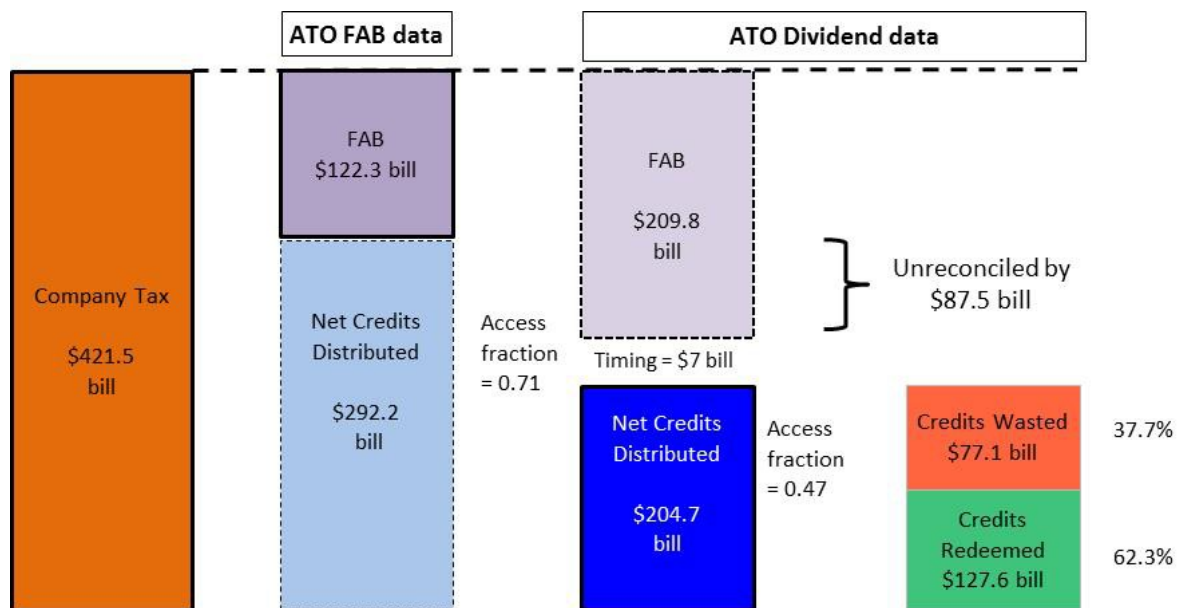
² Ibid, paragraph 3, page 4.

1.3 Executive Summary

15. Under the Simplified Tax System (STS) introduced from 1 July 2002, the franked dividend and credit incomes earned by companies as distributions from other companies have been formally reported and can now be directly observed. The financial year 2003 allowed for transition arrangements.
16. A group consolidation reporting regime was introduced at the same time, after which each entity of a group no longer reported separately if the group elected to submit just the head company filing. Previously, the phenomenon of separate reporting exacerbated the problem of double counting.
17. The ATO has had a lot of trouble deciding on the appropriate data for the period 2001-2003. The past data has been revised numerous times, both up and down in the years since then.
18. In these circumstances, I have confined my analysis to the *changes* in levels from 2004 onwards. In this way I can reasonably insulate my estimates from data revisions in the transition period. Hence my estimates have been confined to the period 2004-2011.
19. For the period 2004-2011 company net tax payments were \$421.5 billion.
20. About \$122.3 billion was added to the Franking Account Balance (FAB) of companies for this period. This is 29% of the tax payments.
21. The net credits issued to all shareholders were \$292.2 billion which represents 71% of the company tax paid. This is one possible estimate for the national *access* fraction.
22. ATO dividend data show \$270.7 billion of credits were distributed as fully franked dividends. Of these \$270.7 billion of credits, \$72.3 billion were reported as franking credit income by other companies and of these \$72.3 billion, an estimated \$6.4 billion were redeemed, mainly by companies within the superannuation businesses of Life Offices, leaving a net \$66.0 billion of credits recycled within companies. The net credits distributed by out of the company sector were \$204.7 billion.
23. About 62.3% of the distributed credits were redeemed (\$127.6 billion out of \$204.7 billion distributed) – the redemption proportion of net credits distributed to all shareholders outside of companies as shareholders. This is one possible estimate of the national *utilisation* rate according to ATO dividend data.
24. The \$127.6 billion of credits redeemed (including the \$7.0 billion by Life Offices and others) were claimed as:
 - i. \$81.2 billion redeemed by personal taxpayers
 - ii. \$36.2 billion redeemed by super funds
 - iii. \$3.2 billion redeemed by charities and other designated organisations.
25. If these same redeemed credits of \$127.6 billion are calculated as a percentage of all credits distributed according to the FAB data, namely \$292.2 billion, then the *utilisation* factor drops to just 43.7%

26. Some 29% of the distributed credits (\$77.7 billion of the gross amount of \$270.7 billion) are not recorded after being issued. This is approximately the proportion of Australian equities held by foreigners. But it also includes any amount not yet filed by domestic taxpayers.
27. There is an unreconciled \$87.5 billion of credits difference between tax data, FAB data and financial data for the period 2004 to 2011.
 - a. The tax and FAB data indicates that a net amount of \$292.2 billion of credits have been distributed.
 - b. The financial data indicates a net \$204.7 billion of credits were distributed.
 - c. This unexplained \$87.5 billion equates to \$204.2 of franked dividends to be explained compared to the reported distribution of \$632 billion of franked dividends.
28. The aggregate flows, along with the discrepancy between the two data sets, are described by the following diagram:

Figure 1: Summary of ATO tax flow data: 2004-2011



2. Introduction

29. In a fully integrated company tax system, all income at the corporate level is attributed to the shareholder, regardless of whether or not it is distributed, and taxed at the marginal income rates applying to each shareholder. Australia operates a lesser or partial version of this: only distributed profits in the form of dividends are attributed to shareholders. Company tax paid on these dividends is attributed to the shareholder as a withholding of personal tax due. A company is obliged to maintain a set of accounts to record how much company tax is available for crediting on future distributions (the Franking Account Balance or FAB) and each distribution has to have an accompanying statement about how much tax has been paid (credited) for that distribution.
30. Interestingly, this is not the first time Australia has had a type of integrated tax system. When company tax was first introduced in 1915 in Australia, companies were only taxed on their profits after deducting dividends paid. This amounts to a 100% credit for all company tax paid on distributed profits. The system also allowed for dividends being paid out of retained profits but this was cumbersome. In 1922 it was changed so that taxpayers on higher marginal rates than the company rate got a full rebate of the company tax paid (so effectively they only paid personal tax on the gap between the company tax rate and their personal rate). Unfortunately, however, the Australian system then did not give individuals on lower marginal tax rates a refund for the difference between their marginal tax rate and the company tax rate. This rebate system for higher marginal taxpayers was “suspended” in 1940 under pressure from the funding of war expenses so Australia then had the classical system of double taxation – first at the company level and then at the personal level. This system persisted up to 30 June 1987. Our modern imputation system has operated since 1 July 1987. It was substantially modified (“simplified”) in 2002.
31. Prior to 1 July 2002, Australian resident companies upon receipt of a franked dividend only reported the non-credit or cash part of the dividend in their income, added the credit received to their FAB and received an inter-corporate dividend rebate (ICDR) for the company tax already paid. This avoided the imposition of multiple corporate tax payments on the original corporate income as it passed through a chain of companies. The inter-corporate dividend rebate was abolished effective 1 July 2002 (but transition arrangements for some companies made this effective for all companies from 1 July 2004). There are a number of provisos in the operations of the system such as that franking credits must be held at economic risk (for instance, you cannot do a debt-equity swap over your shares and still expect to claim the franking credits), and there are sanctions for over- and under-franking a distribution. I will not concern myself here with these issues.
32. At the same time, a regime for consolidated reporting for corporate groups was introduced. This means that for taxation purposes, only the head company needs to report to the ATO. Whilst the official start date was 1 July 2002, there were some transitional arrangements that materially affect the data. The ICDR was available within consolidating groups until 30 June 2003 but even that was extended for groups with late reporting income years (for example, National Australia Bank’s financial year ends September 30th). ATO data are best analysed for the years 2004-2011.
33. A great deal of care needs to be exercised when analysing the Australian taxation data as there has been much double counting in the flow data produced by the ATO, and this problem persisted into recent years. If a company receives a franked dividend and uses that income to pay out its own franked dividend, then the transactions will result in both sets of dividends and credits being recorded in the ATO statistics of dividends and credits issued. However, the

Franking Account Balances (FABs) should portray the true position reasonably accurately³. Whilst the FAB account of the paying company records a debit, the FAB of the receiving company will record both a credit for the franking credit received and an offsetting debit for any franking credit that it paid out.

34. Companies now show their franked dividends as both the cash amount (Label 6.H of the income statement) plus the explicit franking credits accompanying those dividends at Label 7.J of the reconciliation section – see Figure 12 below where I discuss in detail the income statement. Label 7.J is a new introduction with the STS and it helps a lot in understanding the double counting of dividends and credits flowing between companies. Unfortunately, this unbundling is not done for income received from partnerships or from trusts. These are entered as gross amounts including credits at the Labels 6.D and 6.E of the income section. These credits all add to taxable income. They are given an offsetting collective rebate in the Calculation Statement (CS) at Label C (see Figure 2 below) but they were bundled along with other items, such as (until 2003) the Inter Company Dividend Rebate (ICDR) which some companies were still eligible to receive. Charities and some other tax-exempt entities no longer need to fill in a tax form. They can complete the required form as a classified entity, entering their simplified statement for claiming back their credits.
35. In Figure 2 I have filled out the Calculation Statement for all Australian companies with ATO data for the period 2004-2011. All data are in \$ billions. Bear in mind that these data will be revised from late entry of tax forms. In addition, some companies that behave as if they were superannuation funds (typically Life Offices) can also claim the credits for their complying business operations.

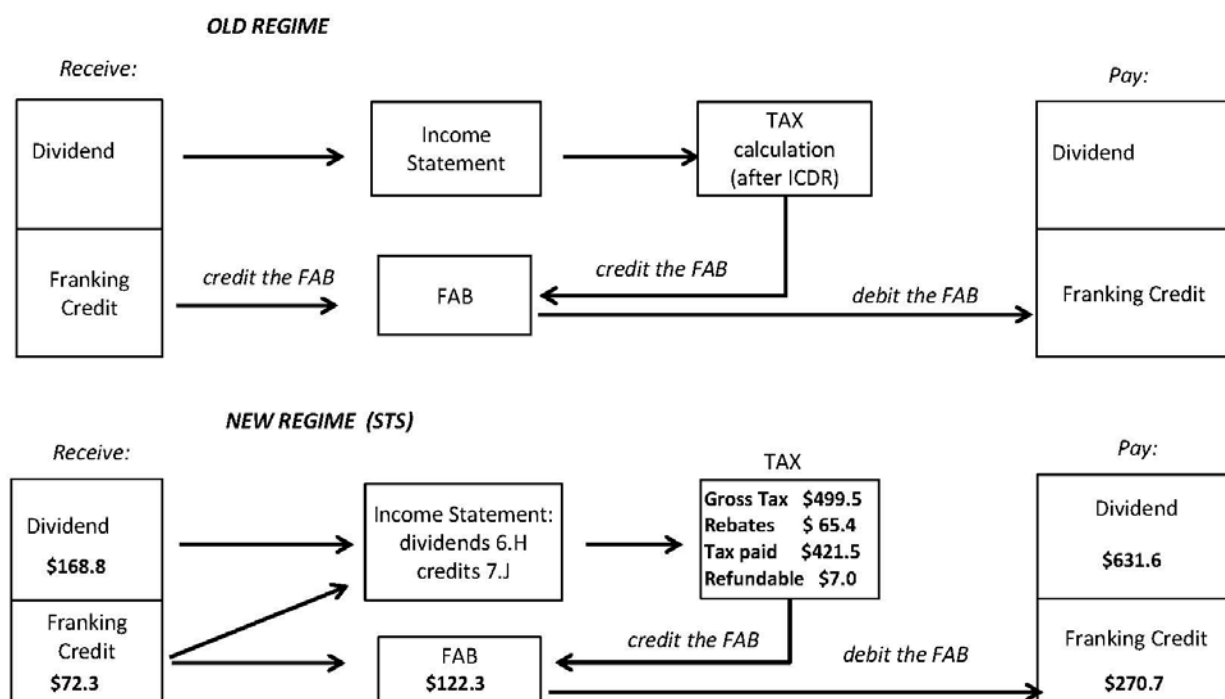
Figure 2: Calculation Statement 2004-2011, \$billion

Calculation statement					
			Taxable or net income	A	1,727 : 00
			Gross tax	B	499 :
Foreign tax credits	D	4 :	Less:	Rebates/tax offsets	C 65 :
Franking deficit tax offset	E	1 :		Tax assessed	434 :
PAYG instalments raised	T	344 :		Total of D and E	G 6 :
Credit for interest on early payments – amount of interest	V	0 :	Less:	Tax payable	422 :
Credit for tax withheld – foreign resident withholding	I	0 : 00		Section 102AAM interest	H 0 :
Credit for tax withheld where ABN not quoted	W	0 : 00	Add:	Total of T , V , I , W , Y , U and Z	R 355 :
Tax withheld from interest/investments	Y	0 :	Less:	Total amount of tax payable (+) or refundable (-)	S 73 : F
R&D tax offset	U	0 :			
Other refundable credits	Z	7 :			

³ The FAB account is now based on a rolling record of actual tax paid. The timing of these flows means that typically the tax credit to the FAB by year end will be *different* from the reported tax paid for that year because the entity established its final tax payment after year end. The fourth quarterly PAYG instalment is typically paid after the end of the tax year and a final tax return is lodged subsequently (some companies are early or late reporters, with banks falling into the latter category). Payments of tax will subsequently be credited or debited to the FAB in the year in which they are paid. As an approximation, the tax credit to the FAB is the sum of Q1, Q2 and Q3 PAYG instalments for the current year plus last year's Q4 instalment and the residual tax payable/refundable for that year. Differences in timing can be significant, and have had an impact of approximately \$7 billion over the period from 2004 to 2011.

36. Under the new simplified system, the recipient company not only credits their FAB but also adds the franking credit and the cash dividend to their assessable income, pays corporate tax on the total and receives a credit for the tax already paid (the franking credit) by the issuing company. The tax assessed after this calculation cannot be negative so that the claim for rebates must be reduced in order to avoid negative tax being assessed. This might mean claiming no tax credit for the franked dividend received if the tax loss before the credit claim exceeds the amount of the credit. Such credits are not wasted however as they are available for future claims against taxable income. The repercussions for analysing the ATO data for estimating credits are that the data reported at CS.C already have the reduction for non-negative tax included. This means that the data at CS.C underestimates the franking credits received by companies as income. I will return to this issue below.
37. The following diagram, Figure 3, sketches these changes. The data for the STS regime are the ATO data for 2004-2011 in \$ billion.

Figure 3: Treatment by Companies of Franked Dividend Income under STS: 2004-2011



38. The estimation process reported below has the following scheme:
- Direct credits received and reported at label 7.J (see Figure 12) are deducted from the sum of the credits claimed at labels CS.C and CS.Z. This difference is assumed to be the credits received indirectly (as a share of credits in distributions from trusts and partnerships), recognising that this will be an underestimate.
 - The net tax paid minus the estimated timing drag (see Footnote 3) is the estimate for the tax credits added to the FAB.
 - The difference between the actual increase in the FAB and the expected increase represents an estimate of the credits to be explained. This difference is substantial: about \$87.5 billion.

39. In national ATO statistics, the aggregate (or average) company is sufficiently profitable so that "all the credits pass through". In practice this disguises differences between categories of companies. About 25% of franking credits are received by zero tax companies, equal to \$15.4 billion out of the \$65.0 billion shown in Figure 2. These figures are based on dividends received directly, because the ATO does not report indirect dividends for zero tax companies⁴. A zero tax company may have claimed just some or even none of its credit income, depending upon the difference between gross tax (Label CS.B) and the rebate claim (Label CS.C), as shown in Figure 2. If their gross tax is already zero arising from negative taxable income, then they cannot claim any of the rebates at Label CS.C. About 60% of all companies are non-taxable companies – 61.2% in 2009-10 and 59.3% in 2010-11 as per Table 1. It appears that most non-taxable companies are not so by dint of credits offsetting their tax liability. As shown in Table 1, the proportion of all companies that reported a trading profit but which had other credits to offset their tax was comparatively low, at 1.3% of all companies by number in 2010-11. This proportion is the same as that reported in the previous version of this analysis⁵.

Table 1: Non-Taxable Companies

TABLE 3.12: Non-taxable companies¹, 2009–10 and 2010–11 income years

Non-taxable companies	2009–10 ²		2010–11 ²	
	No.	% ³	No.	% ³
Trading at a loss	273,690	35.1	269,215	34.1
Reported zero trading profit and zero non-trading income	70,578	9.1	69,670	8.8
Reported zero trading profit, with some non-trading income offset by reconciliation items	9,259	1.2	10,751	1.4
Reported positive trading profit which was fully offset by reconciliation items	112,218	14.4	107,380	13.6
Reported a trading profit, but had other credits to offset their tax liability	10,935	1.4	10,494	1.3
Total	476,680	61.2	467,510	59.3

1 Non-taxable companies are defined as companies with net tax less than or equal to \$0.

2 Data for the 2009–10 and 2010–11 income years includes data processed up to 31 October 2011 and 31 October 2012 respectively. Data for 2009–10 revised.

3 The percentage is calculated as a percentage of total companies, not a percentage of non-taxable companies

40. Companies paid \$421.5 billion in net company tax for the period 2004-2011. After allowing for the timing drag of about \$7 billion (see Footnote 3), the FAB would have been expected to receive a gross tax credit of \$414.5 billion. Credits of \$270.7 billion were paid out as franked dividends. Credits received as income from other companies were \$66.0 billion (in total \$72.3 billion but an estimated \$6.4 billion were received by Life Offices as companies and these are assumed to have been redeemed). If all credits passing from one company to another were credited to the FAB of the receiving company, I would have expected the aggregate FAB to increase by \$209.8 billion (calculated as \$421.5 - \$7.0 - \$270.7 + \$66.0 billion). Instead, I

⁴ The source of this data is the ATO publication Taxation Statistics 2010-11, NAT 1001-04.2013, table 3.12, (page 42). The numbers have been reproduced in Table 1.

⁵ See Hathaway (2010a), Imputation Credit Redemption, ATO data 1988-2008, prepared by Neville Hathaway, Capital Research Pty Ltd, July 2010.

observe that the FAB aggregate increased by just \$122.3 billion, leaving some \$87.5 billion unexplained. I will examine this in detail below.

41. Another problem that existed with the tax returns of superannuation funds has now been partly overcome. Dividends and franking credits received directly by funds from “resident entities” are reported as separate items. Dividends from foreign entities are not included in a separate item but are instead included in the gross dividend income at item 6.H of the income statement. Franking credits received by APRA-regulated funds, as part of the income from their investments made through trusts, are separately identified, but there is no separate identification for self-managed super funds, (SMSFs), for which “the distribution is grossed-up to include any franking credits”. The APRA funds now have their data disaggregated for the years 2008-2011.

Table 2: Receipts for superannuation funds via Trusts, 2008-2011, \$billion

INDIRECT via TRUSTS		2008	2009	2010	2011	2008-11	% of Funds Gross
Franked Distribution from Trusts							
Funds		2,695	2,319	2,330	2,807	10,150	21%
SMSF							
Unfranked Distribution from Trusts							
Funds		1,222	1,151	552	562	3,487	7%
SMSF							
Gross Dividends from Trusts							
Funds		3,917	3,470	2,882	3,369	13,638	28%
SMSF							
Franking Credits Distributed from Trusts							
Funds		1,485	1,887	1,272	1,506	6,150	13%
SMSF							
Other Distributions from Trusts							
Funds		8,715	4,370	5,836	9,754	28,676	59%
SMSF							
Gross Distributions from Trusts		17,442	12,533	12,562	17,682	60,220	
Funds		14,116	9,727	9,991	14,629	48,463	
SMSF		3,326	2,806	2,571	3,053	11,757	
							Direct % of Total
DIRECT							
Gross Dividends DIRECT (incl. Credits)							
Funds		4,647	4,690	4,114	9,506	22,957	
SMSF		5,604	6,073	5,742	9,528	26,947	
Unfranked Dividends Received							
Funds		435	388	417	627	1,867	35%
SMSF		310	332	423	559	1,623	
Franked Dividends Received							
Funds		2,965	3,026	2,596	6,220	14,807	59%

	SMSF	3,708	4,021	3,725	6,280	17,733	
Franking Credits (Direct)							
	Funds	1,247	1,276	1,101	2,659	6,283	51%
	SMSF	1,586	1,721	1,594	2,689	7,590	
Franking Per cent							
	Funds	87.20%	88.63%	86.16%	90.84%	89%	
	SMSF	92.29%	92.38%	89.80%	91.83%	92%	

Source: ATO data files cor00345977_2011FUN1.xls and cor00345977_2011FUN2.xls. In the RHS column, the label “% of Funds Gross” refers to the proportionate share of the particular distribution, expressed as a percentage of the gross distribution from Trusts to superannuation funds. The label “Direct % of Total” describes the share of the particular flow to superannuation funds, expressed as a fraction of the sum of direct and indirect flows. Hence, for franked dividends, the proportion received directly from companies (rather than indirectly from Trusts) is equal to $14,807/(14,807+10,150) = 59$ per cent.

42. APRA-regulated funds receive just under half (49%) of their franking credits indirectly via (investment) trusts⁶. However, there is a problem with this data as a franked distribution of \$10.15 billion ought to correspond to credits of \$4.35 billion under a 30% tax rate whereas the reported credits received from trusts are \$6.15 billion, a discrepancy of \$1.8 billion.
43. I cannot read too much into the dividends versus other distributions from trusts as these differences will reflect the asset allocation strategies of super funds. I do note, however, that there is a steady bias of SMSFs preferring franking credits compared with APRA funds: 92% compared with 89%⁷. The absolute level of franking received is not surprising as it represents the overall franking level of all dividends which is about 90% (although the 2011 reported fraction of franking was just 82%, these last year estimates are often revised in the publications for subsequent years so I will not read too much into this drop in the proportion of dividends distributed as franked).
44. All funds receive their franking credits in the overall proportion 67% direct and 33% indirect (see Figure 4 below for the period 2004-2011)⁸, and APRA funds receive their franked dividends as 51:49 direct to indirect respectively (see Table 2 for the period 2008-11). Clearly there is a significant tendency for SMSFs to directly own shares. Analysing the dividend data in Table 2 shows that SMSFs account for 54% of the total franked and unfranked dividends held by superannuation funds (SMSFs held \$19.4 billion of combined franked and unfranked dividends out of a sector total of \$36.0 billion)⁹. These gross averages imply that SMSFs hold their equities in the ratio of approximately 80% direct and 20% indirect.¹⁰

⁶ This fraction is worked out as $6,150/(6,150+6,283) = 49$ per cent.

⁷ These proportions have been worked out using the numbers in Table 2. For standard super funds regulated by APRA, the proportion of franked dividends received is worked out as $1,867/(1,867+14,807) = 89\%$, while for self-managed superannuation funds, the proportion of franked dividends received, as a fraction of gross dividends is calculated as $1,623/(1,623+17,733) = 92\%$.

⁸ As is shown in Figure 3, the value of dividends received directly by superannuation funds was \$62.6 billion, whilst the value received indirectly was \$31.2 billion.

⁹ These numbers are available from Table 2 above. The combined value of franked and un-franked dividends held by SMSFs was $(17,733+1,623) = \$19.356$ billion. Adding in the value of franked and un-franked dividends held by APRA-regulated funds delivers a total value of \$36.03 billion.

¹⁰ Across both types of superannuation fund, the proportion of shares held directly is given as: Direct Total $= 0.54 \times \text{SMSF direct} + 0.46 \times \text{APRA direct} = 67\%$. I know that for APRA funds, the directly held proportion is equal to 51%. Therefore, the direct total $= 0.54 \times \text{SMSF direct} + 0.46 \times 51\%$. By inference, SMSF direct $= 81\%$.

45. The values of the dividends held, respectively, by APRA regulated funds and by SMSFs, should not be construed as suggesting that SMSFs amount to 54% of total superannuation business. SMSFs could easily allocate more capital to equities than do APRA funds, and the equities that they buy could be tilted towards dividend paying stocks. There may also be a preference for stocks which pay fully franked dividends. However, the analysis in this paper is primarily aimed at the insights that can be gleaned from an analysis of franking credits.

3. Analysis of Flows

46. There are three milestones in the life of imputation credits:

- a. They are created when company tax is paid¹¹.
- b. They are distributed when franked dividends are paid to shareholders.
- c. They are redeemed when shareholders lodge their personal tax claims.

47. There is a new sub-step at stage 2 for credits distributed to other companies. These credits always pass through to the receiving company FAB (effectively no change), but the receiving company, after grossing up the franked dividend as taxable income may not get the (full) benefit of the franking credit offset against this taxable income until the receiving company becomes sufficiently profitable and incurs a tax liability sufficient to claim the credits. The credits in tax-loss companies are converted to an equivalent tax loss amount by dividing the excess values of the credits by the company tax rate¹². Hence, whilst the full amount of the credit income should be reflected as an increase in the FAB, the claim of an offset for the credits in the Calculation Statement at label C might substantially understate the credits received. Tax-loss companies can be in their loss position for a variety of reasons which may have nothing at all to do with any franking credit income so we cannot relate the size of any tax-loss to the size of their credits not able to be claimed. Although the surplus disappears into the system as franking credits, it remains as a tax loss to be carried forward. In this manner, the value of the (excess) franking credit income is preserved or, in the language of the ATO, is “not wasted”.

48. These three events are analysed in order to establish the value of franking credits. The first two determine the access fraction and the second two determine the utilisation fraction. Obviously, national statistics only measure the gross averages of all companies, whether private or public, listed or unlisted. The following table is a summary of these overall national ratios.

Table 3: Summary Ratios: 2004-2011

		\$ billion	Distributed	
Tax Data	Tax Paid	421.5		
	Timing drag	7.0		
	FAB Tax Credit	414.5		
	Reported incr. in FAB	122.3		
	Net distributed	292.2	71%	Average access fraction (=292.2/421.5)
			Redeemed	
Dividend Data	Paid out	270.7		
	Net Recycled	66.0		
	Net distributed	204.7	62%	Average redemption value of only net distributed credits (=127.6/204.7)
	Redeemed	127.6	47%	Average redemption value of all franking credits paid out (=127.6/270.7)

49. The details of the flows of dividends and credits reported under the STS for the seven years 2004-2011 are depicted in Figure 4. The shaded areas represent estimated data for unfranked dividends which are estimated as residuals between total dividends received/paid and franked

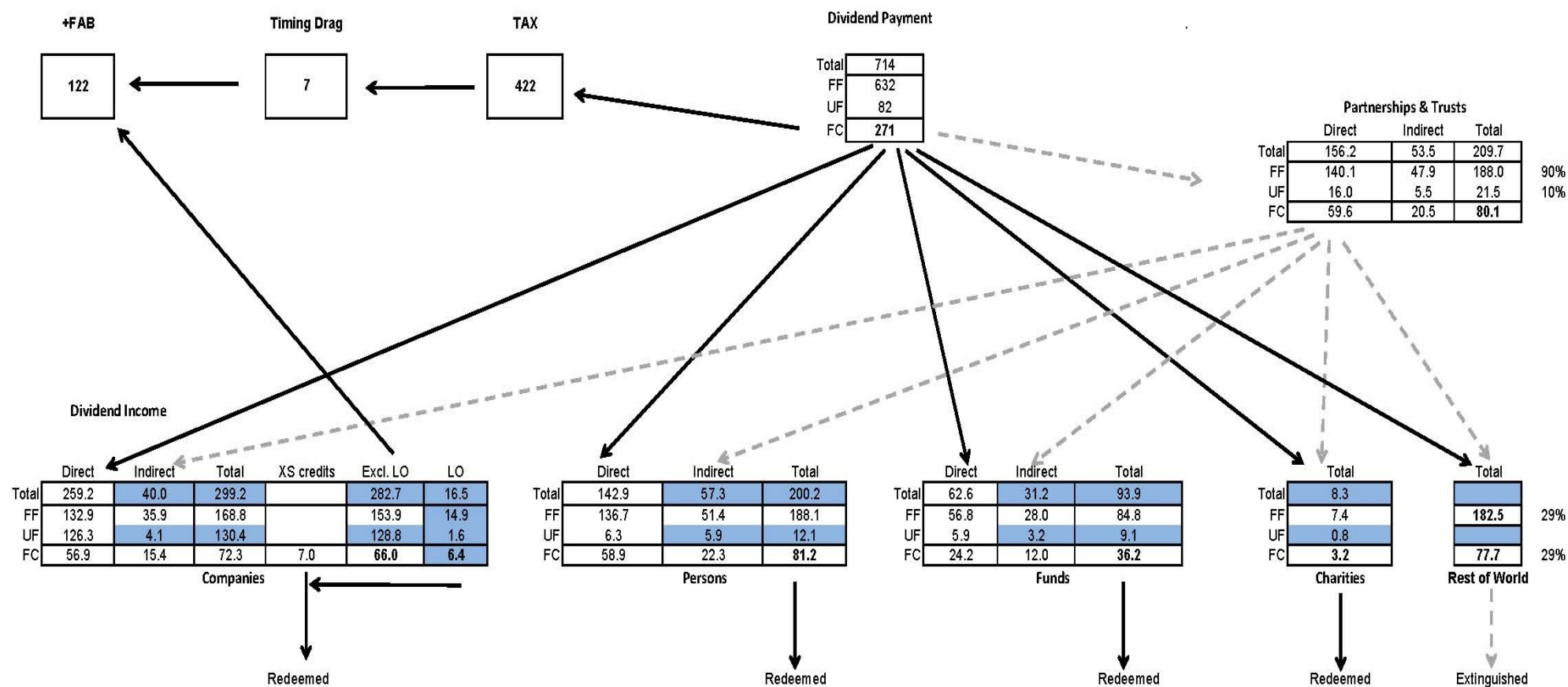
¹¹ Either a PAYG instalment or income tax due is paid, or a liability for franking deficit tax is incurred.

¹² Details are provided in the “Imputation reference guide”, ATO publication NAT 10832-05.2004, page 50.

dividends received/paid. Unfranked dividends present a problem of identification, which is discussed below. The inability to identify does not affect the conclusions drawn about franking credits. The ATO does not supply estimates of the share of unfranked dividends distributed from partnerships and trusts, though such data is not required for the task of estimating franking ratios. In the boxes contained within Figure 4, the values for unfranked dividends received from partnerships and trusts by the four groups comprising companies, persons, funds and charities were estimated using the comparative shares of unfranked and franked dividends. In aggregate, partnerships and trusts distributed dividends of which 10% were unfranked, and 90% were franked. The application of these proportions to the four recipient groups does not affect the parts of the analysis which make use of only reported, franked amounts. However, an important consideration, but one not addressed by the ATO, is the redemption of credits for the superannuation business of Life Offices. Such complying superannuation funds are reported among companies and are not identified within the funds data. These are examined separately below.

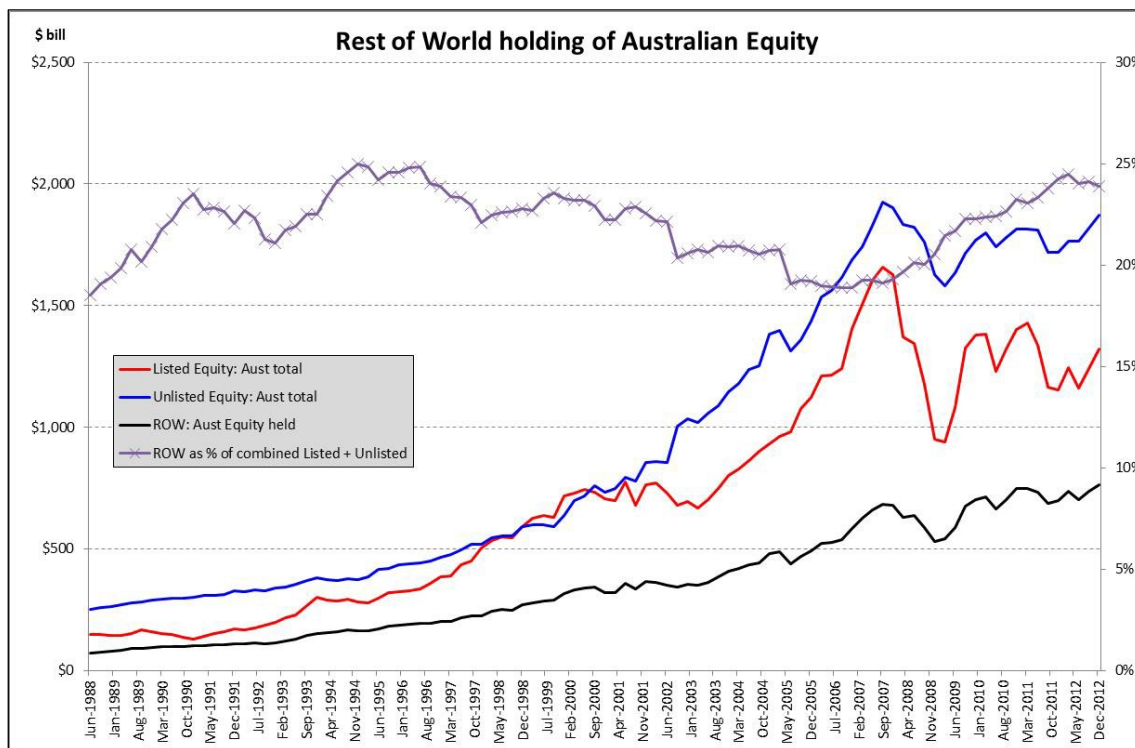
50. There appears to be a big problem with the data, with \$87.5 billion of franking credits evidently missing, representing approximately 30% of the total tax credits estimated via the franking account balance (FAB) data. The tax paid and FAB data indicate that a net amount of \$292.2 billion in credits has been distributed.
51. In contrast, the ATO franked dividend data indicate that net credits distributed were just \$204.7 billion over the period from 2004 to 2011. Of the gross \$270.7 billion of credits issued, approximately \$66 billion were received as income by other companies. This is 24% of the total distributed. These credits distributed by companies are debited from the FAB of the issuing company and credited to the FAB of the receiving company, and so they should have no impact on the collective FAB accounts of all companies.

Figure 4: Dividend and Tax Flows, 2004-2011, \$billion



52. In Figure 4, the distributions of dividends and franking credits to the rest of the world are calculated as residual amounts equal to 29% of total franked dividends (\$182.5 billion out of a total franked dividend payment of \$632 billion) and 29% of total franking credits (\$77.7 billion out of a total franking credit payment of \$270.7 billion). The residual values themselves are not reported in the ATO data, but are comparable to the share of equity investments in Australia held by foreigners as reported by the Australian Bureau of Statistics. As the ATO data are for all dividends from listed and unlisted companies, I use the ABS estimates in a consistent form – all listed equities (ABS 5232.0 Table 32), all unlisted equities (ABS 5232.0 Table 33) and all equities held by the rest of the World (ABS 5232.0 Table 21).

Figure 5: Foreign Ownership of Australian Equities



53. For the ATO data, the “Rest of the World” is a residual category which includes any data errors and any other categories not quantified such as domestic investors who have not yet lodged returns with the ATO. Therefore, it is not only foreigners who do not file with the ATO, although I expect them to be the dominant component of this group. The shares of fully franked dividends and franking credits accruing to the rest of the world (29% in each case) are slightly higher than the proportion (25%) of listed and unlisted Australian equity that has been reported, by the ABS, as being held by foreign investors.
54. The ATO publishes data for credits received indirectly through partnerships and trusts. These are dominated by trusts, and so henceforth the category will simply be referred to as trusts. Such credits are now called a “share of franking credit” whereas previously they were called “secondary credits” to distinguish them from credits received by direct share ownership which were called “primary credits”. I have no data on how charities received their credits – whether directly or via trusts, but they are a small component overall and the absence of their data is not likely to greatly distort the estimates. In addition, the credits received by SMSFs are not disaggregated into direct and indirect credits.

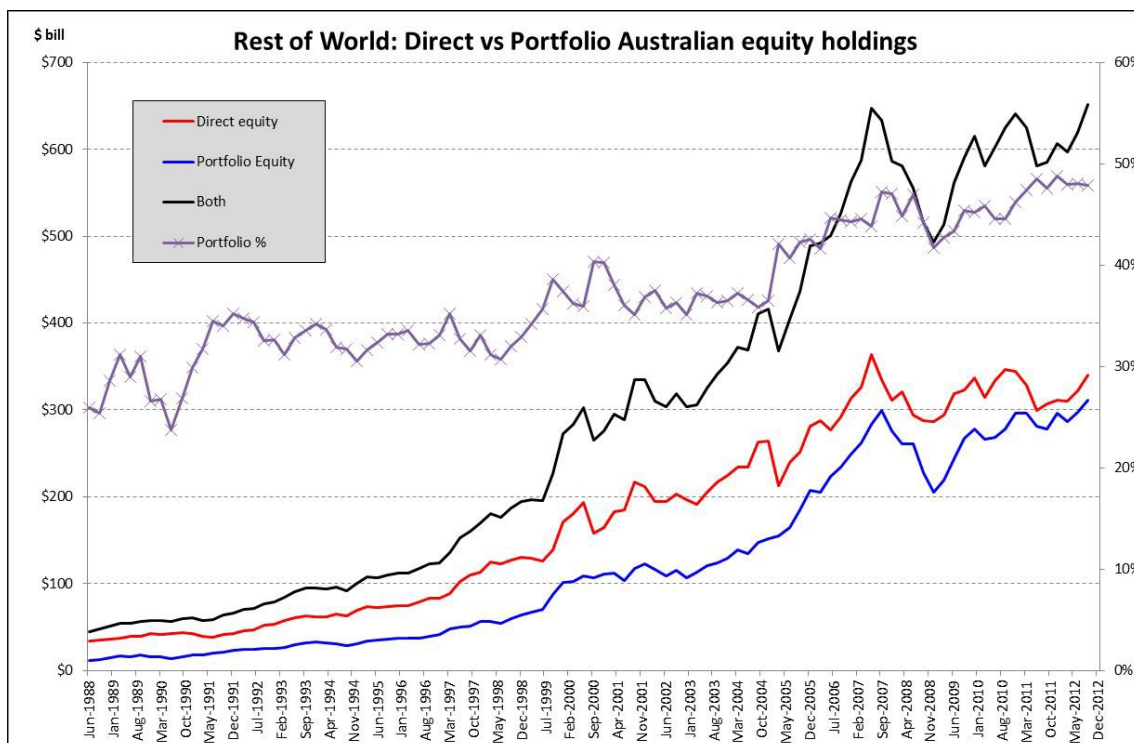
55. I first examine the partnership and trust data itself, which is dominated by trusts. The aggregate distributions across all groups are as shown in Table 4, although only franked dividend payments were available by category. The allocation of unfranked dividends to the categories was done according to the 90%:10% franked to unfranked ratio of dividends as explained in Section 2 above. The apportionment of unfranked dividend payments is not germane to the allocation of credits which is reported by ATO statistics. Trusts are pass-through vehicles so they can only distribute that which they receive directly. Trusts distributing to other trusts amounts to double counting and so the credits received directly are the relevant ones for analysing trusts. Accordingly, the data in Table 4 is that for direct distributions only, as shown in Figure 4 above, for partnerships and trusts.

Table 4: Partnership and Trust distributions, 2004-2011, \$billion

	Companies	Persons	Super	Life Offices	Sub-Total	Trusts total	Rest of World	Rest of World (%)
Total	40.0	57.3	31.2	5.5	133.9	156.2	22.2	14.2%
FF	35.9	51.4	28.0	4.9	120.2	140.1	19.9	14.2%
UF	4.1	5.9	3.2	0.5	13.7	16.0	2.3	14.5%
FC	15.4	22.3	12.0	3.2	52.9	59.6	6.7	11.3%

56. The data from Table 4 indicate that the proportion of credits flowing to foreigners is a modest 14.2% (according to franked dividends, but 11.3% on the basis of franking credits). The data are credible because foreign investment in listed Australian equities is approximately half direct and half portfolio investment. I only have data of the mix of portfolio and direct investment from the ABS for listed securities but not for all securities. I have to assume the mix will be similar for both unlisted and listed securities.

Figure 6: Mix of International investment in Australian listed equities



57. Portfolio investment would typically be large international fund managers buying Australian shares. If they invest in equities via portfolios as investment trusts in much the same proportion as APRA funds (49% - see Table 2 above and the discussion below that table) then I expect their share of indirect franking credits to be in proportion to the share of their indirect investment in listed equities. Hence their share of 25% of the total market with 49% of their investment via portfolio trusts means they should receive about 12.5% of trust distributions. This is broadly consistent with the data in Table 4, bearing in mind that for the ATO, the “Rest of the World” includes more than just international investors.

4. Data Problems

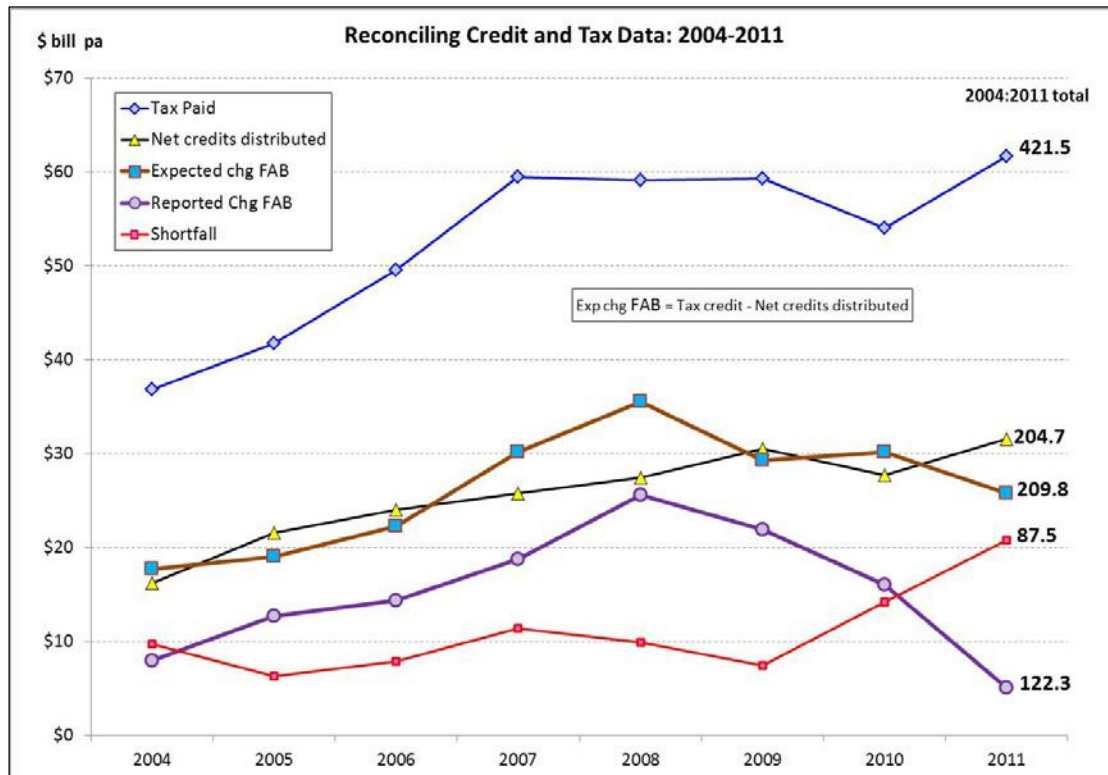
58. There is however a significant problem with trying to reconcile the credit, tax and dividend data. Putting aside for the moment the problem with the depression, for non-tax companies, of the estimate for credits claimed at label CS.C, the FAB should change each year by the sum of the tax paid (after correcting for the timing drag caused by delays in final quarter payments), plus the credits received attached to franked dividends, minus the credits paid out with franked dividends. The data, in its current form, does not deliver the expected result. The FAB increases much less than expected. Over the period from 2004 to 2011, the expected increase in the FAB was \$210 billion but it is reported to have increased by \$122 billion.
59. If I take the combined direct and indirect ATO data at face value, I have the following results:

Table 5: ATO data, 2004-2011, \$billion

	<i>Debit</i>	<i>Credit</i>	<i>FAB</i>
Tax Paid		\$421.5	
Timing drag	\$7.0		
Credits Paid	\$270.7		
Credits received		\$66.0	
Expected increase in FAB			\$209.8
Reported increase in FAB			\$122.3
Unexplained			\$87.5

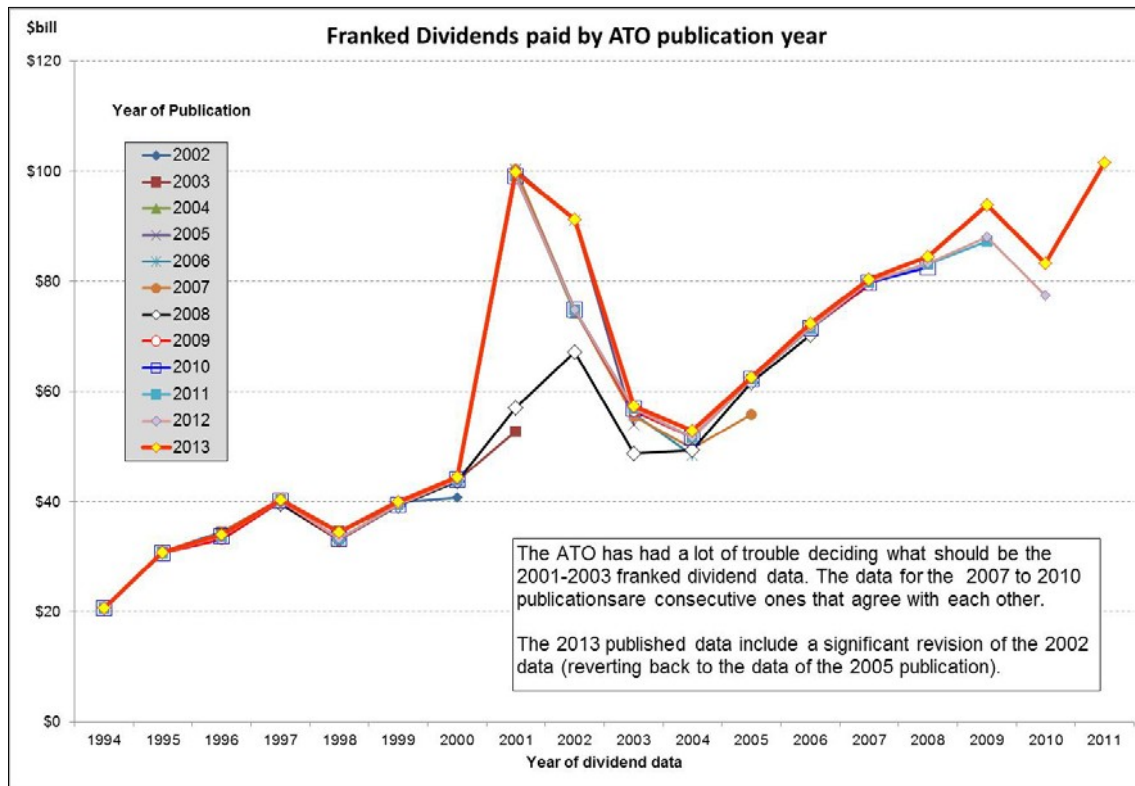
60. The problem is that the ATO total dividend data does not reconcile with the FAB data. I have demonstrated above that international investment is appropriately catered for in the ATO dividend distribution data. And this is how it should be. Companies are not allowed to stream credits to investor groups so the overall payment of franked dividends should be reflected in the credits paid to overseas investors. The issue is not the breakdown of the dividend data into domestic and international recipients. The basic problem is that the ATO dividend data seems to under-estimate franking credits by about \$87.5 billion. I plot the data behind Table 5 as Figure 7. The graph shows that, from 2004 to 2009, the unexplained component was approximately equal to \$10 billion per annum, but then jumped to \$14 billion in 2010 and \$21 billion in 2011.

Figure 7: Attempting to reconcile the ATO data 2004-2011



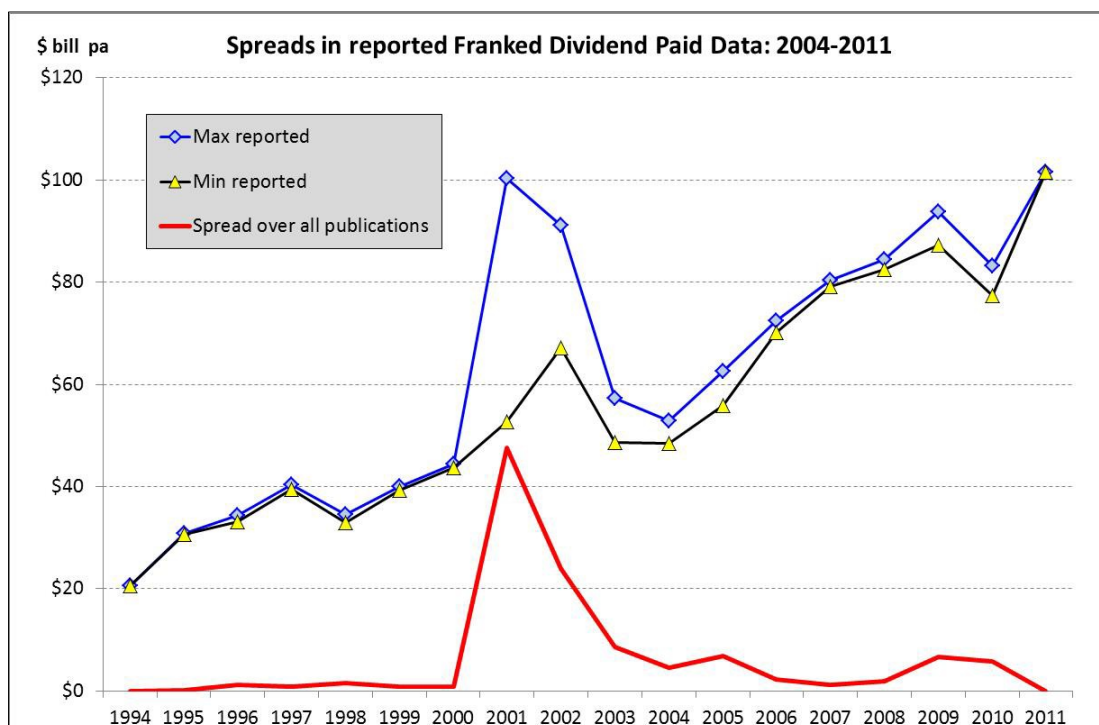
61. The tax data of the ATO is the most likely to be accurate – after all what other tax data is there but tax collections by the ATO? Hence, in seeking to reconcile this “missing” \$87.5 billion I must examine either the FAB data and/or the credit data. Either the franked dividends paid are under-estimated by \$204.2 billion (\$87.5 billion of credits is equivalent to \$204.2 billion of franked dividends) or the collective FAB is actually \$87.5 billion higher than reported. These data are likely dominated by large listed companies and such companies are most unlikely to make such gross errors in reporting. Whilst it is conceivable that many small companies pay loose attention to accounts such as their FAB, the size of the discrepancy belies relying on this as a source of the problem. Hence the FAB data is the more likely of the two sources (dividends and franking account balances) to be reliable. Companies have to record flows into and out of their FAB according to distributions and receipts. One company’s credit to the FAB from franked dividend income is another company’s debit. On the other hand, dividend data by the ATO can be an unreliable quantum. The ATO has had a particularly hard time deciding what the dividend distributions were for the transition financial years 2000-01 through to 2003-04. An important consideration is that this period encompassed the introduction of group consolidation reporting, as a result of which each entity of a group no longer reported separately. Previously, the phenomenon of separate reporting had led to much double counting of dividend data. But this double counting problem should not pervade the FAB data as any franked dividend payment from one company to another should have offsetting FAB entries.
62. The following is a graph of the ATO franked dividend data per year plotted by year of ATO publication. I would expect to see some revisions to past data as updates to past series are incorporated. However the range of revisions for the 2001 data is about \$47 billion, which amounts to rather more than a mere update. These marked revisions to data from 2001 present another good reason for only employing the data from 2004 onwards, when analysing the STS and franking credits.

Figure 8: ATO franked dividend data



63. The size of these revisions becomes apparent when I plot the data for each year as a spread between the maximum reported from all publications and the minimum reported. (As there is so far only one datum for the 2011 tax data published in 2013, a zero spread has been reported for the 2011 calendar year).

Figure 9: Spreads in published Franked Dividend data



64. In most years, I see small revisions to the data and these are typically increases on the previously published data. For example, the franked dividend data for the financial year 2007 have been published as (\$billion) 79.22, 79.82, 79.87, 79.90 and 80.37 for the publications by the ATO in years 2009, 2010, 2011, 2012 and 2013 respectively. However, the 2002 franked dividend data were published consecutively as (\$billion) 74.18, 91.16, 74.84, 74.84, 67.20, 74.84, 74.85, 74.85, 74.85 and 91.23, for the publications 2004 through to 2013 respectively. These data have seen large revisions up and down with the 2013 publication recording the highest numbers thus far for the 2002 franked dividend data.
65. These large revisions cannot be a major factor contributing to an explanation of the “missing” credits of \$87.5 billion described in Figure 7. The data behind this estimate are drawn from publications for the 2004 year onwards, with the most recent publication incorporating the highest estimate for franked dividend data over the entire period. As outlined in the previous paragraph, the total of franked dividends paid in 2007 has been shown to be \$80.37 billion in the 2013 publication, which is the largest number recorded thus far. As is made apparent by the spread curve shown below in Figure 10, there have been no major revisions to the levels of the FAB series insofar as these relate to years from 2002 onwards. For reporting years from 2002 onwards, there have only been minor upward revisions to the FAB, which typically occur as more filings become available for past years.
66. In addition, the FAB has grown more or less in line with the net tax payments, a trend which would be consistent with a reasonably steady distribution ratio, other than over the period from 2002 to 2003 during which the consolidation of group reporting occurred. I see in Figure 11 that the accumulated implied distribution ratio has dropped from 70% (or equivalently 30% was retained) to a distribution ratio of about 67%-68% (32%-33% retained).
67. The issue of the unexplained franking credits remains unresolved. The gap cannot simply be due to unreported foreigners receiving franked dividends, because otherwise the \$87.5 billion would be added to the franking credits of \$77.7 billion already allocated to foreigners, giving them \$165 billion out of a total of \$292 billion of net distributed franking credits (from the tax and FAB data). The proportion of distributed franking credits attributed to foreigners would then be 56%, which is too high when assessed against ABS data about foreign holdings of Australian equities.
68. The FAB data shows modest revisions in comparison to the franked dividend data. Note that the basis for the reporting of the FAB data changed from the 2002-03 financial year. Prior to that year the FAB recorded the amount of the fully franked dividend that could be paid. From 2003 it records the amount of the franking credits that could be distributed. The FAB data prior to 2003 (as shown in Figure 10) have been converted from franked dividends to franking credits by the standard process of grossing up and converting to credits by the prevailing tax rate; for example, under a 30% corporate tax rate, the FAB would be multiplied by the factor 0.30/0.70.
69. The conclusion is that I accept the tax payments and FAB data as given post-2003, and assume that the problem is more likely to have arisen within the franked dividend payments data.

Figure 10: Spreads in published FAB data

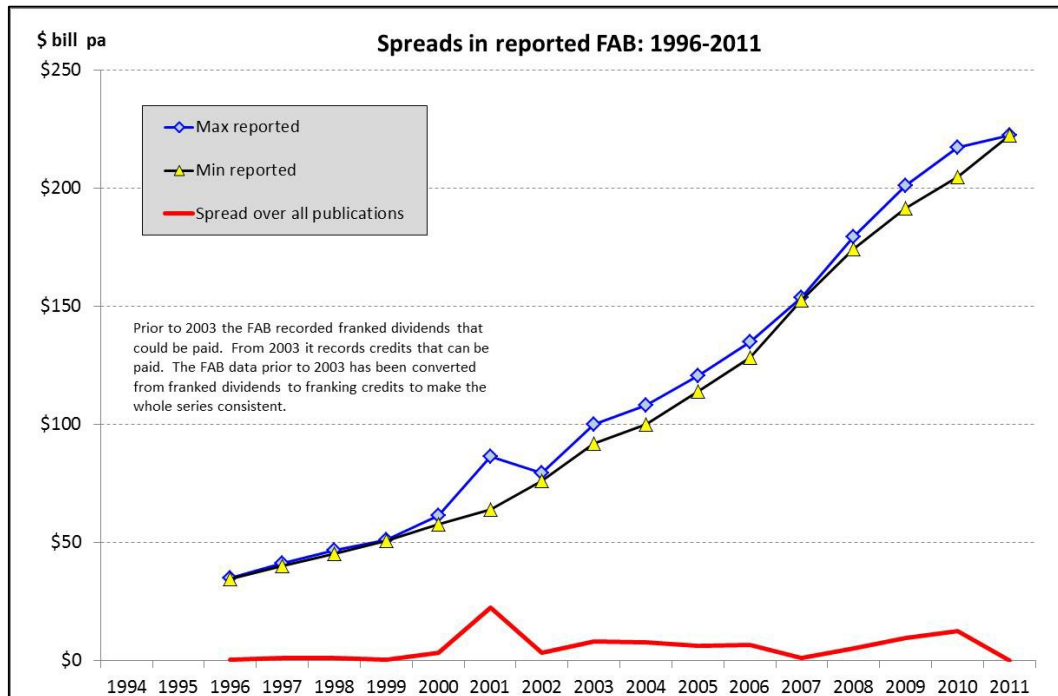
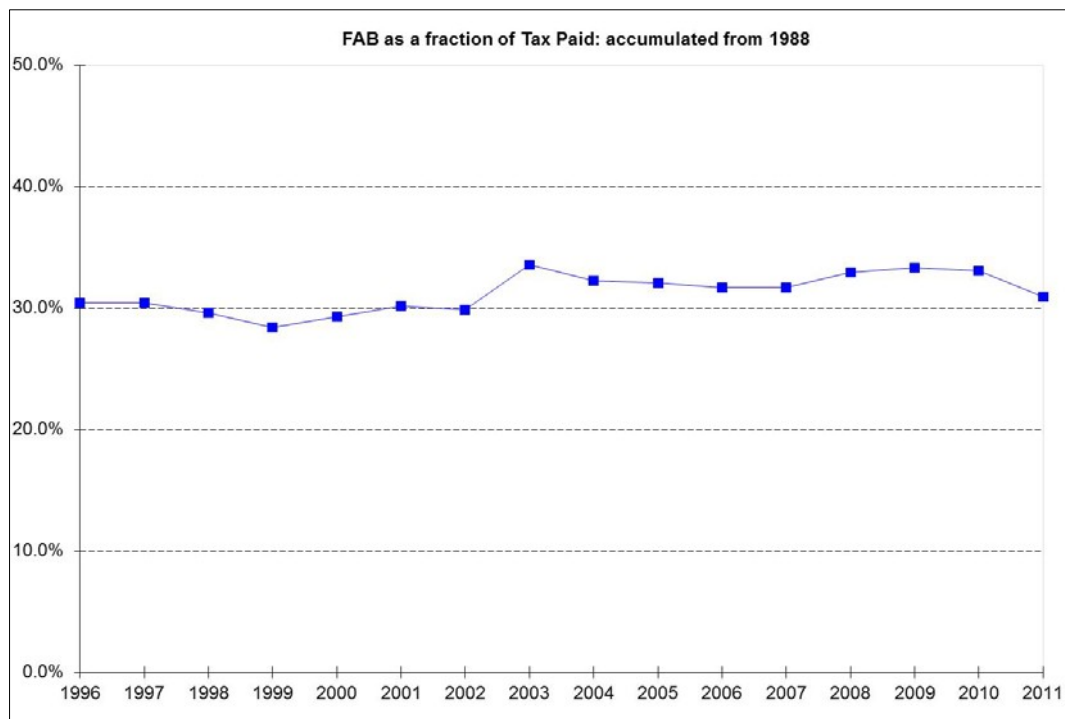


Figure 11: FAB as a fraction of Tax Paid



70. The unfranked dividend data also pose a problem. Although unfranked dividends are not reported directly by the by the ATO, the values can be inferred as the difference between total and franked dividends. Accordingly, any problems with the dividend data are impounded into the unfranked dividends. At first glance, there appears to be an over allocation of unfranked dividends received against dividends paid.

Table 6: Total Dividend Flows, 2004-2011, \$billion

	Direct Received					Paid and Rest of the World		
	Companies	Persons	Funds	Trusts	Charities	Sub-Total	Paid	Rest
Total	259.2	142.9	62.6	156.2	8.3	629.1	713.6	84.5
Fully Franked	132.9	136.7	56.8	140.1	7.4	473.9	631.6	157.7
Unfranked	126.3	6.3	5.9	16.0	0.8	155.3	82.0	-73.3
Franking Credit	56.9	58.9	24.2	59.6	3.2	202.8	270.7	67.9

71. More unfranked dividends are reported as income than are paid. The imbalance arises because of the nature of the entries for this data item. Unfranked dividends are derived from item 6.H “Total dividends” on the profit & loss data, as follows:

Figure 12: Profit & Loss data items: 2004-2011, \$billion

6 Calculation of total profit or loss

Income

Gross payments subject to foreign resident withholding **B**

Gross payments where ABN not quoted **A**

Other sales of goods and services **C**

Gross distribution from partnerships **D**

Gross distribution from trusts **E**

Gross interest **F**

Gross rent and other leasing and hiring income **G**

Total dividends **H**

Fringe benefit employee contributions **I**

Assessable government industry payments **Q**

Unrealised gains on revaluation of assets to fair value **J**

Other gross income **R**

Total income **S**

7 Reconciliation to taxable income or loss

Total profit or loss amount shown at **T** item 6

Did you have a CGT event during the year? **G**

Do you need to complete a CGT schedule 2007?

Also print Y for yes at **G** if the company received a distribution of a capital gain from a trust.

Add:

Net capital gain **A**

Non-deductible exempt income expenditure **U**

Franking credits **J**

Australian franking credits from a New Zealand company **C**

Other assessable income **B**

Non-deductible expenses **W**

Accounting expenditure in item 6 subject to R&D tax concession **D**

Subtotal

72. The ATO instructions for companies completing item 6.H are as follows:

Show at **H** total dividends including all dividends and non-share dividends franked and unfranked, foreign source dividends (including New Zealand dividends and supplementary dividends), bonus shares, deemed dividends, liquidator’s and other company distributions. The amount at this label cannot be a loss.

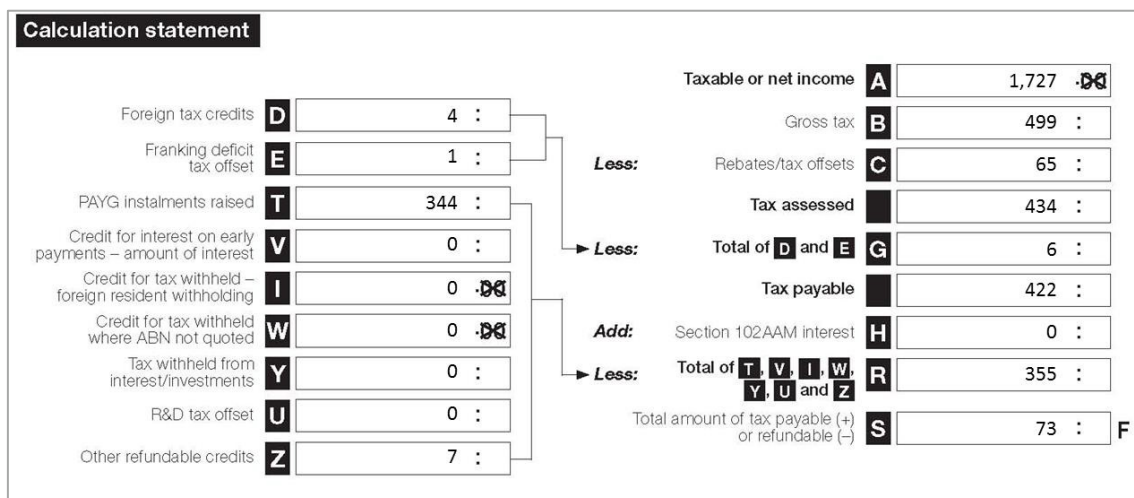
Do not include at **H**: ... any franking credits that were attached to dividends received from an Australian franking company. Include these amounts at **J** Franking credits item 7; any Australian franking credits from a New Zealand franking company at item 6 – include them at **C** Australian franking credits from a New Zealand company item 7.

73. Hence the total dividends item 6.H is a composite of different incomes. It includes more than just Australian-paid unfranked dividends. It includes all overseas dividend income and other items as well. Unlike franked dividends and franking credits which are well-defined items, total dividends and hence the residual unfranked dividends are composite items which are not easily disaggregated.
74. In summary, the ATO tax data and FAB seem quite creditable but there remain apparently big issues with the dividend data (or else I am missing something significant within these data).

5. Credit Creation

75. There was a lot of double counting within the past ATO data for dividend payments and receipts as well as their accompanying franking credits. The introduction of the consolidation regime has substantially mitigated this problem but it probably still exists as groups need only elect to consolidate. I have no data on how many are still reporting separately. In contrast, there is no apparent double counting of company tax collections. Franking credits are worked out from the tax paid by companies and the source of this data is the Calculation Statement (CS) of company tax filings.

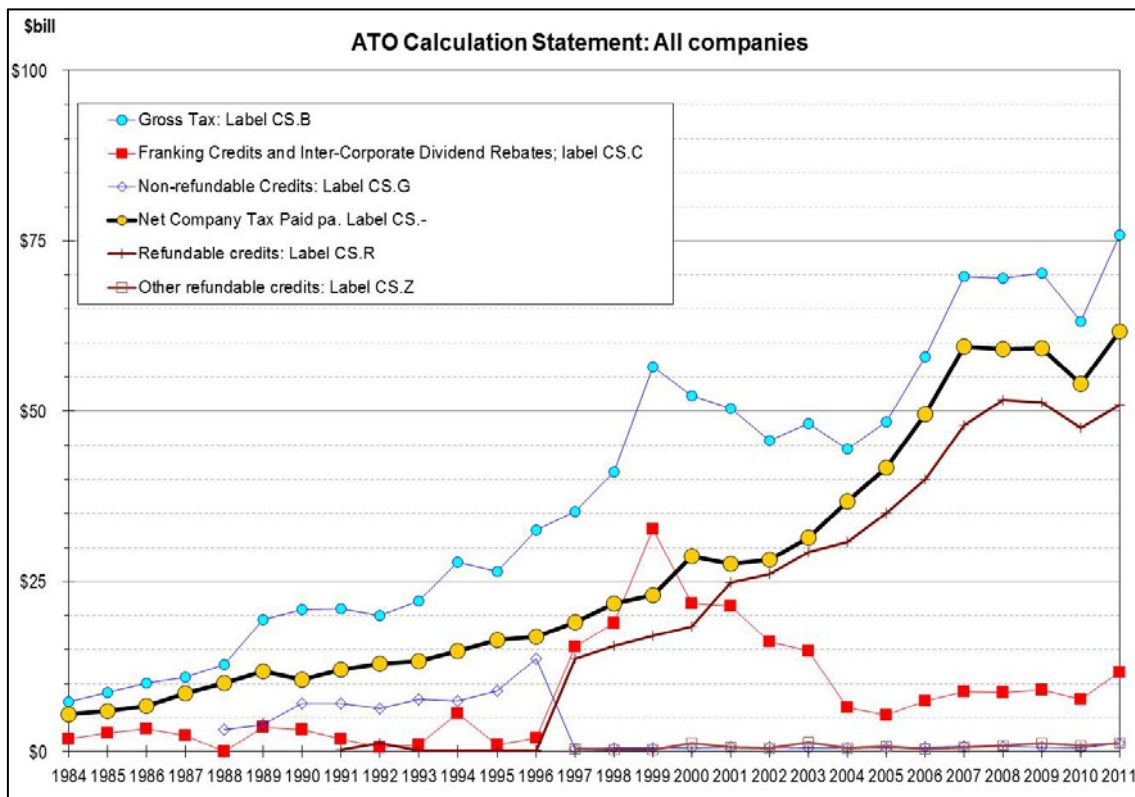
Figure 13: Calculation Statement: 2004-2011, \$billion



76. Under the rolling payment system now in use, credits are only created when tax is actually paid, either as a PAYG instalment, or as income tax that is due, or when a liability for franking deficit tax is paid. Credits are not created when tax simply becomes liable to be paid. A franking deficit tax payment is made when a company pays out more franking credits than it has available in its FAB. The company must pay the difference as a tax (“franking deficit tax”), and it will earn a credit against future company tax liabilities. The franking deficit tax offset is shown at item CS.E. In effect, such a company has distributed franking credits ahead of actually creating them, and so it has to pay an immediate tax payment to cover the difference.
77. An examination of the numbers in Figure 13 shows that the major proportion of the tax liability is paid as instalments during the year. The instalments are recorded as Refundable Credits at label R of the Calculation Statement (abbreviated to CS.R). These immediately create franking credits. The residual payment at label S might be paid in the following year and it will not create franking credits until it is actually paid. If a refund of excess credits is available to an entity, then these will be shown at item Z. Eligible entities include the superannuation business of Life Offices.
78. Figure 14 shows these credit creation data as annual flows. I can see in this plot how the major changes to the system have been reflected in the flows. One large change was the introduction of the PAYG system from 1997, as a result of which a switch occurred from non-refundable credits to refundable credits (the PAYG instalments). The other major change was the consolidation regime for groups and the abolishment of the inter-corporate dividend rebate (ICDR) in 2002. It appears as though the PAYG system created the potential for instalment payments that were offset by the ICDR. The latter process, designed to overcome potential

double taxation on dividends flowing between related companies, was redundant after the consolidation process was introduced because consolidation meant that only the head company need file. Dividends flowing between unrelated companies are treated as part of the gross up and credit process that previously applied to personal tax payers.

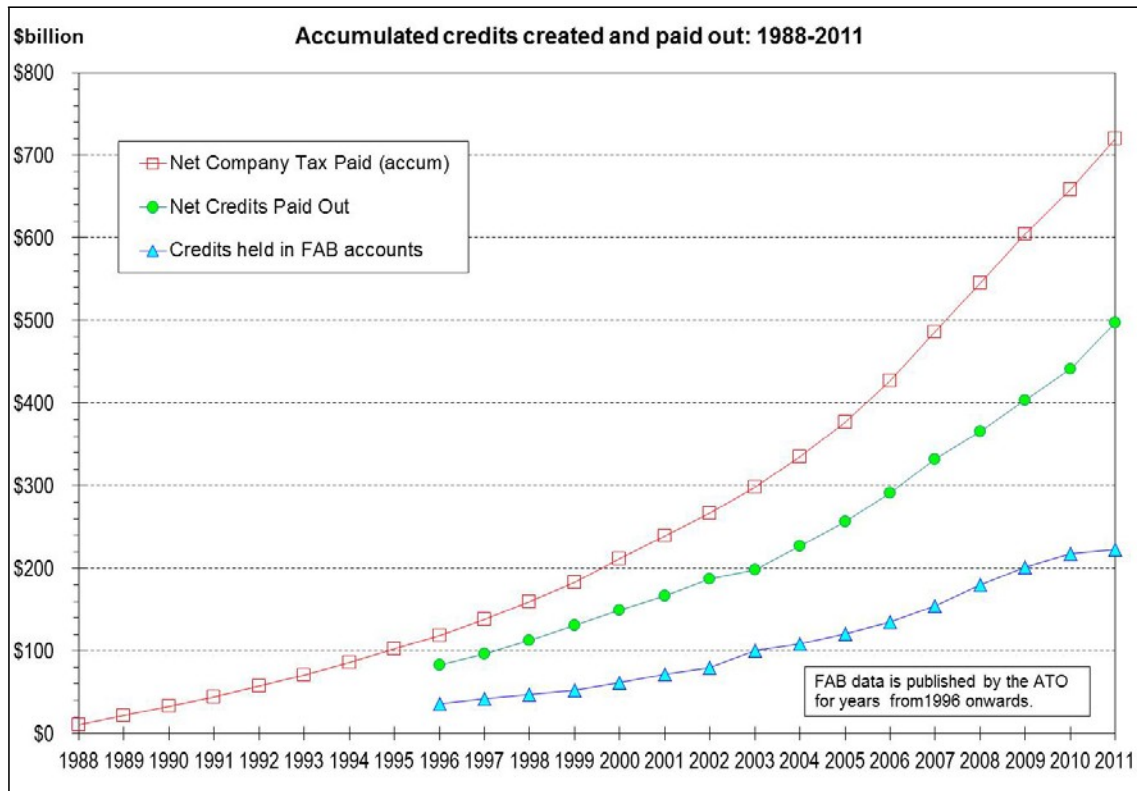
Figure 14: Credit Creation as tax payments



6. Credit Distribution

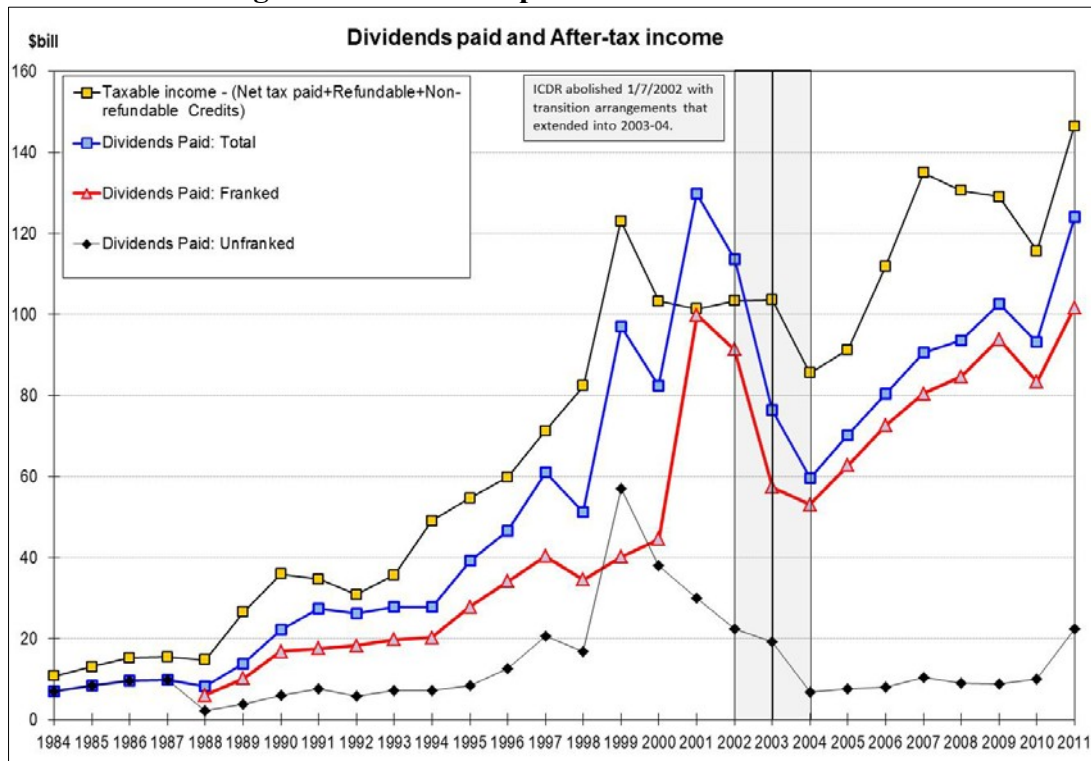
79. I now turn to estimating the access factor for Australian franking credits – the portion of credits that are paid out to shareholders. I start first with the FAB data, which I think is the more reliable data and which is plotted in Figure 15 as accumulations since the introduction of the imputation tax system on 1 July, 1987.

Figure 15: Company tax paid and the FAB



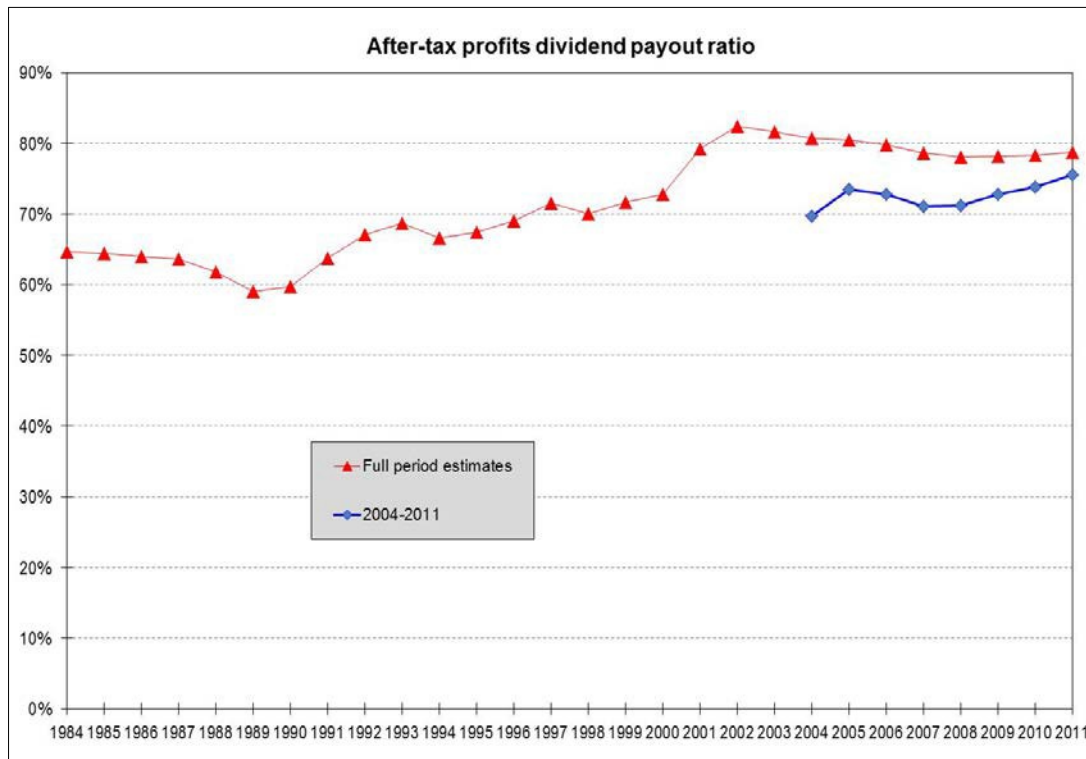
80. Since the introduction of the imputation system, companies have paid a net \$720 billion of company tax up to 30 June 2011. This has created franking credits for which the current ATO data indicate that \$222 billion remain within the franking accounts of companies. The implication is that a net \$498 billion has been distributed as franking credits. The overall access fraction of company tax being distributed as franking credits is 69% with 31% retained in the FAB.
81. The same analysis confined to the years 2004-2011 indicates that net company tax of \$422 billion was paid over this period and the FAB increased by \$122 billion. Accordingly, from 2004 to 2011, 71% of tax was distributed as net franking credits with 29% of the total period net tax being added to the FAB.
82. Turning to the dividend data, plotted in Figure 16, I can observe the response of companies to the announcement in the late 1990's that the inter-company dividend rebate would be abolished under the STS. This was eventually legislated to begin on 1 July 2002. The surge in payout of unfranked dividends in 1999 created a surge in taxable income which itself generated tax payments and a subsequent burst in franking credits. These events look to have substantially washed out of the system by 2004.

Figure 16: Dividends paid and After-tax income



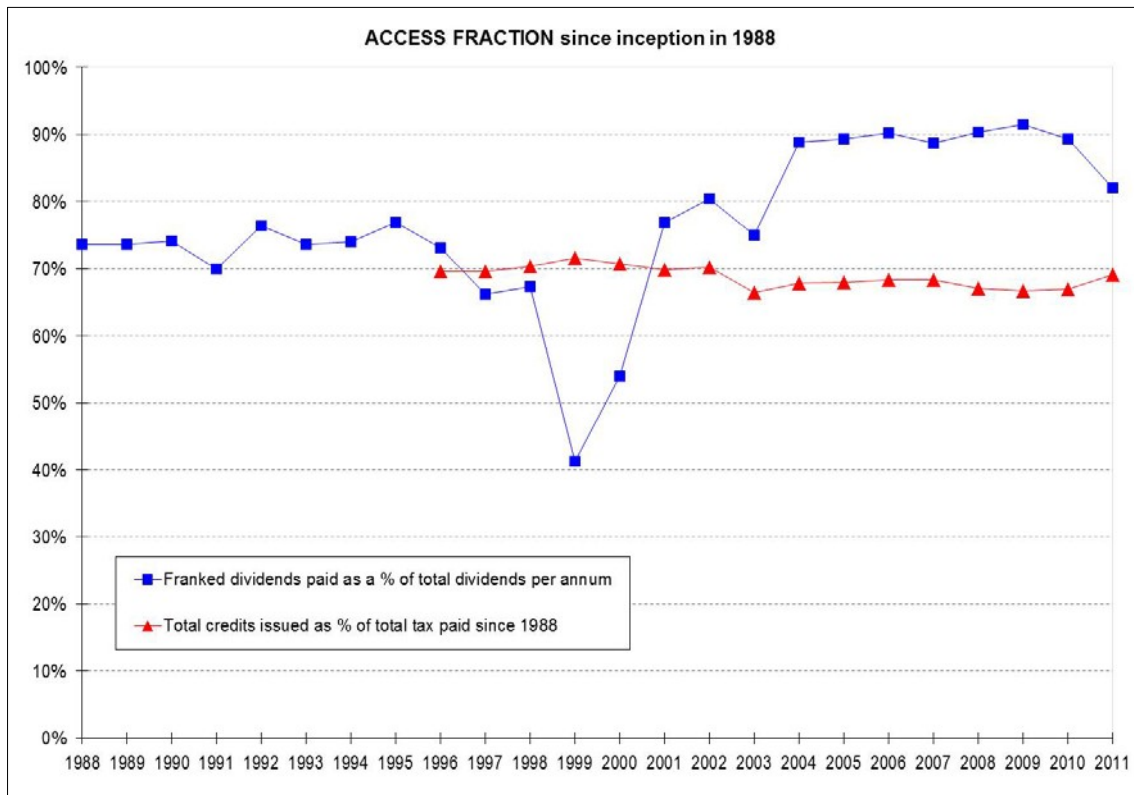
83. As dividends historically can only be paid out of after-tax profits, I also plot a proxy for after-tax income as taxable or “net” income (which now includes franking credits at label 7.J) minus net tax paid (from the Calculation Statement, no label assigned) minus the previously non-refundable credits and, in recent years, minus the rebate/tax offset (at label CS.C). I plot total dividends paid as a ratio of the after-tax income proxy in Figure 17.

Figure 17: After-tax profits dividend payout



84. I observe that the proxy profit payout ratio was 64% pre-imputation and then it progressively rose to a current level of about 80%. The estimates confined to the period 2004-2011 are in the range of 70%-76% and have averaged 73%. The ATO data is based on a mixture of private and public companies and ASX data indicates that the payout ratio of listed companies is somewhat less than 70%. Furthermore, since I consider that there are problems with the ATO dividend data, I prefer to rely on the tax and FAB data for estimating the access fraction. The ATO has published FAB data from 1996 onwards, and so I have reliable estimates from that year onwards. The access fraction of aggregate tax as credits using the FAB data has averaged 68% using aggregates commencing 1988 and finishing in years 1996 and beyond. These access fractions from the FAB data are plotted in Figure 18 along with the fraction of dividends that are franked.

Figure 18: Franking credit access fraction



85. The dip in the franking proportion for 2011 comes about because there was a disproportionate rise in unfranked dividends issued in 2011. However, as this latest published data is often revised in future publications, I will not give this move too much credence as yet.

86. In summary, from the tax and FAB data I estimate that the national access fraction for all companies is 68%, noting that this value includes all private and public companies.¹³

¹³ When I confine my attention to just the more reliable data after 2003 (not including any data prior to 2004) I observe that the national access fraction is 71%.

7. Credit Redemption

87. I now turn to estimating the utilisation factor for Australian franking credits. Four groups can redeem the credits. These are personal tax payers, superannuation funds, some finance companies that have businesses behaving as superannuation funds (typically the complying businesses of life offices) and some designated tax exempts such as charities and universities. Not all of these separate groups are individually identified in the ATO statistics.
88. Companies are now generally in a position whereby they do not redeem any credits, because they use the gross up and offset approach. If they are sufficiently profitable, then they pass the credits through in the year of receipt. On the other hand, if companies are not sufficiently profitable, and if their income includes grossed up dividends, then incoming credits will be added to their FAB and, they may not be able to fully utilise the credits in offsetting their tax liability. An excess of credits will be recorded because the refundable credit that can be claimed as an offset at item CS.C cannot cause the tax assessed to become negative. The claimed rebate at CS.C must be reduced so that the tax assessed is non-negative. However, the excess credits not being used as an offset against taxable income are converted to an equivalent capital amount by grossing up this excess credit by the tax rate and carrying forward the resulting amount as a tax loss against future liabilities. In this manner, the credits are being used in the context of a full gross up and credit system, with the ‘gross up’ taking place in the year of receipt of the credit, and the ‘offset’ occurring over one or more years. Hence, for companies, the system is an extended gross up and credit system, and not necessarily an immediate gross up and credit system.
89. Australian resident personal taxpayers are big users of credits. In 2011, residents received \$28.9 billion of franked dividends (both directly and indirectly) and redeemed \$12.4 billion worth of credits. The credits accrued to individuals directly as primary credits for investors, and indirectly as secondary credits (or attributed shares of franking credits) obtained via trusts and partnerships. Figure 19 shows the trajectory of direct and indirect credits.
90. Personal taxpayers are very keen on credits, and have demonstrated a strong “cliente effect” for franking credits. Their direct, Australian fully franked dividend claims are rated at 95% of total direct dividends received, whereas for the market as a whole, the proportion of dividends that were franked was approximately 90%. Evidence of the franking proportion is shown in Figure 20, which also reveals that the franked share has been above the long term average proportion of 75% franked for about a decade. However, the inclusion prior to 2003 of all dividends flowing between companies within the one group has meant that unfranked dividends are over-represented in the historical data, and so the long-term average share of 75% has the effect of concealing the underlying franked dividend proportion.
91. Note that institutional investors (funds) have generally invested in shares which deliver franking credits in proportion to the supply of credits, other than over the period from 1997 to 2000. Personal investors have also demonstrated a strong preference for fully franked dividends. If the proportion of franked dividends accruing to personal investors and institutional investors is higher than the share of franked dividends available to the market, then other categories of investor must be receiving lower than average shares of franked dividends. The only significant candidates to consider are other companies and international investors. Regarding the latter category, there is no obvious reason as to why international investors would suddenly demand a greater proportion of unfranked dividends over the four year period from 1997 to 2000. Consequently, companies must receive a lower than average share of franked dividends. There is therefore a justification for the contention that the surge in payments of unfranked dividends from 1997 to 2000 was as a result of companies paying dividends among themselves. Note that

the payment of dividends from one company to another cannot be directly observed in company income data because the unfranked income statement (item 6.H) includes a variety of components beyond Australian unfranked dividends.

Figure 19: Personal taxpayer redemption

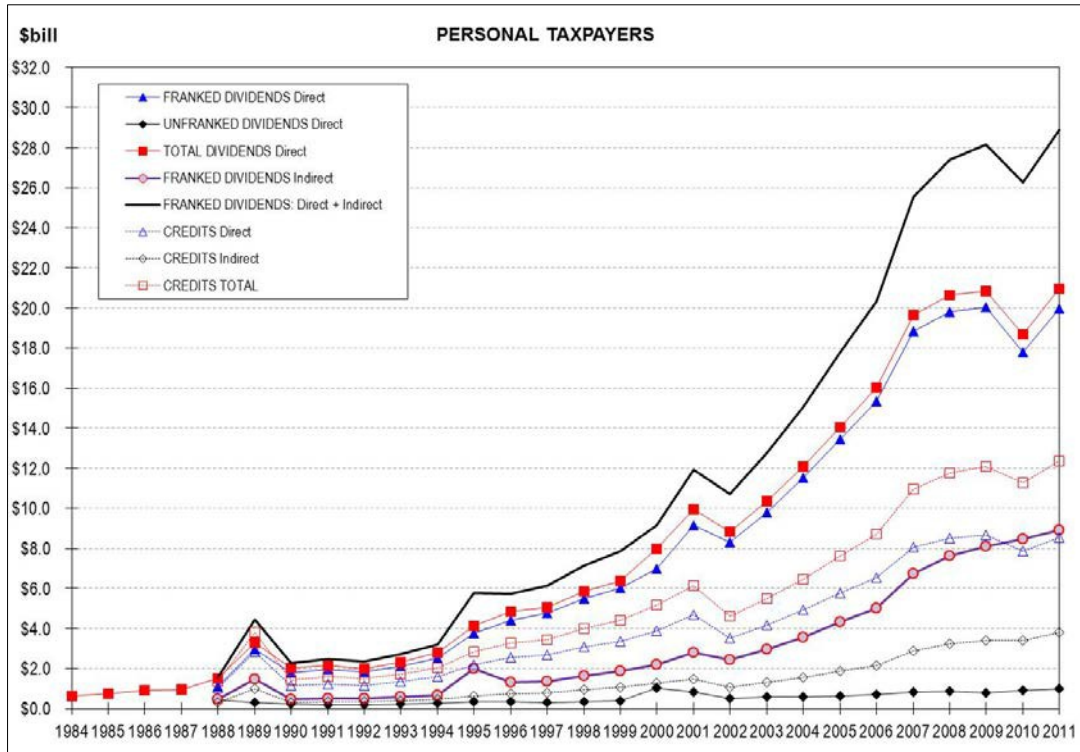
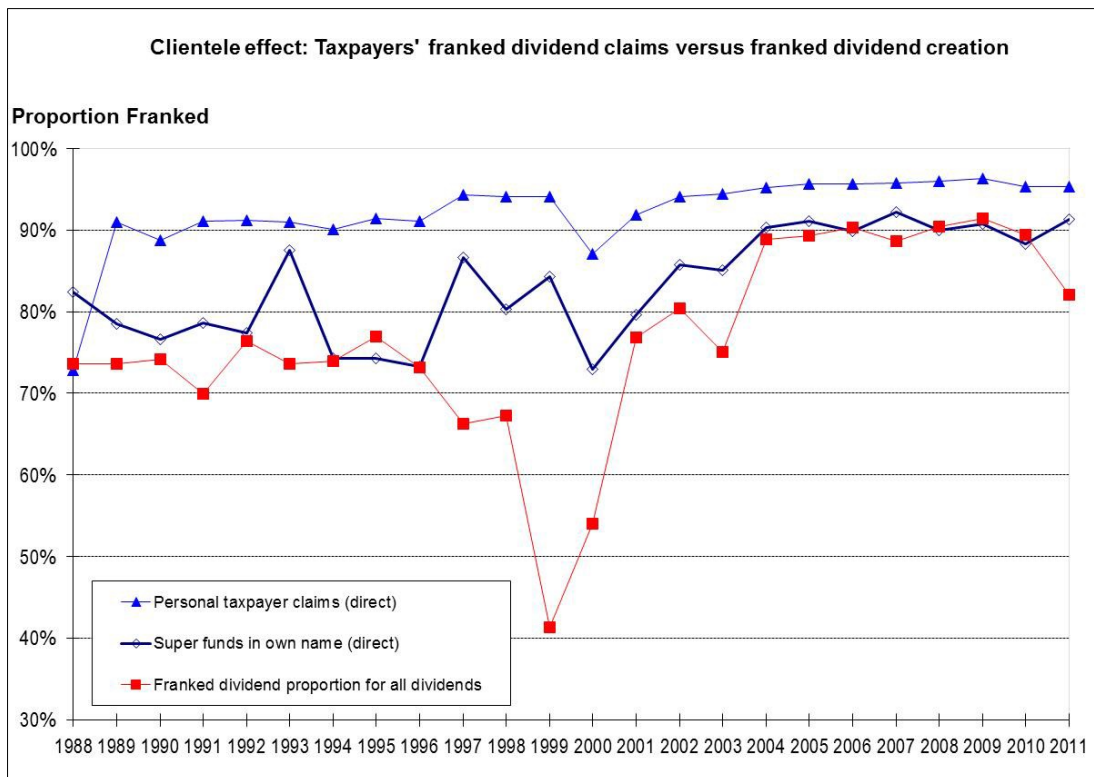


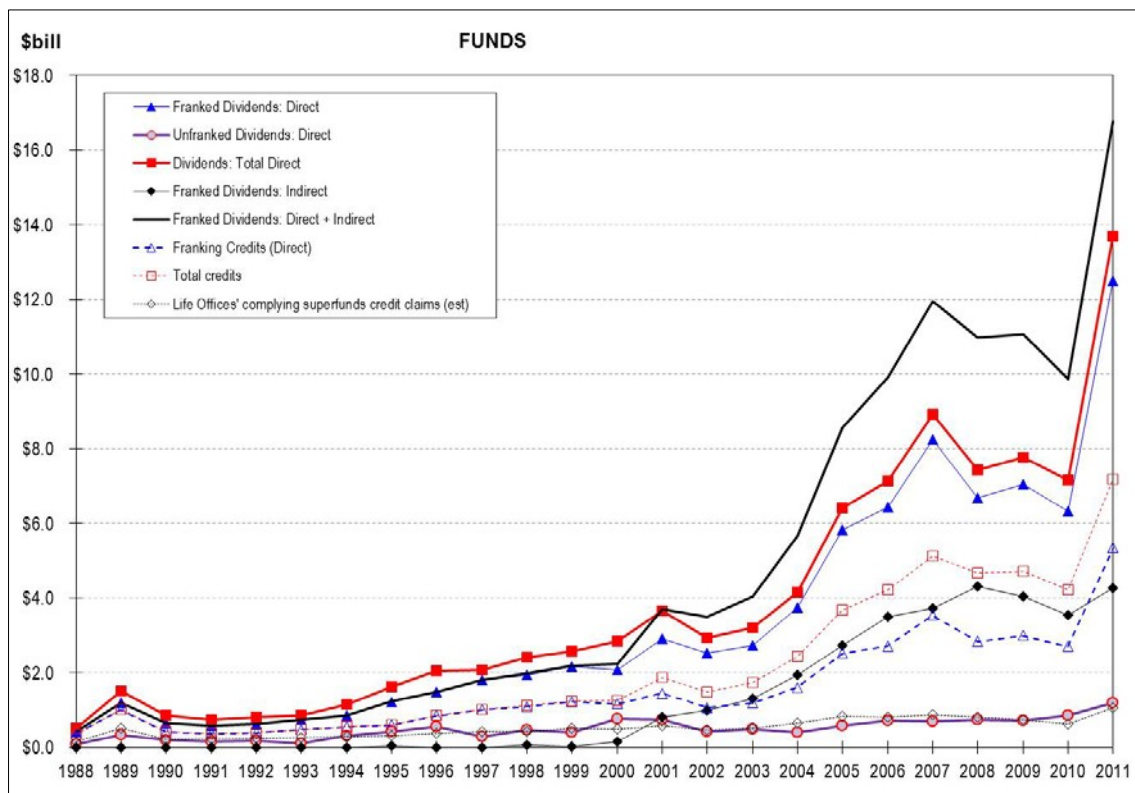
Figure 20: Clientele effect of taxpayers



92. Superannuation funds are another group of investors that make extensive use of franking credits. The ATO reports that funds redeemed \$7.2 billion of credits in 2011 and that they received total

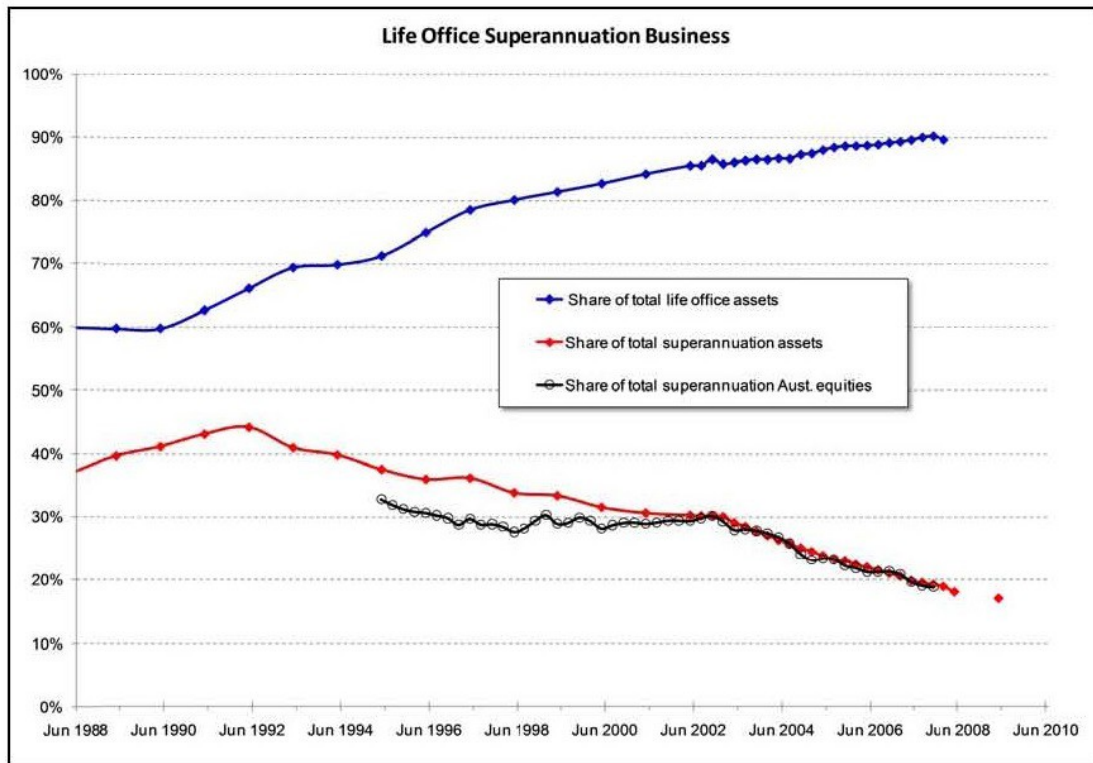
franked dividends (net of credits) of \$16.8 billion – see Figure 21. The 2011 claims are up substantially on the 2010 claims and this increase is observed across the board – both for APRA funds and SMSFs and for the indirect claims made via shares of distributions from trusts. Funds also received \$1.2 billion of unfranked dividends which is very much in line with the overall market distribution of 10% unfranked, and 90% franked for 2011. As was explained in the commentary below Table 2, SMSFs averaged 92% franked to total dividends over 2004-2011, whilst APRA funds averaged 89%, indicating the hardly surprising result that the “clientele effect” in SMSFs is biased towards individual investors). If the ratio of franked dividends to total dividends received by a certain group of investors is above the ratio observed across the market, then the ratio for other groups of investors must be below average.

Figure 21: Super fund redemption of credits



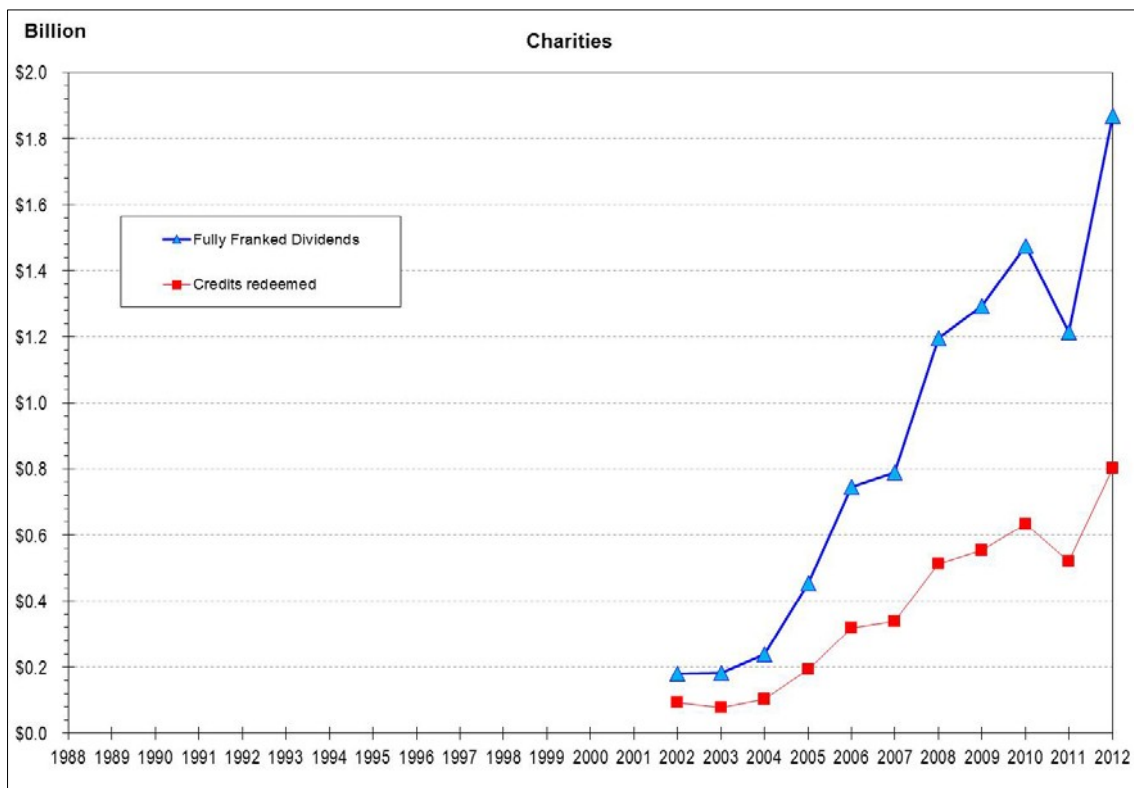
93. A group of super funds that I cannot observe openly in the ATO data are the complying super funds of Life Offices. The complying funds are allowed to redeem credits as if they were superannuation funds but they report among company data. The superannuation business of Life Offices is the dominant part of their business (about 90% - source APRA) but these special funds are a diminishing part of the whole superannuation business. Most importantly, the holdings of Australian equities by the special funds are now very much in proportion with their share of the superannuation business. Accordingly, I make the assumption that Life Office superannuation businesses will have the same allocation as other funds to franked and unfranked Australian shares. Therefore, the fraction of franking that will be applied to the claim by Life Office superannuation funds is the same as the proportion that has been applied to the grossed up claim by other funds, (with ‘grossed up’ here meaning grossing up for the share of other funds). For example, if Life Offices hold approximately 20% of Australian superannuation equities then the other funds hold 80%, and so if the 2004-2011 credit claim by other funds was \$24.2 billion, then the grossed up amount is \$30.25 billion ($=\$24.2/0.8$) so the estimated claim by Life Offices is $0.20 \times (\$24.2/0.80) = \6.05 billion.

Figure 22: Life Office share of Superannuation business



94. The other group that can now redeem credits are charities and other designated organisations such as universities. Organisations in this group are climbing fast as claimants of credits, albeit from a low base. In 2012, charities and other designated entities claimed refunds for \$0.8 billion of credits. Over the period from 2004 to 2011, they claimed \$3.2 billion of refunds for credits.

Figure 23: Claims by Charities for credit refunds



8. Conclusion

95. The ATO data are a primary source of information on the creation, payment and redemption of franking credits. The statistics provide an insight into the aggregate level of tax payments by companies, the distribution of franked dividends along with accompanying franking credits, and the redemption of these credits by various classes of investors.
96. Two sets of data, one based on franking account balances, and the other based on dividend information, are available for calculating access factors, as summarised below in Table 7 and Table 8. Dividend data are available to estimate the redemption factor, but the value obtained should only be regarded as an upper bound. Franking credits held by individuals are used for pre-payment of personal tax, or can be redeemed if no personal tax is due.

Table 7: Factors based on Dividend data for both access and redemption, 2004 to 2011

Item	Creation	Distribution	Redemption
Net Tax Paid	421.5		
Gross credits issued		270.7	
Credits recycled in the FAB		66.0	
Net credits issued		204.7	
<i>Access factor:</i>		47%	
Personal taxpayers			81.2
Super funds			36.2
Life Offices & other excess credits			7.0
Charities			3.2
Net credits redeemed			127.6
<i>Redemption factor:</i>			62.3%

Table 8: Factors based on FAB data for access and Dividend data for redemption, 2004 and 2011

Item	Creation	Distribution	Redemption
Net Tax Paid	421.5		
Change in the FAB		122.3	
Net credits issued		292.2	
<i>Access factor:</i>		71%	
Gross credits issued		270.7	
Credits recycled in the FAB		66.0	
Net credits issued		204.7	
Personal taxpayers			81.2
Super funds			36.2
Life Offices & other excess credits			7.0
Charities			3.2
Net credits redeemed			127.6
<i>Redemption factor:</i>			62.3%

97. I estimate the two factors as:

$$\begin{array}{rcl}
 \text{Access factor} & = & 0.47 \quad \text{Dividend data} \\
 \text{or} & = & 0.71 \quad \text{FAB data} \\
 \\
 \text{Redemption factor} & = & 0.623
 \end{array}$$

98. The difference between the two estimates of the access factor is caused by the missing \$87.5 billion between tax and dividend data.
99. As was explained in section 3, I have more faith in the FAB data than in the dividend data. The dividend data appears to be missing about \$87.5 billion and the ATO has had substantial problems with dividend data in the past. If I focus only on the ATO tax data (i.e. put aside the ATO dividend data) in between the payment of company tax and the tax claims of final end users of credits (the four different groups described in Section 6 above) then I can conclude with some confidence the following for the period 2004-2011:

Company tax paid	\$421.5
Credits redeemed	\$127.6

100. This overall approach is reasonable as the tax statistics are unlikely to be in major error for amounts of tax paid and the amounts of tax credits claimed. However, this estimation method does not allow me to obtain an accurate estimate of theta, which is the value of a distributed imputation credit.
101. Estimates of theta have, in the past, been obtained from dividend drop-off analyses. Since theta provides the valuation of a credit which has already been distributed, then an access factor (or payout ratio) may not be required. A dividend drop-off occurs on the date a stock goes ex-dividend which means that a dividend has been declared and is about to be distributed.
102. The ATO data give no insight into payments of franking credits to foreign investors. The ATO data naturally only record the declaration by resident tax payers upon the filing of their claims. The franking credits received by non-resident investors, which are presumably wasted, have to be estimated as residuals. This is because foreign investors do not necessarily lodge tax company forms with the ATO. The estimated values of the residual franking credits received by foreign investors are broadly consistent with ABS estimates of equity holdings by non-resident investors.
103. The change to the system whereby companies declare franking credits as income and claim the franking credits as pre-payment of tax has meant that the claims have under-estimated the total franking credits received by companies. This occurs because companies cannot report less than zero tax liability. They have to reduce their claims for credits to meet the requirement of a non-negative tax liability. The credits not claimed as a tax offset by this reduction are not wasted. They accrue immediately to the FAB of the receiving company and can be paid out in the future with franked dividends when the company makes a profit and is in a position to draw upon unused credits.
104. Unfortunately, there are too many unreconciled problems with the ATO data for reliable estimates to be made about the utilisation of franking credits. The utilisation rate of franking credits is based on dividend data (from the tax office) and I have demonstrated that this data is questionable. The only reasonably reliable estimate I can obtain from the taxation statistics is the access fraction, which is obtained from the FAB data.

9. AER consideration of tax statistics

105. The AER published its “Better Regulation, Explanatory statement, Draft rate of return guideline”, in August 2013 under the recently revised National Electricity Rules (NER) and National Gas Rules (NGR) (hereafter I refer to this document as the AER *Guideline*). In this *Guideline* they consider two aspects of franking credits that I have described above: the distribution of credits and the redemption of credits. In passing, they rely on or refer to previous versions of this current study and other material. I consider first their material on access to credits and then their material on utilisation of credits:

9.1 AER material on Access to credits:

106. The Guidelines refer to the definition of access to credits thus:

The payout ratio is the proportion of imputation credits that the benchmark company or market distributes, out of the total credits it generates. For example, if a company generates \$100 of imputation credits and distributes \$80 of imputation credits, its payout ratio for that year is 0.8. Since Australian companies generate \$1 of imputation credits per \$1 of tax they pay, this is equivalent to the value of imputation credits distributed divided by the total value of company tax paid.

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107. The use of the term “payout ratio” is to describe this factor is a poor choice of words. In finance, “pay-out ratio” most often refers to payout of profit as dividends. The payout of credits can be quite different to the payout of profits. For example, a 100% payout of profits as an unfranked dividend is a 0% payout of company tax as franking credits. And even if a company pays out a fully franked dividend, the payout ratio of the tax as credits can easily differ from the payout ratio of profits because the effective tax rate for many companies is not the same as the statutory rate (currently 30%) but fully franked dividends are always credited at the statutory rate. Below, I use the example of Telstra Ltd.’s 2013 financial results in order to underline this point in which Telstra paid out 90.4% of its after-tax profit as a fully franked dividend (\$3.5 billion cash, \$1.5 billion credit) and the credit was 92.6% of its tax payment.
108. To avoid any ambiguity, I prefer to use the term “access fraction” to explicitly refer to the distribution of company tax as franking credits.
109. The *Guidelines* accept that the access fraction is about 0.7,

...we propose to use the cumulative payout ratio calculated from tax statistics to estimate the payout ratio. With current data, this suggests a payout ratio of 0.7. In particular, we consider the cumulative payout ratio method that NERA submitted in its report to the ERA is reasonable. The NERA report submits that the cumulative payout ratio from 1987–88 to 2010–11 (which is the most recent year for which tax data is available) is the most reliable estimate of the payout ratio. This is because:

- it is less susceptible to fluctuations in annual data than the alternative annual measures of the payout ratio
- the two approaches to estimate the annual payout ratio (tax approach and dividend approach) produce significantly different estimates. It is unclear why this happens.

Guidelines Appendix K, page 236

110. I think it is quite clear why this happens: if one uses ATO data for the dividend data input then there is a major discrepancy between the ATO tax data and the ATO dividend data of the order of \$87.5 billion. I think it is all but impossible as the data currently stands to make sensible estimates with this data. On the other hand, if one uses ASX dividend data for payout ratios then one is using profit payout as franked dividends. If these dividends are fully franked then they are franked at the statutory rate of 30%. But the effective tax rate can easily be different to the statutory rate so a payout ratio of profits can be different to an access fraction of tax as credits (as per the Telstra example).
111. Notwithstanding that the AER make what I think is a sensible conclusion in adopting an access fraction of 0.7, they then make a claim that this access fraction may rise over time.

However, we consider there is evidence to suggest it may be rising over time. Notwithstanding the above, we consider that a payout ratio of 0.7 is more likely to understate than overstate a forward looking payout ratio. This is because:

- Using the same data-set as NERA, we have re-calculated the cumulative payout ratio from 2002–2003 to 2010–11. This produces an estimate of 0.73. However, tax data is often adjusted for several years after publication, so we are cautious about placing significant weight on shorter, more-recent samples.
- Recent corporations law amendments in 2010 make it possible for firms to increase the payout of dividends. Previously, companies could only distribute dividends out of profits. However, these amendments to Corporations Law 245T allow companies to pay dividends out of assets subject to conditions. This allows these firms to increase their payout of dividends. The payout of dividends constrains the payout of imputation credits, because imputation credits can only be distributed with dividends. Accordingly, if firms use the additional flexibility to increase dividends, it may also increase the distribution of imputation credits (and therefore the imputation credit payout ratio).
- Experts have identified that it appears unlikely franking account balances can increase indefinitely without corporate or legislative innovations to access this value. The ENA observes that whether or not this theoretical argument is valid, the long run payout ratio remains at 0.7. We consider the theoretical observation does remain valid, but accept that the empirical evidence generally points to a payout ratio of 0.7. Also, as the ENA's preferred estimate is based on a long term cumulative average, an increasing trend of the payout of dividends would necessarily take a number of years to influence the average.

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112. I think one should immediately discount the first reason given here. The year 2002-03 was quite an unusual one as the introduction of both the STS and the group consolidation regime were being brought in with 2002-03 being a transition year. The data for that year is a mix of the old and the new regimes and the old regime suffered from much double counting (as we have already described above). No one should place much reliance on that data as the data after 2003 is much clearer and does not suffer from these issues (though of course there is the large issue of the unresolved \$87.5 billion discrepancy).
113. The second reason is quite valid but only time will tell if it leads to a significant impact on the distribution of franking credits.

114. The third reason of “innovations to access” the FAB is totally unsubstantiated and pure fanciful speculation. The FAB is just a book entry of corporate tax collections from companies that has been already paid to the ATO and has not been distributed as franking credits to investors. In other words, it is *net company tax*. Taxes have been raised since at least biblical times and have been spent by the reigning monarch/ruler/government and have certainly increased indefinitely. The USA does not have a direct imputation tax system and their government keeps raising company tax collections. The fact that we now have a record (i.e. the FAB) of how much of the company tax collection ended up as pre-payment of personal tax versus how much was in hindsight just net company tax and that the net company tax component will grow (as it has done for many years before imputation was introduced) is no logical reason to assume future governments will permit personal and other investors to redeem those past company tax payments.

9.2 AER material on Utilisation of credits

115. The AER discuss the problems with tax redemption approach and I certainly could not agree with some of that statement, which is:

However, tax statistic estimates as a class of evidence do have some weaknesses. Addressing these weaknesses, Hathaway published a critique of the Handley and Maheswaran tax statistic estimates, concluding that tax statistics should not be used to estimate the utilisation rate. Professor Handley then published detailed responses to these criticisms and maintained that tax statistic estimates could validly be used to estimate the utilisation rate. However, we consider some of Hathaway’s concerns may be valid. In particular, there is a currently irreconcilable difference between the implied distribution of franking credits (credits received) calculated using franking account balances, and the net distribution compiled from ATO company income and financial data. Through the guideline process, we will work to better understand and resolve these issues.

Guidelines Appendix K, page 238

116. I am glad to see that the AER are acknowledging that there is a problem with internal consistency of the ATO data. This is a fundamental problem of non-reconcilable data that until it is fixed is itself enough to render the estimates based on taxations statistics quite unsuitable.
117. However, I think the other major drawback with tax redemption approach is one that the AER do not focus upon in the *Guidelines*: taxation statistics are based on all companies, big and small, private and public. There is enough evidence within the taxation statistics to indicate that the estimates for public companies would be quite different to that of private companies. As the AER are charged with regulation of relatively large and (via their parents) public companies in the main, I would have thought the AER should pay more attention to this issue.
118. The first part of this paragraph is curt and hence rather misleading. I certainly objected to Prof. Handley’s and Dr. Maheswaran’s analysis on fundamental reasons and still do. No rebuttal on their part has overcome the fundamental problem with this analysis: namely that they attempt to use dividend withholding tax (DWT) data to estimate franked dividend income of foreign investors.
119. But Australia does not charge DWT on franked dividends: we only charge it on unfranked dividends. The only way anyone can convert holdings of unfranked dividends to franked dividends is to assume the proportion they hold franked and unfranked.

120. Applying whole of system averages to one sub-group is fraught with assumptions. For instance, why would a Board of an Australian-registered company, mainly held by foreign investors, pay a fully franked dividend? This would destroy the credits for little or no return when they could better be left in the FAB for future strategic use such as the sale of the foreign equity holdings. The existence of the anti-streaming provisions does not negate this issue. These provisions prevent different classes of shareholders receiving differential franking of their dividends. They do not stop a Board from not paying any or paying very little of their credits to any shareholders. If a Board is meant to act in the best interest of its collective shareholders and if the majority of these are foreign investors then it would be in the majority equity interest to retain the credits in the FAB. Hence the whole-of-system average could easily not apply to foreigners so any assumptions to the contrary are dubious to say the least.
121. The AER acknowledge that the taxation redemption rate does not include any allowance for the time between receiving a franking credit via a fully franked dividend and its utilisation. The utilisation happens in essentially four ways: those who can obtain a full refund (essentially retirees and charities), those who get a partial refund (superannuation funds and low marginal personal tax rate investors i.e. rate below 30%), those who have to top up the franking credit with further personal tax payments (investors with marginal personal tax rates above 30%), and lastly foreign investors who neither claim nor get any refund for their credits (Australian law is that these investors are deemed to have already paid sufficient tax via the company tax payment reflected in the franking credit and no further withholding tax is due).
122. Some of these investors have to wait a significant amount of time between receiving a credit and utilising it. These are mainly the personal investors who in the main file personal tax annually.
123. Others in these four groups can access the credits much more quickly, particularly those who are redeeming credits in part or in full.

Appendix: Reality Check

124. Because there is such a discrepancy between the ATO FAB data and the ATO dividend data and because there have been such large revisions of the ATO dividend data, I think it is important to provide a check on which results appear more credible. ATO data for 2011 indicate that although public companies are just over 1% of all companies, they derive about 66% of all taxable income, make 66% of all claims for refundable credits and pay about 65% of total tax.

Table 9: Summary taxation statistics for Public and Private Companies; 2011¹⁴

	Private	Public	Public % of total
Number of companies	712,465	8,880	1.23%
Total income	\$983.1 billion	1,434.8 billion	59.34%
Taxable or net income	\$89.0 billion	\$170.2 billion	65.66%
foreign tax credits & franking deficit tax offset	\$693.3 million	\$524.5 million	43.07%
refundable tax offsets & credits	\$17.3 billion	\$33.4 billion	65.83%
Net capital gain	\$3.8 billion	\$4.3 billion	53.28%
Net tax	\$21.5 billion	\$40.0 billion	65.08%
Effective tax rate ¹	24.10%	23.49%	
Effective tax rate after credits ²	29.93%	29.23%	

1. Calculated as Net Tax ÷ Taxable or net income (i.e. label CS.A)

2. Calculated as Net Tax ÷ (Taxable or net income – refundable credits) (i.e. label CS.A – label CS.C)

125. Hence I can try to appeal to data from the ASX to give a reasonableness check for the ATO data.

126. The distribution of tax as credits is the important parameter I need in order to estimate the access fraction and it is not the same as the distribution of profits. If companies had effective tax rates of 30% and distributed all profits as fully franked dividends then they would be the same fraction. But that does not happen in practice. For example, upon announcing its 2013 financial results Telstra Ltd declared a fully franked dividend of \$3.5 billion. This equates to a grossed-up dividend payment of \$5.0 billion with \$1.5 billion of franking credits and \$3.5 billion of cash dividend. Telstra had a pre-tax profit of \$5.49 billion for 2012-13 and paid company tax of \$1.62 billion. Its after-tax profit was \$3.87 billion. This means it paid out 90.4% of profits as cash dividends but 92.6% of tax as franking credits – this is Telstra's 2013 credit access fraction. Its effective tax rate was 29.5%, a bit less than the statutory rate of 30%. But dividends are franked at the full statutory rate of 30%, not the effective tax rate. This helps to get more credits to investors than otherwise would be the case. Note that there is a “double whammy” effect of the effective rate being less than the statutory rate – higher cash dividends are possible as there is less tax paid and the credits distributed per \$1.00 of cash dividend are greater than the actual credits created per \$1.00 of after-tax profit. In the case of Telstra this difference is marginal as the effective rate is close to the actual rate. However, the effective rate varies a great deal across companies and industries so this discrepancy can be quite large.

¹⁴ See *Taxation statistics 2010–11, Table 2: Company tax, Selected items, by net tax and company type, 2010–11 income year*, published as file cor00345977_2011COM2.xls on the ATO website.

127. The difference between payout of profits as dividends and payout of tax as credits becomes even more pronounced when companies earn profits from overseas operations, pay foreign tax and get a credit from the ATO for that foreign tax payment. Such foreign tax payments do not create franking credits as credits are only created upon an actual payment to the ATO of net tax, not from a book entry corresponding to an offsetting credit.
128. I can observe ASX profit payout ratios simply by observing the ratio of dividends per share to earnings per share. Whilst this payout ratio temporarily went down during the GFC as companies temporarily hoarded their cash, for the ten years prior to 2007 the profits payout ratio averaged 63% (from IRESS data). For the period July 2007- June 2011 it averaged just 55% and for the period which matches the ATO tax data being analysed (July 2004 – June 2011) it averaged 54%. These results are based on the dividends and earnings of the All Ordinaries indices which in turn are based on approximately 500 listed securities. Most stock exchange indices also include dilution factors for scaling down the market capitalisation of stocks in companies for which some capital is tightly held and not deemed liquid. But this is not the case for the All Ordinaries indices; they are purely weighted by market capitalisation and they are the only indices thus calculated so the only appropriate ones to use for this analysis. However, there are approximately 1,800 listed companies on the ASX so the All Ordinaries is a subset, albeit a very large proportion by market capitalisation, of the total ASX market. In addition, not all dividends are 100% franked (the capitalisation weighted average for 1988-2013 is approximately 67% franked¹⁵).
129. To see the practical issue of actual tax distributed as credits franked using the statutory rate, suppose a company earns \$100 pre-tax, has an effective tax rate $k \times 30\%$, franks its dividends at the proportion f of a full-franked dividend and has a payout ratio, POR , of profits as cash dividends. Then I have the following:

Table 10: Calculating actual credit access fractions

Pre-tax profit	\$100	Incl. any dividends and credits
Actual Tax	$k\$30$	Effective after any credit offsets
After-tax profit	$\$100 - k\30	
Dividend payout	$POR \times (\$100 - k\$30)$	Cash dividends from profits
Fully franked credit	$(0.30/0.70)[POR \times (\$100 - k\$30)]$	Grossed up at statutory rate
Actual credit	$f \times (0.30/0.70)[POR \times (\$100 - k\$30)]$	Might not be fully franked, $f < 1$

130. The tax payout ratio of actual credits paid to actual tax paid that creates the credits is calculated as

$$f \times \frac{(0.3/0.7) \cdot POR \cdot [\$100 - k\$30]}{k\$30}$$

This simplifies to

$$f \times \frac{(0.3/0.7) \cdot POR}{k(0.30/1 - k0.30)}$$



131. The term in the brackets is just the ratio of a credit from grossing up at the full statutory rate to a credit from grossing up at the effective rate – the credit enhancement factor. I have enough parameter estimates to derive a practical estimate for public companies.

Table 11a: Public Company tax access fraction

Public companies	
Effective tax proportion	78%
Profit payout	54%
Franking fraction of full franking	67%
Full credit gross up @ effective rate	0.307
Full credit enhancement	1.396
Full credit tax access	75%
Actual tax access	51%

132. To see how different Telstra was in 2013 to the average Australian public company, I first convert its actual tax rate to a proportion of the statutory rate as $0.295/0.30 = 0.9836$. It paid out 90.44% of profits and credits were fully franked, resulting in the estimated Telstra tax access fraction of 92.59% by my formula which was indeed was its actual pay-out of credits.

Table 12b: Telstra's tax access fraction, 2013

Effective tax proportion	98.36%
Profit payout	90.44%
Franking fraction of full franking	100%
Full credit gross up @ effective rate	0.419
Full credit enhancement	1.024
Full credit tax access	92.59%
Actual tax access	92.59%

133. The tax access factor estimate of 0.51 for public companies appears much closer to the ATO factor of 0.47 based on dividend data than it is to the factor of 0.71 based on the ATO FAB data. But these are not directly comparable as the ATO data is for *all* companies whereas the public company estimates are a subset of all companies. If public companies comprise about 66% of the total tax and private companies the other 34%, then if I assumed private companies pay-out 100% of their tax as credits, the weighted sum of the two groups would be

$$66\%(0.51) + 34\%(1.00) = 0.68.$$

134. This is close to the FAB estimate of 0.71. On the other hand, to achieve a total access factor estimate of just 0.47 for all companies I would have to assume private companies have just a 39% access fraction, based on the calculation

$$66\%(0.51) + 34\%(0.39) = 0.47.$$

135. This does not appear reasonable. The overall after-tax payout of all profits as dividends is greater than 70% (as per Figure 17) and of all dividends, franked dividends have averaged near 90% of the total (as per Figure 20). As these data for all companies are higher than the

corresponding data for just public companies, the only reasonable conclusion is that the data for private companies are higher than for public companies.

136. I conclude that the estimates based on the FAB data are probably more realistic than the estimates based on the dividend data.

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Experience

Investment Committee, **LEGALSUPER** 2009 –

I am an adviser on the investment committee of *legalsuper*, which is an industry superannuation fund, managing approximately \$2 billion of members funds, derived mainly from the legal industry, including legal services. The role includes all the facets of investing via allocating assets and choosing managers.

PRINCIPAL, **CAPITAL RESEARCH** 2003 –

Capital Research is a specialist consulting firm in corporate finance and investments. The business was started in 2003 by Neville Hathaway and builds on the extensive experience and skills of the principals in the areas of investments valuation, and acting as expert witnesses.

HEAD OF INVESTMENTS **INTRINSIC VALUE INVESTMENTS LTD** 2005 –2013

I was head of the investment team at IVI, being a boutique international funds management company which had approximately \$400 million under management. My role included liaising with all the major research houses and investment platforms. Also conducted all the trading of the listed securities and the FX hedging for the fund.

Consultant, STRUCTURED INVESTMENT GROUP (SIG), **INVESCO (AUSTRALIA)** 2002 – 2003

Developed a new investment product (an enhanced index product) for INVESCO Australia. This involved all aspects of original design, rationale for it, specification of the product, collection of data and product testing.

HEAD, STRUCTURED INVESTMENT GROUP (SIG), **INVESCO (AUSTRALIA) previously COUNTY INVESTMENT MANAGEMENT**, 2001 – 2002

At that time, SIG managed about A\$3.5 billion of INVESCO Australia's A\$11 billion of FUM. Investments were made in three main areas; Passive Overlays (A\$2.7 bill), Protection (A\$400 mill) and Indexation (A\$400 mill) plus some others. The business was principally focussed on risk management. My responsibilities included client and consultant relationship management, compliance oversight, interaction with rating agencies and development of the business, both for the domestic and the Asian markets.

The business was transferred from Sydney to Melbourne in May 2001 with a substantial restructure of the team at the same time as I was appointed the new Head. My immediate role was to interact with clients and asset consultants to ensure them of continuing commitment to the business. We were successful in retaining nearly all of the FUM over the transition period.

HEAD, INVESTMENT SOLUTIONS GROUP, *COUNTY INVESTMENT MANAGEMENT*,

1998- 2001

Responsible for product development, process improvement and client consulting. Major achievements of my team included designing a new investment process for the Active Australian Equities team (Top 100) and a new indexation process for the Fixed Interest team.

Assembled the management data and business cash flows for the sale of *County* to INVESCO.

ASSOCIATE PROFESSOR OF FINANCE, *MELBOURNE BUSINESS SCHOOL*.

1991 – 1997

Taught in the MBA and executive programs. Taught subjects in funds management, corporate valuation and corporate finance. Delivered a number of courses to the Australian financial community: regular ones included Cost of Capital and Dividend Imputation, Small Firm Funds, Derivative Securities, others on a one-off basis, such as "Small Firm Effect" for Securities Institute of Australia. Upon leaving *MBS* for *County* in 1997, The University of Melbourne granted me a further rolling appointment as a Fellow (Assoc. Professor).

Other appointments included :

Associate Professor Of Finance, University Of California, Berkeley, USA 1988,

Senior Lecturer, Melbourne Business School, 1984-1991.

Lecturing and adviser to Securities Institute of Australia (FINSIA) masters programme.

CONSULTANCIES:

Through the professional relationships I have built up, we have received numerous requests for assistance. Some examples include:

Expert witness for the Buchanan Borehole Collieries vs NSW DPI in the Land and Environment Court, NSW.

Due diligence for the potential acquisition of a Melbourne-based fund manager and responsible entity.

Advised on EquipSuper Fund performance including full attribution analysis.

Review of ACT Super re its business structure and operations.

Expert witness (Norman O'Brien QC) re Administrative Appeal Tribunal of an insider trading case.

Expert witness for the Idemitsu-Pacific Coal case in Queensland Supreme Court. Valued damages due to break up of a joint venture (exploration and development rights).

Expert witness for an appeal to the ATO re the sale of Weight Watchers.

Advised boutique Melbourne Australian equity fund re its investment process.

Developed an imputation-based investment strategy for local investment fund.

Strategic business plan for the Anglican Superfund of Australia.

Advised on the value of a trust of aged care facilities prior to its listing on the ASX.

Valued the management rights for managing this trust.

Valued the Valley Power gas-peaker electricity plant in the La Trobe Valley for attempted purchase.

Valuation advice for purchasing Loy Yang B power station for a prospective buyer.

Valued embedded derivatives for Zinifex Ltd re its electricity supply contract.

Advised SAPEX Ltd on valuation of executive options.

Advised Affiance Group Ltd for the value of its employee options for ATO purposes.

Valued the executive options for Lion Selection Group for its prospectus issue.

Advised St George Bank in matter vs ATO as expert witness.

Advised Rio Tinto for its dispute with the ATO re its franking credits.

Expert witness for NSW Coal Compensation Board for several cases involving valuation compensation claims.

Advised Grand Hotel Group with its asset sale and counterparty compensation.

Advised AAPT re Telstra's ACCC submission on ULLC.
 Advised Freehills (representing Channel Seven) re FOXTEL's special access undertaking as expert witness
 Advised Prime Infrastructure for the Dalrymple Bay Coal Loader return determination by the Queensland Competition Authority.
 Advised BHP re its valuation of plant closure.
 Advised Hong Kong Electric Company for its regulated business required return.
 Advised Lend Lease Corporation for its dispute with the ATO re its structured transaction of its Westpac share holdings.
 Valuation of Optus Vision.
 Valuation of Australia Post.
 Cost of capital for each of the NSW GBEs (for NSW Treasury).
 Advised ATO on changes to imputation tax laws.
 Gas transmission access pricing; for AGL Ltd, re Sydney gas market.
 Value of Commonwealth Bank imputation credits for sale of stock by the Federal Government.
 Value of a large commodity project in South America (for RIO/CRA Ltd).
 Valuation of some gold companies for Grant Samuel (Normandy Mining *et al* merger).
 Valuation of the capital of ANZ Bank Ltd.
 Advice on domestic versus foreign capital costs for BHP Ltd.
 Valuation of a resource project for RIO/CRA Ltd.
 Advised on negotiations for the Colonial/State Bank of New South Wales merger.
 Valued a \$multi-billion, multi-stage project for Comalco.
 Costed the capital for the bid for the Victorian electricity distributor, United Energy Ltd for Westpac - bid by the French company EdF, subsequently by AGL Ltd.
 The cost of capital (company-wide and divisional) for WMC Ltd.
 Costed the capital for the sale of the State Bank of NSW - for CS First Boston.
 Cost of capital for various listed companies: including WMC, CRA, FBG.
 Advised the NSW Pricing Tribunal on price-setting for Government Business Enterprises.
 Valued a company for the ATO with respect to potential litigation.
 Valued the employee share option scheme for McIntosh Securities Ltd.
 Analyse and made recommendations for a new ASX derivative product - Share Price Ratios. This appeared as an ASX publication: *Hathaway Report on Share Ratios*.
 Report on Asset Allocation for Potter Warburg Private Clients Services.
 Valuation of and recommendations about the 530+ million derivative securities involved in the Elders/Harlin restructure into Fosters Brewing Group.
 Corporate valuations for potential takeover offers.

PREVIOUS APPOINTMENTS:

FAY, RICHWHITE: 1993 - 1994: ASSOCIATE DIRECTOR

Responsibilities: Undertook commissioned research and consulting upon request as both a team member and as a sole agent. Guided and assisted the investment banking staff of the Bank in developing and conducting their analyses for clients.
 Developed a new risk management process for the Australian Loan Council in order to handle the States' involvement in infrastructure projects. The implementation involved extensive liaising with Treasury staff, both Federal and State.

Developed and advised on the introduction of Economic Rates of Return for Federal Government Business Enterprises (GBE's - eg Federal Airports Corporation).
 Liaised with the heads of the Federal GBE Policy Advisory Committee concerning the changes induced by placing economic rates of return targets on GBEs.
 Analysed and costed the State of Victoria's commitment to the Portland and Point Henry aluminium smelters. My Report was used in both the Nicol's Committee of Inquiry and the Victorian Audit Commission Report.

Member, University of Melbourne Investment Committee.

This Committee acted as a fund manager for the many millions of dollars of endowment funds that the University of Melbourne has under investment (approx \$500 million when I departed upon my resignation from MBS). It oversaw all

aspects of these funds and made all investment decisions. There were five university appointees and five outside appointees to this committee, as well as support staff. The management of this fund is now out-sourced (to VFMC). The fund has now grown to over \$1 billion.

Member, ASX Committee on Australia's Competitive Position in World Resource Stocks.

This group of people was assembled in order to design a large project to examine all aspects of how Australia's market position for resource stocks can be protected and enhanced within the world. It was envisaged that this project would be a very long one, taking many years and made up of a wide number of projects all with the strategic aim of furthering the market position of the ASX and Australia.

Member, Advisory Panel to Companies & Securities Commission Advisory Committee.

This committee reported to the Attorney General in regards to the regulation of derivative securities within Australia.

Member, Advisory Panel to Finsia.

This committee is responsible for the design and content of the Masters Program course M01, Applied Quantitative Methods in Finance. I also delivered the course as the principal leader.

Education

Ph.D	University of Melbourne,	1980.	(Maths/economics)
M.Sc	University of Melbourne,	1978.	(Applied Mathematics)
B.Sc (Hons)	La Trobe University,	1974.	(Mathematics)

(Took a two year break, 1974-1975, worked in London /travelled world.)