

# Weighing the Significance of World War I for the Australian Economy

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## Abstract

*The article argues there is little evidence that World War I quickened the currents of structural change in the Australian economy. It suggests instead that the War was reinforcing of the Deakinite model of economic management that already been established by the outbreak of War. It did so by enlarging the tenet of ‘protection plus imperial preference’ that had been inscribed in the pre-War policy consensus; by strengthening the revenue and power of the central state basic to the Deakinite framework of economic governance; and by assimilating rural interests into the terms of that framework.*

## 1. Introduction

In popular opinion, wars are a ‘motor of history’: they accelerate social and economic trends or catalyse those still only latent.<sup>1</sup> An older opinion, however, holds that, as acts of destruction, wars can only retard or delay economic progress. Both views evidently share a historicist position, in as much as the changes at issue are seen as inevitable, if variously hastened or postponed. If such a historicism is deemed insupportable, there exists an alternative conception on the impact of war that does not necessitate adherence to any historical imperative, but instead seeks to locate the effect of war on the pattern, structure or ‘model’ of a society. The most common expression of this outlook is that wars—especially defeats in war—are disturbing, disruptive, possibly revolutionising. But there exists an alternative articulation of this conception: that wars—especially victories—can be validating, stabilising and reinforcing.<sup>2</sup> In sympathy with this last position, the present article rejects any interpretation of World War I as a hastening agent of Australian development and contends instead its greatest significance lay in stabilising Australia’s model of economic governance. Specifically, it argues that the War was, at most, only a very modest spur to the two-century-long structural changes that the War occurred in the midst of: the expansion of Australian manufacturing and the decline of trade ties to the United Kingdom. In fact, it appears to have actually disturbed the momentum of aggregate growth. The article suggests that the most palpable consequence of the War lay in reinforcing the previously established Deakinite political economy: by enlarging the tenet of ‘protection plus preference’ that had

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been inscribed in the pre-War policy consensus; by strengthening both the revenue and legal authority of the central state basic to the Deakinite framework; and by assimilating rural interests into the terms of the 'Australian Settlement'.

The article begins by underlining the buoyant state of Australia's economy in the years just prior to the War and its apparently settled political economy. It then reviews the range of shocks the War communicated to this seemingly propitious scene. It investigates the possibility that these shocks constituted a hastening factor for trends at a sectoral or aggregate level. It deploys the narrative of events, quantitative measurements, formal statistical inference and the exploration of counter-factuals by simple theorising to argue against that possibility. It then makes the case that the War consolidated the pre-War regimen in policy.

## 2. The Pre-World War I Economic and Policy Equilibrium

The test of war came quickly to the young Commonwealth of Australia, but it could meet the trial fortified with resurgent economic prospects and a situation of relative political equilibrium. The years prior to the outbreak of war had seen the closing of previously unsettled disputes between conflicting urban interests. This policy consensus is inescapably tied to name of the three-time Prime Minister of the period, Alfred Deakin, 'the great phenomenon of Australian history, even Australian experience' (Roe 1984, p. 18).

The creation of the Commonwealth had helped secure this political equilibrium by allowing the predominant impulses of the colonies to be applied more decisively. The *Immigration Restriction Act 1901* (Cwlth) had been quickly passed to establish 'White Australia'. Only slightly more time was required to realise the seemingly complementary policy of establishing a tariff wall enclosing all six states by the *Customs Tariff Act 1902* (Cwlth). But despite the imperial bond being integral to the Constitution-maker's vision of federation and Deakin's

own personal commitment to imperial preference, this Act gave no concession to imports from the 'Mother Country'. 'Preference' for British goods was not introduced until 1908 and preference to other parts of the Empire remained limited to South Africa (Mills 1925; Sullivan 2001). This conflicted position doubtless reflects the very strength of the economic relationship with Britain, which was the source of 51 per cent of Australia's imports in the 5 years to 1914 (Vamplew 1987), and that same strength made it both imperative and ticklish to give British goods an easier path through the tariff wall. Yet, for all of Britain's predominance, Germany was Australia's third-largest source of her imports (9 per cent in the 5 years to 1913), following the United States. Furthermore, in the years before the War, Germany was steadily expanding its relative importance as a destination of Australia's exports, accounting for 10 per cent of the total in the 5 years to 1913.

The fact that 60 per cent of her exports were to the three great manufacturing economies of the world underlined that Australia remained characterisable as a primary producer: with that sector accounting for 30 per cent of national income and 42.5 per cent of her population inhabiting 'rural' areas.<sup>3</sup> Yet, manufacturing was growing faster than other sectors of the economy (Table 1).

It was in the surging manufacturing sector—rather than the older maritime or pastoral industries—that the *Conciliation and Arbitration Act 1904* (Cwlth) first made itself felt in the 'Harvester Judgement' of 1907, which articulated the intertwining of tariffs and tribunal-determined wage rates in Deakin's 'New Protection' and planted deep the concept of a legally binding minimum wage that met 'the normal needs ... of a human being living in a civilized community' (Henry Higgins, *Ex parte H.V. McKay* (1907) 2 CAR 1).

Other members of society were also presumably entitled to the normal needs of a human being and old-age pensions began to be paid by the Commonwealth Government from 1909 and a maternity allowance from 1912. Given the number of projects the Commonwealth was additionally occupying itself

**Table 1 Measures of Australian Manufacturing**

<i>Years</i>	<i>Output at constant prices 1910–11 = 100</i>	<i>Manufacturing value added (% of GDP) 5 year ending</i>	<i>Employment in metals ('000) 5 year ending</i>
1907–08	85.6	11.1	54.8
1908–09	87.1	11.3	57.8
1909–10	90.4	11.7	61.7
1910–11	100.0	11.9	66.1
1911–12	108.2	12.3	70.9
1912–13	110.8	12.8	76.0

*Sources:* Output at constant prices: Haig (2001); manufacturing value added: Vamplew (1987, p. 133); employment in metals: Vamplew (1987, p. 290).

with—a naval fleet from 1911, a transcontinental railway from 1912 and a ‘seat of government’ from 1913—it is not perhaps surprising in the years before the War, government spending as a share of total gross domestic product (GDP) was rising noticeably (Table 2).

But the tax base by which this spending was supported was narrow. Customs duties raised three-quarters of the Commonwealth Government’s tax revenue and 58 per cent of total Commonwealth and state revenue (5 years to 1914; Vamplew 1987). Section 90 of the Constitution effectively proscribed the states’ consumption taxes and the only direct taxation of the Commonwealth was a land tax, introduced in 1910. Overall, for the 5 years ending 1913–14, the Commonwealth’s tax revenue amounted to about 4 per cent of GDP (Barnard 1986; Vamplew 1987)—hardly the tax base to wage a major war.

But a potent instrument of implicit taxation had just been forged. The private banks’ notes had been taxed out of circulation in 1910 and

**Table 2 Spending of Australian Governments, Excluding Government Business Operating Expenses (5 year ending average)**

<i>Years</i>	<i>% of GDP</i>
1908–09	13.9
1909–10	14.0
1910–11	14.6
1911–12	15.7
1912–13	16.6
1913–14	17.1

*Sources:* Barnard (1986, pp. 22, 25); Vamplew (1987, p. 133).

replaced by a government note issue. These ‘Fisher’s Flimsies’ were buttressed by the pledge of the new inaugurated Commonwealth Bank to exchange them for gold. While this last institution was not yet anything close to a central bank in function, its commitment to the integrity of the new currency was a necessary, if not sufficient, condition for the ability of Australian governments to tap international capital markets.

Coincident with the bank’s foundation, capital inflow had begun to recover from its long quarter-century decline in wake of the 1890s depression as, outside of mining and agriculture, investment was booming in pre-War Australia. Ship-building was resurgent and residential construction reached a historic peak in 1914. The recovery in capital inflow was matched by a strong recovery in immigration (Table 3).

These inflows in capital and labour were accompanied more moderately by recovery in births. Since reaching a trough of 98,843 in 1903, annual births had increased every year to reach 137,983 in 1914; a historical record and one that remained unbroken until 1943.

To tie together the above strands: Australia in 1914 was palpably in the midst of an economic boom. Real GDP in the 3 years ending 1913–14 was, according to available estimates, 52 per cent higher than 10 years earlier.<sup>4</sup> In the longer view, it was near the crest of one of those 35 year-to-45 year-long booms that McCarty (1973) hypothesised Australian economic history consists of, the relevant one commencing about 1895 in McCarty’s view. This buoyancy was complemented by the

**Table 3 Capital Inflow and Net Immigration  
(5 year ending average)**

<i>Year</i>	<i>Capital inflow % of national income</i>	<i>Net immigration % of population</i>
1888	10.8	1.43
1893	6.2	0.39
1898	3.8	0.11
1903	2.2	-0.11
1908	-2.9	0.00
1913	0.2	1.22

Sources: Butlin (1985, p. 25); Vamplew (1987, pp. 6, 133).

achievement of a political equilibrium, characterised by ‘a remarkable congruence of policy amongst the chief participants’ (Eddy 1988, p. 138).

### 3. The Track of the Storm

The shocks of the Great War broke over Australian shores at different times. Perhaps, the most immediate economic impact of the outbreak of the War was a speculative surge in food prices that pitted urban against rural interests.

The discontent arising from the decline in real wages, indicated in Table 4, induced a range of price-control measures by the Fisher Labor government and allied state governments<sup>5</sup> that in turn galled rural producers. The New South Wales government fixed the price of butter at a level that was distinctly below export prices and allegedly ‘disastrous to the rural interest’ (Page 1963, p. 40). An embargo on the export of sugar, together with an imposition of a price of 18s, kept prices below world level during the War.

The second-most tangible impact of the War was the disruption of imports through the

disturbance to shipping and the extinction of trade with enemy powers. ‘With the cessation of imports’ with war, BHP ‘suddenly found it could not produce enough’ (Hughes 1964, p. 72) and steel production rose from 13,000 tons in 1913 to 144,000 tons by 1918. The severing of trade relations with Germany also palpably fostered import replacement in some other industries. Before 1914, Bayer AG supplied all Australia’s aspirin and controlled the relevant patents. But, an economical means of synthesising salicylic acid was developed by George and Alfred Nicholas, and clever marketing established Aspro in the face of British substitutes (Smith and Barrie 1976). At the outbreak of the War, the refining of base metals mined in Australia was largely in the hand of German businesses. The consequent intense official campaign to establish Australian control has been told in detail (Haig-Muir 1995; Yule 2014; Connor, Stanley and Yule 2015). A concrete upshot of the campaign was the establishment in 1916 of the Electrolytic Zinc Company that began to refine commercial quantities of zinc by the early 1920s.

There had been no German dominance in the car industry to make local substitution a necessity. Fully imported American Model Ts had dominated the Australian car market from 1911 to 1917, in spite of the 35 per cent duty on car bodies of the 1912 tariff. Nevertheless, ‘numerous small workshops ... had emerged to provide replacement parts while suppliers from North America and Europe were interrupted during the war’ and ‘a local capacity to produce tyres ... had developed’ (Conlon and Perkins 2001, pp. 32–3). But it was a hastily contrived embargo in August 1917 on the import of ‘luxury’ items—including motor vehicles—that

**Table 4 Indices of Prices and Wages (1914 = 100)**

<i>Year</i>	<i>Wheat, wholesale</i>	<i>Meat (Sydney), wholesale</i>	<i>Bread (Sydney), retail</i>	<i>Butter (Sydney), retail</i>	<i>Basic wage</i>	<i>Average earnings in manufacturing</i>	<i>Export deflator</i>
1915	217	156	123	119	102	100	101
1918	123	157	114	133	119	113	161

Sources: Prices: Vamplew (1987, pp. 216, 222); wages: Withers, Endres and Perry (1985, pp. 50, 58); export deflator: Butlin (1985, p. 48).

marked ‘the real birth of an Australian motor body builders industry’ (Conlon and Perkins 2001, pp. 32–3). This stimulus might be epitomised by Holden producing its first motor car body in 1917.

The most enduring consequence of the War—its expense—waited upon mobilisation but was already substantial by 1915–16. The *Official Year Books* (nos 14, 15 and 16) report the cost of ‘Expeditionary and Australian Forces in the Great War of 1914–1918’, and Table 5 expresses this relative to Australia’s GDP. This measure, however, excludes many expenses that might be deemed part of the ‘technology’ of modern war, such as the medical care of invalid veterans. A more inclusive measure of ‘war and defence’ spending of Barnard (1986) includes care of veterans and war pensions, repatriation, along with the cost of home military forces.

Barnard’s (1986) measure of war expenditure does not amount to a ‘fiscal’ cost of war, as it omits interest of War debt, the ‘War Gratuity’ of £27 million paid to veterans at the Armistice, and arguably the bulk of War Homes and Soldier Settlement of post-War period. This last deserves special attention. Between

1918–19 and 1922–23, about £55 million (a sum amounting to 8 per cent of annual national income) was outlaid on War Homes and Soldier Settlement. Both schemes were in the form of loans and so were only a truly fiscal cost to the extent of their administration costs, concessional rates of interest and bad loans. But all these three items were sizeable (Pike 1929) and repayments were decades in the future. I consequently measure the total fiscal cost of the (pessimistic) assumption that all of War Homes and Soldier Settlement was financed by taxpayers.<sup>6</sup>

The fiscal cost of the War reported in Table 5 obviously needs to be distinguished from its social cost: the loss of income, to society as a whole, arising from devoting resources to prosecute the War (416,000 soldiers and sailors served at some point during the conflict; HMSO 1922). Any measure of social costs will, for example, allow for the fact that the interest on War debt owed to a society’s citizens is simply a redistribution of income within society as a whole and does not constitute a social cost. But the social cost of some other government outlays is more problematic. On its face, the *War Service Homes Act 1918* (Cwlth)—that funded veterans’ home purchases—was simply a transfer of capital (and income) from the taxpayer to the home-owner. But, in so far as ‘many’ Homes ended up ‘costing far more than their actual worth’ (Joint Committee of Public Accounts 1921, p. 8), they were a waste of capital and loss of income to society as a whole. The same ambiguity affects Soldier Settlement. My calculation of social cost will deem both Soldier Settlements and War Homes as transfers, rather than social cost. This is certainly a generous treatment; the sorry tale of Soldier Settlement is well known. The upshot is that the social cost reported in Table 5 is best treated as a minimum. Reinforcing the conservative character is the fact that the fiscal cost of a war will generate a social loss through the deadweight loss of the tax burden of the fiscal cost. The size of such deadweight loss is an intricate matter and regrettably no estimate for its size in Australia at this period of history exists. What is suggestive is an estimate for the

**Table 5 Measures of Australia’s War Costs  
(percentage of gross domestic product)**

<i>Years</i>	<i>E&amp;AF</i>	<i>Barnard</i>	<i>Fiscal</i>	<i>Social</i>
1914–15	3.5	5.1	4.1	4.0
1915–16	8.9	10.3	9.9	9.6
1916–17	10.3	12.6	13.0	12.0
1917–18	10.4	12.8	13.6	12.0
1918–19	10.1	13.7	15.8	12.8
1919–20	3.5	9.2	12.3	5.7
1920–21	0.3	5.4	9.6	1.5
1921–22	0.0	3.4	6.2	1.0
1922–23	0.0	2.1	6.1	0.9
Total	47.1	74.6	90.6	59.5

*Sources:* ‘Expeditionary and Australian Forces’ (*E&AF*) from *Official Year Book of the Commonwealth of Australia 1921*; ‘Barnard’ = ‘War and Defence’ in Barnard (1986); ‘Fiscal’ = ‘Expeditionary and Australian Forces’ plus all interest and debt charges plus Soldier Settlement, War Homes, War Gratuity, War Pensions, Repatriation, Trading Vessels and Miscellaneous of the *Year Book*; ‘Social’ excludes Soldier Settlement and War Homes and interest and debt charges to Commonwealth War Loans.

**Table 6 Private Gross Capital Formation**  
(5 year ending sum, 1911 prices, million pounds)

<i>Years</i>	<i>Total</i>	<i>Excluding dwellings</i>
1909–10	91	57
1913–14	117	70
1917–18	74	39
1921–22	109	74

Source: Vamplew (1987, p. 134).

deadweight loss of tariffs in the United States of 46 cents per dollar of revenue for 1867–1913 (Irwin 2010). Given that tariffs accounted for more than two-thirds of Commonwealth revenue during the War, the consideration of their deadweight loss further underlines that the social cost of Table 6 is a minimum.<sup>7</sup>

#### 4. The Economic Consequences of World War I

The War unmistakably knocked Australia off the rapid path of ascent it had been enjoying in 1914. By the one set of estimates that can make the comparison, real GDP in 1911–12 to 1913–14 was 52 per cent greater than 10 years previously, while in the triennium 1921–22 to 1923–24, real GDP was only 10 per cent greater than 10 years previously.<sup>8</sup>

How did the War do this? The over 60,000 Australian Imperial Force deaths (equivalent to about 3 per cent of employment in 1914) and the around 150,000 injured constituted a definite destruction of ‘human capital’.<sup>9</sup> Also, the War surely induced a retardation of the growth of physical capital. Estimates of net investment do not exist, but gross investment was about 40 per cent lower during the War than in preceding years.

More hypothetically, one might try to measure the retardation of capital accumulation by the following computation: consider the consumption of capital by Australian households undertaken in an effort to smooth consumption in the face of the ‘shock’ of a costly war. Let the total social cost of war be equivalent to 60 per cent of annual income, as the (conservative) estimates of Table 5 suggest.

Then, suppose consumption was largely smoothed; suppose it was reduced by an amount equal to only one-tenth of that social cost. Thus, capital would have been consumed by amount equal to 54 per cent of GDP. The division of 54 by the percentage of annual income saved would indicate how many years would need to pass to make up the consumption of capital occasioned by the War. Regrettably, estimates of net saving do not exist for Australia, but suppose that in the post-War period, Australia saved in net terms the same proportion of GDP that both the United Kingdom and the United States are estimated to have saved in 1929: 6 per cent (see Feinstein 1972, p. 7; Christensen and Jorgenson 1973, Tables 5 and 13). The arithmetical result of dividing 54 by 6 may suggest the consumed capital would have been made up in 9 years or, with equal warrant, that the path of capital accumulation (and ‘development’) was delayed by 9 years. Obviously, very different assumptions about the amount of consumption smoothing would yield very different conclusions. This is a speculative exercise, designed to draw attention to one possible contributor to the deceleration in economic growth.

But surely, it might be retorted, the War was industrialising in effect?<sup>10</sup> Did it not incite import replacement in steel, pharmaceuticals and motor vehicles? In this vein, Colin Forster many years ago advanced the case that the War had a ‘profound influence’ on the ‘pace and nature of industrial development’ in Australia (Forster 1953, p. 211). Popular texts, too, have pressed this claim.<sup>11</sup> But for all the apparent stimulus to manufacturing, the best estimates put real manufacturing output in 1918–19 as 6 per cent lower than in 1913–14 (Haig 2001, Table A2) and manufacturing’s share of total GDP was in the 5 years to 1918–19 barely different from 1913–14.

Obviously, a stability in the aggregate of manufacturing activity is consistent with there occurring some internal transformation of manufacturing, from an ‘old manufacturing’ (say, food and furniture) to some ‘new manufacturing’ (chemicals and metals), as Forster (1953) had argued. But was there such an internal reconstruction? The car industry that emerged from the War

**Table 7 Measures of Manufacturing in World War I and Aftermath (5 year ending average)**

Years	Value added % of total GDP	Employment in metals and chemicals ('000)
1913–14	13.2	80.3
1918–19	13.4	81.1
1923–24	13.4	103.8
1928–29	14.2	129.9

Source: Vamplew (1987, p. 290).

**Table 8 Average Annual Absolute Change in the Eight Sectoral Shares of Manufacturing Employment (per cent, 4 years ending)**

Years	Median change	Mean change
1913–14	0.16	0.34
1914–15	0.23	0.36
1915–16	0.27	0.34
1916–17	0.26	0.41
1918–19	0.26	0.44
1919–20	0.28	0.39
1920–21	0.29	0.53
1921–22	0.37	0.58
1922–23	0.41	0.62
1923–24	0.46	0.61
1924–25	0.30	0.58

Notes: The eight sectoral shares are chemicals, metals, textiles, leather, food, wood, non-metal mining and other. An anomalous entry for textile employment in 1918 is ignored.

Source: Vamplew (1987).

was fragmented and still dominated by coach-makers; no motor vehicle engines were commercially produced in the inter-War period despite a tariff on engines that had by 1925 reached 60 per cent. Neither producers nor policy-makers seemed aware of the possibility of the car as serving a mass market. Despite

Australia's high income, great distances (even in urban areas) and mobile population, the adoption of the car in the post-War period was sluggish: there were only 15 cars per 1,000 persons in New South Wales in 1921.<sup>12</sup> It might be argued that the War actually preserved Australia's Edwardian car industry into the 1920s. In a similar vein, it might be said the burst in steel production during the War was a false start, that wilted in the post-War restoration of trade as 'Australian producers reeled before prices they could not meet ... [and] joined the clamour for protection' (Hughes 1964, p. 86). Underlining this is the fact that total employment in manufacturing metals and chemicals actually stalled during the War (Table 7). Further pointing to the lack of any sectoral shift within manufacturing is the absence of an unusual volatility in the sectoral make-up of employment manufacturing during the War, which would be suggestive of a movement from the 'old' to the 'new' (Table 8).

Table 9 suggests that the volatility in the sectoral composition of manufacturing peaked 4 or 5 years *after* the conclusion of the War. If the War had little effect on the expansion of manufacturing, did the War hasten the re-orientation of Australia from the United Kingdom and Europe towards the Asia-Pacific? Certainly, Japan's industrialisation during the War (Brown 2000) substantially increased her significance as a destination of Australian exports.

But Table 9 also reports that the United Kingdom's relative importance to Australian trade in the early post-War years was only a little lower than pre-War. Granted, adjusting for income—as 'propensities to import' do—does reveal a degree of fade in the links of the United Kingdom to Australia (Table 10).

**Table 9 Destination (Source) of Australian Exports (Imports) (percentage of total, 5 years ending)**

Years	United Kingdom	Germany	United States	Japan
1913	48.1 (51.4)	10.0 (9.2)	3.0 (13.4)	1.3 (1.3)
1923–24	48.3 (47.1)	2.2 (0.3)	6.5 (21.7)	6.2 (3.2)
1928–29	39.3 (42.9)	6.4 (2.5)	5.7 (24.2)	8.0 (3.0)

Source: Vamplew (1987, p. 196).

**Table 10 Australia's Export Destinations' Propensity to Import from Australia**  
(per cent, 5 years ending)

Years	United Kingdom	Germany	United States	Japan
1913	1.50	0.28	0.03	0.21
1923–24	1.35	0.00	0.04	0.51
1928–29	1.36	0.25	0.04	0.70

Sources: Vamplew (1987, p. 196); Mitchell (1992, 1998, 2003).

**Table 11 Australian Imports from the United Kingdom and from Outside the United Kingdom, 1900–01 to 1938–39<sup>a</sup>**

Dependent variable	Price of foreign exchange (A£)	GDP (Australia)	Dummy (1919–1939)	R <sup>2</sup>	DW	Estimator
Imports from the United Kingdom	-1.97 (-3.93) <sup>b</sup>	0.74 (4.23)	0.16 (0.34)	0.81	2.02	Cochrane-Orcutt
Imports from outside the United Kingdom	-2.94 (-3.59)	1.12 (10.20)	0.70 (0.60)	0.93	1.64	OLS

Notes: (a) Imports and gross domestic product (GDP) in logs. 'Foreign exchange' is pound Sterling for imports from the United Kingdom and the US dollar for imports outside of United Kingdom. Constant terms are not reported.

(b) *t*-statistics are in parentheses.

For all that, an econometric appraisal of import data does not reject the hypothesis of zero structural shift away from imports from Britain after 1919 or any shift towards imports from outside Britain.

What the difference in the size of the two coefficients on Australia's GDP in Table 11 suggest is that Australia's demand for non-British goods (in which petroleum and motor cars would figure large) was more income-elastic than her demand for British goods (in which clothing would figure large). We are left with the thought that it was rising Australian incomes in the early decades of the twentieth century—not some 'structural' change—that was re-orientating Australia's trade relations. Furthermore, the War was not responsible for this increase in incomes; indeed, the article has argued that it slowed the increase. Thus, there seems little in the War to have hastened the secular decline in Australia's trade link with the United Kingdom.

## 5. The Political Economic Consequences of the War

If the War was only doubtfully weakening of the trade tie with Britain, it indisputably did

father an attempt by policy-makers to strengthen that tie, for it was the diffuse but compelling claims of honour bequeathed by the War that lay behind the establishment of 'imperial preference' in the post-War world. Before 1914, imperial preference had been 'long urged by the colonies, long held at arm's length by Britain' (La Nauze 1962, p. 494). The transition from 'British Preference'—something awarded by the Dominions to Britain—to a truly reciprocal 'Imperial Preference' might be dated from 26 April 1917, when an Imperial War Cabinet resolved that 'each part of the Empire ... shall give specially favourable treatment and facilities to the produces and manufactures of other parts of the empire' (quoted in Hancock 1937–1942). The subsequent journey to the agreements of the Imperial Economic Conference of 1932 was winding, but the swell in 'preference feeling' in the wake of the War also had more immediate consequences. The UK budget of 1919 instituted the first preference by Britain to Empire goods and that was fitfully extended over the next decade to encompass not only 'semi-luxuries' but also a substantial concession to sugar.<sup>13</sup> For Australia's part, the 'Greene tariff' of 1920–21 significantly increased preferential concession



to British imports, from an ‘average’ of about 5 per cent to 12 per cent (Mills 1925, p. 223), constituting a concession valued by the *Year Book* at £8.75 million, or over 1 per cent of national income.<sup>14</sup>

The strengthening of imperial preference only added the challenge it presented the Commonwealth ‘fisc’. Table 5 indicates the total fiscal cost over the years 1914–15 to 1922–23 was equivalent to 90 per cent of annual national income.<sup>15</sup> By 1917–18, public debt outstanding was 123 per cent of GDP, a record exceeding (if only slightly) the levels of government indebtedness reached in the 1890s. By 1928–29, it was 127 per cent of GDP (Vamplew 1987). It is perhaps not surprising that this fiscal challenge ultimately resulted in a fiscal strengthening of the Commonwealth. A security for Commonwealth debts was provided by a wholly unexpected revenue: a peace-time federal income tax. Since 1895, there had been income taxes in some Australian states, but the Constitution-makers had never envisaged a Commonwealth peace-time income tax (see Fisher and McManus 2002) and its first income tax was imposed by the *Income Tax Assessment Act 1915* (Cwlth).<sup>16</sup> Few citizens were liable: in 1916 there were only 410,847 assessments in an economy with something over 2 million employees. Even after its extensions in 1916 and 1918, the tax imposed a claim of only 3.8 per cent of an income equal to 200 per cent of average earnings. Then the rate was reduced in the 1920s. For all that, the ‘emergency’ measure of income tax became established as a permanent fixture of Commonwealth finances (Table 12).

It would not be surprising if the introduction of an income tax produced an upward shift in

the tax-take and there is quantitative evidence for this. Between 1881 and 1939, tax revenue of all governments combined as a proportion of national income drifted up, from about 5 per cent to about 15 per cent, and causal inspection of the series shows the rate of drift upwards accelerated in the twentieth century. There is formal evidence that the acceleration in the drift was closely subsequent to the establishment of a federal income tax. Table 13 reports the regression, for the period 1881–1938, of the change in tax revenues (as a percentage of GDP) on a constant term (equivalent to a uniform time trend) and a dummy that takes on zero before 1917–18 and 1 thereafter, equivalent to an additional trend kicking in during 1917–18. The null hypothesis of a zero coefficient on the dummy—that is, no additional trend from 1917–18—is rejected, using a one-sided test.

The regression was repeated 20 times, each time using a different commencement year for unit values of the dummy, ranging from 1904–05 to 1924–25. The commencement year of 1917–18 achieved the highest  $R^2$ -value of the 20 regressions and the highest  $t$ -statistic on the dummy (only 1918–19 and 1914–15 also achieved significant values). This exercise suggests an acceleration in the growth of the tax share in the War and that the acceleration was large: it implies the tax ratio began to rise in 1917–18 at a rate of 0.425 percentage points per annum, compared to the previous trend of 0.075 percentage points per annum.

The new fiscal strength of the Commonwealth also had a significant centralising aspect in that it underwrote the Commonwealth’s assumption of authority over the states’ loan-raising. The Financial Agreement 1927 can be interpreted as the United States being granted a constitutional claim to Commonwealth

**Table 12 Commonwealth Revenues**  
(percentage of gross domestic product, 5 years ending)

Years	Customs	Income	Wealth	Entertainment
1913–14	3.9	0.0	0.3	0.0
1918–19	3.4	1.3	0.5	0.0
1923–24	4.5	2.2	0.5	0.1

Source: Barnard (1986, p. 45).

**Table 13 Annual Change in Tax Share of**  
**Gross Domestic Product, 1881 to 1938–39**

Constant term	Dummy	$R^2$	DW
0.075 (0.670) <sup>a</sup>	0.350 (1.920)	0.06	1.67

Note: (a)  $t$ -statistics are in parentheses.

revenue in exchange for ceding to the Loan Council their powers to borrow.

In the light of this strengthening of the fisc of the central state, one might be led to ask if World War I occasioned in Australia a qualitative enhancement in state prerogatives, of the kind that some have maintained occurred in other countries? (for example, Rockoff 2005). Certainly, Australian governments enlarged their domain of activity during the War. But the various state timber yards, fisheries, cattle stations, butcher shops and bakeries established by Labor governments during the War were petty enterprise and very much an articulation of pre-War policy.<sup>17</sup> The Commonwealth Government Line of Steamers was seen by some as a state socialism, but was also seen by others as intended by Hughes to be seen as socialism by a restive caucus. It was, in any case, a frantic War-time make-do that expired in the peace. The establishment of ‘six o’clock closing’ in New South Wales (NSW) and Victoria from July 1916 could be viewed as a marriage of convenience between temperance sympathisers and publicans, rather than an expression of an all-organising state. Government expenditure as a proportion of GDP began to trend up more quickly in the twentieth century, but formal econometric scrutiny of the data of the same type as Table 13 suggests the upward shift took place around 1910, rather than the War years.

Perhaps what the War expanded was not so much the extent of state activity but rather its capabilities: the machinery of state and the experience in using it. Such a contention recalls MacDonagh’s (1977) argument that the nineteenth century administrative revolution in British Government was facilitated by the Napoleonic Wars producing a great body of officer veterans. In the same vein, World War I has been seen as a training ground for New Dealers, notably including Bernard Baruch, the chairman of the US War Industries Board (Schivelbusch 2006).

With his background in banking and a distinguished corporate career ahead of him, Walter Massy-Greene—Hughes’ trusted lieutenant, acting Prime Minister in his absence and second in cabinet ranking—had something

of a Bernard Baruch. In 1918, Greene was entrusted by Hughes with the most important innovation in state capability after income tax: price controls. Initially applied very partially by the states, the High Court upheld Commonwealth’s power to fix prices itself through the *War Precautions Act 1916* (Cwlth) and the price of milk, meat, boots, bread, sugar and (critics held) everything ‘from knitting needles to HMAS Australia’ (see Lloyd 1986) came under the minister’s purview.

## 6. The Agrarian Harvest

Most price controls were discontinued in 1919, but they left a lasting impact in their agitation of rural interests. Perhaps here lies the most important economic effect of the War: by inducing policies that offended rural interests, the War occasioned a resetting of the framework of policy formation. The Deakinite political economy of the pre-War period had been, at the Commonwealth level, essentially an urban transaction.<sup>18</sup> The Harvester Judgement of 1907 amounted, of course, to a tax on the purchase of agricultural implements. The War revealed to rural producers so many more policy devices that could powerfully harm—or benefit—them and rural producers demanded political representatives on their own account.

The spur for this demand was a proliferation of marketing boards and ‘pools’ that, in order to make price ordinances effective, ordained a sole purchaser of the primary product (the Commonwealth or a state government) which would pay a common price to all producers in a given season, regardless of the variation in sale prices that would take place. These included: a Meat Board, 1915–20; a Dairy Produce Pool, 1917–20; the Central Wool Committee over 1916–17 to 1919–20 that ‘had complete control of the wool industry’ (Scott 1937, p. 574; Tsokhas 1990); and most important of all, the Australian Wheat Board, 1915–16 to 1920–21.

The most comprehensive history of the Country Party’s origins notes that it was ‘their acquaintance with the working of the growers’ pool [that] radically altered the outlook of the most important farming group, the wheat

growers' (Graham 1966, p. 38). This acquaintance begat Wheat Pool Vigilance Committees and the (successful) demand that wheat growers be significantly represented in the pool. 'The War-time pools gave the final stimulus to the formation of country parties' (Graham 1966, pp. 103, 105), as Wheat Pool Vigilance Committees brought forth the Victorian Farmers' Union (VFU). At the same time in NSW, Earl Page was concluding that the regulated butter price 'made plain beyond all doubt that rural areas must attain a voice in government of their own' (Page 1963, p. 41).

The first 'country' member of the federal parliament was elected on 14 December 1918. The general election of December 1919 returned to the federal parliament seven parliamentarians from the VFU and Farmers and Settlers Union, winning four Nationalist seats and depriving Hughes of a majority. The new political economy was even more starkly evinced in the 1922 general election by the defeat of Massy-Greene in his ultra-safe rural seat of Richmond by a swing of 24 per cent to the Country Party candidate. Across the nation, the Country Party won 12.6 per cent of votes cast and entered into government with five of the 11 ministries, with Earle Page as Treasurer.

Critically, the accession of the Country Party to the cabinet room did not provide counterweight to the pre-existing 'principle' of protection. 'Although one could have expected the [Country] Party to take on an anti-protectionist stance ... this group did at no time interfere with the established policy of protection' (Reitsma 1960, p. 21). The two ardent free-traders of the new party (Percy Stewart and Harry Gregory) were exiled to the backbench, while from 1923 rural producers were given *ex officio* representation on the Tariff Board, joining the representatives of manufacturers and importers. Thus—with the vulnerability to imports of dairy and fruit farmers evidently pressing harder than the export orientation of wheat and wool producers—the advent of the Country Party merely reinforced and

extended the protection of agriculture, and in doing so reconciled, in part, the rural sector to Deakinite protectionism.

The story of sugar illustrates how the advent of a distinct rural interest as one the piles of the edifice of economic governance extended and strengthened that edifice. Prior to 1914, sugar had epitomised the concatenation of White Australia, 'Harvester' and the New Protection. In the wake of Federation, the elimination of 'Kanakan' labour had been sought by the imposition in 1902 of excise that would be rebateable only by sugar produced by White labour (Excise Tariff 1902). The subsequent *Sugar Bounty Act 1906* (Cwlth) empowered the minister to void the rebate if wages did not meet that generally paid white labour in that industry. In 1912, Fisher determined that this clause mandated a wage of 1 pound 16 shillings 'with keep'. In 1913, with the Kanakas removed and the abolition of the cocktail of rebate and excise imminent, the Queensland Industrial Court affirmed this wage and the 1931 Royal Commission on sugar judged this award to be a 'natural expression' of the Harvester Judgement (Parliament of the Commonwealth of Australia 1931).

With the outbreak of War, the rise in the world price of sugar moved the Fisher government in July 1915 to fix a price—£21 per ton—while prohibiting the export (or import) of sugar without authorisation. In 1916, the Hughes government proposed that all of the United Kingdom's demand for sugar be supplied—in both peace time and war—by the British Empire (Prinsen Geerligs and Prinsen Geerligs 1938). This scheme of Empire autarky was not to be, but it did encourage Britain's repudiation of the 1902 Brussels Convention for free trade in sugar and so opened a path for the preferential treatment of Empire sugar in the post-War period. In the meantime, industrial strife and prices below world levels created a grievance amongst Queensland growers and a royal commission that reported shortly after the near-defeat of the Nationalist government in the 1919 elections. Ignoring the Commission's recommendation of a £1 per ton price rise, Hughes determined

the price would rise to an ‘unnecessarily high’ £30 6s (Brigden 1932).

The Bruce–Page government—the first government with the Country Party at the cabinet table—did not decontrol the price of sugar. Having indulged the sentiments of United Cane Growers Association at pre-election 1922 ‘war council’ (Ellis 1963, p. 80), the Country Party successfully kept the domestic price pegged at £27 per ton despite slumping world prices, which had by 1930 sunk to £9/0/10. With profit in sugar now both ample and largely riskless, its production exceeded domestic demand: by 1929, 38 per cent of the harvest was exported, almost entirely to Britain under an imperial preference tariff. In that year, Britain’s imports of Australian sugar marginally exceeded in value her imports of Australian wheat. Thus, in the space of 15 years, sugar had mutated from a show piece of White Australia and New Protection to one of ‘country’ and Imperial Preference.

There were other agricultural industries that had regulatory systems born of War-time expedience which had a considerable after-life in the peace under the protection of the Country Party. In Victoria, the VFU members of Parliament in 1921 toppled the Lawson government on account of its attempt to abolish the compulsory wheat pool. The upshot was legislation instituting a wheat pool which ‘while ostensibly voluntary, was in practice compulsory’ (Garden 1988, p. 17). In Queensland, a compulsory wheat pool that was to endure for 70 years was instituted in 1920 as a result of the Country Party’s lobbying in the wake of its vigorous performance at the 1919 election (Conroy 1988; Marriot and Maclean 1991). In the spirit of the War-time boards were the *Marketing of Primary Products Act 1927* (NSW) and the *Primary Producers’ Organisation and Marketing Act 1926* (Qld) that conferred ‘virtually unlimited power over pricing to particular industry groups’ (Campbell 1973, p. 179). At the federal level, the *Dairy Fruits Exports Control Act 1924* (Cwlth) placed the ‘fixation of home-consumption prices in the hands of the Australian Dried Fruits Association’ (Wood 1935, p. 343) and

*Dairy Product Exports Control Act 1924* (Cwlth) was to the same end.

Such legislation bespeaks the impact of the most successful political novelty bequeathed by the War. It was in the aftermath of War that ‘country parties’ were established in the six states and nationally and won parliamentary seats in all seven parliaments. In was in the inter-War period that: the largest state had a former country party MP as one of its Premiers and Treasurers (Thomas Bavin); the most industrialised state was to have a Country Party Premier for a decade (Albert Dunstan); and in the most metropolitan state an insurgent South Australian country party was to clear the way for a Labor Premier (John Gunn). All urban parties were concerned to tap this new vein of political energy and did so with some success; the claim of the Country Party on ‘the bush’ was several times repudiated by specific rural interests. The Country Party itself experienced serious splits, was sometimes at war with other non-Labor parties and sometimes seemingly effaced its identity by merging with them. For all the turmoil, ‘the bush’ one way or another had arrived and would stay. But, crucially, it came not to bring down the walls but bring itself into the reckoning.

## 7. Conclusion

World War I occurred roughly mid-way in two century-long structural changes in the Australian economy: the growth of its manufacturing sector and the decline of its trade ties to the United Kingdom. This article has argued that the War had a very small effect in accelerating these purely economic trends. Instead, the War’s significance lay in extending, articulating and securing the Deakinite framework of economic governance established in the 12 years before 1914. Put more generally, the article contends that the fundamental economic currents were largely undisturbed by a political shock (the War), but that the ‘political–economic’ constraints that channelled those currents were effected by the political shock. If one was to attempt an application to current circumstances, it would suggest the purely

political dimension of the contemporary reconfiguration of great powers (the rise of China and the recess of the United States) would have little impact on currents, but may have significant impact on Australia's political economy.

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## Endnotes

1. 'War is often a phenomenal catalyst for industry' (Wright 2008, p. 10). The author argues that each of three major wars for Australia—the Boer War and the two World Wars—were key events in the history of the Holden company. Gordon (2016, pp. 563–4) makes the case for the special role of World War II in developing the US economy.
2. Olson (1982) theorises the contrasting effects of defeat and victory.
3. Unless otherwise stated, all national account aggregates in this article are drawn from Butlin (1962), as reported in Vamplew (1987). The apportionment between rural and urban areas is drawn from the Australian Bureau of Statistics (2014).
4. Gross domestic product is measured by Butlin (1962). The 'new estimates' of Haig (2001) concur qualitatively: they estimate real GDP to have increased each year between 1905 and 1911 and to have increased by 9.4 per cent between 1911–12 and 1913–14. A comparison of trienniums using Haig's 'new estimates' is impeded by the shift in the series from annual to financial years, and from 1891 to 1938–39 prices.
5. In mid-1915, the one non-Labor government in the federation was Victoria's Peacock government.
6. A consideration needs also to be made of the seigniorage: nominal note issue in the hands of the public increased by 225 per cent between the outbreak of war and the Armistice. But the magnitude of the real increase in note issue over that period was small: only about 3 per cent of annual GDP (or £12 million at 1914–15 prices).
7. To the extent that the inflation was anticipated, the social cost of the war would also allow for the shoe leather costs of seigniorage, but any measure of this would be a speculative matter. Even more speculative would be any estimate of the reduction in the allocative efficiency of risk-bearing on account of the unpredictability of real interest rates in the face of inflation shocks. (On these, see Coleman 2007.) But both considerations further underline that the social cost estimate of Table 5 is a minimum.
8. The comparison uses the estimates of Butlin (1962). Haig's (2001) 'new estimates' puts real GDP in the triennium 1921–22 to 1923–24 as 18.8 per cent higher than 10 years before.
9. The toll of the post-War influenza epidemic could be added: 11,552 persons are recorded as dying of influenza in 1919, compared to 168 in 1917 (*Official Year Book of the Commonwealth of Australia* 1920, p. 132).
10. Putting popularisations to one side, Hardach (1977) lists the industrialisation of non-Europe as one of the five leading economic effects of the War. Later economic historians (Broadberry and Harrison 2008; Feinstein, Temin and Toniolo 2008) have hesitated to share this affirmation. A recent study of the Australian manufacturing sector judges 'World War One had a mixed impact on industrialisation' (Hutchison 2014, p. 295).
11. Consider the *Macquarie Book of Events*: 'In the 10 years to 1920 ... employment in the [manufacturing] sector rose dramatically to 358,000'. The *Year Book*, however, reports employment in manufacturing at 368,300 in 1920, a rather undramatic 22.8 per cent increase over 1910. Rather more dramatically, the *Year Book* also report that manufacturing employment in 1913 was 58.9 per cent higher than in 1903. The *Macquarie Book* adds 'Military spending during World War and a lack of competitive outputs helped double textile output between 1913 and the end of the decade.' Haig's 'new estimates' has textile output at 65 per cent greater in 1919–20, compared to 1913, at 1910 prices. But textile output constituted only about 3 per cent of total manufacturing output.
12. In 1921, there were 96.7 motor vehicles per 1,000 persons in the United States; see <<https://energy.gov/eere/vehicles/fact-841-october-6-2014-vehicles-thousand-people-us-vs-other-world-regions>>.
13. By 1930, when world prices had fallen below £10 per ton, the British tariff concession to Australian sugar was £6 8d per ton (Parliament of the Commonwealth of Australia 1931, p. 88).
14. 'On the basis of imports during 1913, the preferential provisions of the tariff of 1908–11 covered 65 per cent of the imports of merchandise of UK origin, the margin of preference being 5.08 pc ... the Tariff of 1919–21 has extended the application of the preferential Tariff rates to 90 per cent of imports from the UK, and, at the same time, has increased the margin of preference to 12.22 per cent' (*Official Year Book of the Commonwealth of Australia* 1922, p. 501; 1924, p. 260).
15. This excludes about £14 million of the War Gratuity, equivalent to 2 per cent of annual GDP, paid after 1922–23.
16. The taxation of company profits was simultaneously introduced with personal income tax. A Commonwealth tax on estate duties had been introduced in 1914 as 'a war time foray into new tax territory' (Smith 1993, p. 45).
17. Wilkinson (1917). The State Electricity Commission of Victoria was not 'minor', but its origins lie in the years before the war. It was in 1912 that it was resolved that the exploitation of brown coal would not be done by private

enterprise. As for the war itself, it 'delayed development of plans for electricity from brown coal' (Edwards 1969, p. 18).

18. At the state level, rural interests had long been rewarded with subsidised infrastructure, but the *Bounties Act 1912* (Cwlth) was the sole gesture of the Commonwealth to rural producers. A bounty on export of combed wool in the 5 years from 1909–10 to 1913–14 paid out £56,000, considerably less than one-tenth of 1 per cent of the value of wool exports over this period.

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