

4. Economic science and political power

'We are out to put Australia on the economics map.'

L. F. Giblin

'It is my duty as an economist to talk about costs.'

J. B. Brigden

Wilson was to rejoin neither Copland, Giblin nor Brigden on his return to the University of Tasmania in 1931. By then all had left.

Copland had been the first to go. His professorial peers at the University in the early 1920s included several men who would occupy their chairs well into the 1950s. Copland had no such settled temperament. He was reaching for the wider world. In October 1923 he applied to the University for one year's leave, to study either in Britain or the United States. He was refused. Perhaps the Council believed that their young man had already been rewarded well enough. They underestimated Copland's keen sense of entitlement. In July 1924 he applied for the new Chair of Commerce at the University of Melbourne. His application included an impressive list of nine referees, including Giblin. The London-based selection committee had 'unanimously recommend[ed]' his appointment, 'for the first time choosing a candidate who was not born in Britain and had neither studied nor taught in a British university' (Selleck 2003, p. 606). He resigned his Tasmanian chair with effect from 15 December 1924.

Just thirty years old, Copland was now established as the sole Professor of Economics in Melbourne, the business capital of Australia. But the study and research of economics was almost defunct in this commercial centre. Copland was to set about reviving both, creating for the first time a professional voice of Australian economists: The Economic Society of Australia and New Zealand, with its journal, the *Economic Record*.

Melbourne was also the political capital. It was the seat of the national parliament, and would remain so until 1927. Melbourne could also claim a youngish Prime Minister as her own: Stanley Melbourne Bruce, forty-one years old, of commercial background, impressed by 'scientific' American business methods, concerned with efficiency, and constantly pouring memoranda into his dictaphone.

The stage was set for a liaison between political power and the infant Australian economics profession. Over the remainder of the decade, economic inquiries, commissions, and bureaus of economic research were summoned forth by prime-ministerial wish, and manned with economists. From the time of Copland's arrival and until the close of the 1920s, political power was to furnish personally

a patronage of the discipline seldom matched elsewhere. And yet, after five further years, political power was rudely to cast aside that patronage.

Town and gown

At the time of Copland's arrival, the University of Melbourne was only just emerging from its late Victorian chrysalis. The wearing of gowns was theoretically compulsory for the undergraduates, and turning out for the weekly parade of the University Rifles practically inescapable. *Farrago* and the Melbourne University Labor Club were yet to be born. It was 'a demi-rural retreat ... a resort, also, for sons and some daughters of gentleman and a few others', in the words of one student from the early 1920s (Fitzpatrick 1961, p. 9). Historians of the University have tended to portray it at this period as provincial, introverted, unambitious in its teaching, and (outside the natural sciences) desultory in its research (Fitzpatrick 1961, Blainey 1957, Selleck 2003).

Indeed, by the time of Copland's arrival, economics had been, in the words of one historian, 'abandoned' (Selleck 2003). It was not strictly extinct: a solitary economic historian taught one course on 'political economy'. But Copland was accurate in informing the readers of the *Economic Journal* that there was 'scarcely' any economics at Melbourne. Copland's appointment was intended to promote a resurgence, and even before arriving he energetically began to organise that. He would create a Bachelor of Commerce. It would – very deliberately – have the underpinnings of a quality degree; students could not obtain a BCom without doing either mathematics, or science or a modern language. He informed the Registrar: 'You may consider it a rather ambitious program but I thought it wise to state at the outset my ideas regarding the work of the school' (UMA DBC 3 October 1924).

He was 'dramatically' successful. Not long after his arrival he wrote: 'We are finding the popularity of economics a little embarrassing. So many students are seeking admission, and just at present our time is occupied with incessant interviewing' (UMA DBC 19 March 1925). He obtained 323 students for the new BCom in 1925. He firmly headed off rival claims for resources (such as a putative sociology department),¹ and pushed for more of his own. He wanted a 'cinema machine' to allow students of Industrial Organisation to observe factory operations without necessitating an excursion, and obtained £50 from the Chamber of Commerce for a duplicating machine.

¹ In 1925 Copland vigorously attacked a proposal to found a Chair of Sociology. 'In no University of the standing of Melbourne is such scant attention given in the Faculty of Arts, to the subject of Economics ... Under present conditions it is necessary to develop the study of economics and psychology before proceeding further with sociology' (UMA DBC 31 July 1925). See Crozier (2002).

This last gratuity was not accidental. Part of Copland's strategy was to 'establish good relations with the business community from the very beginning of his time in Melbourne' (Scott 1988, p. 3). Despite the fact that Melbourne was the seat of most company headquarters, the university had no links to business. Now faculty meetings were to be held on occasion at the Chamber of Commerce. The new faculty was to include Sir Robert Gibson, the new power in the Commonwealth Bank. Perhaps with an eye to successful alumni Copland was active in the Commerce Students' Society, and succeeded in tempting the Prime Minister to accept an invitation to address it.² Copland drew a creditable harvest from his cultivation of business interests.

Copland also moved to provide a professional society for economists. No society or organ had existed in Australia since the *Australian Economist* had expired in 1898 with the ebb of the 1890s slump, and the redirection of controversy towards Federation. The Australian and New Zealand Association for the Advancement of Sciences did maintain an Economics and Statistics 'Section', but it was 'somewhat anaemic'. However, at the 1924 meeting of the section the economists 'attended in force', and with 'an almost evangelical fervour' received Copland's proposal to establish an Economic Society. Nineteen twenty-four, said Giblin, 'might perhaps be called A.E.1 – the first year of economists in Australia' (Giblin 1947, p. 1). With his 'characteristic drive' Copland set about founding a society, with a Central Council of the Economic Society established at the University of Melbourne in August 1925, and Copland duly elected President.

The next step was to establish a voice of the profession – the *Economic Record*, whose first issue appeared in November 1925.³ 'From the first number', Copland with his co-editor R. C. Mills, 'read every article, every note and most of the reviews that were offered for publication', and did so for 22 years (Giblin 1947, p. 2). The 1000 copies of the first issue were 'soon exhausted'; a reprint of 500 was ordered, and another 150 sold. Given Australia's population was six million, that volume of sales compares very decently with the 3000 copies that, Keynes told Copland, the *Economic Journal* sold. Years later Giblin was to venture accurately: 'it is fair to say that in no other branch of studies, literary or scientific, has Australia produced another journal so highly recognised and esteemed in other countries' (Giblin 1947, p. 4).

The *Economic Record* reflected Copland's vision, as Australian economics engaged in problem-solving rather than science-building. In Copland's conception the *Record* would have no brief to pursue and extend pure theory. Its concern was

² Bruce: 'I would very much like to accept the invitation because I know that at such a gathering I would have an opportunity of speaking to people who realise the importance of economic research at the present time in Australia' (UMA DBC 22 August 1924).

³ Brigden originally foresaw it would only be an 'annual volume'.

Figure 4.1. Copland dazzles in Melbourne



Source: uma/1/1967

with a particular question that had become socially significant. New adventures overseas in matters of pure theory were ignored. By way of illustration: in the late 1920s and early 1930s the theoretical issue of monopoly was an international preoccupation of economic theorists. Under the 'applied', problem-solving approach a problem of pure theory could never occupy the attention of Australian economists.

Complementing the problem-solving approach was an outlook that was historicist rather than universalist. No single theory could apply in all circumstances. The universalist theory that the classical economists pretended to follow was in fact a legacy from British conditions in the nineteenth century. The truths in Australia would differ. As Brigden wrote in the inaugural issue of the *Economic Record*:

The classic theory of international trade has been derived from English circumstances ... [but] there is ... no analogy to be drawn from either British or American experience, and Australians must think out their tariff problem for themselves. (Brigden 1925, p. 32).

Consequently, the elucidation of the Australian circumstances was critical. An accompanying stress on empiricism is pervasive in the *Record*, which may be said to be possessed of a 'somewhat naïve faith not untypical of the time that a knowledge of "the facts" would point the way to the proper course of action' (Richmond 1983, p. 250).

Finally, the Australian economists adhered to a 'summary' repudiation of *laissez-faire* as obsolete.

It will be sufficient to say rather summarily that the policy of *laissez-faire* in any country allows the natural inequalities of capacity, and the acquired or inherent inequalities of property, to operate to the fullest extent to the diminution of welfare. (Brigden et al. 1929, p. 93).

Refusing liberalism, they did not embrace socialism. The vision of Brigden, Copland and Giblin was of a publicly regulated but privately owned economy.

The *Record's* first issue of November 1925 carried a paper that was to epitomise these attitudes, and to provide an assault on some classical precepts that was to have repercussions internationally. This was Brigden's 'The Australian tariff and the standard of living' (Brigden 1925). It advanced the heterodoxical thesis that a tariff may enhance the living standard of the average inhabitant. Copland and Giblin had urged Brigden to submit the paper to this inaugural issue of the *Record*. 'You have argued the case with great ingenuity', wrote Copland, without actually accepting the case himself. Brigden took up the proposal: 'It is a sporting challenge ... Although I risk myself, the Society may benefit from the interest aroused' (quoted in Harper 1989). It provoked the first controversy in the *Record*, and Brigden was to spar with free trade advocates, such as F.C. Benham

(1900-1960), in the *Record* through the mid-twenties (see Benham 1926; Brigden 1927a, 1927b; Giblin 1927a).

What was Brigden's argument? 'The Australian tariff and the standard of living' actually contains two separate protectionist arguments: a 'terms-of-trade' argument, and a 'returns-to-labour' argument. Both arguments assume a two-sector economy; in our terminology, 'food' and 'manufactures'.

The terms-of-trade argument holds that a reduction in tariffs on manufactures would increase food output, and by glutting the world market, reduce the value of food in terms of manufactures, so that an actually smaller amount of manufactures could be imported, despite the increase in food exports. In brief, a tariff cut reduces the terms of trade. On a theoretical level, the terms-of-trade argument is a familiar article of textbooks, and unproblematic.

The returns-to-labour argument turns on the marginal productivities of labour. That marginal productivities might be such that a tariff reduction could reduce real wages had been previously anticipated in 1887 in the *Principles of political economy* of Henry Sidgwick (1838–1900). He considered a country producing manufactures under protection, and food such that 'additional food produce could not be obtained except at rapidly increasing expense' (Sidgwick 1887, p. 497). If protection to manufactures is abolished, then labour will be reallocated to food, and marginal productivity in food will diminish so 'rapidly' that the purchasing power of the wage may fall, despite the rise in the amount of manufactures a unit of food may purchase.⁴

Sidgwick's argument was reported, with much pooh-poohing, by Charles Bastable in various editions of *Theory of international trade*. Edgeworth then took up the defence of Sidgwick's claim against Bastable's not-very-telling criticisms, and skirmishes between Bastable and Edgeworth continued in the *Economic Journal* between 1897 and 1900. Any diligent reader of past issues of the *Economic Journal* would already be well aware of Sidgwick's theoretical argument. And as Brigden had been a student of Edgeworth, and one to whom he 'owed much' (Brigden 1926), it is more than plausible that Brigden became acquainted with this controversy directly from the man whom 'no heterodoxy could shock' (Brigden 1926, p. 144).⁵

⁴ In 1903 J.S. Nicholson (1850–1927) had advanced an argument for the deleterious impact of free trade on labour that is similar to Sidgwick's, but with more arbitrariness and less clarity. As Sidgwick later acknowledged, a similar argument for the benefits of protection had been previously advanced by Torrens in 1821 ([1965] 1821).

⁵ In addition, the controversy was amply covered in Bastable's *Theory of international trade*, which Copland used as the Bridgen guide to the theory of protection.

But Brigden provided a novel path by which assumptions about productivity could yield the result that tariffs are improving of worker's welfare. The 'Sidgwick Assumption' – a 'rapid' deterioration in the marginal productivity of labour in food – is refused. Instead in Brigden's argument, labour is assumed to operate with diminishing marginal productivity in food, but with constant marginal returns in manufactures. Given this, increasing tariffs will not reduce the marginal productivity of labour in manufactures (by assumption), and so will not reduce the wage in terms of manufactures. However, with manufactures now more valuable in terms of food, the marginal product of labour in manufactures evaluated in terms of food is higher. This induces a reallocation of labour from food towards manufactures. The marginal product of labour in food is thereby increased. The upshot is that the manufactures wage is unchanged, and the food wage is increased. The utility of the worker (that is, the 'standard of living') must rise, as long as the worker consumes some non-zero quantity of food. Four further implications may be demonstrated (see the appendix to this chapter) and are simply noted here:

1. *Wage maximisation implies autarky.* Brigden's argument implies the maximisation of the worker wage would be secured by the maximisation of the tariff; that is, an increase in the tariff until autarky is reached, and international trade ceases.
2. *Protectionism is wage reducing with a small population.* Brigden's argument does not imply that protectionism would increase real wages for *all* population levels. The population may be so small that the marginal product of labour in food will exceed the marginal product of labour in manufactures even if *all* labour is allocated to food. In this, all labour will be allocated to food, manufacturing will not exist, and the argument cannot proceed.
3. *Autarky does not prevent wages decreasing as population increases.* Protection does not remove the decline in wages caused by the population pressing on scarce land. It only makes the decline smaller than it would have been under free trade. It does so by creating a manufactures industry at a level of population at which manufacturing would be non-existent under free trade, and thereby diverts part of population increases from food (where diminishing returns operate) and into manufacture (where no diminishing returns operate).
4. *The social inefficiency of protection.* Protection is 'pareto inefficient'. There are winners, but the winners cannot compensate the losers. In more specific terms, the decline in rents on land used in food would be larger than the increase in the wage bill.

'The Brigden report'

Brigden's argument was to become the key idea in an enquiry into the tariff commissioned by Bruce, that was to prove an enduring landmark in Australian

economic history, and, perhaps, in the development of 'modern' trade theory: *The Australian Tariff: an Economic Enquiry*, often known as 'the Brigden Report'. (See Cain 1973, Manger 1981a, Samuelson 1981, Irwin 1996).

The genesis of the *Enquiry* lay in a sudden increase in protectionist sentiment and action in Australia in the aftermath of the First World War. The average tariff rate rose from about 10 per cent in 1918 to about 20 per cent by 1927 (Dollery and Whitten 1998). Bruce, a moderate protectionist, seemed to have increasing reservations about the wisdom of the protectionist trend. 'The cry of "Let us make everything in Australia" is quite enough to prevent [men] seeing the effect of a policy of that character carried to extremes' (Bruce quoted in McDougall and Bruce 1986, p. 443).

Bruce wanted a 'scientific protection'. The notion of applying scientific methods to problems of national welfare was popular. Shortly before, Bruce had brought to fruition something that resembled a 'national laboratory', a notion earlier championed by Prime Minister Billy Hughes, awed by German technological prowess in the First World War. This was a council of scientists and industrialists in the form of the Council for Scientific and Industrial Research (CSIR). A council of economic scientists might promise to be equally useful. In this spirit, in September 1927 he asked Giblin, C. H. Wickens (the Commonwealth Statistician), and the 'businessman-ideologue' E. C. Dyason to undertake a statistical investigation of the effects and success of tariff policy. In mid-December 1927 this group of three invited Brigden and Copland to join them. This was to result in *The Australian tariff: an economic inquiry*.

The authorship of the *Enquiry* was protracted, difficult and unhappy.

Copland had put himself under awful strain at the University. His letters record him as 'busy', 'very busy', 'frantically busy this week'. It was not just teaching: Copland's professional bibliography runs to around 120 items, a magnitude few economists from the inter-war period (or today) could match. Copland at this time was often an irritated, exasperated man.⁶ And it took a toll. Harvard University's C. J. Bullock counselled him: 'your recent troubles were largely due to nervous strain' (UMA 23 November 1926).

There was also significant physical, stylistic and doctrinal distance between the five authors. These divisions (following Marjory Harper and N.G. Cain) might be summarised by way of a contrast between a 'Melbourne Group' (with Copland the leading member) and the 'Hobart Group' (with Brigden the leader). The Hobart group was distinctly protectionist, while Copland's Melbourne Group was more equivocal. Copland was empirical, Brigden more theoretical. Copland

⁶ Copland's letters of the time are full of his querulous reports of himself being 'puzzled' at 'strange' and 'curious' actions.

wrote as if drafting speeches for a public meeting; Brigden tried to write as if penning letters to a friend. The difference in opinion between Hobart and Melbourne was never successfully resolved. Circumstances were against it. The *Enquiry* was 'written piecemeal, with few meetings of the whole committee' (Harper 1989, p. 8).

An initial three-day meeting in Hobart in January 1928 distributed tasks to the five co-authors. But on 13 March 1928 Bruce demanded the report within a month. To meet Bruce's pre-emptory demand for its conclusion, a draft of the enquiry (a 'Melbourne Report') was prepared by Copland, and submitted to Bruce without 'Hobart's' knowledge. Brigden appears to have suffered this high-handed treatment very meekly.

According to one close student of the *Enquiry*, Bruce 'proposed to publish the document, with addenda from Hobart, seemingly without reading the Hobart material. As Giblin and Brigden objected to publication without considerable revision, they were permitted to redraft the Report to incorporate their work' (Harper 1989). An examination of some of Bruce's correspondence paints a different picture. In a letter of 27 August 1928 Bruce explains that the Melbourne Report 'would not convey much to the ordinary intelligent individual' (Bruce quoted in McDougall and Bruce 1986, pp. 654–60). He dispatched his secretary to Hobart, where all five authors were conferring, with the instruction 'they must do better', and a request of Brigden (not permission) to redraft it (Hyttén 1971, p. 52). Bruce declared Brigden's consequent redraft 'an incomparably better job of work than the original one'.

Copland did not share Bruce's judgement. 'So began a low key power struggle' between Brigden and Copland (Harper 1989). 'By the end of 1928 all members of the Committee were rather discouraged'. Giblin told Eilean: 'I'm still rather breathless. The tariff will not get finished. A section I am supposed to be doing rather vital to the whole thing, won't come clear... It has been rather a nightmare at times' (NLA LFG 20 January 1929). The difficulties did not subside. On 11 March 1929, Giblin (then in Melbourne) explained: 'Doubts arose and we wired Brigden to come over for another discussion'. Copland complained to Brigden, 'The new draft on incidence leaves me as puzzled as ever' (UMA 8 April 1929). On 22 May 1929 Giblin wrote: 'Brigden will be over on Saturday, and we must settle things then or never' (NLA LFG 22 May 1929).

Copland's impatience outweighed his doubts. Copland wrote to Brigden: 'The sooner it appears the better. Each time we meet to discuss it doubts and difficulties arise on minor issues and we could, apparently, go on altering the words indefinitely' (UMA 28 June 1929). In the low-key power struggle, 'Hobart'

had outworn 'Melbourne'.⁷ Years later Hytten summed up: 'Brigden and Giblin wrote that report ... no one else had much of a hand in it ... Brigden wrote, Giblin criticised ... to pacify Copland his essay on free trade was added as an appendix' (Hytten 1951, 1971 p. 53).

Giblin with great care took the corrected proofs to the printing works himself. *The Australian tariff: an economic inquiry* appeared first on 19 July 1929. 'Melbourne was very interested and crowded the bookshops. The first edition of 3,000 has nearly gone and I have written to Bruce about further editions. It is externally quite impressive – looks like a 10/- or 15/- book and sells for 3/6 ... The [protectionist] Age leads its article National Policy Vindication and the [free trade] Argus counters with Medicine for Fanatics' (RBA 9 July 1929).

The *Enquiry's* conclusion is distinctly presented on its first page: in Australia's present circumstances free trade would lower the 'standard of living', that is, the real wage. The *Enquiry*, therefore, distanced itself from the strong tendency of theorists to assert that tariffs would not harm labour as long as it was mobile between import competing and export sectors.⁸

The trenchancy of the *Enquiry's* theses is not matched by the lucidity of its argument. It was a 'compromise document' in which differences of opinion were concealed. This commitment to compromise discouraged any attempt to secure agreement to some clearly stated argument. This commitment to compromise muffled the *Enquiry's* presentation of the Australian 'case for protection'.⁹

The theoretical significance of the *Enquiry*

The *Enquiry* has sometimes been judged to be significant for the development of twentieth-century trade theory. Thus Paul Samuelson has judged that the *Enquiry* helped 'set off an analytical controversy that has helped shape the discovery of what has come to be known as modern international trade theory' (Samuelson 1981, p. 147). By 'modern international trade theory', Samuelson means mid-twentieth-century trade theory, which is distinct from both the classical trade theory of Ricardo and the 'post-classical theory' of Mill and Marshall. In classical trade theory, labour was the only factor of production.

⁷ Copland wrote in a tone of self-exoneration to Cannan: 'I must confess that I endeavoured to explore every possible error that we might have made in coming to our main conclusions. It worried me a good deal for a long time, but eventually I could see no other reasonable conclusion from the facts we have before us' (LSE DBC 21 December 1929).

⁸ For example, Gottfried Haberler, one of the fresh breezes in inter-war trade theory, maintained that the suggestion that protection increased wages 'does not merit serious discussion'. 'Free trade seems to be in the interest of the working class' (quoted in Ohlin 1933, p. 202). See also Stolper and Samuelson 1941, p. 61.

⁹ The report is 'exasperatingly' 'loose and incomplete' (Cain 1973).

The post-classical theory of Mill and Marshall discarded the labour theory of value, but effectively retained labour as the only *variable* factor. Between 1933 and 1949 Bertil Ohlin and Paul Samuelson recast trade theory by analysing trade in a general equilibrium framework with (at least) two variable factors: capital and labour.

One of the landmarks in the modern theory of international trade was the 1941 proof of Samuelson and Wolfgang Stolper that higher tariffs would unambiguously increase real wages if the country's import-competing sector had a higher labour–capital labour ratio than the export-competing sector. Thus the old protectionist notion that 'protection protects high wages' seemed suddenly to have a solid theoretical foundation. The *Enquiry* of 1929 seemed highly significant here because it had annoyed certain authorities in neoclassical trade theory (such as Jacob Viner) by contending that higher protection *did* increase real wages. On this ground the *Enquiry* has been presented by one commentator as 'a final step between neoclassical trade theory and Ohlin's treatise of 1933' (Cain 1973). Nevertheless, Samuelson himself has written: 'I have to testify it was Wolfgang Stolper's original insight that the Ohlin [1933] analysis provided some vindication for the view that the US tariff might raise real wages here, and not the almost simultaneous ... analysis of the Australian problem, that spawned Stolper-Samuelson' (1981, p. 150). Samuelson describes the episode as 'a plum pudding of Mertonian doubletons of quasi-independent analytic discoveries' (1981, p. 158). 'In my view some of the Australian experts *independently* stumbled on some of what are today known as Hecksher-Ohlin-Samuelson notions that free trade can lower real returns on a factor where it is "relatively scarce"' (private communication to the authors).

What conclusion might an adjudication of this clash of testimony yield about the likely significance of the *Enquiry* for modern trade theory?

An adjudication would begin by noting that the authors of the *Enquiry* strived to bring it to the attention of the intellectual centres. Review copies were sent to overseas journals, with complimentary copies to Keynes, Clapham, Pigou, Ralph Hawtrey, Hugh Dalton, Lionel Robbins, Cannan, Wesley Mitchell, Frank Taussig, and others. But this had little effect. Keynes did write to his friend Giblin to say the *Enquiry* was 'of the highest interest and a very brilliant effort' (quoted in Harper 1989). But it was negatively reviewed in the *Economic Journal*. Viner gave his own cool, forensic and almost relentlessly negative review in the *Economic Record*.¹⁰ Australian academic opinion was not more enthusiastic.

¹⁰ Brigden had written hopefully to Copland: 'I am looking forward to Viner's article with great interest, but thought Keynes' comments to Giblin were rather feeble' (UMA JBB 24 October 1929). Copland broke the bad news: Viner's review 'is by no means exciting, and raises many problems that troubled me' (UMA DBC 11 November 1929). Viner contended that there were 'strong

Shann complained that the authors of the *Enquiry* had 'thrown the mantle of their authority' over 'pleas for monopoly' (Shann 1938, p. 412). Leslie Melville (1902-2002) judged the *Enquiry* to have produced an 'ingenious fantasy that is not wholly fantastic'. Although its thesis was 'theoretically attractive', 'the calculations of the Committee have not materially strengthened the argument' (Melville 1929).

When in 1931 Copland sought (with Taussig's encouragement) to ventilate the matter in the *Quarterly Journal of Economics*, his paper was sensibly entitled 'A neglected phase of tariff controversy'.¹¹ The *Enquiry* seems to have been preserved from oblivion by an attempt of a disciple of Taussig, Karl Anderson, to ensure its oblivion. In 1938 Anderson sought to comprehensively dispose of the 'Australian case for protection' in a paper in the *Quarterly Journal of Economics* (Anderson 1938). Anderson had absorbed the literature: Brigden's 'The Australian tariff and the standard of living'; the *Enquiry* (he quotes from it); Copland (1931b); Viner (1929); and Loveday (1931).

In 1939 Marion Crawford Samuelson (1916-78) advanced a riposte to Anderson's attempted rebuttal of the *Enquiry* (Samuelson 1939). But Samuelson's paper is almost entirely devoted to the terms-of-trade argument, and only refers to the returns-to-labour argument by way of a concluding comment. This suggests that her acquaintance with the *Enquiry* and literature in the *Record* was not close.¹² In referring to the Australian 'case' M. C. Samuelson never mentions names or publications. Paul Samuelson later wrote: 'With great probability, M. C. had never read the 1929 *Report*' (1981, p. 151). There are doubts if she read the Copland paper that Anderson was seeking to obliterate. As we have noted, she stresses the terms-of-trade argument, although Copland completely ignores it. Samuelson merely says, non-committally, she 'may have' read Copland (Samuelson 1981, p. 153).

In 1941 Samuelson wrote with Stolper, and Marion as amanuensis, 'Protection and real wages' (Stolper and Samuelson 1941). The authors review the literature on this issue, the great bulk of which is hostile to the thesis that protection increases real wages, and refer to Bastable's note of the Sidgwick argument. The

presumptions' that the 'very special' assumptions of the case for protection were false. Giblin told Keynes that Viner was not helpful 'on the essence of the argument' (KCLA LFG 5 December 1929).

¹¹ The *Enquiry* is not mentioned in Ohlin's *Interregional and international trade* of 1933. But this was only an English language translation of a thesis written in 1923, well before the *Enquiry*. Nevertheless, it is interesting that Copland recognized nothing kindred in Ohlin's thought: there was, he said, 'nothing new' in Ohlin.

¹² Samuelson (1981) appears to take it as a rationalisation of the conclusion of the *Enquiry*. However, as a rationalisation for the *Enquiry* it is problematic, since the terms-of-trade argument says that free trade is not Pareto-efficient: there is always some optimal tariff.

authors do not refer to the *Enquiry*, and Samuelson later stated that he had not read it. In the conclusion he suggests the Australian economy may be illustrative of the Stolper-Samuelson theorem, and refers the reader without any further explication to the papers of Copland, M. C. Samuelson and Anderson.

What is to be concluded? It is helpful to make a distinction between the *thesis* of the case and the *argument* of the case.

We contend that the *argument* of the case had no significance for the development of 'modern trade theory'. Firstly, Samuelson had not read the argument in the *Enquiry*, or any of the surrounding literature, with the possible exception of Copland (1931b). Secondly, Samuelson was in any case already aware of the older literature of Sidgwick and Bastable expounding the 'Sidgwick Sufficiency Condition'. Thirdly, and most importantly, the case was irrelevant to the argument of modern trade theory. Modern trade theory turns on the mobility of capital between sectors. But capital and its mobility, is totally ignored by the case.¹³

Nevertheless, it is plausible that the *thesis* of the case was significant for the development of 'modern trade theory'. In the expectant and restless atmosphere of post-war theorising, the *Enquiry* provided the spectacle of 'distinguished economists' (Irwin 1996) boldly pressing the unorthodox notion that protection increased real wages. This notion was effectively defended from one line of criticism by Marion Samuelson. In other words, M. C. Samuelson had shown there could not be an 'impossibility theorem' regarding the notion. A possibility had materialised. In Samuelson's own words: 'I at least had very much in mind at the time of the Stolper-Samuelson investigations the definitive 1939 findings by Marion Samuelson that verified the correctness of the 'Australian case for the tariff'' (Samuelson 1987, p. 241).

The significance for Australian economics

Whatever its importance for theory, the *Enquiry* was a major event in economics in Australia. In instituting the *Enquiry*, the Prime Minister had chosen economists to investigate a topic of controversy, and had included three professors in economics and the President of the new Economic Society. 'Practical men' (that is, men who were only practical) were excluded. It may be described as

¹³ It should be allowed that:

(i) the Brigden case is a 'degenerate' special case of the Stolper-Samuelson economy (that amounts to two constant returns industries and mobile labour and capital), where the import-competing sector has no capital requirement at all.

(ii) Benham in 1935 wrote a paper on taxes and factor prices that some have seen as anticipating Stolper-Samuelson results (Benham 1935; Manger b1981). One can only speculate what debt this paper owes to his exchanges with Brigden in 'intellectually dead' Australia.

economists' first prominent step on the stage of public life in Australia. And for our authors it was their first prominent step on the stage of public life, in Australia and internationally. Further, the *Enquiry* was not a preliminary essay or an aside. The 232-page *Enquiry* was a work of intensive joint authorship that was intended to serve as an exhibit of good economics. The *Enquiry* certainly served Copland and Giblin's active concern to advance professionalised economics within Australian life.

They saw the Tariff Report as a showcase for economists' wares, and therefore decided to produce as far as possible, a non-apologetic consensus document.¹⁴ (Harper 1989, p. 9).

The *Enquiry* remains an anomalous and curious event. It is so because of the heterodoxical character of its thesis: that tariffs promote living standards. The *Enquiry* had been an opportunity for the newly professionalised economists to voice a rejection of protectionism, as their worthy economist forebears had almost always done. Instead, they supplied a 'comprehensive manifesto for moderate protectionism' (Glezer 1982, p. 11). They declined the participation of the Sydney economist R. C. Mills (1886–1952) in the *Enquiry* on account of his inclination to free trade. And in advancing the case, Brigden did battle with a free trade partisan, the young F. C. Benham, then at Sydney University (see Benham 1926). Whereas Benham subjected the Tariff Board to ridicule, Brigden believed the Board could be reformed, and made a worthy institution within the Commonwealth. It is ironically illustrative of the anti-liberalism of this approach to economics that, at the beginning of the Great Depression, the most forward adversaries of protection in the Australian academy were an Englishman (Benham) and a historian (W. K. Hancock).¹⁵

It is true that to voice a biting rejection of protectionism would not have been popular. The *Enquiry* is more a politic than impolitic document. It is never strident, lecturing or tactless; it is never 'unrealistic' or visionary; grim or alarming. This is not to say it was complaisant; its trouncing of Imperial Preference disproves any eagerness to gratify Bruce.¹⁶ Neither was it daunted,

¹⁴ Doubtless, the unfortunate impression created by a conflict in the authors' positions is one reason why the conflict was glided over.

¹⁵ Later Copland was to purchase a copy of Mihail Manoïlesco's *The theory of protection, and international trade* of 1931, an ambitious attempt to refute the theory of comparative advantage and multilateral free trade.

¹⁶ The *Enquiry* repudiated Imperial solutions to the trade problems of Australia. Its Appendix S, on 'Preferential trade', rejected basing trade policy upon the Empire (for example, Empire Custom Unions, Imperial Preference). 'The young industries of the Dominions require protection against imports of manufactures of Great Britain' (Brigden et al. 1929). Thus there is 'no common basis for action' between the Dominions and Great Britain.

or dissimulating. But the *Enquiry* was reconciled to what it considered to be political realities. As Copland said:

It was the political difficulty of raising the subsidies by taxation that inclined the committee to the view that in practice the same result could not have been achieved that way. (Copland 1931b, p. 20)

It can be debated whether this attitude amounts to 'political economy' or 'politic economy'. But the *Enquiry* saw little hope in 'political difficulties' being altered by it adopting an educational role regarding the tariff. Courtesy would be more useful than correction.

This care to evade political difficulties produced a report which managed a compromise. Protection should not be reduced (a victory for the protectionists), and it should not be increased (a victory for the free traders). Copland complained: 'I suppose it will be considered an attempt to be all things to all men' (quoted in Harper 1989, p. 9). And in some measure it was: both the protectionist *Age*, and the free-trade *Argus* welcomed the report.

The Bureau of Economic Research

The *Enquiry* was a trial for a more permanent presence of economists in senior counsels of government.

In 1926 the Victorian Government Statistician, supported by Brigden, successfully moved that the Central Council of the Economic Society form a committee 'to formulate a scheme for the inauguration of a Bureau of Economic Research for submission to the Commonwealth' (Scott 1988, p. 16). In early 1928 Bruce requested Copland to submit proposals for an 'Economic Service'. Copland (with Giblin) proposed that such a service be independent and permanently endowed. Bruce appears to have favoured its being made a branch of the CSIR. But the British Economic Mission of 1928, 'summonsed to quell fear in the City of London about Australian debt', also pressed for independence. The ultimate outcome was the *Economic Research Act*, submitted to Parliament in March 1929. It proposed to establish a Bureau of Economic Research that would:

1. carry out economic research,
2. investigate the 'granting of assistance for the promotion of economic research', co-operation with a academic bodies, and studentships and fellowships in economics, and
3. publish results and an annual report.

Its critics pointed out that the Bill did not give the Bureau power to collect information, or call witnesses, or make public inquiries. Evidently the model for the Bureau was the *Enquiry*, and not the Tariff Board.

The Labor Party was firmly opposed to the Bill and four future Labor Prime Ministers rose from the opposition benches in the House of Representatives to deplore it. The speakers may be divided into two groups: Protectionists and John Curtin.

Protectionists

The most common objection to the Bureau is that it would snub protectionism.

J. H. Scullin:

Are we to take it that the Economic Research Bureau which it is proposed to set up shall investigate the general effects of the protectionist policy of Australia? There is no need for a bureau to do that. The text books teem with the opinion of so called economic experts of the world on the subject of free trade and protection ... in spite of the glooming forebodings of certain so called leading economists both the people and the Parliament of Australia have determined in favour of protection.

J. B. Chifley:

Whoever is appointed to the director of the bureau will be a man whose views are known, but I do not think he should be allowed to interfere in any way with tariff matters ... The tariff is not a matter to be decided by economists or even by this Parliament: it is to be decided by the people of Australia, who have pronounced definitely in favour of protection. I stand absolutely for a policy of full-blooded protection.

F. M. Forde:

We are strenuously opposed to the appointment of a director of economic research under the conditions set out in the bill, for we fear that he may become the tool of the Government for tinkering with the tariff ... It would not be difficult to find a gentleman with free trade tendencies, who would call into question, for instance, the continuation of the embargo on the importation of sugar. He might recommend that sugar grown in cheap black labour countries should be admitted to Australia. He might also advise the Government that it is economically unsound to pursue our White Australia policy and to keep up our barriers against New Zealand butter or Fiji bananas.¹⁷

¹⁷ The future Home Affairs Minister, Arthur Blakely, also rose to protest: 'Up to date I have not yet heard of any economist who is a protectionist ... The Prime Minister had merely 'endeavoured to hide the intention of their govt by repeating that blessed word 'economics' in every second sentence of his speech ... This nebulous science, which is still to be the subject of controversy between those who profess and practise it, is to be loaded onto our people'.

Thus far the case against the Bureau is not, to modern eyes, very formidable. The Bureau might recommend against the White Australia Policy. It may favour the admission of New Zealand butter or Fijian bananas. A speech of a higher level was provided by the newly elected MP for Fremantle, John Curtin. He did not once mention Protection. 'I believe that a case can be made out for a Bureau of Economic Research'. He did not think, however, that 'an adequate reason' had been 'furnished by the Prime Minister'. 'I do not object to the establishment of a bureau of economic and social research, but I cannot support the bill in its present form, limiting, as it does, to scientific and technical inquiries, and excluding the examination of social problems as such'.

The 'economic and social' research Curtin had in mind included: women in industry; housing and efficiency; vocational guidance (there was infinitely greater waste from the neglect of such guidance than from any wrong decision on tariffs); industrial health; and the distribution of wealth.

This is not the concession to economics that it may seem. Curtin made it clear that, in his hypothetical bureau, economists would not be called for, and he had no interest in bestowing any public patronage on them. 'It is not true that Australia is destitute of those that serve the science'. The Economic Society was 'very influential' (a suggestion not then quite as laughable as it would be today), and it published the *Economic Record*.

What did they have to offer, in any case? Curtin advances a critique of economics reminiscent of the historicist critiques that had gained wide currency in the late nineteenth century. 'The doctrines that have been promulgated in the name of economics during the last 100 years have been weird and extraordinary. Such doctrines have been the basis of the writings of Ricardo, Jevons and Malthus'. There is, in truth, 'no such thing as the economic man. The individual living entirely by himself, and for himself, is not to be found on earth'. More generally, there is no such thing as an 'Economic law'. 'The contention that there are laws which dictate the trend of economic development, and these laws must be obeyed is belied by the course of economic history'. To Curtin's mind 'the remarkable disrepute into which economists fell as a result of their predictions before the war' had 'a good deal of justification'. 'Economists by and large' said Curtin, 'are conservative minded, and are fearful of change'. 'The truth is that every new proposition that has been advanced, particularly in the last 50 years, for the amelioration of social conditions, has been opposed by economists'. What these were Curtin leaves unenumerated.

Curtin then advanced the remarkable assertion that 'Every reform that the world has had, and which has been of benefit in the long run, has had to run the gauntlet of established knowledge, whether political, theological, scientific, or other' (Commonwealth Parliamentary Debates 19 March 1929, p. 1462) To Curtin, learning was not an active agent in human progress. It was an obstacle. This

was a strange doctrine for a quasi-intellectual such as Curtin. But in a quasi-marxist fashion Curtin seems to have held that *established* learning was not interested in progress. No progress would come from there.

There is no need to search for the source of Curtin's anti-economics; it was a pervasive idea-cliché of the intellectual climate of the late Victorian world from which he had acquired his world view.¹⁸ But he also had had one much more recent encounter with economists that would not have strengthened his confidence. In 1928 he had been appointed by Bruce to be one of five Royal Commissioners assessing the merits of introducing a national scheme of 'child endowment'. They took evidence from two of the economists: Brigden and Copland.¹⁹

Brigden put to the Commissioners that a scheme of child endowment was 'desirable', but that the 'details need to be very carefully framed'. In a carefully weighed appreciation of a hypothetical scheme he contended that any system that had the endowment cease upon the child reaching the school leaving age (14 years) would be 'disastrous' to education. It would mean that children would be 'thrust upon the labour market to earn their own maintenance'. The moral was that an endowment scheme cannot be usefully done on the cheap. At the same time the scheme should not be so ample so as to make 'production of children as remunerative as the production of income'.

In his evidence, Brigden, who was childless, was alive to the fact that any scheme of child endowment amounted, at bottom, to a transfer of income from those who do not have children to those who did. In contemplating this transfer, Brigden wanted the Commission to give thought to the costs of this to:

- those who have already finished child rearing – without any support – and are now to be taxed to support those who have not finished
- to single men who are using their income 'for some purpose no less admirable than the maintenance of other men's children'
- to the infertile. 'I am not sure that bringing up children is entirely a cost' (Royal Commission on Child Endowment or Family Allowances –Minutes of Evidence, p. 671).

Copland's evidence assailed the prospect of child endowment with strokes that were heavier and less adroit. He sought to insinuate doubts about any scheme in the circumstances of the time. He warned that 'an ambitious social policy involving more expenditure on consumption goods must not be embarked upon without very definite evidence of real social and economic gains from the policy'.

¹⁸ John Curtin's library contained the anti-economics polemic of John Ruskin, *The political economy of art: unto this last: the crown of wild olive*. Lyons had given *Unto this last* as a gift to his wife Edith.

¹⁹ Bruce paid 25 guineas for his appearance.

With no obvious connection to child endowment, he then launched into a summary of his researches into the Quantity Theory and purchasing power parity.

A very close exchange followed between Copland and Curtin. Curtin made the most of the difficulties of attempting to establish a relationship between the money supply and the exchange rate by means of 15 years of annual data. Was not the Australian exchange rate most appreciated when her money supply was most expanded? Had not prices in the United States and Australia risen by the same proportionate amount between 1913–21?

Curtin: I am afraid there has been an unpleasant catch in the matter?

Copland: I am unable to find it.

(Royal Commission on Child Endowment or Family Allowances-Minutes of Evidence, p. 1260)

Curtin then pursued Copland on his affirmation of the Millian doctrine that capital inflows improve the terms of trade, and the cessation of such inflows will worsen them.

Curtin: On p.5 of your statement you say 'As borrowing ceases import prices will rise and export prices fall giving less favourable, and perhaps unfavourable terms of trade'. What do you mean by that?

Copland: That is a very difficult matter to explain in a few words. It is a categorical statement which has been proved to be true. Both in theory and practice.²⁰

Curtin: I am not disputing the correctness of the statement, but I would like to know its bearing on the question of the capacity of Australia to meet the annual expenditure of a system of child endowment'

(Royal Commission on Child Endowment or Family Allowances 1929, p. 1258)²¹

²⁰ Wilson's critique of this Millian doctrine Copland had not absorbed, or had rejected.

²¹ Eileen Giblin also gave evidence in her capacity as Vice-President of the Women's Non-party League of Tasmania. She favoured child endowment, but believed part of it should be paid in kind. She also aired some eugenic concerns.

EG: It seems to me it is a very serious problem indeed for future citizens of Australia that the mentally deficient should be propagating themselves. Some hear of various schemes such as sterilisation of the mental deficient, or limiting their freedom.

Commission: Do you approve of segregation?

The majority report of the Royal Commission on Child Endowment or Family Allowances recommended against introducing a national child endowment scheme. Such a scheme was to wait until July 1941 for its introduction, by Menzies, and partly on the advice of Roland Wilson, but in the context of entirely different macroeconomic pressures.

Whoever was the victor in the encounter of Copland and Curtin, the *Economic Research Act* was assented to on 22 March 1929. A search then began for the Director. A salary of £1500 was offered, rather better than any professorial salary. Brigden seems to have won Bruce's confidence; he had in Bruce's opinion 'the best and most practical mind'. But Brigden was not favoured. In 1971 Brigden's close colleague Hytten gave this account of the matter.

Mr Bruce made a very flattering offer, but told Brigden he wanted it to be kept absolutely confidential. Very naturally he showed it to Giblin and me: we were his closest associates. But Giblin thought he ought to tell Copland as one of the senior economists. I urged him against it, as Bruce had asked him to keep it confidential, and Copland would probably go straight to the PM and ask why he had not been given the offer. He had done something similar previously. But Brigden took Giblin's advice with the inevitable result. As I had forecast Copland went straight to Bruce and demanded that he be considered for the position.²² Bruce then told Brigden to forget about the offer.²³

EG: Yes, I think that on the whole segregation would be the most satisfactory, in the form of colonies or such like.

Curtin: Who would draw the line between mental deficiency in a slight degree and mental deficiency to such an extent as to warrant segregation?

EG: There would have to be a board to decide the point.

Curtin: There is a dividing line between those two points. It is a very serious responsibility.

EG: Modern psychologists know a good deal about these things, and have their own tests.

(Royal Commission on Child Endowment or Family Allowances –Minutes of Evidence, p. 703)

²² There is a letter of Copland to Julian Simpson, a Nationalist politician, in which Copland angles for the appointment. 'May I, therefore, put the matter quite bluntly to you in this way? If the Government decides to establish this service I should be glad to have the opportunity of considering all the attractions relating to it' (UMA DBC 29 June 1928).

²³ In the matter of the offer, Hytten is not repeating hearsay; he states Brigden showed him the offer. It was also Giblin's opinion that Brigden was offered the position (see letter of Roland Wilson to Giblin, RBA 2 November 1950). Wilson believed Giblin was mistaken in this, as Condliffe had told Wilson that he had been offered the position. But clearly, Condliffe receiving an offer of the position at some point in time is entirely consistent with Brigden also receiving an offer.

Yet Bruce had something with which to console Brigden. He recommended Brigden to the Overseas Shipping Representatives Association. Part trade association, part cartel, the Association spoke the language of rationalisation and the elimination of waste (Bach 1976, p. 301). 'So far as competition was wasteful, it [rationalisation] meant the elimination of that competition' said Brigden.

Giblin believed that: 'Brigden is probably the better fitted to the [Director's] job ... The trouble is however that B is inclined to prefer the shipping job – thinks there is a more hopeful result of getting a practical result ... He is being strongly urged by his friends to hold out for five years, or at least three years engagement ... He may in the end take it without the guarantee – he is strongly attracted and would like to gamble on it (NLA LFG 21 April 1929)'. In the end he did take the gamble. Brigden presented his appointment to the press as another symbol of the arrival of the economist. It was simply a 'sign of the times'.²⁴

But, in the meantime, who was to fill the empty chair of the Director of the Bureau of Economic Research? Others were considered, including Horace Belshaw (1898-1962), the founder of the New Zealand Institute of Economic Research. But according to Hytten, J. B. Condliffe (1891-1981), another Canterbury College protégé of James Hight, was ultimately offered the position.

In the end nobody was to be Director. On 10 September 1929, just 11 months into his third term, six Nationalist members crossed the floor of the House of Representatives to defeat the Bruce Government's attempt to transfer industrial relations powers to the states. The government was entitled to battle on, but Bruce decided to call general elections. 'I think he is riding for a fall' Giblin told his wife. (RBA LFG 1 September 1929). On 12 October Bruce lost his own seat in a Labor landslide victory. The Scullin Labor Government took office. The Bureau was a dead letter.²⁵ The new government was to be uncontaminated by economic research.

Wall Street's 'Black Thursday' was 12 days away.

²⁴ 'The war shook our economic foundations so badly that more should be known about them. The chief aim of economics is to understand these foundations. In Australia the subject has grown rapidly, and we have established a status abroad. But in Australia it is still suspected of being associated almost wholly with political theories, a wholly erroneous notion, derived perhaps from the time when the subject was called 'political economy'... My appointment is therefore a sign of the times'. In July 1929 Brigden told Giblin his job was 'shaping well'. 'The various "interests" have been soothed and beguiled', Giblin told Eilean, '– and they have accepted him – in fact made him Vice-Chairman of their Executive' (NLA LFG 4 July 1929).

²⁵ The Act was not formally repealed until 1950.

Appendix: A rational reconstruction of the Australian case for protection

Brigden's 'Australian Case for Protection' can be formalised as follows.

Assumptions

Let p be the home price of manufactures in terms of food. Let p_w be the exogenous world price of manufactures in terms of food. Then,

$$p = [1 + \tau] p_w$$

τ = rate of tariff

Let food output, F , be a function of the amount of labour in the food sector, L_F .

$$F = F(L_F)$$

Let manufactures output, M , be a function of the amount of labour in the food sector, L_M .

$$M = M(L_M)$$

Labour in food and manufactures sum to the exogenously given supply of labour, L .

$$L_F + L_M = L$$

Labour is mobile between the two sectors. Therefore, the marginal productivity of labour in food must equal the marginal product of labour in manufactures (evaluated in terms of food), as long as both food and manufactures are produced.

$$F'(L_F) = M'(L_M)p$$

The impact of a tariff

These five equalities in five unknowns imply the impact of a tariff on living standards. Defining f as the wage in terms of food, $F'(L_F)$, and m as the wage in terms of manufactures, $M'(L_M)$, then,

$$\frac{\partial f}{\partial p} = \frac{F''M'}{F''+M''p} > 0 \quad \frac{\partial m}{\partial p} = \frac{-M''M'}{F''+M''p} < 0$$

$$0 > M'' > -\infty, 0 > F'' > -\infty$$

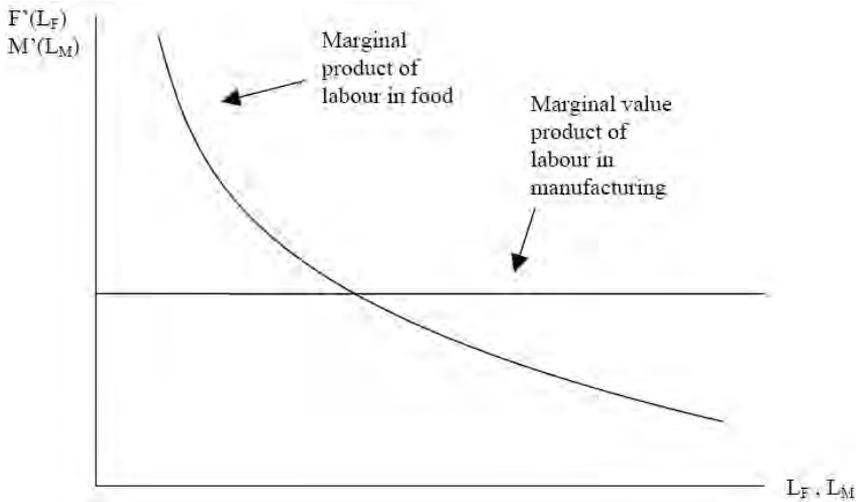
Thus the impact of protection will be to *increase* the wage in terms of food, and *diminish* the wage in terms of manufactures. Thus the impact of the tariff of the welfare of the worker is ambiguous.

There are, however, two conditions under which the welfare of the worker has unambiguously increased. The first we call 'The Brigden Condition': constant marginal productivity of labour in manufactures.

$$M'' = 0$$

This is conveyed diagrammatically in Figure 4.2.

Figure 4.2. 'The Brigden Condition'

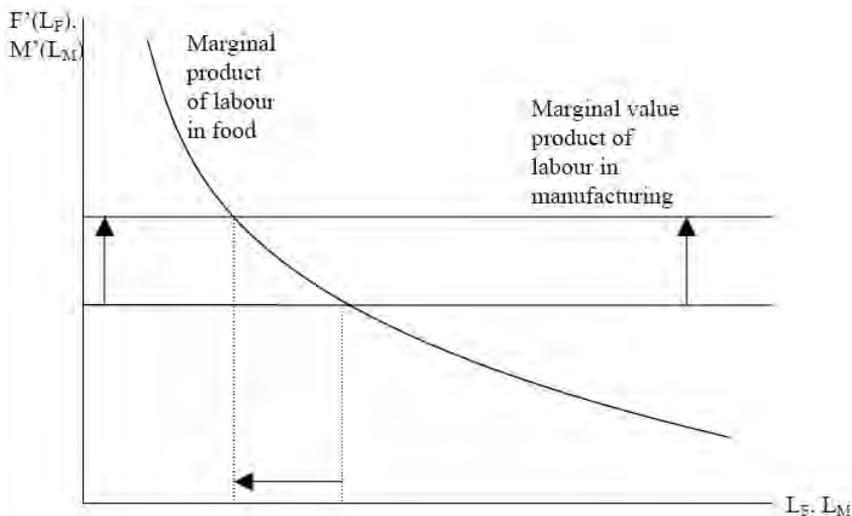


The Brigden Condition implies,

$$\frac{\partial f}{\partial p} = M' \text{ and } \frac{\partial m}{\partial p} = 0$$

These equalities imply that an increase in the price of manufactures will increase the food wage and not reduce the manufactures wage. The marginal product of labour in food is increased and the marginal product in manufactures is the same. In other words, a tariff has necessarily increased the utility of any worker who consumes both food and manufactures.

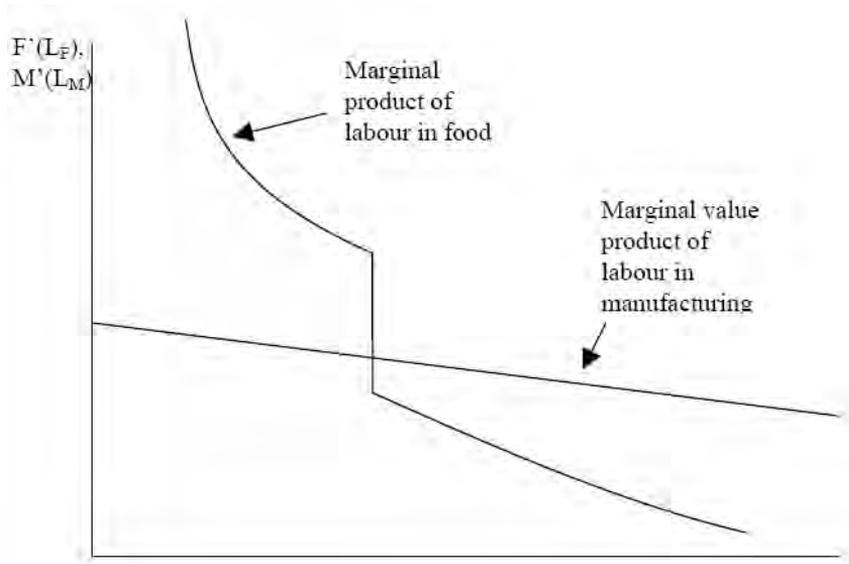
Figure 4.3. The impact of a tariff under the Brigden assumption



The second condition for a tariff to increase the welfare of a worker we will call 'The Sidgwick Condition': a discontinuous fall in marginal productivity of labour in Food. This is conveyed diagrammatically in Figure 4.4, and mathematically as,

$$F'' = -\infty$$

Figure 4.4. 'The Sidgwick Assumption'

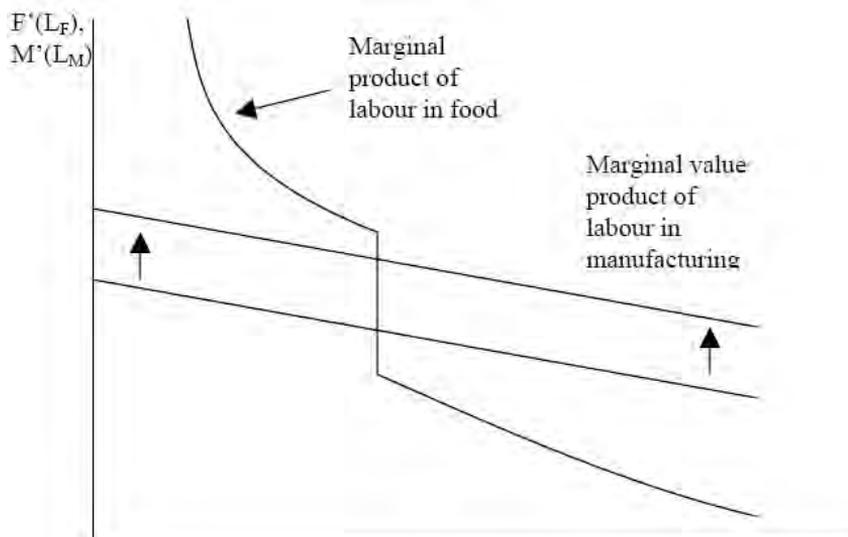


The Sidgwick Condition, like the Brigden Condition, implies,

$$\frac{\partial f}{\partial p} = M' \text{ and } \frac{\partial m}{\partial p} = 0$$

These equalities state that an increase in the price of manufactures will increase the food wage and not reduce the manufactures wage. The logic is that an increase in p increases the food value of the marginal product in manufactures, but labour will *not* reallocate from food towards manufactures, owing to the discontinuity. Consequently, the marginal product of labour in manufactures will be the same. But the food wage (= the wage measured in food) must increase because the food value of the marginal product in manufactures has increased.

Figure 4.5. The impact of a tariff under the Sidgwick Assumption



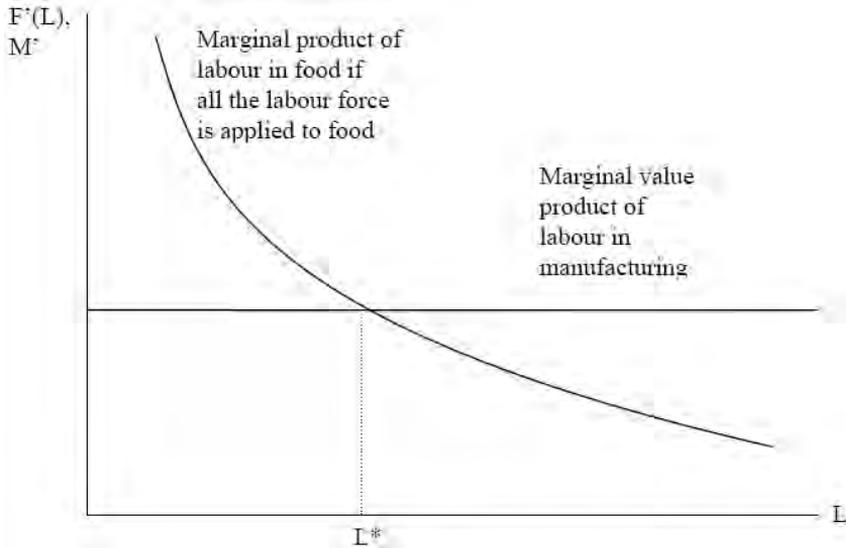
The upshot is that the manufactures wage is unchanged and the food wage is increased. In other words, a tariff has necessarily increased the living standard of the worker.

Under these two conditions, therefore, any increase in a tariff increases worker living standards

The role of population

The contention that the population must be 'appropriately large' if protection is to increase real wages can be easily shown if we make the Brigiden Assumption. Figure 4.6 plots L on the horizontal axis and the marginal product of labour in manufactures evaluated in food (using free trade prices), $M'p_w$, on the vertical axis. The plotting of $M'p_w$ is horizontal, since M' and p_w are parametrical to L . The marginal product of labour in food *if* all labour is applied to food, $F'(L)$, is also plotted in Figure 4.6. At $L = L^*$, $F'(L) = M'p_w$, and the marginal product of labour in Food (assuming all labour is applied to food) equals the marginal product of labour in manufactures, evaluated in terms of food at free trade prices.

Figure 4.6. The Minimum Population for a Tariff to be Wage Improving



If $L > L^*$, a tariff will increase real wages, by the argument previously rehearsed. But if $L < L^*$ a tariff may not increase real wages. If $L < L^*$ then there would be no manufacturing sector under free trade, as *all* labour will be allocated to food.²⁶ In these circumstances any merely 'small' tariff (that is, one that is insufficient to create a manufacturing industry) would merely raise the price of manufactures, without making local production of manufactures viable. Consequently, the wage in food is unchanged and the tariff has succeeded only in reducing the manufactures wage (that is, the amount of manufactures that can be purchased by the marginal product of labour in food, $= F'(L) / p_w[1+t]$).

²⁶ There will be no manufacturing since, even though all labour is allocated to food, the marginal product of labour in food is still greater than the marginal product of labour in manufactures (evaluated in terms of food at free trade prices).