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AUSTRALIA'S TAX LAW POLICY OF THE PAST AND THAT OF THE POST DIGITAL REVOLUTION

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Tax policy advocates have long suggested an optimal tax system would be the most efficient tax regime but until recently it has been unobtainable. Technological developments increase the feasibility of this tax. The first half of this article explains how Australian tax policy has developed to date by looking at government commissioned and sanctioned reviews of the tax system. What becomes apparent is that reform measures aimed at achieving the tax policy goals of efficiency, equity and simplicity often involve a lowering of tax rates and a comprehensive tax base system.

The second half then explores the changes that have made the prospects of an optimal tax system more feasible and explores how evolving policy advice has moved in the direction of optimal tax theory. It is argued that this may involve proposals for reform centered on a less comprehensive tax base, increased tax rates as well as other departures from the traditional tax reform discussion.

I. AUSTRALIAN TAX REVIEWS

Conducting reviews of the Australian tax system has been a policy agenda of the government since the time that the Commonwealth enacted its first federal tax law in 1915. Since this time, reviews of the tax system have been conducted by Parliamentary committees and government appointed officials or bodies including the Australian National Audit Office, the Inspector General of Taxation and the Board of Taxation. Reviews of the Australian tax system are considered to be an appropriate and desirable policy of government in Australia.¹

The first of the bodies to undertake a review of Australia's tax system was the Kerr Royal Commission in 1920–23 which was commissioned five years after the Federal Government imposed the first federal income tax.² The Kerr Commission was commissioned to consider reform measures aimed at making the tax system more equitable and to create greater harmony between the Federal and State governments.³ Regular reviews of Australia's federal tax system followed in

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¹ Taxation Review Committee, 'Full Report' (Canberra, 1975) As the Asprey Committee observed, '[e]ven if, as is not the case, the Australian system were generally agreed to be as satisfactory as any tax system is ever admitted to be, a periodic thorough inspection would be as wise a precaution in this area of affairs as in any other'.

² *Royal Commission on Taxation*, (First Report, Together with Appendices, 1921) vol 1; *Royal Commission on Taxation*, (Second Report, Together with Appendices 1922) vol 2; *Royal Commission on Taxation*, (Third Report, 1922) vol 3; *Royal Commission on Taxation*, (Fourth Report, 1923) vol 4; *Royal Commission on Taxation*, (Fifth and Final Report, Together with Appendices, 1923) vol 5.

³ Ibid.

the following decades, including the Ferguson Royal Commission (1932–34),⁴ the Mills Committee (1942)⁵, the Spooner Committee (1950–1954),⁶ the Hulme Committee (1954–1955),⁷ the Ligertwood Committee (1959–1961),⁸ the Mathews Committee (1974–1975),⁹ the Campbell Committee (1979–1983)¹⁰ and the Ralph Review (1989–1999).¹¹

There have been two reviews of the overall tax system which produced the *Asprey Report* (1972–75)¹² and the *Henry Review Report* (2008–09)¹³ and two Government-led reviews conducted by the Department of Treasury which produced the *Draft White Paper* (1985),¹⁴ the *Information Paper* (1989)¹⁵ and the *ANTS package* (1998).¹⁶ Additionally, there is also a volume of supporting material by way of Commissioner Studies and Treasury Taxation Papers in relation to a number of these reviews.¹⁷

A. *Asprey Report*

While there have been numerous tax reviews in Australia, the major reforms to the Australian tax system occurred during the last 15 years of the 20th century.¹⁸ Many of these reforms have derived from the recommendations of the Asprey Committee.¹⁹

In response to the widespread public dissatisfaction over the nature and direction of tax in Australia, the government of Prime Minister, William McMahon, appointed the Asprey Committee in 1972. This was to be the first full-scale review of the Commonwealth tax system since the Royal

⁴ *Royal Commission on Taxation*, (First Report, 1933); *Royal Commission on Taxation*, (Second Report, 1934); *Royal Commission on Taxation*, (Third Report, 1934); *Royal Commission on Taxation*, (Fourth and Final Report, 1934).

⁵ Commonwealth Committee on Uniform Taxation (1942)

⁶ Commonwealth Committee on Taxation (1950). The Treasurer referred over 50 particular matters to the Committee from 1950 to 1954. See Graham Hill, 'Taxation Reform: A Tower of Babel; Distinguishing Taxation Reform from Taxation Change' (2005) 1(2) *Journal of the Australasian Taxation Teachers Association* 1–24.

⁷ Commonwealth Committee on Rates of Depreciation, 'Report of the Commonwealth Committee on Rates of Depreciation' (Report, Canberra, 1955).

⁸ Commonwealth Committee on Taxation, 'Report on the Commonwealth Committee on Taxation' (Report, Canberra, 1961).

⁹ Committee of Inquiry into Inflation and Taxation (Mathews Committee), 'Inflation and Taxation' (Mathews Report) (Report, Canberra, 1975).

¹⁰ Committee of Inquiry into the Australian Financial System, 'The Report of the Committee of Inquiry into the Australian Financial System' (Campbell Report) (Report, Canberra, 1983).

¹¹ Review of Business Taxation, 'A Taxation System Redesigned' (Canberra, 1999).

¹² Taxation Review Committee, 'Full Report' (Canberra, 1975). This was an external review.

¹³ Jeff, Harmer, John Piggott, Heather Ridout, and Greg Smith, 'Australia's future tax system: Report to the Treasurer' (Canberra, 2009). The Henry Review was not totally external, as it was chaired by the Secretary to the Treasury.

¹⁴ Commonwealth, 'Reform of the Australian Taxation System' (Canberra, 1985).

¹⁵ Commonwealth, 'Taxation of Foreign Source Income: An Information Paper' (Canberra, 1989).

¹⁶ Commonwealth, 'Taxation Reform: not a new taxation, a new taxation system' (Canberra, 1998).

¹⁷ For example, in relation to Mathews Committee (1974–1975) see Taxation Review Committee, 'Commissioned Studies' (Canberra, 1975) and Treasury Taxation Papers (Nos. 1 to 15) (Canberra, 1974–1975).

¹⁸ Hon Justice Richard Edmonds, 'Critique and Comment, A Judicial Perspective on Tax Reform' (2011) 35 *Melbourne Law Review*, 241.

¹⁹ Ibid.

Commission on Taxation reported in 1934.²⁰ A newly elected Labor government under Prime Minister Gough Whitlam came into office at the end of 1972 but did not change the terms of reference for the review. The government, looking to move ahead quickly with the government's tax reforms, in particular the introduction of capital gains tax, requested that the Committee release its findings early in the form of a preliminary report which was presented to the government in 1974.²¹

As part of the Asprey review, the Australian Treasury published a number of papers dealing with aspects of the Australian Government tax structure which were submitted by the Treasury to the Asprey Taxation Review Committee during 1973 and 1974. These papers provided factual and analytical material on the operation of the tax system and the extent to which it met the objectives which it must serve in the Australian context.²²

The Australian Treasury described six characteristics which it considered to be essential in a tax system.²³ These included the ability to meet revenue needs, fiscal flexibility, equity, neutrality, economic efficiency and growth and administration.²⁴ These characteristics were guiding principles and objectives which were intended to assist in the derivation of a coherent pattern when considering the vast number of provisions in Australia's tax system.²⁵

The final Asprey Report was produced in January 1975 after extensive public consultation and departed only slightly from the preliminary report.²⁶ The report considered that Australian tax policy should serve the dual goals of raising revenue and of shaping socio-economic policy. The report highlighted the fiscal importance of the tax system by stating that "*The Committee is directed to carry out its review of the existing taxation system 'in the light of the need to ensure a flow of revenue sufficient to meet the revenue requirements of the Commonwealth'*"²⁷ and that the "*Committee is prohibited from suggesting any general set of measures that would necessarily reduce total taxation below revenue needs.*"²⁸

In relation to tax policy achieving its socio-economic policy goals, the Committee referred to the first of the more positive commands in its Terms of Reference in conducting its review, which directed the Committee to consider the effects of the tax system 'upon the social, economic and business organisation of the community'.²⁹ The Committee considered this to be "*a phrase with multiple connotations*" and considered it "*helpful to separate these out and attach them to other rather more specific injunctions*".³⁰ In that regard, the Committee considered,

the effects of the taxation system upon the 'economic and efficient' use of resources of Australia', the desirability that there should be a 'fair distribution of the burden of taxation', and that revenue-

²⁰ Commonwealth, Royal Commission on Taxation, Parliament of Australia, *Report* (1932-34).

²¹ Taxation Review Committee & Kenneth W Asprey, Parliament of Australia, *Taxation Review Committee* (Preliminary Report, 1974).

²² Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) piii.

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Taxation Review Committee, Parliament of Australia, *Taxation Review Committee* (Full report, 1975), xviii. The Committee received in all 605 written submissions and had the opportunity of conference and discussion with certain authors of submissions.

²⁷ Ibid 11.

²⁸ Ibid.

²⁹ Ibid 12.

³⁰ Ibid.

raising be 'by means that are not unduly complex and do not involve the public or the administration in undue difficulty, inconvenience or expense'.³¹

These aims were referred to in the report as efficiency, fairness and simplicity.

While equity, simplicity and efficiency were the Committee's three dominant tests of merit for individual taxes and for the tax system as a whole, there were two other objectives that the Committee also considered worthy of mention. Firstly, flexibility in the tax system was a characteristic the Committee believed was of obvious importance to economic management or stabilisation.³² Secondly, economic growth was another objective that the Committee believed in the view of some, should be deliberately and distinctively pursued in tax policy.³³

The Asprey Report recommended some major and ambitious changes to the Australian tax system. The major reform recommendations of the Asprey Review were aimed at altering the tax mix by increasing the relative weight of indirect taxes on consumption and lowering and simplifying personal income tax rates, together with the extension of both the indirect and direct tax bases through the introduction of a broad based value added tax (replacing wholesale sales tax) and capital gains tax.³⁴

Many of the recommendations were aimed at closing tax gaps and reducing inconsistencies in the income tax base. Additional recommendations included a new tax on fringe benefits provided by the employer to an employee, the integration of the company and shareholder tax system, the adoption of a foreign tax credit system for foreign source income and the replacement of state and commonwealth wealth transfer taxes with an integrated federal gift and estate duty.

Due to a subsequent change to a Liberal government under Prime Minister Malcolm Fraser in late 1975, the Asprey report and recommendations were put aside for almost ten years. Whilst the recommendations coming out of the Asprey review were not immediately implemented, the Asprey review still stands out as Australia's most successful tax reviews as all of its recommendations were implemented at some point during the following twenty years. Evans and Krever note the contribution of these reforms to achieving the equity and efficiency objectives of the progressive tax system, but also comment on the gradual erosion of the tax base due to the exemptions and concessions introduced over time.³⁵

B. *Ralph Review*

The Ralph Review was appointed by the Government of Prime Minister John Howard in 1998 to review Australia's system of business taxation. Unlike the previous tax reviews undertaken in Australia, which were internal and independent reviews, this Committee was led by three representatives from private financial and industrial sectors. In addition to the three private sector leaders, others on the committee included Australian Taxation Office and other public sector staff, two academics and a professional representative.

The Ralph Review was commissioned to develop an internationally competitive tax treatment of business investment whilst maintaining revenue neutrality. Unlike other tax reviews undertaken, the objectives set by the government were narrow, including the reduction of the company tax rate,

³¹ Ibid.

³² Ibid 17.

³³ Ibid.

³⁴ Ibid [28.12]-[28].

³⁵ Evans, C and Krever R, *Tax reviews in Australia: a short primer* (2009).

a reduction in the effective tax rate on realised capital gains and the introduction of a script for script rollover in the tax legislation.

There were three broad national objectives which were the key focus resulting from the consultative process which had followed the release of the first interim report. These objectives included optimising economic growth, promoting equity and promoting simplicity and certainty.³⁶ The first objective of optimising economic growth was justified by the Committee as being closely aligned with achieving efficiency with respect to the allocation of resources. In this manner, the efficiency and neutrality tax policy criteria were encompassed in the first objective and therefore the overarching criteria accord with traditional analysis.

The final report, submitted to the government in 1999, supported the government's agenda and made a number of recommendations many of which were implemented at the end of the 1990s and in the early 2000s. One of the recommendations of the Ralph Review including the introduction of a 'tax value method' approach to replace the concept of taxable income in determining tax payable which would align closely with accounting principles. The Review proposed that "... to achieve a more robust and durable tax system, taxable income be calculated on the basis of cash flows and changing tax values of assets and liabilities..."³⁷ The Review believed that such a tax value method system would provide a "...more coherent and durable legislative basis for determining taxable income..." which would "... underpin a more consistent, transparent and sustainable tax system."³⁸ Due to the considerable opposition to this new model, the government decided to cease looking into it further.³⁹

The review also recommended a single entity tax which would apply uniformly for the taxation of companies, trusts, and limited partnerships as well as a new consolidation regime.⁴⁰ These measures were aimed at protecting the income tax base by eliminating many sources of tax avoidance, removing the need for many specific anti-avoidance measures.⁴¹ The government put forward a modified version for the introduction of a common taxing regime for all entities, but it was withdrawn due to its unpopularity.⁴² The consolidation regime was introduced as well as a general value shifting regime aimed at preventing the shifting of value in non-consolidated groups.⁴³

The review recommended replacing the capital gains indexation of the cost base and averaging over a notional five-year period with a more generous 50 percent discount.⁴⁴ The government introduced this measure in 1999 with transitional provisions allowing for frozen indexation from September 1999.⁴⁵

³⁶ Review of Business Taxation, *A Tax System Redesigned* (July 1999) 13-17.

³⁷ Ibid 155-213, Recommendation 4.1.

³⁸ Ibid.

³⁹ Fisher, Rodney, 'Ralph review: reform by name but not nature?' (2003) 7(2) *Tax Specialist* 67.

⁴⁰ n 37 Sections 11-15.

⁴¹ Ibid.

⁴² n 37.

⁴³ Ibid.

⁴⁴ n 37 Section 18.

⁴⁵ New Business Tax System (Integrity and Other Measures) Bill 1999 (Cth).

The review recommended the removal of accelerated depreciation and a phase-in reduction of the corporate tax rate to compensate for the loss of the removal of accelerated depreciation.⁴⁶ Both of these proposals were implemented.⁴⁷

Changes were recommended with respect to the attribution to an individual of the income of that individual for their personal services derived by an interposed entity.⁴⁸ These changes limited deductions of that entity to those which would have been allowable to the individual as an employee.⁴⁹ These anti-avoidance reform measures were also introduced.⁵⁰

The review recommended a number of reforms aimed at simplifying the tax system for small business and reducing compliance costs, these included the introduction of a cash accounting regime, simplified depreciation rules and simplified trading stock rules.⁵¹ The government introduced these reforms.⁵² Other tax law changes made resulting from the Ralph review were with respect to the rules around carried-forward losses, non-commercial loss rules, inter-corporate dividends and international transactions and the introduction of a scrip for scrip roll-over relief.

C. Henry Review

The Australia's Future Tax System Review, informally known as the Henry Review after its chairman, Treasury Secretary Ken Henry was commissioned by the Prime Minister Kevin Rudd Government in 2008 and was published in 2010. The Henry Review Committee was asked to examine the current tax system and “*make recommendations to position Australia to deal with the demographic, social, economic and environmental challenges of the 21st century*”.⁵³ In relation to previous tax policy criteria adopted in Australia, the committee noted:⁵⁴

“We find that much of the key architecture of the existing taxation and transfer system, built last century, reflects sound policy frameworks and Australian social values and will still serve us well.

“But not all of it will — a range of key reforms would even better equip us for the changing era ahead.”

The Recommendations made in the Henry Review were based upon five design principles for the tax and transfer system which included equity, efficiency, simplicity, sustainability and policy consistency.⁵⁵ Fiscal adequacy was considered to be the primary objective of the Henry Review with the Committee stating that the government’s revenue raising objective “*should not be compromised by other policy objectives*”.⁵⁶ However, the Terms of Reference did recognise the importance of the socio-economic criteria by stating that “*raising revenue should be done so as to do least harm to economic*

⁴⁶ n 37 Report Overview 96-107.

⁴⁷ *Income Tax Assessment Act* (1997) (Cth) as amended, with application from the 1999–2000 tax year.

⁴⁸ n 37 Section 7.

⁴⁹ *Ibid.*

⁵⁰ New Business Tax System (Alienation of Personal Services Income) Bill 2000 (Cth); New Business Tax System (Alienation of Personal Services Income) Bill (No 1) (Cth) ;New Business Tax System (Alienation of Personal Services Income) Bill (No 2) (Cth).

⁵¹ n 37 Section 17.

⁵² New Business Tax System (Simplified Tax System) Bill 2000 (Cth).

⁵³ n 13 (vii).

⁵⁴ *Ibid* xv.

⁵⁵ *Ibid* 17.

⁵⁶ *Ibid* 17.

efficiency, provide equity (horizontal, vertical and intergenerational) and to minimise complexity for taxpayers and the community".⁵⁷

The Henry Review recommended that revenue raising be concentrated on four "robust and efficient" tax bases: personal income, assessed on a more comprehensive base; business income, with more growth-oriented rates (including a reduction in the corporate income tax rate) and base; private consumption, through broad, simple taxes; and economic rents from natural resources and land, on comprehensive bases.⁵⁸ The Henry Review recommended a simpler, more transparent personal income tax scale with an increased tax-free threshold, replacing the complex array of thresholds and offsets and only two marginal rates above the threshold.

Recognising the revenue needs of the States, the Henry Review recommended the removal of stamp duty which would be achieved through a switch to more efficient taxes, such as those levied on broad consumption or a broad land tax that should be levied on as 'broad a base as possible land bases'.⁵⁹ With respect to consumption taxes, the main recommendation in the Henry Review was for the introduction of a broad-based cash flow tax that could be used to finance the abolition of other taxes, including payroll tax and inefficient State consumption taxes, such as insurance taxes.⁶⁰ Whilst the terms of reference precluded the Henry Review Committee from recommending an increasing or broadening of the existing GST to fund the removal of other inefficient taxes, it did mention that the GST is "less efficient than it could be because of its failure to tax consumption on a truly comprehensive basis."⁶¹

II. A LOW-RATE, COMPREHENSIVE TAX BASE TRADITION

The examination of Australia's tax reviews above highlights that the principles of fiscal adequacy, efficiency, equity and simplicity have driven the recommendations that have been made in each of Australia's tax reviews during the previous 25 years.⁶² The meanings of these seemingly simple terms have been discussed in each of the Australian tax reviews. The Australian tax reviews have presented a case that in order to achieve these tax policy principles that the tax system should aim to achieve a low-rate comprehensive tax base policy. The central reform proposals designed to meet the tax policy principles have pushed this agenda.

A. Fiscal Adequacy

Fiscal adequacy was defined by the Australian Treasury as "*the government's ability to meet revenue needs*".⁶³ This principle was considered to be the "*primary requirement*" of the Australian Treasury in 1974⁶⁴ and of the resulting Asprey Report⁶⁵ and most recently, the "*primary objective*" of the tax system in the Henry Review.⁶⁶

⁵⁷ Ibid vii.

⁵⁸ Recommendations 1, 2, 8 and 27.

⁵⁹ Recommendations 51-53.

⁶⁰ Recommendations 55, 57.

⁶¹ AFTS 2010a, Overview p 51

⁶² Nicole Wilson-Rogers and Dale Pinto, 'Tax Reform: A Matter of Principle? An Integrated Framework for the Review of Australian Taxes' (2009) 7(1) *eJournal of Tax Research* 72, 72-75.

⁶³ Ibid 10.

⁶⁴ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 3.

⁶⁵ Taxation Review Committee, *Full Report* (Canberra, 1975) 11.

⁶⁶ n 13 (17).

With fiscal adequacy requirements in mind, the Australian Treasury noted that one option would involve reconsidering the exemptions and concessions in the tax laws, with the aim of enlarging the tax base.⁶⁷ The Asprey Review commented that “*a taxation concession to a particular area of spending in the private sector can as well be looked upon as an expenditure of revenue as a failure to collect it*”. It then commented that “*it is often an issue of importance to taxation policy whether such concealed subsidies should not better be given overtly*”.⁶⁸

The Australian Treasury noted that another option to satisfy its fiscal adequacy objective was to enlarge the tax base by considering new forms of tax, and to look particularly at forms of tax which other countries use but that Australia does not have.⁶⁹

B. *Economic Efficiency*

The Asprey Report commented that “economic and efficient use of national resources is a long standing and by now most conventional objective of public policy”.⁷⁰ Within the aim of efficiency, all government tax reviews have focused on the additional aim of achieving a neutral tax system.⁷¹ In fact, the Asprey report stated that “*neutrality should be the general aim when efficiency is under consideration*” and the Australian Treasury included neutrality as a principle distinct from efficiency as deserving special mention and stated that “*the importance of ‘neutrality’ as the basis for an efficient and equitable taxation system, with minimum scope for abuse, can hardly be stressed enough.*”⁷²

The Australian Treasury listed the following undesirable consequences which result from a tax system that is lacking neutrality:⁷³

- It can lead to inequities in the treatment of different groups of taxpayers. For example, exemptions, rebates and other concessions can enable taxpayers in a position to benefit from them to reduce their taxation relative to that of other taxpayers.
- Departures from neutrality, whether in the form of concessions or lack of alignment between different taxes, are some of the principal building blocks which so-called ‘taxation planners’ use to erect schemes of (legal) taxation avoidance, often of a highly artificial kind.
- Departures from neutrality can also lead to a redirection of resources from one activity to another, purely to obtain a taxation advantage. The real return, and the return to the nation, may be less from the activity to which they are redirected, but ‘transfers’ to the taxpayer concerned through the taxation system at the expense of the taxpayers in general, may lift the private benefit sufficiently to make it worthwhile for him.

⁶⁷ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 3.

⁶⁸ Taxation Review Committee, *Full Report* (Canberra, 1975) 11.

⁶⁹ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 3-4.

⁷⁰ Taxation Review Committee, *Full Report* (Canberra, 1975) 16.

⁷¹ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 5-6; Taxation Review Committee, *Full Report* (Canberra, 1975) 16. Although the Draft White Paper, ANTS Package and Henry Tax Review do not mention the term ‘neutrality’ when discussing the criteria for tax reform, the principle of neutrality is made when discussing the ‘efficiency’ criteria in each of these tax reviews.

⁷² Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 6.

⁷³ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 5-6.

- In some cases the action taken to secure an immediate taxation benefit can in the long run harm not only the nation but also the taxpayers concerned. For example, if a company chooses to use debentures rather than shares for capital raising purposes to a larger degree than it would have if there were no difference in their taxation treatment, it could get into difficulty through its use of an inappropriate gearing ratio if business conditions take a turn for the worse.

The Asprey Committee warned against risks of the government using tax expenditures as a substitute for direct spending programs. In that regard, the Asprey Committee commented that departures from neutrality should be made only “*in a deliberate and explicit way for proven, explicit and quantified purposes and after it had been shown that other approaches (such as regulation and subsidy) are likely to be less effective for the end chosen*”⁷⁴ and that “*when there are circumstances warranting encouragement for a field of activity by means of a reduction in taxation, any such reductions should be granted only for a specified purpose and a limited period, thereby ensuring periodic review.*”⁷⁵

While neutrality is considered to be an important general objective, the Australian Treasury acknowledged that some intentional departures from neutrality are necessary in order to influence, in ways desired by the Government, business behaviour, the allocation of resources, and so on.⁷⁶ These comments in relation to departures from neutrality were endorsed by the Asprey Committee, but in a very limited manner.⁷⁷

C. Equity

The Asprey Report stated that equity is the “*most universally sought after of qualities in individual taxes and taxation systems as a whole*”.⁷⁸ The definition of ‘equity’ is customarily distinguished into the two dimensions of ‘horizontal’ and ‘vertical’ equity.⁷⁹ Horizontal equity is achieved when people who are equally placed should shoulder equal tax burdens, while vertical equity is achieved when the more well-to-do shoulder greater tax burdens than those less fortunately placed. Both of these expressions reflect the ‘ability to pay’ principle.⁸⁰

The third dimension of intergenerational equity was introduced by the Henry Review.⁸¹ While no definition was given in the review of intergenerational equity, an example was provided in relation to road investment. The example concerned the long life of road investments and provided that “*if investment in road networks is directed to meet anticipated future needs, then debt, to be repaid by future generations, might be a more equitable source of finance than charges imposed on today’s users*”.⁸²

A number of Australia’s tax reviews have noted that what ‘equity’ means in practice is problematic and is the subject of endless contention and debate. The Australian Treasury noted that the reason for this is due to ‘equity’ being intangible or non-measurable which leads to any definition of this term being open to subjective attitudes and opinion.⁸³ The Asprey Review noted that when looking

⁷⁴ Taxation Review Committee, *Full Report* (Canberra, 1975) 16 -17.

⁷⁵ Ibid

⁷⁶ Ibid 5.

⁷⁷ Australian Treasury, Taxation Review Committee, *Full Report* (1975) 12-15.

⁷⁸ Ibid 15.

⁷⁹ Commonwealth, ‘Reform of the Australian Taxation System’ (Canberra, 1985) 14.

⁸⁰ Taxation Review Committee, *Full Report* (Canberra, 1975) 12.

⁸¹ n 13 396-397.

⁸² Ibid.

⁸³ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 4.

at horizontal equity that there were a number of questions that needed to be answered to determine when people are ‘equally placed’. For example, should the idea have regard only to taxpayer’s total income, or should it also have regard to its composition? Should it have regard to assets and all capital gains? Should it look to the total income of a family, regardless of the number of income-earners, to that of husband and wife or to the income of each individual?⁸⁴ In considering vertical equity, the Australian Treasury commented that these questions are relevant as well as additional questions such as the rate at which taxes should increase with capacity to pay. This question is asking what degree of progression the tax system should impose, which gives rise to widely differing views.⁸⁵ Even if all of the questions above could be answered, the Australian Treasury commented that there was a third layer of questions which had to be resolved to determine the extent to which the tax system is equitable. These included, who finally bears the various taxes? Which are wholly passed on, which partially passed on and which not passed on at all?⁸⁶

D. *Simplicity*

The Asprey Report considered simplicity as the “*second most universally sought after qualities in individual taxes and taxation systems as a whole*” and stated that this principle points to a complex of ideas.⁸⁷ This principle was considered in each Australian tax review. The Australian Treasury referred to this principle as ‘administration’.⁸⁸ The Henry Review defined simplicity as “*the taxation and transfer system should be easy to understand and simple to comply with. A simple and transparent system makes it easier for people to understand their obligations and entitlements. People and businesses will be more likely to make the most beneficial choices for themselves and respond to intended policy signals.*”⁸⁹

The Asprey Report discussed two further aspects of simplicity which it believed required specific mention. “Firstly, when a quite complex operation is needed before the administrators can make the assessment or the taxpayer can ascertain his liability, it is desirable that the taxation be such that the taxpayer, for private purposes unconnected with the taxation, already needs to perform such operations”. The Asprey Report noted that while this point is obvious, is often forgotten.⁹⁰

A second observation of the Asprey Report was considered to be “perhaps even more obvious and even more frequently forgotten. That is, the fewer, per million dollars raised, are the individuals or organisations from whom taxation is collected the simpler is a taxation system”. It gave the pertinent analogy that “the sheikdom that can raise all the revenue it requires (and maybe much more) from a single taxation on a single oil company has what is unquestionably the simplest taxation system of all.”⁹¹

III. DIGITALISATION AND FUTURE TAX POLICY DESIGN

The first part of this article has examined how Australian tax policy has developed to date by looking at government commissioned and sanctioned reviews of the tax system. In conducting this examination, what becomes apparent is that reform measures aimed at achieving the tax policy

⁸⁴ Ibid 4-5.

⁸⁵ Ibid 5.

⁸⁶ Ibid.

⁸⁷ Taxation Review Committee, *Full Report* (Canberra, 1975) 15.

⁸⁸ Commonwealth, *Taxation Reform: Problems and Aims*, Treasury Taxation Paper No. 1 (Canberra, 1974) 7.

⁸⁹ n 13 17.

⁹⁰ Taxation Review Committee, *Full Report* (Canberra, 1975) 15.

⁹¹ Ibid.

goals of efficiency, equity and simplicity often involve a lowering of tax rates and a comprehensive tax base system.

We now look to the future. We have a digital revolution that will deliver previously unimaginable quantities of information, but how might this impact on future tax policy design? Will the digital revolution result in evolving policy advice moving in the direction of optimal tax theory? If this is so, will future recommendations for tax reform center on a less comprehensive tax base, increased tax rates as well as other departures from the traditional tax reform discussion?

A. *Access to Data*

Technology is becoming increasingly important in both the economy and society. Technological innovations are disrupting existing markets and value chains and are impacting on how people access various services.⁹² New online infrastructure such as the internet, big data, portal solutions, mobile/social media platforms and cloud computation are paving the way for new opportunities.⁹³ These technologies are impacting the business models and strategies of both public and private organisations. These technologies, referred to as disruptive technologies are reshaping our economies as we are becoming increasingly digitised and in so doing are raising interesting questions for governments and revenue bodies.⁹⁴

These new technologies and online infrastructure have forced tax administrators to consider how to re-adjust their operations, better manage their service and compliance risk and develop environments that make tax compliance less burdensome for taxpayers. Tax administrators are using technology to streamline their operations, improve security, enhance analytics capabilities and improve taxpayer compliance.⁹⁵

In the business context, benefits from data analysis have increased exponentially.⁹⁶ Datasets contain insights which allow digitalised businesses to create economic value through using this rich source of data to inform business decisions.⁹⁷ For example, digital businesses price differentiate based on supply and demand elasticities for a particular product or service. This allows them to extract the maximum price that customers are willing to pay for a good or service.⁹⁸

B. *Optimal Tax Theory*

One tax law theory that is likely to be far more useful in formulating tax policy as a result of the digital revolution is optimal tax theory. Optimal tax theory is a modern theory or vision of tax design that has evolved in Australia and in other jurisdictions since the beginning of the 21st

⁹² Organization for Economic Cooperation and Development, *Technologies for Better Tax Administration: A Practical Guide for Revenue Bodies* (OECD Publishing, Paris, 2016) 102-103.

⁹³ Ibid 25.

⁹⁴ Ibid.

⁹⁵ Eelco Van der Enden and Michael Roytman, 'Technology and Tax Compliance. How Technology is shaping the Tax Administration of the Future, (Presentation at 2015 FTA Project Workshop, Vertex, PwC, Moscow 2015).

⁹⁶ Ibid.

⁹⁷ Ibid.

⁹⁸ Council of Economic Advisors, 'Big Data and Differential Pricing' (2015) 10, Reports that sellers are using online and offline pricing practices that fall into three broad categories: (1) exploring the demand curve, (2) steering and differential pricing based on demographics, and (3) behavioral targeting and personalized pricing.

Century.⁹⁹ Whilst optimal tax theory can be described as a modern theory as a considerable amount of the literature concerning this theory has been produced in recent decades,¹⁰⁰ the theory has its foundations in Frank Ramsey's 1927 seminal paper, entitled, '*A contribution to the theory of taxation*', which is considered to be a 'landmark' in the economics of public finance.¹⁰¹ Almost half a century later, in 1971, James Mirrlees made a further significant contribution to the development of optimal tax theory and since that time it has become the dominant approach for tax theorists.¹⁰²

Optimal tax theory is aimed at answering the questions of how much society is prepared to pay in terms of lost efficiency for a tax measure given? who will pay it? and who will benefit from it?¹⁰³ These questions are then answered by using empirical data and economic modelling using estimates of factor elasticities.¹⁰⁴ The optimal tax system is that which produces the desired level of revenue in the least distortionary manner and which minimises the loss of welfare. As not all activities have the same elasticities, the result is that non-uniform, differentiated taxes may be less distortionary.¹⁰⁵

Accordingly, this theory challenges the low-rate, comprehensive tax base tradition. Basic examples of optimal tax theory can be found when considering the taxation of capital income versus location specific rents.¹⁰⁶ Capital income is very elastic due to capital mobility and therefore cannot be taxed heavily, however location specific rents are inelastic as location is fixed and therefore can be taxed heavily.¹⁰⁷ With respect to income taxes, optimal tax theory is based on the premise that the factor that is most closely linked with the efficiency cost of taxation is the wage elasticity of labour supply or, alternatively, whether labour supply will be greatly affected by high marginal rates of taxation.¹⁰⁸

⁹⁹ Graeme Cooper, 'Theories of Modern Tax Reformers' (2011) 15(1) *The Tax Specialist* 4.

¹⁰⁰ Peter A. Diamond and James A. Mirrlees 'Optimal Taxation and Public Production II: Tax Rules' (1971) 61 (3) *The American Economic Review* 261-278; Joel Slemrod, 'Optimal Taxation and Optimal Tax Systems' (1990) 4(1) *Journal of Economic Perspectives* 157-178; Recent contributions to optimal tax theory literature include, Mikhail Golosov, Narayana Kocherlakota and Aleh Tsyvinski, 'Optimal Indirect and Capital Taxation' (2003) 70(3) *Review of Economic Studies* 569-87; Narayana Kocherlakota, 'Zero Expected Wealth Taxes: A Mirrlees Approach to Dynamic Optimal Taxation' (2005) 73(5) *Econometrica* 1587-1621; Stefania Albanesi and Christopher Sleet, 'Dynamic Optimal Taxation with Private Information' (2006) 73(1) *Review of Economic Studies* 1-30; Mikhail Golosov, Aleh Tsyvinski and Ivan Werning, 'New Dynamic Public Finance: User's Guide' (2006) NBER Macroeconomics Annual 317-363; Gregory N. Mankiw, Matthew Charles Weinzierl, and Danny Ferris Yagan, 'Optimal Taxation in Theory and Practice' 2009 23(4) *Journal of Economic Perspectives* 147-174.

¹⁰¹ Joseph E. Stiglitz, 'In Praise of Frank Ramsey's Contribution to the Theory of Taxation' (2015) 125 (583) *The Economic Journal* 235; Gregory N. Mankiw, Matthew Weinzierl, and Danny Yagan, 'Optimal Taxation in Theory and Practice' (2009) *National Bureau of Economic Research*, No. w15071

¹⁰² James A. Mirrlees, 'An Exploration in the Theory of Optimal Income Taxation' (1971) 38(114) *Review of Economic Studies* 175-208. See Matti Tuomala, '*Optimal Income Tax and Redistribution*' (Oxford University Press, 1990); Bernard Salanie, '*The Economics of Taxation*' (MIT Press, 2003); Louis Kaplow, '*The Theory of Taxation and Public Economics*' (Princeton University Press, 2008).

¹⁰³ Jean Hindriks and Gareth D. Myles, *Intermediate public economics* (Vol. 2) (Cambridge: MIT press, 2006) 447.

¹⁰⁴ *Ibid* 464.

¹⁰⁵ Peter B. Sørensen, 'The theory of optimal taxation: what is the policy relevance?' (2007) 14(4) *International Tax and Public Finance* 383-406.

¹⁰⁶ Johannes Becker and Fuest Clemens, 'Optimal tax policy when firms are internationally mobile' (2011) 18(5) *International Tax and Public Finance* 580-604.

¹⁰⁷ Steven R. Hursh, and Peter G. Roma, 'Behavioral economics and the analysis of consumption and choice' (2016) 37 (4-5) *Managerial and Decision Economics* 224-238.

¹⁰⁸ James A. Mirrlees, 'Optimal tax theory: A synthesis' (1976) 6(4) *Journal of public Economics* 327-358.

C. The Major Limitation - Lack of Information

One of the major limitations of optimal tax theory is not being able to apply the theory due to there being a lack of information.¹⁰⁹ This has greatly inhibited the theory from having any meaningful practical application. For example, optimal tax theory provides that the optimal tax system should tax taxpayers according to their welfare or utility. Income, consumption and wealth are taxed instead as they are the closest proxies for welfare and utility.¹¹⁰ Welfare and utility cannot be determined due to a lack of information as governments are unable to observe welfare and utility, however they are able to observe most forms of income so they must work with this measure instead. Limited information also means that a flat rate commodity tax is applied rather than being able to differentiate consumption tax rates between consumers.¹¹¹ Further examples are easily found.

D. Data Sources Will Allow Governments to Observe Income Earning Capacity

The portion of research papers devoted to the application of big data to taxation is relatively small, despite the fact that tax generates huge amounts of data and has enormous potential to benefit from big data analytics. A number of data sources already exist that allow a government to observe directly income-earning capacity and other taxpayer characteristics as well as income earned. The main sources of big data include text, audio and video, machine-to-machine communication, mobile technologies, archive data, internet of things, clickstream analytics, machine logs and social media.¹¹² These technologies are also complemented through the use of ‘biometrics’ which is the method for uniquely identifying individuals based upon one or more physical characteristics. For example, fingerprint, voice, iris and facial recognition.¹¹³

The ‘Internet of Things’ (IOT) is a ‘network of physical “smart” devices that use wireless technology to collect data and talk to each other and to people.’¹¹⁴ The International Data Corporation, Intel and United Nations previously projected that the number of connected devices will reach 200 billion by 2020, equating to 26 smart objects per human¹¹⁵ and 55% of all data is forecast to be produced by the IOT by 2025.¹¹⁶ The effect is that everyday items that we interact with at home and work will record data about themselves and the surrounding environment, much like smartphones currently do. There is also potential to employ artificial intelligence and machine/deep learning software to analyse people’s sentiment and general industry trends, whether through social media or in reality through miscellaneous devices connected to the IOT.¹¹⁷

¹⁰⁹ Jean Hindriks and Gareth D. Myles, *Intermediate public economics* (Vol. 2) (Cambridge: MIT press, 2006) 388.

¹¹⁰ Ibid 370-373.

¹¹¹ Ibid 447-453.

¹¹² Organization for Economic Cooperation and Development, *Technologies for Better Tax Administration: A Practical Guide for Revenue Bodies*, (OECD Publishing, Paris, 2016), 49.

¹¹³ Ibid.

¹¹⁴ Ibid 106.

¹¹⁵ Intel (2015), A Guide to the Internet of Things Infographic, (Infographic, 9 March 2021 <<https://www.intel.com.au/content/dam/www/public/us/en/images/iot/guide-to-iot-infographic.png>>.

¹¹⁶ David Reinsel, John Gantz and John Rydning, Data Age 2025: The Digitization of the World From Edge to Core IDC White Paper, Doc# US44413318 (November 2018).

¹¹⁷ Ibid.

Cloud computation is also a prolific source of big data. This includes public, private and third-party platforms. Individuals are increasingly reliant on cloud storage. Cloud computing facilitates the use of structured and unstructured data and offers governments, administrations and businesses real-time information and on-demand consumer insights.¹¹⁸

Big data can assist governments and tax revenue bodies in examining and understanding historical activity and taxpayer behaviour through the storage of raw data and information which allows authorities to process and analyse this data.¹¹⁹ Analysis across past years and tax domains allows administrations to plan their compliance, control and manage risk and improve service delivery.¹²⁰

Taxpayer experiences, preferences and behaviour can be monitored and used in a highly personalised user-centred service design and changes in taxpayer abilities and performance can be tracked to allow administrations to respond more efficiently.¹²¹ Big data can be used to support whole-of-government outcomes by sharing information, using predictive analytics and simulations and proactive analysis of taxpayer behaviour which create efficiencies in risk profiling. Advanced analytics are now being widely deployed to combat fraudulent tax practices and ensure tax compliance through streamlined processes.¹²²

Big data can also be used to identify taxpayer characteristics such as the relative experience of a taxpayer in a new business, life events that may trigger the need for more tailored responses, how individual taxpayers may operate differently across a range of tax programmes and how an administration operates or changes in the geographic conditions or locations.¹²³ This technology also affords revenue bodies the opportunity to derive greater business value out of existing data, and hence improve compliance through better taxpayer support, reduced burden and increased trust.¹²⁴

These technologies have been used to identify taxpayer characteristics and streamline the taxation process but have not been widely used thus far to categorise demographics and tax individuals based on those characteristics in an overarching capacity. However, according to the optimal tax theory literature, there is an immense opportunity to utilise emergent technologies through big data and analytics to categorise different societal demographics and tax citizens based on individual characteristics in an equitable manner.¹²⁵

¹¹⁸ Ibid.

¹¹⁹ n 95; see also Organization for Economic Cooperation and Development, *Technologies for Better Tax Administration: A Practical Guide for Revenue Bodies* (OECD Publishing, Paris, 2016), 53.

¹²⁰ Ibid.

¹²¹ Ibid.

¹²² Ibid.

¹²³ Ibid.

¹²⁴ Organization for Economic Cooperation and Development, *Technologies for Better Tax Administration: A Practical Guide for Revenue Bodies* (OECD Publishing, Paris, 2016) 102-103.

¹²⁵ Gillitzer, C., Kleven, H.J. and Slemrod, J, A Characteristics Approach to Optimal Taxation: Line Drawing and Tax-Driven Product Innovation, (2017) 119(2), *The Scandinavian Journal of Economics*, 240-267; Blundell, R, and Ian Preston, Principles of Tax Design, Public Policy and Beyond: The Ideas of James Mirrlees, 1936–2018, (2019) 40(1) *Fiscal Studies*, 5-18.

E. Better Proxies Than Income - Tagging

Technology is likely to impact upon future tax policy. The Government has and will increasingly continue to have access to huge amounts of large datasets which will allow it to observe characteristics of the taxpayer other than income, wealth and consumption and base taxes on them.

Theoretically a taxpayer's ability is considered to be a better proxy for welfare than income alone and there are examples where other characteristics other than income have been used to guide tax policy, for example a person's age and gender. The literature on tax grouping based on characteristics is called 'tagging'. The integration of tagging within tax policy allows separate income tax schedules to be implemented for different sub-groups within a population.¹²⁶

The notion of tagging has existed since it was first proposed by Mirrlees in his influential 1971 work,¹²⁷ however, the technological advances that have emerged since present new opportunities for tax administrations and governments in developing tax policy.

Tags are beneficial as they provide additional information to the policymaker, whether about labour supply elasticities or the distribution of unobserved ability. For example, if a particular demographic group has a very wide ability distribution relative to other groups, the policymaker can tailor marginal taxes at each income level to that wider distribution.¹²⁸ Theory suggests that any personal characteristic that is largely exogenous, easy to monitor, and systematically related to ability or preferences ought to be included as an argument in the optimal tax function.¹²⁹

Since the seminal works of Mirrlees (1971) and Akerlof (1978), there has been an increasing body of contemporary literature expanding upon the viability of different 'tags'.

Seminal 'Tagging' literature

Mirrlees identified the tax authority's lack of information about individuals' abilities as the main limitation of tax design.¹³⁰ He assumed that the tax authority would use income as the only indicator of ability, but he recognised that many more indicators could be used: "*One might obtain information about a man's income-earning potential from his apparent I.Q., the number of his degrees, his address, age or colour; but the natural, and one would suppose the most reliable, indicator of his income-earning potential is his income.*"¹³¹

Akerlof focused on the use of tags to alleviate poverty.¹³² He coined the term "tagging" to describe the use of taxes that are contingent on personal characteristics, and he formally demonstrated that the use of tagging might improve on an income-based tax system.¹³³ He also suggested that tagging played a large role in existing US policy, citing public spending programs for the elderly, the disabled, children, and other groups.¹³⁴

¹²⁶ Thomas Gaube and Silke Schade, 'Efficiency Gains from Tagging' (2017).

¹²⁷ James A Mirrlees, 'An exploration in the theory of optimum income taxation' (1971) 38(2) *The review of economic studies* 175-208.

¹²⁸ Nicholas Gregory Mankiw, Matthew Weinzierl, and Danny Yagan, 'Optimal Taxation in Theory and Practice', (2009) 23(4) *Journal of Economic Perspectives*, 15.

¹²⁹ Ibid.

¹³⁰ n 127

¹³¹ Ibid.

¹³² George Akerlof, 'The Economics of 'Tagging' as Applied to the Optimal Income Tax, Welfare Programs, and Manpower Planning' (1978) 68(1) *American Economic Review* 8-19.

¹³³ Ibid.

¹³⁴ Ibid.

The recent literature has demonstrated that group-specific taxation and transfer schedules improve social welfare over instances where the government is restricted to a single tax schedule for the whole population.¹³⁵

Age tag

The more recent studies highlight a more extensive role for tagging in an optimal tax system. Age-based taxation has received a large amount of attention in contemporary literature as an alternative to taxing based solely on income. A person's age is an easily identifiable and non-manipulable characteristic and, due to its connection with income it is a strong candidate for tagging.¹³⁶

Furthermore, as everyone undergoes aging, and governments already have such information, it is a tag that is easy to monitor. Regarding age-dependent taxation, Weinzierl¹³⁷ in his 2011 paper considered three alternative tax policies: 'Static Mirrlees' policy: a labour income tax that is a function of the income but unrelated to the chronological age of the taxpayer; 'Partial Reform' policy: a labour income tax that depends on the income and the chronological age of the taxpayer; and 'Full Optimum' policy: a labour income tax that depends on the income, the chronological age, and the lifetime path of incomes of the taxpayer. Weinzierl provides a quantitative assessment of the welfare gains from age-dependent nonlinear income taxes.¹³⁸ He demonstrates analytically how age dependence improves policy on both the intratemporal and intertemporal margins by using detailed numerical simulations, calibrated with data from the U.S. Panel Study of Income Dynamics, to generate robust policy implications. He finds that age dependence (1) lowers marginal taxes on average and especially on high-income young workers and (2) lowers average taxes on all young workers relative to older workers when private saving and borrowing are restricted. Weinzierl calculates and characterises the welfare gains from age dependence. Despite its simplicity, he finds that age dependence generates a welfare gain equal to between 0.6% and 1.5% of aggregate annual consumption, and it captures more than 60% of the gain from reform to the dynamic optimal policy. The gains are due to substantial increases in both efficiency and equity. He finds that when age dependence is restricted to be Pareto improving, the welfare gain is nearly as large.¹³⁹

Bastani, Blomquist, and Micheletto used an overlapping generations model with skill uncertainty and private savings to quantify the gains of age-dependent labour income taxation. They find that there is a welfare gain of switching from age-independent to age-dependent non-linear taxation.¹⁴⁰ In a later study Blomquist & Micheletto discuss age-dependent non-linear taxation in a dynamic

¹³⁵ Helmuth Cremer, Arnaud Dellis & Pierre Pestieau, 'Family size and optimal income taxation' (2003) 16(1) *Journal of Population Economics* 37-54; Helmuth Cremer, Jean-Marie Lozachmeur and Pierre Pestieau, 'Income taxation of couples and the tax unit choice' (2012) 25(2) *Journal of Population Economics* 763-778; Craig Brett, 'Optimal nonlinear taxes for families' (2007) 14(3) *International Tax and Public Finance* 225-261; Henrik Jacobsen Kleven, Claus Thustrup Kreiner and Emmanuel Saez, 'The optimal income taxation of couples' (2009) 77(2) *Econometrica* 537-560; Herwig Immervoll et al, 'Optimal tax and transfer programs for couples with extensive labor supply responses' (2011) 96(11-12) *Journal of Public Economics* 1485-1500.

¹³⁶ Spencer Bastani, Sören Blomquist, and Luca Micheletto, 'The welfare gains of age-related optimal income Taxation' (2013) 54(4) *International Economic Review* 1219-1249.

¹³⁷ Matthew Weinzierl, 'The surprising power of age-dependent taxes' (2011) 78(4) *Review of Economic Studies* 1490-1518.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ Spencer Bastani, Sören Blomquist, and Luca Micheletto, 'The welfare gains of age-related optimal income Taxation' (2013) 54(4) *International Economic Review* 1219-1249.

Mirrleesian environment with heterogeneous agents and private savings through overlapping generations using a model where some individuals are low skilled all their life while others are low skilled when young but high skilled when old. They show how an age dependent optimal income tax can Pareto improve upon an age independent income tax and then characterise the optimal age dependent income tax.¹⁴¹

Gender Tag

Beyond age as a tag, gender is another fixed characteristic which is useful for basing tax rates. Alesina, Ichino, and Karabarbounis consider taxes that depend on gender. The benefits of tagging are predominately derived from the differences in labour supply elasticities between genders.¹⁴² In a follow-up paper, the authors find that gender-based taxation (GBT) may help mitigate the gender gap by improving the status of women in the work force and within the family unit.¹⁴³ GBT satisfies Ramsey's rule because it taxes at a lower rate the more elastic labour supply of women. The authors study GBT in a model in which labour elasticities emerge endogenously from intrahousehold bargaining. The authors explore the cases of superior bargaining power for men, higher male wages, and higher female home productivity. In all cases, men commit to a career in the market, take less home duties than women, and have lower labour supply elasticity. They find that when society resolves its distributional concerns efficiently with gender-specific lump sum transfers, GBT with higher marginal tax rates on (single and married) men is optimal.¹⁴⁴

Cremer, Gahvari, and Lozachmeur derive a set of analytical results for optimal income taxation with tags using quasilinear preferences and a Rawlsian social welfare function. Assuming a constant elasticity of labour supply and log-normality of the skills distribution, the authors analytically identify the winners and losers of tagging. The authors prove that if the skills distribution in one group first-order stochastically dominates the other, tagging calls for redistribution from the former to the latter group.¹⁴⁵ Finally, the authors calibrate their model to the US workers using gender as a tag. They find that the welfare implications are dramatic and that only male high-wage earners lose and that everyone else gains, some substantially.¹⁴⁶

Hundsdoerfer and Matthaei examine the gender-specific impact of discriminatory taxation on fairness perception and individual labour supply decisions.¹⁴⁷ They find that taking both male and female subgroups together, that there is evidence of a negative effect of gender-based discrimination on labour supply.¹⁴⁸

¹⁴¹ Sören Blomquist and Luca Micheletto, 'Age-related optimal income taxation' (2008) 110(1) *Scandinavian Journal of Economics* 45-71.

¹⁴² Alberto Alesina, Andrea Ichino, and Loukas Karabarbounis, *Gender-based Taxation and the Division of Household Chores* (2008).

¹⁴³ Alberto Alesina, Andrea Ichino and Loukas Karabarbounis, Gender based taxation and the division of family chores (2011) 3(2) *American Economic Journal: Economic Policy*, 1-40.

¹⁴⁴ Ibid.

¹⁴⁵ Helmuth Cremer, Firouz Gahvari, and Jean-Marie Lozachmeur, 'Tagging and income taxation: theory and an application' (2010) 2(1) *American Economic Journal: Economic Policy* 31-50.

¹⁴⁶ Ibid.

¹⁴⁷ Jochen Hundsdoerfer and Eva Matthaei, 'Gender discriminatory taxes, fairness perception, and labor supply'. (Discussion paper, Freie Universität Berlin, School of Business & Economics, 2020).

¹⁴⁸ Ibid.

Family/Couple Tag

Another potential characteristic to distinguish taxpayers is through their family size.¹⁴⁹ Cigno and Pettini study the effects and optimal choice of policy instruments directly affecting the welfare of parents and children within the context of a household economics model.¹⁵⁰ The authors consider differential taxes on child-specific and adult-specific commodities, and a tax or subsidy on number of children. They find that if fertility is exogenous, and households differ in number of children only, then in a perfectly competitive market when no imperfections or distortions are present, that the optimal tax position is to implement a grant conditional on family size. Outside this very special case, the authors find that public intervention is either not justifiable on distributional grounds or requires distortionary taxes.¹⁵¹

Brett models the problem faced by a taxation authority choosing a tax schedule for families as a multi-dimensional screening problem.¹⁵² He concludes that taxation based solely on total family income is rarely optimal.¹⁵³

Cremer, Dellis and Pestieau study the role of family size in the design of optimal income taxation.¹⁵⁴ The authors consider a second-best setting where the government observes the number of children and the income of the parents but not their productivity. With a linear tax schedule, the marginal tax rate is shown to decrease with the number of children.¹⁵⁵

Boskin and Sheshinski examine the appropriate tax treatment of the family in a series of analytical models and numerical examples.¹⁵⁶ For a population of taxpaying couples which differ in earning capacity, the authors derive the optimal tax rates for each potential earner. These rates depend crucially upon own and cross labour supply elasticities and the joint distribution of wage rates. The authors' results suggest that the current system of income splitting in the United States, under which husbands and wives face equal marginal tax rates, is non-optimal. Using results from recent econometric studies, and allowing for a sensitivity analysis, the optimal tax rates on secondary workers in the family are much lower than those on primary earners. Indeed, their best estimate is that the secondary earner would face tax rates only one-half as high as primary earners.¹⁵⁷

Kleven and Saez analyse the general non-linear optimal income tax for couples.¹⁵⁸ Each couple consists of a primary earner who always participates in the labour market, but makes an hours-of-work choice, and a secondary earner who chooses whether or not to work. If second-earner participation is a signal of the couple being better (worse) off, the authors prove that optimal tax

¹⁴⁹ James Mirrlees, 'Population policy and the taxation of family size' (1972) 1(2) *Journal of Public Economics*, 169-198.

¹⁵⁰ Alessandro Cigno and Anna Pettini 'Taxing family size and subsidizing child-specific commodities' (2003) 87(1) *Journal of Public Economics* 75-90.

¹⁵¹ Ibid.

¹⁵² Craig Brett, 'Optimal nonlinear taxes for families' (2007) 14(3) *International Tax and Public Finance* 225-261.

¹⁵³ Ibid.

¹⁵⁴ Helmuth Cremer, Arnaud Dellis & Pierre Pestieau, 'Family size and optimal income taxation' (2003) 16(1) *Journal of Population Economics* 37-54.

¹⁵⁵ Ibid.

¹⁵⁶ Michael J Boskin and Eytan Sheshinski, 'Optimal tax treatment of the family: married couples' (1983) 20(3) *Journal of Public Economics* 281-297.

¹⁵⁷ Ibid.

¹⁵⁸ Henrik Jacobsen Kleven, Claus Thustrup Kreiner and Emmanuel Saez, 'The optimal income taxation of couples' (2009) 77(2) *Econometrica* 537-560.

schemes display a positive tax (subsidy) on secondary earnings and that the tax (subsidy) on secondary earnings decreases with primary earnings and converges to zero asymptotically. The authors present calibrated microsimulations for the United Kingdom showing that decreasing tax rates on secondary earnings is quantitatively significant and consistent with actual income tax and transfer programs.¹⁵⁹

Cremer, Lozachmeur and Pestieau study the optimal income taxation of couples. They determine the resulting intra-family labour supply allocation and its implication for the choice of the tax unit (individual versus joint taxation) and provide a general condition for full joint taxation to arise. Their study examines how the spouses' respective labour supply decisions are distorted when the condition does not hold. They find that depending on the pattern of mating, the celebrated result according to which the spouse with the more elastic labour supply faces the lower marginal tax rates may or may not hold in their setting.¹⁶⁰

Immervoll et al analyse the optimal design of tax-transfer schedules for couples.¹⁶¹ Both unitary and collective approaches to family decision making are considered. Simple and intuitive optimal tax rules are derived as a function of sufficient statistics. The authors' simulations suggest strong welfare gains from reduced tax rates on secondary earners. They present microsimulations of tax reform for 15 European countries suggesting that a reduction of tax rates on secondary earners relative to primary earners is associated with strong welfare gains in all countries.¹⁶²

Miscellaneous tags

Mankiw and Weinzierl consider height-dependent taxes which comes from differences in the levels of ability (as proxied by wages) across height.¹⁶³ They argue that taller taxpayers ought to be taxed more than short taxpayers, based on the positive correlation between height and wage rate.¹⁶⁴

Pestieau and Racionero study optimal redistributive taxes when individuals differ in two characteristics—earning ability and leisure needs which are assumed to be imperfectly correlated.¹⁶⁵ Individuals have private information about their abilities, but needs are observable. With different levels of observable needs the population can be separated into groups and needs may be used as a tag. The authors first assume that the social planner considers individuals should be compensated for their leisure needs and characterise the optimal redistributive policy, and the extent of compensation for needs, with tagging. The authors also consider an alternative social objective where individuals are deemed responsible for their needs.¹⁶⁶

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ Herwig Immervoll et al, 'Optimal tax and transfer programs for couples with extensive labor supply responses' (2011) 96 (11-12) *Journal of Public Economics* 1485-1500.

¹⁶² Ibid.

¹⁶³ Gregory Mankiw and Matthew Weinzierl 'The Optimal Taxation of Height: A Case Study of Utilitarian Income Redistribution' (2010) *American Economic Journal: Economic Policy* 2(1), 155-176

¹⁶⁴ Ibid.

¹⁶⁵ Pierre Pestieau and Maria Racionero, 'Tagging with leisure needs' (2015) 45 *Social Choice and Welfare* 687-706.

¹⁶⁶ Ibid.

Ooghe and Peichl study fair and efficient tax–benefit schemes based on income and non-income factors under partial control.¹⁶⁷ Partial control means that each factor is a specific mixture of unobserved ability (randomly drawn by nature) and effort (chosen by individuals who differ in tastes). Factors differ in the degree of control, ranging from no control (only ability matters) to full control (only effort matters). Fairness requires compensating individuals for differences in abilities but not for differences in tastes. The authors discuss the general properties of fair and efficient taxation and study two special cases, income taxation and tagging.¹⁶⁸

F. Challenging the comprehensive tax base, low rate tax tradition

Optimal tax theory challenges the notion that broad-based taxes are effective in reducing economic distortions caused by taxes, because the amount of economic distortion is dependent on marginal elasticities.¹⁶⁹ Secondly, the notion that broad-based taxes are more equitable is unfounded as whether a tax is equitable will depend on taxpayers' tastes, preferences and abilities which differ.¹⁷⁰ Accordingly, tax reform recommendations based on optimal tax theory are made by determining the economic and distributional consequences of imposing tax measures and constructing a tax system which is optimal. The result may be in a combination of narrowing the tax base and increasing tax rates.

Graeme Cooper describes the recent history leading to the shift in the theory of tax design in the tax reform agenda as follows:¹⁷¹

“The beginnings of a shift in the paradigm that underpinned previous tax reform projects entered the political debate in the first part of the 21st century. A new style and focus of tax policy analysis, and a new vision about what good tax policy means, emerged. It can be seen in the Report of the US President’s Advisory Panel on Federal Tax Reform (2005) which represents a nice transition between the views — evident in the two conflicting tax reform plans it contains. It can also be seen in the Mirrlees Report currently being undertaken in the UK (2009 to 2011), in the Consultation Paper prepared by the AFTS and in parts of its Final Report.

“If these ideas are right — or right enough — then the accepted broad-base low-rate model may well not be ideal. Moreover, tax reform that adopts the ‘find-a-hole-and plug-it’ approach will be misguided. Instead, tax reforms should be about differentiating tax treatment — finding (or at least estimating) the economic and distributional consequences of tax measures and drafting recommendations that are nuanced accordingly. In short, comprehensive may be worse than selective, and uniform may be worse than differentiated.”

As Graeme Cooper notes, the Henry Review made a number of recommendations which involved narrowing the tax base which can be contrasted to the other tax reviews discussed in this article that take the traditional approach when making tax reform recommendations. For example, Henry Review Committee discussed two alternative approaches that could be taken to corporate tax reform.¹⁷²

¹⁶⁷ Erwin Ooghe and Andreas Peichl, ‘Fair and Efficient Taxation under Partial Control’ (2015) 125(589) *The Economic Journal* 2024–51.

¹⁶⁸ *Ibid.*

¹⁶⁹ Gregory N. Mankiw, Matthew Charles Weinzierl, and Danny Ferris Yagan, ‘Optimal Taxation in Theory and Practice’ 2009 23(4) *Journal of Economic Perspectives* 168.

¹⁷⁰ *Ibid.*

¹⁷¹ Graeme Cooper, ‘Theories of Modern Tax Reformers’ (2011) 15(1) *The Tax Specialist* 4.

¹⁷² Jeff, Harmer, John Piggott, Heather Ridout, and Greg Smith, ‘Australia’s Future Tax System, Consultation Paper’ (2008) 134.

“Two broad approaches to improving international competitiveness through tax measures are to reduce statutory tax rates or to narrow the tax base. The first approach would involve retaining a broad income tax base and lowering the company tax rate. More radically, it could involve limiting interest deductions either fully, as under the ‘comprehensive business income tax’ (CBIT) proposal by the United States Treasury in 1992, or in part, as done recently in Germany.

“The second approach would involve narrowing the company tax base in preference to reducing the existing company tax rate. A narrower base could be achieved by adjustments to the current income tax base (for example, through more concessional write-off arrangements) or, more radically, by moving to a business level expenditure tax, such as a cash-flow tax or an ACE.”

Another example was the Henry Review Committee’s recommendations with respect to taxing the return on savings in which the Committee noted that ‘*Comprehensive income taxation, under which all savings income is taxed in the same way as labour income, is not an appropriate policy goal or benchmark.*’¹⁷³ The Committee noted that income from saving should be taxed at lower rates than labour income in order to achieve tax neutrality. This led to the recommendations that owner-occupied housing and superannuation should maintain their concessional tax treatment and that a 40 percent discount should be applied for saving income in the personal income tax system.¹⁷⁴

Another example is the Henry Review’s recommendation that pigovian taxes on road transport, alcohol and tobacco are an appropriate way to correct externalities and achieve social goals. The Final Report provides that the tax rates on pigovian taxes should be set “...in accordance with the *marginal spillover cost (economic and/or social) of the activity*”.¹⁷⁵ This is clearly in line with optimal tax theory.

G. Political Dimension

Of course, the analysis above is premised on the government deciding to use taxpayer characteristics other than income when developing tax policy of the future. There are a number of challenges that arise in the development and implementation of this type of tax policy. If taxpayer ‘ability’ is taxed rather than income, one challenge includes the potential political backlash due to this tax policy being perceived as the government forcing people to work, particularly those individuals that have considerable ability. Tax policy is often used to influence the choices people make with respect to working and leisure, however tagging may be seen as going beyond influencing choices to exercising control over taxpayers in order to achieve the most efficient tax system. It may be considered that this is going a step too far.

Another argument against tagging is that it may violate ‘horizontal equity’, the policy design principle whereby persons with similar circumstances should be treated alike. Optimal tax theory is founded in the principles of utilitarianism and there is a compromise between achieving efficiency and the undermining horizontal equity.¹⁷⁶

Another potential issue is that although citizens and businesses are transitioning to digital interactions on a mass scale, there are groups with legitimate needs that may never operate digitally. For example, the elderly, people living in remote/rural areas (where broadband services are limited) and industries that inherently have less access to technology or are hesitant to interact with tax

¹⁷³ Jeff, Harmer, John Piggott, Heather Ridout, and Greg Smith, ‘*Australia’s future tax system*’. Report to the Treasurer’ (Canberra, 2009) 12.

¹⁷⁴ Ibid, Recommendation 14.

¹⁷⁵ Ibid, 26.

¹⁷⁶ Thomas Gaube and Silke Schade, ‘Efficiency Gains from Tagging’ (2017).

administration bodies through digital media. People with certain cultural ideologies may also be less inclined to adopt these technologies.¹⁷⁷

Issues also arise around privacy and data protection, especially when these data are fed to clever algorithms to build detailed personal profiles or to take automated decisions which may exceptionally affect people's lives.¹⁷⁸ These will be significant hurdles to overcome before securing a majority of users within the online infrastructure and before analytics and tagging can be widely applied through digital means.

If analytics is to fulfil its promise to help governments make better tax policy, it needs a foundation of accurate datasets that fully capture taxpayer characteristics and behaviour. It has also been suggested that perhaps 'good data' as opposed to 'big data' should be an equally important consideration, such that tax administrations are collecting the right data from the right sources, whether internal or external and that sufficient attention is paid to possible biases in any data collected.¹⁷⁹

Notwithstanding the significant obstacles that need to be overcome, it is very likely that given the data available to governments and revenue authorities, that tax policy of the future will look to more than income alone. Governments might not tax ability necessarily, but in the future, it is likely that governments will use characteristics other than income to determine a taxpayer's income tax liability.

The integration of IT and analytics would only seem to support this as it would be able to track additional information through big data from taxpayers in real-time through technologies such as the IOT. This would give a holistic, more accurate representation of an individual taxpayers' profile, and according to optimal tax theory, would provide for a more equitable and optimal distribution of taxes.

IV. CONCLUSION

The article has examined how Australian tax policy has developed to date by looking at government commissioned and sanctioned reviews of the tax system. What becomes apparent is that reform measures aimed at achieving the tax policy goals of efficiency, equity and simplicity often involve a lowering of tax rates and a comprehensive tax base system.

The digital revolution could potentially go a long way to solving the problem of lack of information and give optimal tax theory far greater practical use in tax policy formation. Consider a future dataset which includes data on every health record, every schooling record, employee performance reviews, consumption records, time spent at work relative to engaging in leisure activities. It is not too farfetched to imagine a future where Governments are able to access information which will provide a far better picture of all potential and preferences, and from that allow them to better measure a taxpayer's welfare and utility. The proxies of income, consumption and wealth may become obsolete if a better measure of welfare and utility exists. The fundamentals of tax law

¹⁷⁷ Christopher Gray, Big Data Usage in Revenue & Public Service Agencies, (Presentation at 2015 FTA Project Workshop, Accenture, Moscow, 2015); David Regan, Disruption @ Speed. High Performance Delivered, (Presentation at 2015 FTA Project Workshop, Accenture, Moscow, 2015).

¹⁷⁸ Eugenia Politou, Efthimios Alepis and Constantinos Patsakis, 'Profiling tax and financial behaviour with big data under the GDPR' (2019) 35(3) *Computer Law & Security Review* 306-329.

¹⁷⁹ Organization for Economic Cooperation and Development, Advanced Analytics for Better Tax Administration: Putting Data to Work (OECD Publishing, Paris, 2016) (*'Advanced Analytics'*), 53.

policy, the tax mix and tax base will all need to be reconceptualised, resulting in improved tax policy as we get closer to the optimal tax system.

In a similar manner to which digital businesses are able to price differentiate to gain maximum customer surplus, tax policy can be based on differentiated tax rate structures, allowing governments to gain the maximum individual taxpayer surplus. Further, tax policy can be much better targeted in a similar way to which digital business is able to tailor the marketing and the customer experience based on data generated which provides information in relation to individual customer preferences. This targeting would be particularly useful in the context of 'sin' taxes.

According to optimal tax theory, these tax policy outcomes, if achievable will achieve the tax policy criteria more effectively than the low-rate broad based tax policy of the past and present. It appears as though some of the recommendations in the Henry Review to narrow the tax base may have in fact been forward thinking.