

# Color Doppler and 3D Ultrasound in Gynecology, Infertility and Obstetrics

The aim of this book is to inform interested readers about the advantages of color Doppler and three-dimensional ultrasound in gynecology, infertility and obstetrics. With extensive use of possible applications and illustrative figures of both normal and abnormal cases sonographers can enrich their knowledge of ultrasound scanning of female patients. Detailed explanation of color and pulsed Doppler measurements and advances made by three-dimensional ultrasound are clearly stated for each diagnosis and clinical condition. This makes this book unique and useful for those who are deeply involved in ultrasound diagnosis but also for the beginners entering this dynamic field. Editors: Asim Kurjak MD PhD Prof and Chairman Dept of Obstetrics and Gynecology Medical School University of Zagreb, Sveti Duh Hospital, Zagreb, Croatia Sanja Kupesic MD PhD Associates Prof, head of Dept for Human Reproduction, Infertility and Menopause Medical School University of Zagreb, Sveti Duh Hospital, Zagreb, Croatia. Distribution by: CBS, Units I/K Paddock Wood Distribution Centre, Paddock Wood, Tonbridge, Kent. UK. TN12 6UU. Tel: +44 (0) 1892 837171 Fax: +44 (0) 1892 837272 Teleordering mnemonic: !combook ANSHAN LTD 6 Newlands Road Tunbridge Wells Kent TN4 9AT UK Tel/Fax: +44 (0) 1892 557767 Mobile: 07818064694 Registered No: 04668409 E-Mail: anshan@btopenworld.com www anshan.co.uk [Color Doppler and 3D Ultrasound in Gynecology, Infertility and Obstetrics](#)

In the last years of his life, between 1292 and 1298, the Franciscan Peter of John Olivi wrote a series of short devotional texts, known as Opuscula, aimed at the religious edification of the laity. Olivi's perspective was strongly eschatological: in his opinion, the imminence of the end of time made lay religious experience more authentic than that of the clergy, which would eventually oppose the final evangelical renewal. Among the twelve surviving Opuscula, the most eschatologically oriented is titled Remedia contra temptationes spirituales. [Returning Resurrection In the Apocalypse of Peter John Olivi: Unificationist Theology in the 13th Century](#)

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**A CENTURY OF VERTICAL FISCAL IMBALANCE IN  
AUSTRALIAN FEDERALISM**

by

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No. 2001-14 – September 2001

**Working Paper Series in Economics**

ISSN 1442 2980

<http://www.une.edu.au/febl/EconStud/wps.htm>

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# A CENTURY OF VERTICAL FISCAL IMBALANCE IN AUSTRALIAN FEDERALISM

Brian Dollery\*\*

## Abstract

After a century of Australian fiscal federalism, while the problems posed by horizontal fiscal imbalance have largely been resolved, the thorny issue of vertical fiscal imbalance remains. After reviewing the theoretical literature on fiscal federalism, this paper examines the historical evolution of vertical fiscal imbalance in the light of the views expressed by Australian economists over the past century. The degree of vertical fiscal imbalance in Australia is then placed in contemporary international context. The paper ends with a short discussion of the extent to which vertical fiscal imbalance may be said to harm the efficacy of Australian federalism.

Key Words: fiscal federalism; vertical fiscal imbalance; Australia

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# A CENTURY OF VERTICAL FISCAL IMBALANCE IN AUSTRALIAN FEDERALISM

Brian Dollery

## 1. INTRODUCTION

Although Australians are accustomed to thinking of themselves as citizens of a new nation – a theme even emphasised in the national anthem - in fact the Commonwealth of Australia is amongst the oldest continuing federal systems in the world, after the United States (1789), Switzerland (1848) and Canada (1867) (Watts, 1999). Given the comparative longevity of the Australian federation, its remarkable stability, and the pivotal position federalism plays in the political life of Australia, it seems reasonable to expect that that this would have engendered considerable scholarly interest amongst economists in investigating the economic properties of Australian federalism. Somewhat surprisingly this has not been the case. Indeed, several commentators have bemoaned the neglect of Australian federalism by Australian economists. For example, in a review of the literature on Australian federalism, Galligan and Walsh (1990, p.3) have referred scathingly to “the relatively few Australian economists who care about federalism”. Similarly, Peter Groenewegen (1979, p.51) has drawn attention to the “lack of interest in the federal system in the 1950s and 1960s” as a “fact of academic life” with “little or no research carried out in the universities in this period”. Moreover, in the preface to their edited volume entitled *The Development of Australian Fiscal Federalism*, Wilfred Prest and Russell Mathews (1980, p.xi) pointedly pay tribute to the “small band of academic economists” who contributed to the evolution of Australian federalism, especially L. F. Giblin and R. C. Mills.

This is not to suggest that Australian economists have not made significant contributions to both the development of federal institutions in Australia and our understanding of the operation of Australian federalism. Russell Mathews, the founding Director of the now defunct Centre for Research on Federal Financial Relations in 1972 and first Chairman of the Australian Council for Inter-governmental Relations in 1976, is without doubt Australia’s pre-eminent scholar of fiscal federalism. Together with William Jay, in 1972 he co-authored *Federal Finance: Inter-governmental Relations in Australia since Federation*, the first major study of Australian fiscal

federalism, covering the period from federation until the end of the McMahon government. A companion volume entitled *The Public Sector in Jeopardy* (1997), written with Bhajan Grewal, deals with the period beginning with the Whitlam administration until the end of the Keating era. Together these two texts thus provide a continuous analysis of Australian fiscal federalism from 1901 to 1996 and constitute an invaluable resource for economists interested in inter-governmental financial inter-relationships in Australia. Mathews also made numerous other contributions to Australian fiscal federalism (see Grewal (2000)) and was honoured *inter alia* by a festschrift entitled *Taxation and Fiscal Federalism: Essays in Honour of Russell Mathews* (Brennan, Grewal and Groenewegen, 1988) containing papers by leading international public finance scholars.

In the modern era, several other Australian economists have made significant contributions to our understanding of fiscal federalism. Quite apart from his co-authorship of *The Public Sector in Jeopardy*, Grewal has written extensively on the topic. Similarly, Cliff Walsh has added substantially to the debate, especially on impact of the federal financial system on urbanisation. In his textbook *Public Finance in Australia* (1990) and additional writings, Groenewegen has contributed much. Christine Fletcher, Norm Thomson, and others have further enhanced knowledge of Australian fiscal federalism.<sup>1</sup> At the theoretical level, Geoffrey Brennan is a major international figure with his public choice perspective on federalism in the co-authored *The Power to Tax* (1980) and related work. Together with Brennan, Jonathan Pincus has also made important theoretical contributions.<sup>2</sup>

In common with many other federal systems of governance, Australian federalism has been dominated by two major characteristics (Ter-Minassian, 1997). Firstly, the assignment of expenditure functions and revenue-raising capacities in the Australian Constitution and its subsequent interpretation, have resulted in severe vertical fiscal imbalance consequent upon the fact that the Commonwealth government collects funds in excess of its expenditure needs whereas state and local governments are unable to finance their activities. In principle, vertical fiscal imbalance can be remedied in four main ways. Expenditure responsibilities can be transferred between the different tiers of government, taxation powers can be re-allocated, inter-governmental grants can be introduced to redistribute funds, and institutionalised revenue-sharing

arrangements can be developed. Since federation in 1901 all of these methods have been employed in Australia.

Secondly, the phenomenon of horizontal fiscal imbalance is evident at both the state and local government levels since these governments differ in both their revenue-raising abilities and the costs of delivering service arrangements. In Australia, the problem of horizontal fiscal imbalance was initially addressed by special grants to financially distressed state and local governments and from 1933 onwards through equalisation procedures administered by the Commonwealth Grants Commission (CGC), which sought to adjust revenue relativities in federal government transfers and determine specific purpose payments.

Given the growing magnitude and chronic nature of the problem of fiscal imbalance in the Australian federation, it is not surprising that debate amongst economists during the twentieth century focussed the best methods of dealing with this difficult question. Indeed, it is hardly remarkable Australian economists directed their efforts at the problems engendered by the assignation of fiscal functions in the Australian federation since in microcosm this is a theme as old as federalism itself. Mathews and Grewal, (1997, p.767) have identified a key feature of the ongoing debate on Australian fiscal federalism when they lament that "...the imbalance in Australia is extreme, judged by either what is appropriate for these purposes or the degree of imbalance in all other economically advanced countries".

It seems reasonable to describe the century-old debate on Australian federalism in general, and Australian fiscal federalism in particular, as echoing the controversial deliberations conducted during the design of the United States Constitution in the eighteenth century. Inman and Rubinfeldt (1997, p.73) have spelt out the universality of the American dilemma as follows:

"The framing in 1787 of the United States Constitution marked the beginning of the contemporary debate, pitting Montesquieu's ideal of a decentralised 'confederate' republic composed of sovereign city-states against the vision of Madison and the other Federalists of a 'compound' republic with an overarching central government responsibility to the union's common citizenry. The tension between the confederate model of independent city-states each with an effective veto over central government actions and the compound model of a central government capable of acting against local

interests remains at the centre of today's debates over the design of federalist constitutions".

A second, if somewhat subliminal theme, can also be detected in the debates over Australian fiscal federalism, especially since the Second World War. Groenewegen (1979, p.67) has highlighted this theme in the post-seventies period by observing that "it should be pointed out that behind most of these changes in federalism in the 1970s lie different attitudes to the role and the size of the public sector, and to the use of public expenditure in the solution of social problems".

The present paper is concerned with the historical evolution of vertical fiscal imbalance in the Australian from an economic rather than a political perspective. The paper itself is divided into five main parts. Section 2 briefly deals with definitional issues in the economic analysis of federalism. Section 3 provides a synoptic review of the various theoretical approaches to fiscal federalism and vertical fiscal imbalance. The historical emergence of vertical fiscal imbalance in Australia is discussed in section 4 and section 5 seeks to place Australian vertical imbalance in international perspective. The paper ends with some brief concluding remarks in section 6.

## **2. THE MEANING OF FISCAL FEDERALISM**

As a constitutional and political arrangement federalism is notoriously difficult to define with any degree of precision. Preston King (1982, p.19) has only been able to classify "the doctrine of federalism" as one of seven "basic varieties of pluralism" which itself has numerous "variations". Other writers are even less sanguine about establishing any rigorous definition of the term. For instance, Beer (1977, p. 21) despairing observes that "three hundred years of discussion of the topic have produced a multiplicity of meanings – so many indeed that one authority (Earle, 1964) can subtitle a book on federalism *Infinite Variety in Theory and Practice*".

Fortunately, in their investigations of federal solutions to Richard Musgrave's (1959) allocative, distributive and stabilisation problems posed by economic and political decentralisation, economists have never felt constrained by the constitutional and institutional difficulties involved in defining federalism and have simply proceeded to contrast "centralised" with "decentralised" or federal solutions to these problems. Indeed, in this sense virtually all countries can be said to be federal in character in so far as resource allocation occurs at more than one tier of government.



Wallace Oates (1977, p.4) has explicitly recognised this proposition and argued that “the term federalism for the economist is not to be understood in a narrow constitutional sense” since “in economic terms, all government systems are more or less federal” and differ only “along some multi-dimensional spectrum in the degree to which fiscal decision-making is decentralised”. Australian economists have typically also adopted this instrumentalist perspective in their analyses of Australian fiscal federalism over the past one hundred years.

In the present context, it is worth noting that this functional definition of fiscal federalism allows us to view the problem of vertical fiscal imbalance as generic to all forms of democratic government, which embody a division of powers, regardless of whether they are federated or unitary states. It follows that the possibility of vertical fiscal imbalance is thus not valid criticism of federalism *per se* as a means of organising government. As Albert Breton (1996, p.199) has argued “vertical fiscal imbalance is, therefore, not a reflection of a constitutionally entrenched division of powers that is too costly to change, either because of the rigidities in the amending formula or because of a lack of sufficient consent among decision-makers” since in unitary states these powers are necessarily vested in central governments and still coincide with vertical fiscal imbalance.

### **3. THEORETICAL PERSPECTIVES**

The notion that a decentralisation of spending responsibilities can generate substantial welfare gains has won broad consensus in the economic literature (see, for example, Tiebout (1961), Musgrave (1969) and Oates (1972)), at least in terms of the allocative functions of government. The theoretical apparatus of fiscal federalism constructed by Oates (1972) hinged on the now famous “correspondence principle” which holds that “the jurisdiction that determines the level of provision of the public good includes precisely the set of individuals who consume the good” so as to “internalize the benefits from the provision of each good” (Oates 1972, p. 34). Accordingly, each public good (or, more generally, each function of government) should be provided by the smallest (i.e. lowest level) of government consistent with no spatial spillovers into adjacent administrative regions. The concept of a benefit region is thus crucial to the assignment of

functions in a federal system. Almost all public goods have limited geographical areas in which they confer benefits on citizens. Some governmental functions are such that the incidence of their benefits is nationwide (like national defence or monetary policy) whereas others are geographically limited (as in the case of fire brigades or street lighting). If the spatial benefit area is limited, then obviously the benefits of some public good will be confined to residents of that area. Moreover, if the costs of provision of the public good are also met by these residents and would be the same for any level of government, then Pareto efficiency will be attained when this good is provided by the lowest possible level of government (i.e. Oates' (1972 p. 35 and pp. 54-63).

Oates (1972, p. 13) himself identified three “economically desirable characteristics” of a decentralized public sector. Firstly, multiple jurisdictions are likely to be more responsive to spatial variations in the demand for public goods. Secondly, competition between different jurisdictions and the potential mobility of citizens along the lines envisaged by Tiebout (1956) should enhance both static productive efficiency and long-term dynamic efficiency. Finally, a system of decentralized governments may promote “better public decision-making by compelling a more explicit recognition of the costs of public programs” (Oates 1972, p. 13).

Despite its emphasis on the advantages flowing from decentralised government, the economic literature also stresses the costs attendant upon decentralisation, especially in terms of distributional equity and macroeconomic stability (see, for instance, Tanzi (1996). Even for the allocative functions of government, powerful arguments also exist against the decentralisation. For example, several authors have advanced Tiebout-style logic of competitive federalism arguments. Thus it has been claimed that tax exporting, or shifting some of the burden of local taxes onto non-residents, results from decentralized government. Where intergovernmental grants augment the revenues of subnational governments in proportion to their own tax-raising efforts, the problem of tax-shifting will be compounded since a jurisdiction's total revenues will be further artificially inflated. Similarly, from a competitive federalism perspective, “beggar-thy-neighbor” policies, in the form of tax rebates, low cost land, etc., often deployed to attract (or retain) firms to specific jurisdictions, can lower aggregate revenues and terminate in sub-optimal levels of service provision (Breton, 1996).

Other economists have developed public choice arguments against decentralisation. For instance,

fiscal illusion amongst local government voters may result in excessive expenditure. King (1984, p. 25) has observed that ‘there is the possibility that over-provision would occur if taxes levied by sub-central authorities were not perceptible to citizens, because they might then underestimate the costs of service provision’. Similar arguments invoking a median voter model also stress the dangers of excessive expenditure. For example, some writers maintain that where revenues depend on taxes with a limited demographic incidence, attempts to woo median voters can mean excessive expenditure by local governments since these citizens only bear a small fraction of the cost of public expenditure. Alternatively, rapidly populating jurisdictions, or those with a highly mobile population, might well resort to debt financing and an attendant over-provision of services since current voters know they will bear relatively few future costs. Other public choice arguments focus on the phenomenon of “bureaucratic failure”.

Various other arguments have been advanced against the decentralised governance. For instance, numerous commentators have claimed that subnational governments cannot reap the full benefits of economies of scale and economies of scope in the delivery of many services, although this remains hotly contested terrain (Boyne 1998). Peacock (1977) has argued lower tier governments might sometimes provide services, and especially new services, relatively inefficiently due to inexperience or lack of “learning by doing”. Others have argued that local authorities will ignore positive externalities to non-residents and consequently under-provide local public goods (King, 1984). An additional and somewhat more general argument for centralised provision of services may be found in the administrative costs of decentralised provision. For example, in real-world federations subnational governments usually differ in their revenue-raising capacities and administratively expensive systems of equalising inter-governmental grants become necessary.

Since central governments typically collect most major sources of revenue in multi-tiered governance systems, vertical fiscal imbalance characterises almost all real-world federations. This has necessitated inter-governmental financial flows from central to lower levels of government. Extant economic literature has focussed on three aspects of vertical fiscal imbalance. Firstly, scholars have examined the distortions in expenditure patterns by recipient jurisdictions (see, for example, Scott (1952)). A second strand has examined the excessive expenditure which may flow from the bifurcation of expenditure and revenue-raising decisions (see, for instance, Hicks, (1978)). Finally, economists have analysed the way in which monetary

flows to lower levels of government have fostered fiscal illusion and bureaucratic manipulation (see, for example, Courant, Gramlich and Rubinfeld (1979)).

An interesting countervailing theory exists which shows that the specialisation of various functions at different levels of government can minimise production, coordination and contractual enforcement costs in a multi-tiered system of governance through vertical and horizontal inter-governmental competition (see Breton, 1996, pp.203-227). According to this view, different governments in a federation specialise in the production and provision of certain goods and services. Specialisation necessarily leads to require inter-governmental coordination based on implicit and incomplete contacts which cannot be enforced by third parties. For example, some kinds of tax collection, like motor vehicle registration duties, may exhibit large economies of scale and high coordination costs and thus lead to a lower degree of concentration than would otherwise be the case for cost minimisation. Several lower-tier governments would therefore most efficiently collect this kind of tax. Alternatively, income taxes may be characterised by substantial economies of scale and low coordination costs and thus generate a high degree of concentration in their collection. This could explain why these taxes are typically collected by the central government in a federal system.

#### **4. THE EVOLUTION OF VERTICAL FISCAL IMBALANCE**

The Constitution of the Commonwealth of Australia came into force on 1 January 1901 after a decade of intense effort and brought six self-governing British colonies into union. In essence, the founders of the Australian federation followed the American model by enumerating a relatively limited list of federal exclusive powers, together with a considerable number of concurrent powers, leaving various unspecified residual powers to state governments (Watts, 1999). The Commonwealth government was given sole responsibility for activities in the international arena, like defence, trade, and immigration, while the states controlled important public services, such as education, health, and law and order. At the time, it was generally anticipated that the Constitution would guarantee the financial independence of the states from the Commonwealth government. This belief was soon shattered.

In any analysis of economic and social trends of the long term, the thorny question of periodisation inevitably arises. In common with other countries, many areas of Australian history cannot be readily reduced to finite stages, and periodisation is necessarily arbitrary. For example, in their standard economic history of Australia, Dyster and Meredith (1990) employ four stages, without offering any justification: pre-1914, 1914 to 1941, 1942 to 1959 and post-1960. However, because fiscal federalism is so closely linked to legislative changes which regulate taxation and expenditure changes, the problems posed by periodisation are much less severe. In the present context, the chronological divisions developed by Mathews and Jay (1972) and Mathews and Grewal (1997) are broadly followed since they are based largely on different legislative regimes.<sup>3</sup>

#### *The Period 1901 to 1909*

Under the new Constitution, the states had surrendered their main source of revenue, which lay in customs duties. However, under section 87 (the “Braddon Clause”) the Commonwealth was obliged to return three quarters of these funds to the states without any obligations on their expenditure. Moreover, sections 89, 93 and 94 of the Constitution provided that all “surplus” revenue not required by the Commonwealth government be returned to the states for a specified period of ten years and thereafter at the behest of the Commonwealth Parliament. This system was followed in the six financial years from 1901/02 to 1906/07, despite growing opposition in the Commonwealth Parliament since it could not fund other schemes, notably social security. Under these arrangements, the states received 93 per cent of total revenue in 1901/02 (CGC, 1995, p.5). Negotiations on a satisfactory method of replacing the Braddon Clause took place over the period 1906 to 1909.

#### *The Period 1910 to 1918/19*

After an initial High Court challenge, the Revenue Surplus Act 1908 (amended in 1910) came into being which abolished payments of “surplus” funds to the states. In a survey of developments after the first 25 years of federalism, Professor Giblin (1926, p.48) of Melbourne University was able to comment, “after the first ten years, the control of revenue from customs and excise was left absolutely in the hands of the federal Parliament”. A system of equal per capita payments from the Commonwealth to the states was introduced in its place under the

Revenue Surplus Act 1910, which endured until 1927. In 1915, the Commonwealth government introduced personal income tax (as well as a tax on undistributed company profits), which meant that under concurrent taxation powers, individuals were now obliged to pay both Commonwealth and state income taxes, since state income taxes had already existed prior to federation. The effect of the new arrangements on inter-governmental financial relationships was substantial: over the period 1909/10 to 1918/19 total government revenue had more than doubled, but the proportion accruing to the states had fallen to 55 per cent (CGC, 1995, p.6). Mathews and Jay (1972, p.86) note that “the expenditure of the states was much larger than that of the Commonwealth during the first decade, but declined from 9.9 per cent of gross national product in 1909/10 to 8.7 per cent in 1918/19”, predominantly due to the impact of World War I.

#### *The Period 1919/20 to 1932/33*

The system of equal per capita payments, supplemented by special grants to compensate Western Australia and Tasmania for their high contribution to customs revenue, continued during the ‘twenties, despite growing opposition from the states, especially the less populous South Australia, Tasmania and Western Australia. With the end of the Great War, Commonwealth expenditures had dropped from 16.6 per cent of gross national product in 1918/19 to only 6.3 per cent in 1928/29, while the corresponding figures for the states rose from 8.7 per cent to 11.8 per cent of the states over the same period (Mathews and Jay, 1972, p. 101). However, this trend was not matched from a revenue perspective, mainly because the Commonwealth had to repay massive war loans. Whereas state taxes increased from 2.2 per cent of national income in 1918/19 to 3.8 per cent in 1928/29, Commonwealth receipts had risen from 5.9 per cent to 6.6 per cent (Mathews and Jay, 1972, p. 103). The problems posed by concurrent taxation represented the major challenge to policy makers in the decade following the war. Smith (1993, p.46) has summarised the dilemma as follows:

“For the Australian states, the significance of the first world war lay in the federal invasion of direct taxation. Seven different governments taxing income, land and deceased estates set the scene for extended tax conflict between the two tiers of government”.

In 1927 a Financial Agreement was struck between the states and the Commonwealth government which replaced the equal per capita grants system with an annual payment to the

states as a contribution towards interest on state debt. In addition, the Australian Loan Council was established for the purpose of coordinating Commonwealth and state borrowing. It was now clear that the Commonwealth government represented the financially dominant partner in the Australian federation. Moreover, the principle of special grants from the Commonwealth government to less populous states had become well established. However, the method of determining the magnitudes of these grants remained politically contentious.

Although the states were largely still self-financed, the problem of vertical fiscal imbalance between the Commonwealth and the states was nevertheless evident to informed commentators. At the time, Professor R. C. Mills (1928, p.73) of Sydney University observed that “the states find it increasingly difficult to meet their political responsibilities from the fields of taxation which they now share with the Commonwealth, whilst the Commonwealth finds it necessary to explore new fields of expenditure in order to dispose of superabundant revenue”.

#### *The Period 1933/34 to 1941/42*

A series of state government inquiries, a Royal Commission on the Constitution of the Commonwealth, Giblin’s (1926) suggestion for a specific Commonwealth board to oversee payments, and a large majority in favour of secession in the 1933 Western Australia referendum, all served to precipitate the passage of the Commonwealth Grants Commission Bill in 1933 which established the CGC. Under the claimancy system established in terms of the CGC, the premise was determined that “it was the obligation of the Commonwealth to make it financially possible for any state to give its people a standard of service approximately equal to that of other states, without being forced to tax more severely than the average of other states” (Giblin, 1949, p.93). This principle has been maintained in a variety of institutional forms to the present day.

The early work of the CGC was subject to much criticism. For instance, Fisher (1936, p.215) argued that whereas the CGC had determined a sound conceptual basis for the size of grants, it had been much less successful in setting “a normal standard by comparison with which the positions of claimant states can be measured” as well as solving “the problem of devising reliable measuring rods for making the necessary comparisons”.

#### *The Period 1942/43 to 1946/7*

The 1975/76 Commonwealth Government *Budget Paper No. 7* (p.2) provides a succinct description of fiscal inter-relationships between the federal and state governments before World War II as follows:

“Since federation payments of various descriptions have been made to the states. Prior to World War II, these payments were mainly of a marginal character and were confined, for the most part, to special grants to assist financially weaker states, and to certain specific purpose grants such as assistance for roads and for debt charges”.

From the watershed year of 1942 onwards, Commonwealth transfers to states increased sharply. Various factors can account for this increase, not least a Wagner’s law effect on the scope of services provided by state governments and the crucial introduction of a single “uniform” income tax system by the Commonwealth government.

Under the uniform taxation legislation passed by the Commonwealth Parliament in May 1942, the Commonwealth government assumed sole power to impose taxes on income for the period of the duration of World War II, plus one additional year. In terms of this legislation the states were compensated on the basis of average tax revenue of the preceding two years. At a 1946 Premiers’ Conference, Prime Minister Chifley indicated that the Commonwealth government intended to continue with the uniform income tax system indefinitely. The legislation survived various subsequent High Court challenges and remains in place to the present day.

#### *The Period 1947/8 to 1958/59*

The effects of the uniform taxation scheme were profound. By the fiscal year 1948/49, the Commonwealth was collecting 88 per cent of all taxes levied in Australia, compared to 8 per cent by the states and 4 per cent by local governments (Mathews and Jay, 1972, p.191). Referring to the sea change in fiscal inter-relationships in the Australian federation, Mathews and Jay (1972) observe that “not only had the Commonwealth government, with its vast war-time powers, become used to taking unilateral action with respect to decisions affecting the prosecution and financing of the war, the control of the war-time economy and the arrangements for post-war reconstruction; its assumption of uniform income tax powers had given it the fiscal supremacy to pursue the centripetal policies...”.



A second important reason for the enormous vertical fiscal imbalance which emerged in the immediate post-War period resides in Commonwealth domination of the Loan Council. Hunter (1977, p.55) has argued that from this time onwards Commonwealth restrictions on state borrowing "...have forced the states into a position of subservience and increasing reliance on *ad hoc* federal assistance".

In the period up to 1958, numerous methods of determining both the magnitude of Commonwealth transfers to the states and its distribution between them were deployed. However, as a result of this process net transfers increased and a slow trend towards equalisation of transfer funding to states was set in train.

#### *The Period 1959/60 to 1971/72*

From the 1950s the problem of vertical fiscal imbalance was addressed by three types of grants (Groenewegen, 1979); namely, financial assistance grants (previously called tax reimbursement grants), special grants and specific purpose grants. Moreover, increasing weight was attached to specific purpose grants, which escalated from 23.7 per cent of total payments to the states in 1960/61 to 31.4 per cent in 1971/72 (Hunter, 1977, p.59). Reliance on these conditional grants led to charges that "...the states are more and more becoming the administrative spending agencies of the federal government" (Groenewegen, 1979, p.53).

#### *The Period 1972/3 to 1975/6*

The Whitlam government came to power determined to reform Australian federalism on the basis four main pillars: remove the long-standing Labour Party aim of centralising Australian governance; recognise the importance of the states; promote of local and ensure regional governments; and Commonwealth government coordination of public service provision (Groenewegen, 1979, p. 55). In fact, the Whitlam administration was characterised by a rapid increase in public sector expenditure and a growing reliance on specific purpose grants to the states. Total transfers to the states from the Commonwealth government grew from 8.1 per cent of national product in 1972/3 to 11.2 per cent in 1975/6, with aggregate recurrent and capital grants special purpose expanding from 2.1 per cent to 5.4 percent over this period (Mathews and

Grewal, 1997, p.88). This led to suspicion on the part of the states that their independence was being compromised and led to much acrimonious political activity.

#### *The Period 1976/7 to 1982/3*

The advent of the Fraser conservative government brought with it a “New Federalism Policy” based fixed personal income tax revenue-sharing arrangements with the states, the right for individual states to place a surcharge or rebate on personal income taxes, reduced reliance on specific purpose grants and local government assistance. As events transpired, the states never took up the option to vary income taxes, but aggregate specific purpose grants did fall to 5.4 per cent of national income, although this should be viewed within the context of any overall decline in net payments to the states to 9.5 per cent from 11.2 per cent at the end of the Whitlam era (Mathews and Grewal, 1997, p.746). Many state governments were obliged to run deficits as a result. Thus even though the Fraser government was perceived as more committed to decentralised federalism than its Whitlam predecessor, from a financial standpoint state governments were worse off.

#### *The Period 1983/4 to 1995/6*

In stark contrast to the Fraser administration, which at least attempted revenue-sharing between the Commonwealth and the states and reduced the earlier reliance on specific purpose grants, both the Hawke and Keating administrations “used the Commonwealth’s fiscal dominance to enhance its political power and its ability to influence state policies” (Mathews and Grewal, 1997, p.529). The approach of these two governments towards fiscal federalism was essentially two-pronged. Firstly, aggregate payments to the states were sharply decreased. For example, by 1994/95 net payments to the states had fallen to 6.7 per cent of national product from 9.5 per cent in 1982/3 (Mathews and Grewal, 1997, p.754). Secondly, specific purpose grants were steadily substituted for general revenue funds over which the states could exert control. Thus by 1994/5, 3.8 per cent of national income was spent on specific purpose grants (Mathews and Grewal, 1997, p.754).

Important institutional changes in federal arrangements also occurred during the period of the Hawke and Keating Labour governments which further undermined the Australian federal system. For example, the Advisory Council for Inter-governmental Relations was dismantled.

Similarly, tax-sharing arrangements ceased. However, the Council of Australian Governments was established in 1992 and it has met annually since then to consider policy questions rather than financial issues *per se*.

#### *The Period 1996/7 to the Present*

In March 1996, a Coalition government was elected to office and its immediate priorities hinged on reducing the substantial budget deficit it had inherited from its predecessor. Although an increase in financial assistance grants were negotiated at the 1996 Premiers' Conference these were conditional on the implementation of National Competition Policy by the states. Moreover, it was decided that given "the fiscal challenge facing the government, the states will contribute to the reduction of the Commonwealth's deficit" (Commonwealth of Australia, 1996/97, p.3) by means of deductions from Commonwealth grants.

But the major development under the Howard government came with the *Inter-governmental Agreement on the Reform of the Commonwealth-State Financial Relations* in April 1999, which formed part of the federal government's comprehensive policy to reform the Australian taxation system by introducing a goods and services tax (GST). In terms of this agreement, the states would receive GST and other revenues from the Commonwealth conditional upon *inter alia* state tax reform. In effect, states would simplify and narrow the range of taxes they collect in exchange for GST funds. Under transitional arrangements no state will be worse off than prior to tax reform (Commonwealth Government, 1998/99). The GST came into operation on at the beginning of the fiscal year 2000/01. At this point its impact on vertical fiscal imbalance is too early to determine.

#### *Overview*

The question naturally arises as to changes in the degree of vertical fiscal imbalance in Australia over the past century. Although we have seen that the seeds of this problem were sown in the Australian Constitution itself (Greenwood, 1949), with the Commonwealth government charged with collecting and reimbursing customs duties, it is apparent fiscal imbalance has grown more acute in the intervening years, especially after 1942. Definitional and data difficulties make any precise time-series estimate of the trends in vertical, fiscal imbalance exceedingly difficult. However, calculations by Mathews and Grewal (1997) do provide a useful guide to historical

developments. Using three conventional measures of actual revenues and expenditures, Mathews and Grewal (1997, Table 14.5) have demonstrated they uniformly indicate a sharp deterioration in vertical fiscal imbalance for both the central and state governments after 1942. If relative measures are employed, which use the concept of taxable capacity based on the application of a standardised tax rate to the revenue base for that tax, then an even greater degree of vertical fiscal imbalance is evident after 1942 (Mathews and Jay, 1997, Table 14.6).

The pivotal position of the uniform taxation legislation passed by the Commonwealth Parliament in May 1942 can be further illustrated by an examination of the composition of state taxation revenue in Table 1:

**Table 1: Composition of State Taxation Revenue**

	Income taxes %	Payroll taxes %	Land taxes %	Estate Taxes %	Stamp duties %	Gambling taxes %	Motor vehicle taxes %	Other taxes %	Total
1901-02	27.8	..	21.9	29.8	20.8	n.a.	n.a.	..	100.0
1908-09	32.3	..	10.0	26.0	22.1	n.a.	n.a.	9.7	100.0
1918-19	51.2	..	9.9	15.2	15.8	n.a.	n.a.	8.1	100.0
1928-29	49.2	..	5.8	12.0	12.3	3.3	13.0	4.3	100.0
1938-39	59.0	..	2.8	9.9	6.9	3.5	13.8	4.1	100.0
1948-49	0.7	..	3.5	27.7	18.8	12.9	28.2	8.2	100.0
1958-59	..	..	11.2	19.7	20.5	8.6	30.4	9.5	100.0
1968-69	..	..	9.5	17.1	26.2	13.6	28.0	5.5	100.0

1978-79	..	37.2	5.8	4.3	16.9	10.1	16.3	9.4	100.0
1988-89	..	27.0	5.5	..	29.4	9.0	12.3	16.7	100.0
1998-99	..	23.2	5.4	..	17.6	12.4	11.3	30.5	100.0

(a) Data up to 1988-89 are on a cash basis and for 1998-99 they are on accrual basis, resulting in a break in series

Source: *Year Book Australia* (2001, p.940, Table 27.21)

The revolutionary change in the sources of state revenue from 1942 onwards are clear from Table 1, with states forced to rely on indirect taxes, and especially after 1978/79, on payroll taxes.

## 5. AUSTRALIAN FEDERALISM IN INTERNATIONAL PERSPECTIVE

In comparison with the fiscal federalism in advanced economies, the Australian federation is characterised by a substantial vertical fiscal imbalance between revenue and expenditure at the national and sub-national levels of governance. Whereas the Commonwealth government raises about 70 per cent of total public sector revenue, it only accounts for around half of all public expenditure (Craig, 1997 p.175). The financial problems raised by this vertical fiscal imbalance are addressed in two main ways. Firstly, a complex system of inter-governmental grants and accompanying institutional arrangements transfers funds from the Commonwealth government to state and local governments. And secondly, state, territory and local governments can borrow monies for specified purposes, subject to Commonwealth government guidelines.

Some idea of the relative degree of vertical fiscal imbalance is provided in Table 2, where “vertical current balances” refers to the ratio of “own source” revenues by level of government to “own source” current expenditures.

**Table 2: Vertical Current Imbalances<sup>1</sup>**

Level of Government	Central			State or regional			Local		
	Overall balance	Current balance	Capital balance	Overall balance	Current balance	Capital balance	Overall balance	Current balance	Capital balance
Australia	1.45	1.48	18.56	0.53	0.59	-2.77	0.83	1.05	0.44
Canada	1.05	1.08	5.33	0.88	0.93	-1.47	0.53	0.60	-3.57
Germany	1.03	1.08	1.48	0.96	1.09	0.73	0.75	0.94	-0.08

United States	0.93	0.97	-0.40	1.24	1.41	2.94	0.66	0.75	-2.05
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<sup>1</sup>The data show average ratios over selected periods for each country. The periods chosen are Australia, 1987-91; Canada, 1985-89 (excluding 1987 for capital balance); Germany, 1983-91; and United States, 1987-97.

Source: Adapted from Ahmad and Craig (1997, Table 1, p. 75)

A perusal of Table 2 shows that, in comparison to Canada, Germany and the United States, Australia suffers from an acute degree of vertical fiscal imbalance at the federal and state levels, but not in local governance.

Ahmad and Craig (1997) have identified three basic approaches to the general problem of fiscal imbalance in a federal system. Firstly, “the vertical imbalance at each level is resolved by tax-sharing or grant arrangements” (p.76) and then horizontal transfers are made from rich to poor regions, a system employed in Germany. Secondly, countries can attempt to correct for vertical fiscal imbalance and simply ignore horizontal imbalance, as in the case of the United States. Finally, “the vertical and horizontal imbalances are dealt with simultaneously through a system of grants, including equalisation payments and special purpose grants” - the method used in Australia and Canada. Since the extent of vertical current imbalances in Table 2 do not appear to vary systematically with the method employed to deal with vertical fiscal imbalance, it would not appear that the system *per se* can adequately account for the high degree of vertical fiscal imbalance in Australia.

## 6. CONCLUDING REMARKS

In our earlier review of the theoretical literature on fiscal federalism and the question of vertical fiscal imbalance, we saw that contemporary writing emphasised the distortions in expenditure patterns, excessive public expenditure and fiscal illusion as potential outcomes of vertical imbalance. An acerbic commentator has summarised the normative implications of this literature by observing that it would appear that central governments have “wilfully created inter-jurisdictional spill-overs that demand inter-governmental transfers that cause vertical imbalance and, one should not doubt add, that foster distortions, irresponsibility, illusion, and manipulation” (Breton, 1996, p.200).

In the specifically Australian literature on fiscal federalism, vertical fiscal imbalance and the concomitant existence of inter-governmental grants have been repeatedly identified as the root cause of the worst features of Australian federalism. For instance, Mathews (1982, p.15) has argued that “the Australian fiscal system which has evolved since World War 11 may then be seen as one which maximises the amount of political noise and minimises the degree of electoral accountability, financial responsibility, economic efficiency and effective public choice”. Similarly, Walsh (1988) argues that vertical imbalance in Australian federalism encourages “grant seeking” that engenders the wasteful deployment of scarce state resources in competing for limited federal grants. Other commentators, like the Collins Report (1988), have argued that vertical fiscal imbalance has encouraged the levying of a myriad of economically inefficient and regressive taxes by financially straitened state governments. The Officers Report (1987) identified the problem of tax evasion and avoidance of state taxes as pervasive. Moreover, Gramlich (1984) amongst others, argued that the compliance and administrative costs associated with state taxes are inordinately high relative to revenue collected.

Without wishing to deprecate the adverse effects of vertical fiscal imbalance in Australian federalism, it is possible to identify some potentially positive attributes of Australian fiscal federalism. Firstly, following Breton (1996, p.213), who noted that under constant returns to scale “high coordination costs call for high concentration”, the concentration of revenue-raising powers at the level of the Commonwealth government may be economically rational in the sense that the coordination costs of tax collection may be minimised. Secondly, the problem of vertical fiscal imbalance in Australia derives primarily from the excessive revenues collected by the Commonwealth government rather than excessive expenditure powers vested in the states. Indeed, the expenditure functions of the Commonwealth and the state governments correspond reasonably closely to the classical theory of fiscal federalism as developed by Oates (1972), although this cannot be said for local government. Given the predominance of political and historical considerations in the development of real-world constitutions, it is hardly surprising that the Australian Constitution (and other most other federal systems) do not replicate the theoretical niceties of normative fiscal federalism (Inman and Rubinfeld, 1997). Finally, despite their financial reliance on the Commonwealth, existing state governments “enjoy firmly entrenched legal powers and constitutional safeguards”, “retain their distinctive status as separate governments”, maintain “the political loyalties of their electorates” and “embody distinctive

institutional traditions' (Painter, 2001, p.138). Accordingly, notwithstanding growing vertical fiscal imbalance over the first century of the Commonwealth of Australia, Australian federalism retains much of its vibrancy.

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## **FOOTNOTES**

1. See, for instance, Fletcher (1992) and Thomson (1976). This list is by no means complete and does not include some important contributors, like Hunter (1977) and Smith (1993), amongst others.
2. See, for example, Brennan and Pincus (1990).
3. Detailed chronologies of taxation and expenditure in Australian federalism can be found in Smith (1993) and Smith (1992) respectively.



The recent Australian Federal Government Gonski review of school funding raises the question of how governments have financed schools in Australia. Drawing on various sources of revenue, the early colonial governors funded various schools. By the beginning of colonial self government in the mid-nineteenth century the funding of the schools of the major Church denominations had become regarded as a form of entitlement.Â Century of vertical fiscal imbalance in Australian federalism. University of New England, School of Economics. Working paper series in economics. <http://www.une.edu.au/business-school/working-papers/economics/1999-2007/econwp02-6.pdf>.

portable ultrasound color doppler ecografos doppler color ultrasound machine doppler ultrasound doppler color 3d color ultrasound system color doppler ultrasound machine mindray doppler ultrasound machine colour doppler ultrasound scanner More Sign In Join Free. My Alibaba. My Alibaba Message Center Manage RFQ My Orders My Account.Â 3,134 gynecology color doppler ultrasound products are offered for sale by suppliers on Alibaba.com, of which medical ultrasound instruments accounts for 25%, other healthcare supply accounts for 1%. A wide variety of gynecology color doppler ultrasound options are available to you, such as ce. Color Doppler, 3D & 4D Ultrasound in Gynecology, Infertility & Obstetrics Hardcover â€œ Illustrated, 1 June 2011. by Sanja Kupesic (Author). See all formats and editions Hide other formats and editions. Amazon Price. New from. Power Doppler ultrasound can further depict and quantify the microcirculation of the target organ or the region of interest. The aim of this review is to report the present status and the development of 3D ultrasonography, as well as 3D power Doppler in the field of infertility and reproductive endocrinology. 3D ultrasound may help us investigate the functional and potential roles in various pathologic conditions of the female pelvis. Furthermore, 3D ultrasound may also provide substantial assistance in the clinical application of infertility and reproductive endocrinology. Discover the world& Doppler Ultrasound in Obstetrics & Gynecology encompasses the full spectrum of clinical applications of Doppler ultrasound for the practicing obstetrician-gynecologist, including the latest advances in 3D and color Doppler and the newest techniques in 4D fetal echocardiography. Written by preeminent experts in the field, the book covers the basic and physical principles of Doppler ultrasound; the use of Doppler for fetal examination, including fetal cerebral circulation; Doppler echocardiography of the fetal heart; and the use of Doppler for postdated pregnancy and in cases of multiple ges