GST update

MEASURING THE AUSTRALIAN GST GAP

BY KEVIN O'ROURKE

Overview

In November 2012 the Australian Taxation Office (ATO) published for the first time its measurement of the GST gap in Australia.[1] It is a substantial and welcome publication. This commentary seeks to explain how the ATO measures the GST gap and why it is important to do so. It also seeks to critically review the methodology and respectfully suggests some changes that might be considered in future GST gap measurements. The discussion in this commentary is structured as follows:

- Why should we measure the GST gap?
- How does the Commissioner measure the GST gap?
- Should other adjustments be made in measuring the GST gap?
- How big is the GST gap?
- What is the margin of error in the GST gap calculation?
- The United Kingdom experience
- Conclusions and recommendation.

Why should we measure the GST gap?

According to a report commissioned by the European Commission, the literature discloses that the measurement of the GST gap has several distinct objectives. First, to quantify the impact on revenue of the extent to which the GST in force deviates from a benchmark structure.[2] Secondly, to distinguish between the extent to which such deviations reflect policy decisions embodied in the GST legislation as opposed to the effectiveness with which that legislation is enforced. Thirdly, to quantify and understand the extent and nature of tax evasion associated with the GST and ideally the causes of such evasion. Fourthly, to provide a basis for assessing the effectiveness with which the tax administration is able to reduce such evasion over time.[3]

The stated objective in the ATO report is more limited in scope: Because the tax gap is "best viewed as a trend over time",[4] measurement of the tax gap will be used "to provide assurance that overall compliance levels have at least been maintained and significant shifts in compliance over the period of review have not occurred".[5]

More recently, it has been suggested that the measurement of the GST gap is a performance indicator for the ATO, though perhaps not in any formal sense. Giving evidence before the House of Representatives Standing Committee on Tax and Revenue, Second Commissioner Neil Olesen commented that the trend in the GST gap helps "inform the debate about how effective our GST administration is".[6]

In the United Kingdom, Her Majesty's Revenue and Customs (HMRC) has provided a more expansive explanation about the reasons why it measures the tax gap. Under the heading, "Why Do

[1] Australian Taxation Office (ATO), *Measuring Tax Gaps in Australia for the GST and the LCT* (November 2012) p 2. The ATO paper also offers a measurement of the luxury car tax (LCT) gap but this commentary will concentrate on the GST gap only.

[2] The Organisation for Economic Cooperation and Development (OECD) uses as a benchmark the VAT Revenue Ratio, which is the ratio of actual VAT revenue to the revenue that would be raised if VAT were levied at the standard rate on all consumption with perfect enforcement.

[3] Center for Social and Economic Research, *Study to Quantify and Analyse the VAT Gap in the EU-27 Member States*, Final Report (July 2013) p 18.

[4] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 2.

[5] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 2.

[6] Commonwealth of Australia, House of Representatives Standing Committee on Tax and Revenue, *Hansard Transcript: Australian Taxation Office Annual Report 2012-13* (28 February 2014) p 3.

We Measure It?" HMRC states:

> The tax gap provides a useful tool for understanding the relative size and nature of non-compliance. This understanding can be applied in many different ways:
> - Firstly, it provides a foundation for HMRC's strategy. Thinking about the tax gap helps the department to understand how non-compliance occurs and how the causes can be addressed.
> - Secondly, drawing on information on how other countries manage their tax gaps, our tax gap analysis provides insight into which strategies are most effective at reducing the tax gap.
> - Thirdly, although the tax gap isn't sufficiently timely or precise enough to set performance targets, it provides important information which helps us understand our long-term performance.[7]

As the third point suggests, some care must be taken in using the GST gap as a performance indicator. In 2013 the International Monetary Fund (IMF) published a report on its assessment of HMRC's tax gap analysis which was undertaken at the request of HMRC.[8] The report contains a useful discussion on the use of the tax gap. The authors noted that a tax gap estimate has several characteristics suitable for a performance indicator as it is "directly linked to the most important objective of any tax administration – to collect taxes – and it is a quantified figure".[9]

However, the authors also noted that there were several challenges in using a tax gap estimate as a performance indicator, including: data limitations; error margins; and timeliness (being a backward looking exercise).[10] As a consequence, the authors noted that "Using a single gap estimate as a sole Key Performance Indicator (KPI) on compliance and/or administration efficiency could be misleading"[11] and that HMRC had stopped using the aggregate tax gap estimate as a KPI.[12]

The statement by HMRC about why it measures the tax gap is a useful one which the ATO might consider adopting. In any event there are very good reasons for any revenue authority to measure the tax gap and the ATO should be commended for doing so.

How does the Commissioner measure the GST gap?

According to the ATO, the GST gap, using a "top-down" tax gap methodology, is the net theoretical GST revenue less the actual accrual GST revenue for any given period.[13]

It might be thought that "actual accrual GST revenue" is an actual number for which the margin for error would be nil but that is not the case. The ATO uses an economic transaction method (ETM) for determining actual GST liability outcomes on an accrued basis. ETM revenue is based on actual liabilities remitted during the year and an estimate of amounts outstanding that relate to transactions that have occurred in the period but are yet to be reported.[14]

The ATO points out that an advantage of using ETM revenue is that it overcomes problems with debt, late lodgement and cash allocation, as well as facilitating benchmarking with ABS data, which is also on an accruals basis.[15]

The use of ETM revenue introduces a margin for error, though the margin should be small given the close alignment between ETM revenue estimates and net GST reported on BASs. The margin for error in measuring the GST gap will be a recurring theme in this commentary and will be discussed in more detail below.

---

[7] Her Majesty's Revenue and Customs (HMRC), *Measuring Tax Gaps 2014 Edition: Tax Gap Estimates for 2012-2013* (October 2014) p 3.

[8] International Monetary Fund (IMF), *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis* (October 2013).

[9] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 8, para 57.

[10] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 8, para 58.

[11] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 8, para 59.

[12] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 8, para 60.

[13] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[14] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 7.

[15] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 7.

Calculating the theoretical GST revenue is far more complex. Set out below are the five steps involved in the ATO's calculation of the theoretical GST revenue, together with some brief observations on each step.[16]

Step one – obtain ABS data on household final consumption expenditure

The first step involves obtaining data from the ABS on household final consumption expenditure (HFCE) in the economy from the Australian System of National Accounts (ABS national accounts catalogue 5206.0).

The work performed by the Australian Bureau of Statistics in compiling the national accounts is nothing short of a minor miracle. The ABS discusses the accuracy of the national accounts in the following terms:

> For most users, accuracy is the most sought after attribute of data. Accuracy can be defined as the proximity of an estimate to some notional true value. It is not possible to produce an objective overall measure of accuracy of the accounts because the national accounts draw data from a wide variety of sources, reflecting varying valuations, coverage, frequency, detail and timeliness. Assessments need to be made instead of individual component items within the accounts. Even at this level, the use of multiple data sources in estimating a single item, their variable accuracy over time, and changing compilation methods complicate the picture. As a result, assessment of the accuracy of an item requires a high degree of subjective judgement based on knowledge of the sources, the data and the compilation methods used.[17]

According to the ABS, one approach to tie all the information related to data quality together is to assign subjective accuracy ratings.[18] This is essentially "an intuitive assessment" by national accounts compilers.[19]

The ABS grades the accuracy of the initial quarterly estimates of various components from "A" (good) to "D" (very poor),[20] and HFCE is graded "A".[21]

The ABS publishes a separate guide to the national accounts which outlines the major concepts and definitions, describes the data sources and methods used to prepare the estimates, and discusses the accuracy and reliability of the national accounts.[22] That guide itself exceeds 700 pages in length and, somewhat dauntingly, states that "it is not a complete description of the ABS national accounts methodology. That task would require a much larger publication".[23]

HFCE consists of expenditure incurred by households on individual consumption of goods and services, including those sold at prices that are not economically significant.[24] Relevantly, it consists of expenditure by resident households on goods and services, whether the expenditure is made within Australia or by Australian residents abroad.[25]

A number of specific transactions are either included or excluded from the base by the ABS and each needs to be understood from a GST perspective.

---

[16] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[17] Australian Bureau of Statistics (ABS), *Australian System of National Accounts, Concepts, Sources and Methods, 2013* (catalogue 5216.0), para 24.28.

[18] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 24.50.

[19] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 24.51.

[20] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 24.52.

[21] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, Table 24.1.

[22] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17.

[23] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 1.40.

[24] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.3.

[25] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.13.

Income received in kind

The value of income received in kind by employees is treated as simultaneously spent by the employees on HFCE.[26] That value would properly form part of the GST base.

Goods produced for own consumption

The value of goods produced by households for their own consumption, such as agricultural goods produced and consumed on the same farm and "backyard" production, is included within HFCE.[27]

Where the goods are produced by a registered enterprise that exceeds the GST registration turnover threshold, self-consumption is "out of scope" of the GST base and this value needs to be subtracted from HFCE.

Where the goods are produced by an enterprise that does not exceed the GST registration turnover threshold, self-consumption is again out of scope and needs to be subtracted. The Commissioner already properly makes an adjustment for the value of the GST concession attributed to the GST registration threshold in Step 3 below, but it is unclear whether the value of self-consumption, already "out of scope" for GST, falls within the value of this concession which, strictly speaking, it should not.

Where the goods are not produced by a GST enterprise, and "backyard production" may well fall into this category, they are "out of scope" of the GST base and this value needs to be subtracted from HFCE.

It is clear that some subtraction needs to be made to the ABS data to deal with goods produced for own consumption. One further difficulty here is how to treat the self-consumption of products which would otherwise be GST-free. Do these products fall within the value of the GST-free concession, the GST registration threshold concession, neither or both? It is not clear.

Service charge component of household interest

Interest paid by borrowers can be regarded as comprising two components, a service charge and a "pure" interest flow. Similarly, the interest paid to depositors can be viewed as a "pure" interest flow from which a service charge has been subtracted. These service charges cannot be measured directly, and the imputed charges are referred to by the ABS as financial intermediation services indirectly measured (FISIM).[28]

HFCE includes the service charge component of households' interest payments and receipts (however, FISIM attributed to unincorporated enterprises owned by households is classified as intermediate consumption of the unincorporated business).[29]

These charges are input taxed for GST. They are therefore outside of the GST base and need to be subtracted from HFCE. The Commissioner makes an adjustment in Step 3 below for the value of the GST concession attributed to input taxed financial supplies.

Service charge component of premiums

As with the service charge component of households' interest payments and receipts, the service charge component of premiums paid for insurance and pension fund services is included in HFCE.[30]

Life insurance is input taxed for GST, while health insurance is GST-free. These insurances are therefore outside of the GST base and need to be subtracted from HFCE. The Commissioner makes an adjustment in Step 3 below for the value of GST concessions attributed to input taxed financial supplies (which includes life insurance) and health insurance. General insurance is taxable for GST and is properly within the GST base.

[26] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.14.

[27] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.14.

[28] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 9.24.

[29] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.14.

[30] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.14.

The service charge component of pension fund services (such as the management fees charged by the trustee of a superannuation fund) is taxable for GST and is therefore properly included in the GST base.

Imputed value of services of owner-occupied dwellings

HFCE includes the imputed value of the services of owner-occupied dwellings. The imputation of rent to owner-occupied dwellings enables the services provided by dwellings to their owner-occupiers to be treated consistently with the marketed services provided by rented dwellings to their tenants.[31] As imputed rent is not within the theoretical GST base it would need to be subtracted from the HFCE estimates.

The estimated imputed value of rent is unsurprisingly a very high number, being $137,590 million for the year ended 30 June 2014.[32] That value would have a reasonable margin for error. It is therefore assumed that the ATO subtracts from HFCE the exact dollar value for imputed rent used by the ABS to ensure there is no margin for error in the resulting sum.

Business expenditure by unincorporated enterprises

Any expenditure undertaken for business purposes by unincorporated enterprises (which are part of the household sector) is treated as intermediate consumption expenditure of the unincorporated enterprise, and not part of HFCE.[33] This is consistent with the GST base.

A significant omission – the illegal non-observed economy

HFCE is a large aggregate covering a wide range of goods and services. The ABS therefore dissects this expenditure into "functional" classifications. In the national accounts the classification of HFCE is aligned, as far as possible, with these functional classifications. However, there are some instances where this is not yet possible.[34]

The national accounts do not include an estimate of HFCE on narcotics, as reliable data on narcotics expenditure are not available. For similar reasons, the national accounts do not include an explicit estimate of HFCE on prostitution services.[35] However, while it seems clear that the ATO intends that illegal activities should form part of the GST gap,[36] it is less clear how it has taken this into account.

In the ATO's discussion of the margin for error in the GST Gap, it states that "the GST gap can be affected by … the non-observed economy uplift component in the ABS national accounts statistics".[37] That statement may require some further explanation.

According to the ABS, the "non-observed" economy refers to economic activities that are often missing from the data sources used to compile the national accounts. It typically includes transactions that are underground, illegal, informal, or household production for own final use.[38]

The underground economy is a sub-category of the non-observed economy and covers "those activities that are productive and legal but are deliberately concealed from the public authorities to avoid payment of taxes or complying with regulations".[39] According to the ABS, explicit adjustments for the underground economy to the income side of the GDP account added 1.3% to the level of GDP, though this could be understated by up to 2%. On the expenditure side, however, only a small

[31] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.14.

[32] ABS, *Australian System of National Accounts, 2012-2013* (catalogue 5204.0), Table 49.

[33] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.15.

[34] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.21.

[35] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.21.

[36] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, Figure 2.3.

[37] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[38] Australian Bureau of Statistics, *The Underground Economy and Australia's GDP* (October 2003).

[39] ABS, *The Underground Economy and Australia's GDP*, n 38, citing the *Measuring the Non-Observed Economy: A Handbook* (OECD, IMF, ILO and CIS, 2002).

adjustment of around 0.4% was made to HFCE, as the data used to compile the expenditure measure were considered less susceptible to understatement.[40]

That uplift would naturally form part of the theoretical GST base and so no further adjustment would need to be made on that account.

That leaves the illegal part of the non-observed economy. According to the ABS, "no explicit estimates for such activities are made in the ASNA [Australian System of National Accounts]", and this is "due to the difficulty in identifying and valuing illegal transactions".[41] However, the ABS has separately estimated the HFCE on illegal drugs to be $5,943 million for the 2010 calendar year, which was about 0.8% of total HFCE for that year.[42] The ATO does not appear to have made any adjustment to HFCE for the illegal part of the non-observed economy, though consumption expenditure on illegal transactions should be added as they form part of the theoretical GST base.

The exclusion of the illegal part of the non-observed economy is a significant, and unexplained, omission from the ATO's GST gap analysis. It is in stark contrast to the approach of the HMRC in the United Kingdom which will be discussed further below. The corresponding HMRC analysis splits the tax gap by behaviour into avoidance, criminal attacks, error, evasion, failure to take reasonable care, hidden economy, legal interpretation and non-payment.

Step two – add additional consumer spending that is subject to GST

The second step adds additional consumer spending that is subject to GST but does not fall within HFCE. This step ought to include the following categories of spending.

New residential premises

The ATO states that it adds back new dwellings investment, alterations and repairs and land purchases subject to GST.[43]

Expenditures on the purchase of dwellings are explicitly excluded from HFCE because dwellings are goods used by owners to produce housing services for those owners.[44] However, the purchase of new residential dwellings forms part of the theoretical GST base and must therefore be added to HFCE.

It is not clear how the ATO have done this, though it can be said that the task would not be easy for several reasons.

First, there appears to be no single official figure for the value to be ascribed to the purchase of new residential dwellings, though the ABS data on housing finance might come close.[45]

Secondly, the impact of the GST margin scheme would need to be taken into account.[46] Under this scheme the vendor and purchaser agree to pay GST only on the margin by which the consideration for the sale exceeds the vendor's consideration for the acquisition of the interest in the real property. This is a complex area with many special rules but many sales of new residential premises are subject to the margin scheme which means that the GST collected is less than one-eleventh of the purchase price.

Thirdly, the GST definition of new residential premises includes premises which have been created through substantial renovations.[47] The value of these would need to be added to the theoretical GST base. That is not quite the same as the ATO's description of "alterations and repairs".

[40] ABS, *The Underground Economy and Australia's GDP*, n 38.

[41] Australian Bureau of Statistics, *The Non-Observed Economy and Australia's GDP, 2012* (catalogue 5204.0.55.008), para 4.3.

[42] ABS, *The Non-Observed Economy and Australia's GDP, 2012*, n 41, para 4.53.

[43] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[44] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.16.

[45] Australian Bureau of Statistics, *Housing Finance* (catalogue 5609.0).

[46] *A New Tax System (Goods and Services Tax) Act 1999*, Div 75.

[47] *A New Tax System (Goods and Services Tax) Act 1999*, s 40-75(1)(b).

In a 2011 submission to the Tax Forum, the Housing Industry Association estimated that the GST collected on new housing in Australia in 2008-2009 was $5.7 billion.[48] It is not known how this figure was calculated but it does give some indication of the order of magnitude involved.

Consumer share of ownership and transfer costs

It is not quite clear what the ATO includes within this category before it is added to HFCE. Ownership transfer costs typically comprise stamp duty, real estate agents' fees, conveyancing fees and miscellaneous government charges, some of which will be subject to GST and some of which will not.

Purchase of valuables

The ABS excludes valuables such as artwork from HFCE because they are not used up in consumption or production, nor do they deteriorate over time.[49] Much of this expenditure will fall within the theoretical GST base, though there is nothing in the ATO document to suggest it has been added to HFCE in any way. The annual sales of artwork sold at auction alone now exceed $100 million.[50] To this would need to be added sales through galleries, together with the sales of antiques and other collectibles.

Non-creditable intermediate consumption

HFCE does not include intermediate consumption expenditure made by businesses. However, some intermediate consumption expenditure by businesses is not subject to an entitlement to an input tax credit and is therefore de facto treated as final consumption. The ATO makes an adjustment for input taxed expenditure, such as rent, but it is unclear whether this would cover the loss of input tax credits on business expenditure.

An example is expenditure made by a mining company on accommodation for its employees. At a remote mining site the company may well build an entire town. On the current state of the law, the mining company is not entitled to input tax credits in respect of GST paid on expenditure incurred to build the town, as that expenditure relates to residential accommodation.[51] It is doubtful that this de facto final consumption by the mining company is included within HFCE, yet the input tax credits denied to the mining company would reflect in higher GST collections. The GST gap would therefore be understated to this extent.

Similar reasoning would apply to business consumption which is not input taxed but which is specifically denied input tax credits. The best known example is business entertainment expenditure.[52]

Step three – subtract GST concessions

The third step involves subtracting expenditure that falls within HFCE but is subject to a GST concession. The ATO states that adjustments were made where the concession was likely to have a material impact on the GST gap, though the level of materiality is not stated.[53] The ATO also states that adjustments were made when the concessions "could be readily measured".[54] No indication is given of which concessions could not be measured. The ATO further states that the adjustments include:

1) Removing exempt and concessionally-taxed expenditure, such as certain food, education, health and certain financial supplies.
2) Removing input taxed expenditure, such as rent.

[48] Housing Industry Association, *Submission to Tax Forum* (October 2011) p 4, http://www.treasury.gov.au/~/media/Treasury/Policy%20Topics/Taxation/Tax%20Forum/Statements%20and%20Submissions/Submissions/PDF/Housing%20Industry%20Association.ashx.

[49] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.16.

[50] Australian Art Sales Digest, available at http://www.aasd.com.au/index.cfm/sales-by-year-au.

[51] See *Rio Tinto Services Ltd v Commissioner of Taxation* [2015] FCAFC 117.

[52] *A New Tax System (Goods and Services Tax) Act 1999*, s 69-5(3)(f).

[53] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[54] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

3) Removing revenue from taxpayers exempt from remitting GST, for example relating to GST registration thresholds and low-value imports.
4) Tourism adjustment (net impact).[55]

These adjustments are discussed in more detail below. Each year the Treasury publishes its Tax Expenditures Statement as required by the *Charter of Budget Honesty Act 1998*. The ATO states that it uses information from this document in its analysis,[56] and it is assumed that it has done so to value the GST concessions.

The Treasury acknowledges that tax expenditure estimates vary in their reliability depending upon the quality, detail and frequency of the underlying data, the extent to which calculations are based on assumptions, the sensitivity of the results to those assumptions and whether future taxpayer behaviour is reasonably predictable.[57]

The Treasury assesses the reliability of each tax expenditure estimate by separately scoring the reliability of the data; the underlying assumptions and other relevant factors (for example, the volatility of growth rates over time). Scores range from 0 (very low) to 3 (high). The three scores are then summed to give an overall reliability rating from 0 (very low) to 9 (high). A score of 1, 2 or 3 will be assessed as "low", a score of 4 as "medium-low", a score of 5, 6 or 7 as "medium", and a score of 8 as "medium-high".[58]

The Treasury notes that in many cases there is insufficient data to produce a reliable estimate. In these cases an "order of magnitude" is provided using the following categories:[59]

Category	**Expected tax expenditure ($m)**
1.	0 on average over reporting period
2.	0 – 10
3.	10 – 100
4.	100 – 1,000
5.	1,000+

This is important in understanding the margin for error in the measurement of the GST gap, discussed further below. The adjustments made by the ATO for GST concessions are now discussed in turn.

Removing exempt and concessionally-taxed expenditure

The ATO gives examples of exempt and concessionally-taxed expenditure as certain food, education, health and certain financial supplies. Treasury estimates that for 2013-2014, the value of each of these concessions, together with the reliability of the estimate, is:

Food	$6,200m	medium	(p 180)
Education	$3,700m	medium	(p 174)
Health			
• Drugs and medicines	$420m	medium	(p 174)

[55] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[56] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 7.

[57] Australian Government, Treasury, *Tax Expenditures Statement 2013* (January 2014) p 7.

[58] Australian Government, Treasury, *Tax Expenditures Statement 2013*, n 57, p 8.

[59] Australian Government, Treasury, *Tax Expenditures Statement 2013*, n 57, p 9.

	• Medical aids and appliances	$110m	medium	(p 175)
	• Medical and health services	$3,400m	medium	(p 174)
	• Private health insurance	$280m	medium	(p 176)
	• Residential and other care	$1,050m	medium	(p 176)
Financial services				
	• Input taxation	$3,300m	medium	(p 169)
	• Reduced input tax credits	$830m	low	(p 169)

Source: Australian Government, Treasury, *Tax Expenditures Statement 2013*.

Financial services are input taxed because of the inherent difficulty in taxing financial intermediation services.[60] The result of input taxation, together with entitlements to reduced input tax credits, is that financial supplies made to consumers are under-taxed, while supplies made to businesses are over-taxed (as input GST becomes embedded in the price and is irrecoverable). The Henry Tax Review estimated that businesses were overtaxed by around $500 million while consumers were under-taxed by around $2.5 billion.[61]

There are other exempt and concessionally-taxed items of expenditure not mentioned by the ATO. Listed below are those with an annual value exceeding $10 million. Treasury estimates that for 2013-2014, the value of each of these concessions, together with the reliability of the estimate, is:

Child care services	$940m	medium	(p 170)
Water and sewerage	$910m	medium	(p 170)
Imported services	$170m	low	(p 172)
Boats for export	$10m	low	(p 175)
Arranging overseas travel	$95m	low	(p 174)
Religious services	$30m	low	(p 176)
Simplified accounting methods	$10m	low	(p 178)

Source: Australian Government, Treasury, *Tax Expenditures Statement 2013*.

The following GST concessions have insufficient data to produce a reliable estimate but have an "order of magnitude" provided by Treasury.

Charitable institutions		$100m - $1,000m	(p 169)
Financial services			
	• Financial acquisitions threshold	$100m - $1,000m	(p 168)
Tourist refund scheme		$10m - $100m	(p 171)

[60] See, generally, O'Rourke K, *The Legal Framework for GST Apportionment by Financial Suppliers* (Paper delivered at the ATAX GST Conference, April 2009).

[61] *Australia's Future Tax System*, Report to the Treasurer (December 2009), p 52.

Non-resident domestic travel	$10m - $100m	(p 173)
Inwards duty free	$100m - $1,000m	(p 173)
Farm land	$10m - $100m	(p 177)
Precious metals	$10m - $100m	(p 178)
Registration thresholds	$100m - $1,000	(p 177)

Source: Australian Government, Treasury, *Tax Expenditures Statement 2013*.

Removing input taxed expenditure

The ATO gives rent (presumably residential rent) as an example of input taxed expenditure. The Tax Expenditures Statement does not have expenditure on input taxed residential rent as a concession because the treatment of residential accommodation is included as a structural element of the GST benchmark.[62] Nevertheless, HFCE includes residential rent, along with imputed rent for owner-occupied dwellings discussed above, which therefore needs to be deducted from HFCE to mirror the GST base.

According to the ABS, the seasonally adjusted value of rent and other dwelling services for the 2013 calendar year was $172,217 million.[63]

Removing revenue from exempt taxpayers

The ATO gives examples of revenue from taxpayers exempt from remitting GST as resulting from, for example, GST registration thresholds and low value imports.[64]

As indicated above, Treasury has indicated an order of magnitude for the value of the GST registration threshold concession as being in the range $100 million to $1,000 million.[65] For low value imports, Treasury estimates that for 2013-2014, the value of this concession, together with the reliability of the estimate, is:

Low-value imports $470m low[66]

Tourism adjustment (net impact)

HFCE consists of expenditure by resident households on goods and services, whether the expenditure is made within Australia or by Australian residents abroad.[67] The latter is generally not subject to GST and so the ATO must subtract this from the HFCE. Conversely, expenditure by nonresidents on domestic goods and services are not included in HFCE, but are generally subject to GST. Accordingly, the ATO must add this to HFCE. The ABS already adjusts the national accounts data for these items, albeit in the opposite direction, and it is presumed that the ATO uses the same figures for adjustment.[68]

Step four – estimate the GST payable

The fourth step involves estimating the GST payable on the adjusted household final consumption expenditure to derive the theoretical GST revenue. This is presumably a simple mathematical step taking one-eleventh of the GST-inclusive adjusted HFCE figure.

[62] Australian Government, Treasury, *Tax Expenditures Statement 2013*, n 57, p 209.

[63] ABS, *Australian National Accounts: National Income, Expenditure and Product, 2014* (catalogue 5206.0), Table 8, Household Final Consumption Expenditure.

[64] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[65] Australian Government, Treasury, *Tax Expenditures Statement 2013*, n 57, p 177.

[66] Australian Government, Treasury, *Tax Expenditures Statement 2013*, n 57, p 172.

[67] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, para 10.13.

[68] The calculation methodology is set out in ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17, paras 10.26-10.39.

Step five – derive the GST gap

The fifth step derives the GST gap by subtracting actual GST accrual revenue from the theoretical GST revenue. Again, this is presumably a simple mathematical step.

Validation of the reasonableness of the GST gap estimate

The ATO then undertakes a "" analysis to validate the reasonableness of the GST gap estimate and to estimate lower and upper bounds of the GST gap. This analysis involves:

1) Benchmarking GST revenue against economic data;
2) Analysing and extrapolating active compliance results; and
3) Benchmarking GST revenue at the industry and segment level.[69]

Should other adjustments be made in measuring the GST gap?

It was discussed above that the illegal part of the non-observed economy is a significant, and unexplained, omission from the ATO's GST gap analysis. Should other adjustments be made also?

The ATO asserts that the GST gap "provides an estimate of the GST shortfall from noncompliance after our active compliance activities and taxpayer self revisions have occurred".[70]

That assertion contains a big assumption, reinforced by other comments made by the ATO.[71] The assumption is that the "shortfall" arises from non-compliance. That is, it assumes that errors are all one way, such as under-reporting of sales and over-claiming of refunds. The errors of course fall both ways and there is a significant amount of GST *overpaid* by taxpayers. This can arise in numerous ways.

First, it is very common for taxpayers to under-claim input tax credits. Secondly, it is very common for taxpayers to overpay GST when charging customers (this can arise from incorrectly classifying supplies or incorrectly valuing supplies, for example). For retailers who cannot identify their customers to pass refunds back to them, the ATO keeps the overpaid GST.[72] Thirdly, taxpayers who seek to comply with the GST law often adopt a conservative view of their GST obligations which creates a tendency to overpay. Fourthly, the GST law on vouchers, which can include phone cards, ensures that GST is paid on the face value of a voucher even if the voucher is sold at a discount to its face value.[73] This is by no means an exhaustive list.

The GST gap is an amount reflecting both underpayments and overpayments of GST, though it appears that no attempt has been made to quantify the extent of overpayments.

How big is the GST gap?

The following table is the ATO's calculation of the GST gap from 2001-02 to 2009-10.

TABLE 2.1 Table 2.1 GST gap as a percentage of GST accrual revenue

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
GST gap $m (excluding debt)	2,510	2,588	2,243	2,596	2,035	2,295	2,975	3,172	1,498

[69] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[70] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[71] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, Figure 2.3, "Under-reporting of GST sales"; "Over claiming refunds".

[72] *A New Tax System (Goods and Services Tax) Act 1999*, Div 142.

[73] *A New Tax System (Goods and Services Tax) Act 1999*, Div 100.

TABLE 2.1 *continued*

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
GST gap excluding debt as a percentage of accrual revenue	8.9%	8.3%	6.6%	7.3%	5.4%	5.7%	7.0%	7.6%	3.3%

Source: Australian Taxation Office, *Measuring Tax Gaps in Australia for the GST and the LCT*, (November 2012) p 4.

The average GST gap during this period is 6.7% of GST accrual revenue. It can be seen that there is a sharp fall in the GST gap to 3.3% in 2009-10. The ATO acknowledges that "a fall in non-compliance of such magnitude is highly unlikely".[74]

The ATO considers the fall to be temporary and due to timing differences in the recognition of items such as dwelling investment and large input-tax credit claims, rather than any shift in compliance.[75] The ATO prefers to average this two year period in presenting the underlying trend, as in the following table. While the averaging no doubt produces a more even trend line, there is little warrant for doing so. It might be more accurate to present the actual annual figures on the graph and to superimpose a trend line over these figures.

TABLE 1.1 Table 1.1 GST gap, 2001-02 to 2008-10

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-10[(a)]
GST gap $m (excluding debt)	2,510	2,588	2,243	2,596	2,035	2,295	2,975	2,335
GST gap excluding debt as a percentage of accrual revenue	8.9%	8.3%	6.6%	7.3%	5.4%	5.7%	7.0%	5.4%

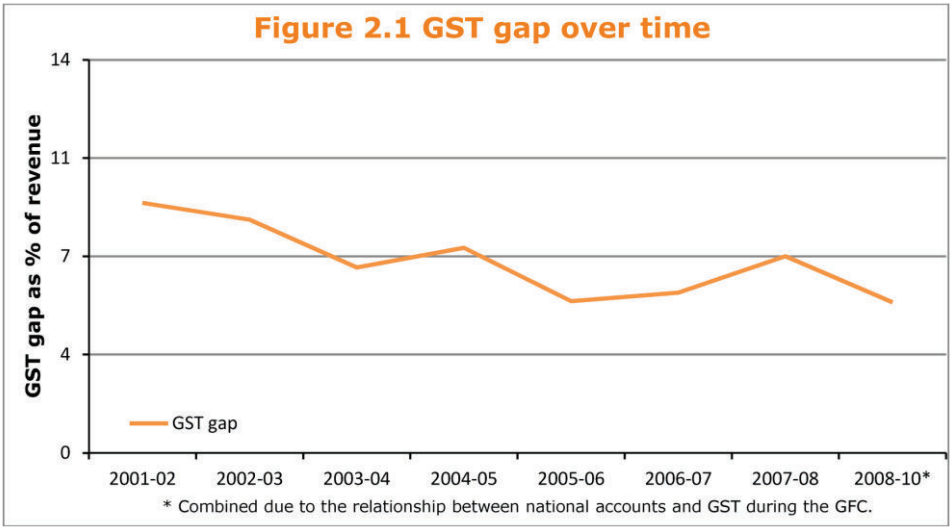
(a) average GST gap per year for 2008-09 and 2009-10.

Source: Australian Taxation Office, *Measuring Tax Gaps in Australia for the GST and the LCT*, (November 2012) p 3.

[74] Australian Taxation Office, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 5.

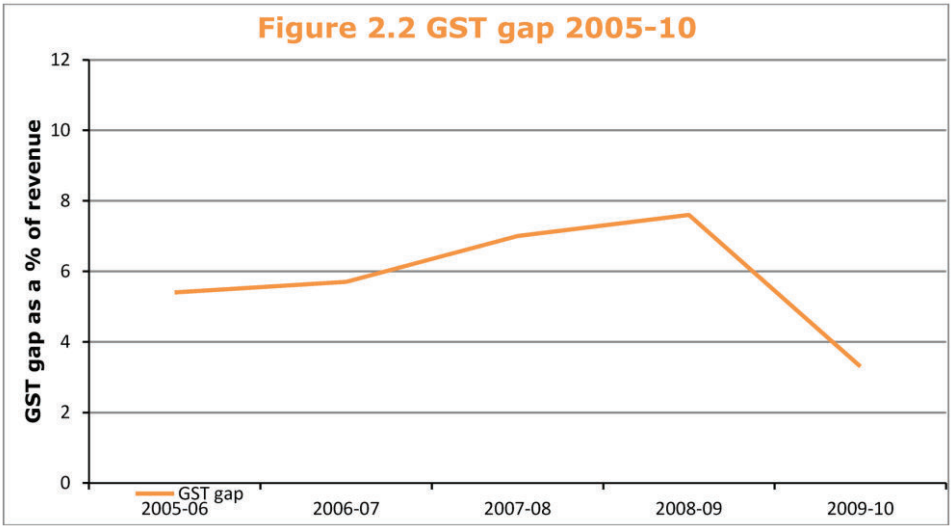
[75] Australian Taxation Office, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 2.

These figures translate to the trend line in Figure 2.1 below.



Australian Taxation Office, *Measuring Tax Gaps in Australia for the GST and the LCT*, (November 2012) p 5.

However, this may not be the actual trend. The ATO acknowledges that transitional issues and concessions granted between 2000-01 and 2004-05 heighten the variability and uncertainty of these estimates and may have contributed to the larger GST gap estimate in those years.[76] Ignoring these years presents a different picture as in Figure 2.2 below.



Source: Australian Taxation Office, *Measuring Tax Gaps in Australia for the GST and the LCT*, (November 2012) p 5, modified to exclude 2001-02 to 2004-05.

Once the possible impact of the GFC for 2008-10 is ignored, the only real trend is slightly upward, which is the opposite of the trend identified in Figure 2.1.

[76] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 5.

What is the margin of error in the GST gap calculation?

The ATO acknowledges that: "Estimating the magnitude of, and trends in, tax gaps is inherently difficult."[77] The ATO also acknowledges that: "The estimates contain a margin of error due to the data sources and assumptions we used when making the estimates",[78] and that "it is not possible to produce a precise confidence interval for the GST gap estimates".[79]

Giving evidence before the House of Representatives Standing Committee on Tax and Revenue, Second Commissioner Neil Olesen was very frank:

> We should never pretend that we can come up with any kind of precise estimate of a tax gap. One of the dangers here is that you end up with a headline figure and all people want to talk about is the headline figure, without necessarily understanding the confidence levels that might be around those figures. The confidence levels can be quite big, up to 80 per cent. If you have an estimate of a dollar, in fact the answer might be somewhere between nothing and $2. It can be a very big range that you are talking about.[80]

While readily accepting that there is a margin of error, the ATO provides no indication in its report of any estimate of the extent of that margin.[81]

It is important to understand how a margin of error should be calculated. As can be seen from the steps outlined earlier in this paper, the measurement of the GST gap requires the addition and subtraction of many numbers. Most of these numbers have a measure of uncertainty attached to them. What, then, is the overall measure of uncertainty when the additions and subtractions are completed? To express this in a different way, suppose you want to calculate a quantity Q and its measure of uncertainty. To arrive at the quantity Q you measure quantities a, b and c, with uncertainties $\delta a, \delta b, \delta c$. The uncertainties $\delta a, \delta b, \delta c$ are said to "propagate" to the uncertainty of Q. If Q is some combination of sums and differences, and the errors are uncorrelated and random, then:

$$\delta Q = \sqrt{(\delta a)^2 + (\delta b)^2 + \ldots + (\delta z)^2}$$

By way of example, suppose you measure the height H of a door and get 2.00 ± 0.03m 0.03m. This means that H = 2.00m and δH = 0.03m. The door has a knob which is a height h = 0.88 ± 0.04m from the bottom of the door. Then the distance from the door knob to the top of the door is $Q = H - h$ = 1.12m. What is the uncertainty of Q? Using the equation above:

$$\delta Q = \sqrt{(\delta H)^2 + (\delta h)^2}$$

$$\delta Q = \sqrt{(0.03\ m)^2 + (0.04\ m)^2}$$

$$\delta Q = \sqrt{(0.0009\ m)^2 + (0.0016\ m)^2}$$

$$\delta Q = \sqrt{0.0025\ m^2} = 0.05\text{m}$$

So Q = 1.12 ± 0.05m. The overall margin of error can increase even though we are subtracting one number from another.

It is also important to draw a distinction between the margins of error around the level of the gap estimate and those of trend, as the IMF has noted:

---

[77] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 1.

[78] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 1.

[79] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 6.

[80] House of Representatives Standing Committee on Tax and Revenue, *Hansard Transcript*, n 6, p 4.

[81] The summary which follows in the text is taken from *A Summary of Error Propagation*, Physical Sciences 2, Harvard University, 2007, available at http://ipl.physics.harvard.edu/wp-uploads/2013/03/PS3_Error_Propagation_sp13.pdf.

> Typically, component errors in gap estimates are systematically biased – most obviously, from simplifying assumptions about coverage and effective rates. In such a situation, the estimated level will be systematically biased (though we may not know which way), and the error in year on year changes much less than the error in estimated levels.[82]

Should the ATO publish margins of error? As noted above, the ATO provides no indication of the margin of error, and faces a real dilemma in whether to do so. On the one hand, as the IMF has pointed out, "there is a clear benefit in cautioning the audience about the inherent difficulties in providing precise point estimates, although margins of error themselves are not exact science either".[83] On the other hand, "publication of margins of error has a potential risk of undermining gap estimates".[84] The IMF concluded that:

> On balance, it seems sensible to not publish specific margins of error. However, broad indication of margins of error could still be useful – for example, by grouping gap estimates with similar level of margins of error.[85]

THE UNITED KINGDOM EXPERIENCE

HMRC in the United Kingdom is arguably the most advanced revenue authority in GST (or VAT) gap measurement. HMRC publishes tax gaps annually for most of the taxes it administers. The reported VAT gap for 2012-2013 is 10.9%,[86] which is much larger than the reported average GST gap for Australia of 6.7% of accrual revenue. However, these percentages are not comparable as the HMRC figures include such items as debt, missing trader intra-community fraud and the hidden economy.

A feature of the HMRC analysis is that it splits the tax gap by behaviour into avoidance, criminal attacks, error, evasion, failure to take reasonable care, hidden economy, legal interpretation and non-payment.[87] That is quite a sophisticated analysis and one which the ATO has not yet performed. That is understandable, however, when the ATO is attempting the analysis for the first time.

In 2013 an assessment of HMRC's tax gap analysis was undertaken by a team from the IMF at the request of HMRC.[88] The main purpose of the assessment was to provide a thorough review of the HMRC's tax gap analysis program, including its models and methodologies, its use in supporting HMRC operations, and the approach to disseminate its results.[89]

According to the IMF:

> The HMRC's tax gap analysis program is comprehensive in tax coverage, effectively addresses its multiple dimensions, and work is ongoing to enhance its support to HMRC management … HMRC produces one of the most comprehensive studies of tax gap estimates internationally.[90]

So far as accurate statistical data was concerned, the IMF considered that it "needs to be relatively accurate, with detailed documentation on the method of compilation and, ideally, an indication of the estimation error".[91]

The HMRC analysis serves as a useful benchmark for future ATO work in this area.

---

[82] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis* (October 2013), fn 30.

[83] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82, fn 31

[84] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82, fn 31

[85] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82, fn 31.

[86] HMRC, *Measuring Tax Gaps 2014 Edition, Tax Gap Estimates for 2012-2013* (October 2014) p 9.

[87] HMRC, *Measuring Tax Gaps 2014 Edition, Tax Gap Estimates for 2012-2013*, n 86, p 14.

[88] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82. The IMF has also undertaken a review of the Republic of Estonia's tax gap analysis: see IMF, *Republic of Estonia: Technical Assistance Report – Revenue Administration Gap Analysis Program – the Value-Added Tax Gap* (May 2014).

[89] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82, p 6.

[90] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82, p 8.

[91] IMF, *United Kingdom: Technical Assistance Report – Assessment of HMRC's Tax Gap Analysis*, n 82, p 33.

Conclusions and recommendations

The ATO should be commended for embarking on an analysis of the GST gap in Australia. The author respectfully offers the following suggestions to improve the measurement and reporting by the ATO of the Australian GST gap:

1) The ATO could usefully expand on the reasons why it measures the GST gap and should consider adapting the statement used by HMRC in its reports.
2) The exclusion of the illegal part of the non-observed economy is a significant and unexplained omission from the ATO's GST gap analysis. The GST gap is therefore materially understated to this extent. The ATO should either include the relevant ABS figure in the GST gap analysis or state clearly that it has been excluded from the measurement.
3) The GST gap is an amount reflecting both underpayments and overpayments of GST, though it appears that no attempt has been made to quantify the extent of overpayments. The ATO should endeavour to do so.
4) The ATO should expand on the data sources and assumptions used in its measurement of the GST gap, in a manner similar to how the ABS publishes its *Concepts, Sources and Methods* for the national accounts.[92] It is acknowledged that this is not done by HMRC. However, the ATO has said that it welcomes feedback on its analysis as it continues to refine its approach.[93] That is of course to be welcomed. In the author's view, more meaningful feedback can be given in circumstances where data sources and assumptions are specified.
5) The ATO needs to take care in presenting data in graphs. For trend analysis in particular, averaging should be avoided and actual annual figures used instead with trend lines superimposed over these figures. Additionally, the transitional issues and concessions granted in the first five years of the GST materially distort the picture, and a more realistic trend line superimposed over the figures may be preferable.
6) The ATO should expand its commentary on the margin of error in measuring the GST gap. While not publishing specific margins of error for individual items, it would be useful for the ATO to publish broad margins of error. It is again acknowledged that this is not done by the United Kingdom, but it would be consistent with the comments made by the IMF in its assessment of the UK approach.
7) The ATO should consider requesting the IMF to conduct an assessment of its GST gap methodology, as HMRC has usefully done.

Kevin O'Rourke
BA LLM
Principal and Australian Practice Leader, Ryan Australia

[92] ABS, *Australian System of National Accounts, Concepts, Sources and Methods, 2013*, n 17.

[93] ATO, *Measuring Tax Gaps in Australia for the GST and the LCT*, n 1, p 1.