The course taken by the Welsh economy in the half century preceding 1930 is simple and straightforward: it is one of rise and fall. But the direct statement, whilst accurate enough, disguises the nature of both the growth and the decline. The scale of each was of dramatic proportions. Indeed, the tragedy embodied classical elements in that the seeds of the collapse were contained in the forces, including even traces of hubris, which fuelled the soaring rise. The purpose of the present paper is to sketch the scale and nature of these movements, and to comment upon some of their characteristics which are of particular relevance to labour historians.

The tables serve to summarise the nature of the Welsh experience. Effectively they show a rapid increase in nearly all the critical indicators up to the first world war; a more varied experience during the war itself and into the immediate post-war years; and a sharp decline for the rest of the 1920s and beyond. Population together with output and employment in the main industries rose sharply and then fell away. The figures can be left to speak for themselves but in some significant respects they speak too softly and justify some amplification. In particular their message becomes almost deafening when attention is concentrated on their locational and structural aspects.

The population increase before 1914, for example, is quite substantial. But it was very unevenly spread. Six of the (then) thirteen counties actually experienced an absolute decline in population: these constituted the rural heartland of, especially, mid-Wales. There were small gains in three of the northern counties (Caernarvonshire, Denbeigh and Flint) mostly associated with the North Wales coalfield. But overwhelmingly the population trend was dominated by the few counties (Glamorgan, Monmouth and — to a lesser extent — Carmarthen) which were most directly affected by developments in the coalfield of South Wales. Indeed, of the total population increase for Wales of nearly 850,000 between 1881 and 1911, 610,000 (or 70 per cent) was accounted for by the single county of Glamorgan. Whether such a widely spread and heterogeneous geographical experience can be usefully described as the pre-1914 expansion of the economy of Wales must be open to some doubt.
The imbalance largely reflects a similar skewness in the industrial structure. Indeed the broad occupational groups used in the census seem in some respects hardly to be appropriate to describe the Welsh economic structure — except in a negative sense. In Wales the numbers falling into most of these occupational groups were insignificant. In 1911 ten of the 22 occupational groups each accounted for less than 1 per cent of the total occupied male population. This was a persistent feature of the nineteenth century Welsh economy; with minor variations the same occupational groups had been similarly insignificant at the time of the first comprehensive and comparable occupational census in 1851. At the other end of the scale nearly all the (233,000) growth in the male occupied population could be accounted for by just six groups. And even within this leading half dozen growing sectors there was a huge imbalance: five of them (Transport; Metals, machines; Food, tobacco etc.; Building; and Commercial) accounted between them for just under half (105,000) the increase, the other half (112,000) was entirely accounted for by the single sector of Mines and Quarries. As a result, by 1911 out of the entire male occupied population in Wales one in every three (31.6 per cent) was a miner or quarryman. Few industrial countries can have had so markedly concentrated an occupational structure. But if we add to those in Mining the slowly dwindling numbers engaged in Agriculture, an even more remarkable fact emerges: in what is generally considered to be one of the most industrialised sectors of the most industrialised pre-1914 nation (Britain) almost half (43.5 per cent) of the occupied male population was engaged in primary production.

The dominant sector in the Welsh economy was clearly that of Mines and Quarries, but as the nineteenth century progressed Mines and Quarries came increasingly to mean coal. By 1911 the number employed in lead mining was tiny whilst those in the slate industry numbered less than twenty thousand (Table 5). The increasing dominance of coal, and especially of South Wales coal, is thus the final point to be emphasized in this brief survey of the Welsh economy in the generation before the first world war. It is a dominance which can be economically and effectively established and demonstrated.

By 1911 30 per cent of the occupied males were in the one industry of coal-mining: an extraordinary percentage when it is recalled that most Welsh counties contained no coal deposits. In the 30 years before 1914, unemployment in the industry grew from about 80,000 to 242,000 (Table 3). And of this increase of 162,000 nearly all (157,000) took place in the South Wales coalfield. In a little over a decade at the beginning of the twentieth century the South Wales coal industry absorbed an additional 100,000 miners. At a more impressionistic level the thrusting, restless activity can be conveyed by two brief illustrations, one direct and one indirect. In 1891 in the immediate hinterland of Cardiff alone it was reported that
at the present time the new Clydach pit was being developed (and it is rumoured
that another was to be sunk); Naval Colliery Co. is going to sink a new pit; Lewis
Merthyr Co. to do the same; Tylor and Co. now well on with new Cefn-nant-ddu
colliery; Mardy Co. had started new shaft; Dowlais Co. is sinking two new shafts;
Universal Colliery Co. to sink new pits north of Pontypidd. In Rhymney Valley,
Llanbraddach Co. had found fresh coal; Rhymney Co. is sinking two new shafts at
Pengam; Powell Duffryn Co. contemplated sinking in the same area. Universal Co.
had started two pits at the top of Aber valley, a new pit is being sunk at Llanhilleth;
Ebbw Vale Co. is sinking at Cwm and at Abertillery.

The indirect effects, especially in the provision of the transportation
infrastructure, were equally dramatic. By 1890 South Wales already
possessed what was certainly one of the most densely-developed rail
networks of the entire world. Even so, the years before 1914 saw a few
minor extensions — another 32 miles for the Barry Railway, 23 miles for
the Cardiff Railway, 17 miles for the Rhondda and Swansea Bay line, and 21
additional miles for the Port Talbot Railway. But the real post-1890
outburst took the form of the provision of extra port facilities. Between
1890 and 1910 more investment was made to build more dock
accommodation than ever before.

The Barry No. 2 Dock covering 34 acres was opened in 1898. At Cardiff the Queen
Alexandra Dock was opened in 1907 at a cost of £1.3 million. Its 52 acres increased
the Bute Docks system by almost one-third. At Newport a dock extension of 20
acres was opened in 1893 whilst the South Dock extension of 48 acres was finally
completed in 1914. At Port Talbot a new dock was opened in 1898, the same year as
a 28 acre extension to the Prince of Wales dock in Swansea. A decade later, in 1909,
the King's Dock of 70 acres was also opened in Swansea . . .

Much of this extra dock accommodation was soon to be rendered
redundant. That should not, however, be allowed to disguise the essential
message arising from the energetic activity of the quarter-century
following 1890: it proclaimed not only that the economy was expanding
very rapidly but that contemporaries were confident that the still-growing
coal industry justified capital expenditure on the infrastructure on a scale
which anticipated a much greater future demand. The boosters were
wrong, as they usually are sooner or later, but it would be equally mistaken
to use hindsight simply to write all this off as hysteria. At the very end of
this period a shrewd, sober and knowledgeable judge of the industry —
Professor Stanley Jevons — was still calling for additional dock
accommodation for Cardiff: "The South Wales coalfield is now producing
at the rate of nearly 60 million tons per annum, and the rate of production is
pretty sure to increase within 30 or 40 years to about 100 million tons per
annum."

In the event, 1913 turned out to be the peak year for coal output (56.8m.
tons) in South Wales. It is impossible to know whether this would have still
been the case if the first world war had not broken out in August, 1914 but
it is unlikely that a downturn could have been long delayed. It is tolerably certain that the needs of war, after a great deal of initial disruption, soon called for as much output as a reduced and (because of an early patriotic exodus of skilled colliers) less efficient workforce could produce from mines which were not getting enough capital for their effective maintenance. War thus — eventually — sustained output: the post-war boom with high prices greatly stimulated output. But the wartime capital neglect, and the post-war profit incentive brought into production thinner seams and pits which had previously been closed down as too small or inefficient. Employment thus peaked in 1920 at 271,516 (over 38,000 more than in 1913) but the 1920 output at 45.3m. tons was 11.5m. tons less than that of 1913.

The post-war boom died at the end of 1920. The ensuing decline of the Welsh economy can again be summarised in the broad statistical indicators (Tables 1 — 6). But again these under-state what was happening: the Welsh fall, like the Welsh rise, is not fully captured in these figures. Thus the fact of an absolute decline in population (from 2,656m. in 1921 to 2,593m. in 1931) is itself significant, especially when contrasted with the still-rising U.K. trend (from 44.07 on to 46.07m.). But it obscures three facts: that Wales had suffered a dramatic reversal from having an above-average rate of population growth before 1914; that the fall was unevenly distributed — the Rhondda lost 13 per cent of its population in the decade before 1931; and the overall loss of population under-states the extent to which people were moving out of the country, and particularly from the southern coalfield. In the decade before 1931, for example the actual loss of population from the four counties containing coalfield was 70,000. But the region had long had, and continued to have, an exceptionally high birth rate. There would thus have been a continued substantial natural rate of increase by 1931 if this had not been offset by out-migration. It was estimated that 242,000 left the coalfield during the 1920s.7

The decline, moreover, was not spread over the entire decade so that, when it came, it was sharper than the overall figures might suggest. In the immediate post-war boom the price of coal for export had risen exceptionally strongly. That demand came to an end in late 1920 and, together with the coincident shift of government policy to deflationary measures, hit South Wales badly. But after the disruption of the national three month coal dispute of 1921, support was lent for the view that the downturn would soon be over by the return to high levels of output and exports in 1922. 1923 was still better (because the French invasion of the Ruhr disrupted a major competitor) and the generally good trading conditions of 1924 sustained a high level of activity. In 1923 output at 54.3m. tons was almost back to its 1913 peak (56.8m. tons), and coal exports from South Wales in 1923 were actually slightly higher (30.0m tons) than in 1913 (29.8m. tons).8 Unemployment in coalmining in South Wales was in 1923 and 1924 — as it had been before 1914 — well below the
U.K. average. With national figures already above 10 per cent an overwhelmingly coal district like the Rhondda registered less than 2 per cent in 1923 and was still only 7 per cent by the end of 1924, and — partly reflecting the dominance of coal — the average for Wales in each of these years was below 10 per cent (6·4 and 8·6 respectively).9

When the bubble burst the pace and scale of the fall were devastating. Most of the reasons for the collapse of the Welsh coal economy were secular but their malign effects were hugely aggravated by a series of short-run, ad hoc, influences: the war; the feverish post-war boom; the invasion of the Ruhr; and, above all, by Britain’s return to the gold standard in 1925 at an over-valued pound which hit directly at exporting areas like Wales. Before the war 70 per cent of the commercially disposable coal of South Wales was exported as cargo or bunkers. Compared with just two years earlier in 1923 the output of the southern coalfield had fallen by 10m. tons by 1925, fluctuated around that level (44—48m. tons) until the end of the decade before plummeting by a further 10m. tons (to 34·9m. tons) in 1932. In the decade from 1923 to 1932 the number employed in the industry fell by over 100,000. Neither output nor employment recovered in the years of the British economic recovery of the 1930s. Moreover, despite the steady fall (through migration, natural wastage etc.) in the total number of insured miners, both the number and the percentage of miners unemployed increased to over 80,000 and 42 per cent in 1932.

The experience of the South Wales coal industry was the most dramatic, but it was echoed in the other major industrial sectors of Wales (Tables 4—5). But the more important feature was the fewness of these other major industrial sectors. The Welsh economy remained throughout these years one which was narrowly based to a quite extraordinary degree. The 1921 occupational census showed that 43 per cent of the occupied male population were engaged in just 2 (out of 26) occupational groups: Mining and quarrying; and Metal manufacturing and engineering. If those engaged in transportation (largely dependent on these two industries and the fourth largest sector after Agriculture) are added over one-half the male occupied population is accounted for. The precariousness of such an economic structure was greatly compounded by the fact that each of these sectors was heavily reliant on its ability to export. The South Wales coal industry still exported about two-thirds of its (dwindling) output in the early 1930s; Welsh steel production was overwhelmingly destined for local tinplate and sheetworks which in the early 1930s still exported two-thirds of their output; and in the late 1920s over 80 per cent of the more than 800,000 tons of galvanised sheets were sent abroad.11

Explanations are more elusive than description and cannot be managed in the same preemptory way. They are thus not here attempted. Instead some general comments are offered on a few selective aspects of the developments in the Welsh economy which have been briefly depicted. One of the most significant is the effect and influence of technical change.
The customary story was that there was before 1914 a long-run decline in the level of labour productivity in coal mining stemming largely from the natural operation of diminishing returns in an extractive industry. The charge was that this secular trend was not countered by the adoption of technical innovation, and the responsibility for this was variously attached to entrepreneurial failure or labour resistance to the new methods of work. It was considered that this was sufficiently demonstrated by the fact that in 1913 only just over one per cent of output in South Wales was mechanically cut, a much lower proportion than in other coalfields.

More recently this has been challenged on two main grounds. It is questioned whether there was the long-run decline in productivity before 1914 (Figure 1). Instead by 1914 there seems simply to have been a return to the levels of the early 1870s; the aberration seems rather to have been the very high productivity levels of 1880–88; and the fall from these levels were concentrated in two brief bursts from 1888–90 and after 1908 each of which could be explained by ad hoc factors. More specifically, the geological conditions in South Wales were unsuitable to the cutting machines which were then available. The machines required smooth and continuous working conditions if they were to be economically viable, but the seams of the coalfield were notoriously unstable. Indeed, the over-riding geological characteristic of the coalfield was that it was much more disturbed and much less stable than other coalfields. Thus the seams tended to dip quite sharply; they were heavily faulted; and the floor and the roof showed high propensities to buckle and to fall, to 'work' or move. One result of this was to make the actual process of cutting the coal a less urgent problem. Welsh colliers customarily ended their shift by under-cutting the seam, confident that by the next morning much of the overhanging coal would have been brought down by the pressure operating from the roof. Improved, more robust and adaptable, machinery together with some changes in the economics of the industry, led to a more widespread adoption of mechanical mining methods in the inter-war years though the same factors still meant that South Wales tended for good reasons to lag behind other coalfields. But for the period up to 1914 the significance is rather that alleged labour intransigence over the adoption of machinery was never a very live issue. And, more generally, it meant that the vast expansion in output could only be achieved by an equivalent increase in the labour force.

The more important technical change was probably taking place not on the production (supply) side but on the side of consumption (demand). It took the best part of the nineteenth century for steam to oust sail as the main source of propulsion for ocean shipping. In Scotland the Charlotte Dundas had operated on steam as early as 1802 whilst in 1833 the Canadian Royal William had crossed from Nova Scotia to Portsmouth using steam as an auxiliary to sail. But as late as 1870 the still-growing number of sailing vessels of the U.K. merchant fleet constituted four times the tonnage of the steam fleet (4.6 against 1.1m. tons). Thereafter the change-over was rapid:
In the crucial four decades from c. 1870 South Wales, with its huge supplies of coal especially suited for steam-raising and with the added boon for naval vessels and passenger liners of being (relatively) smokeless, was a prime beneficiary of this process. It provided the major driving force behind the dramatic increase in output which more than trebled between the late 1870s and the first world war. That conflict was, with the possible exception of the Russo-Japanese war of 1904–5, to be the only one in which a significant war at sea was mainly fought with coal-fired ships. And unfortunately for Wales the pace of the downswing was much more rapid than the upswing had been. The Admiralty only initiated sea trials using oil at the beginning of the twentieth century but twenty years later had ceased commissioning coal-fired vessels of war. The prestigious Admiralty demand for Welsh coal had plummeted from 1.75 million tons in the last peacetime year of 1913 to one-fifth of this level in 1925 when it was still falling. In 1913, about 90 per cent of shipping generally was coal-driven; by the end of our period this had fallen to about one-half. Still more ominously, less than one-third of new shipping in 1930 was designed to use coal; oil fired boilers and internal combustion engines which had been fitted to an insignificant proportion of the world’s tonnage in 1913 had within two decades already become the norm.¹⁵

In part this was simply one of a series of factors making for a decline in the demand for Welsh coal in the 1920s. It was, in this respect, reinforced for example by the developments being made in fuel economy. More efficient domestic appliances were supplemented by the use of powdered fuel and small coals in factories and in steel works. There was also the more particular factor of the return to the gold standard which exerted an especially baleful influence on an overwhelmingly exporting district like South Wales. And the more general influences of the exhaustion of some of the more accessible coal reserves, and the development of new (and often subsidized) sources of competition in countries like Poland and Germany. But what needs to be emphasized is that the significance of the decline in the use of coal for steam-raising, especially for shipping, extended far beyond the simple loss of a market.

Before 1913 Welsh coal always commanded a price premium. This was generally regarded as a reflection of the higher quality of Welsh coal and hence looked upon as a permanent source of prosperity for the region. And in part, of course, it did reflect the peculiar qualities of Welsh steam coal. But the higher price also reflected the greater cost of producing Welsh coal. Even before, and apart from, the retarding effects on the introduction of coal-cutting machinery, the exceptionally difficult geological conditions made the coalfield a relatively high-cost producer. During the boom years some of the implications of this fact eluded those on all sides of the industry whose pride in the high quality of the coal led them to believe that it
ensured that it would stay in high demand. Causation and causal directions in history are always tricky. None the less, when taken in conjunction with the high cost characteristics, it can be asserted with some confidence that in the Welsh coal industry the causation ran (and still runs) the other way. The nineteenth century saw the emergence of new demands for coal — especially for steam raising, and especially for steam ships — for which Welsh coal happened to be well suited. The smokeless and steam raising qualities of Welsh coal were sufficiently marked to ensure a surging demand for it despite the fact that it necessarily cost more to produce. The higher costs were inescapable. Once the special demand for Welsh coal declined much of the industry was doomed: its higher quality would not then be able to offset the greater cost of getting it. On this reading, therefore, the connection between cost, price, demand and quality pointed not to the security given to the Welsh coal industry by the high quality of its product, but to the precariousness which came from its high cost of production.

The point has been presented here with an exaggerated starkness. The justification stems from a conviction that it is not possible to comprehend the shifts in the Welsh economy over this period without an appreciation of the basic economics of the dominant industry. It is a useful background which helps to illuminate such other characteristics of the industry as the especial vehemence with which the Welsh coalowners attempted in the inter-war years to reduce these costs by cutting wages. The high cost disadvantage in a competitive industry could only be overcome if, as in the 1950s, there was a general acute fuel shortage or if there was a particular demand for the particular qualities of the product. The latter aspect was demonstrated in the 1920s by the experience of the anthracite industry. For most of the nineteenth century the anthracite coalfield of West Wales had experienced very slow growth. The seams here were generally even more faulty and costly to work so sale was confined to a few specialised uses — like horticulture and brewing — where its exceptional purity was important enough to command a high price. Towards the end of the century a new wider demand opened with the spread of coal-burning closed stoves on the continent. Output rose from 1-2m. tons in 1890 to 4-om. tons by 1910. After the war, this demand continued so that, hugely against the general trend, output rose to 5-6m. tons in 1930 and over-rode even the handicap of an over-valued pound after 1925 by continuing to export nearly 70 per cent of total output. (In the early 1930s, and especially after the Ottawa agreements, Canada became a major market taking over 1m. tons a year).

More pertinent to the purposes and interests of labour historians is another feature which flows directly from the economic structure of Wales and the way it developed over this period. Both before 1914 and during the 1920s there was a natural prominence, perhaps even dominance, of essentially labour questions. This was natural because of two broad
features of the economy which have already been mentioned: the occupational structure and the pace and scale of the rise and fall of the economy. The occupational structure was throughout overwhelmingly geared towards manual workers. It was also heavily concentrated in industries which were strongly labour-intensive: coal, slate, lead, tinplate, railways, docks. Given these features a period which saw sharp changes in the economy was bound to create labour difficulties and tensions.

Other essays will pick up more specific aspects of these influences. The more immediate purpose is to offer a few broad comments on the implications of the Welsh economic structure for labour historians, and once again this can be most economically effected by concentrating on the coal industry. Something has already been said to counter the common charge of technological backwardness, especially before 1914. But even if it can be demonstrated that diminishing returns were just about kept at bay, and even if the apparently slow adoption of coal-cutting machines can be plausibly rationalised, some basic facts still remain. There was no sustained increase in productivity. There was no significant break-through in the fundamental process of coal-getting itself: the actual cutting of the coal was unmechanized, obtained by human muscle assisted only by a few primitive tools (mostly mandrils and shovels) and a little gunpowder. There was a huge increase in output between 1890 and 1914. The unavoidable consequence of all this was that more and more colliers were required to produce the coal, and the resultant influx of labour impinged upon all aspects of its social development.

Simply to ask where these extra bodies came from, is already to raise a number of crucial and contentious issues. At one level the answers are straightforward enough. A population increase of this sort can only come from natural increase or by migration, and the census figures — unsatisfactory as they are in many respects — clearly show that both these influences were at work. It can thus be observed that, strongly against the national trend, a high birth rate was maintained in the colliery districts up to 1914. We have the fact, but the explanation eludes us. Some commentators point to the operation of social factors: the enclosed nature of mining communities retarding the spread of outside influences, or the lack of alternative leisure facilities. Others stress economic factors: the absence of employment opportunities for women or, still more directly, the strong demand inducing the workforce to (more than) reproduce itself. But there are weighty objections to each of these approaches. Similarly, the fact of substantial net immigration into the coalfield in the two decades before the first world war is not in doubt. Where they came from, and why, are much more problematic. The Brinley Thomas thesis that emigrants from rural Wales were absorbed into the industrial south, with its accompanying implications for Welsh language and culture has more recently been challenged by Dudley Baines. Even if it were possible, the aim here is not to resolve the issue but merely to point out that the answer is relevant to a
wide range of social and industrial issues.

Amongst these would be the progress of labour organisations. In the case of the United States it is often asserted that much of the slow growth of trade union organisation through the nineteenth century can be attributed to the particular problems of unionising a rapidly growing, significantly immigrant workforce from different cultural backgrounds. It is not intended to press a false analogy between Wales and the United States. But it is pertinent to point out that against this background, there seems to be a perversity in the Welsh experience: in the period before the major human flood-tide trade unions in Wales were seen to be weak; it is in the, apparently, unfavourable conditions of the early twentieth century that the first secure foundations are laid. Right into the 1890s informed observers like the Webbs were dismissive of miners’ unions in Wales: by 1914 — after Tonypandy, after the leading part played in the national strike for a minimum, after *The Miners’ Next Step* — such a stance was inconceivable.

The rapid expansion of an economy whose structure emphasized labour-intensive sectors thus raises major puzzles for labour historians. These have been illustrated: they could be multiplied by looking at such features as the provision of social capital or political affiliations. The more important point is that when the decline comes in the inter-war years it necessarily makes for a similar dominance of labour problems. The industrial structure is still much the same (indeed, that is a large part of the problem), and the industries are still labour-intensive. The process was reversed, but the issues were not simply reversible. Thus immigration gave way to emigration, but it was certainly not a straightforward case of the arrivals of the 1900s returning from whence they came. Similarly trade unions under attack and in retreat were faced with a quite different set of problems. Hywel Francis and David Smith have, for example, brilliantly told how “The Fed” partly met this challenge by becoming, in significant respects, the universal providers for the community. There were more subtle changes. Before 1914 franchise changes had secured the election of many workers as Poor Law Guardians, but this had not led to any significant loosening of the application of the Poor Law. Outdoor relief for adult males continued to be stringently withheld. Miners acted mostly as ratepayers since there was very little unemployment for them at this time. In the 1920s, as mass unemployment becomes a common experience, there are persistent attempts to bend or break the regulations.

The Welsh economy, especially before 1914, has recently been portrayed by some writers as occupying a central role in the development of an Atlantic Economy which is seen as a major manifestation of late nineteenth and early twentieth century capitalism. Wales played a vibrant part because its world-wide network of exports led to investment and migration which in some cases — the Dowlais influence on Bilbao in Spain and the Swansea and North Wales dominance of Chile — was significant for a whole economy. Others portrayed Wales as merely constituting part of
England's internal colonisation and being thus persistently and consciously exploited. But perhaps these dramatic scenarios, in their quite different ways, exaggerate our significance. Wales may be best depicted as an integral but peripheral part of a general United Kingdom economy. The problem would then be simply that for a crucial period the Welsh role in that economy was so obviously best suited to primary production that no sizeable, stable manufacturing was established. It is more dubious whether this crucial omission can be attributed to the malevolence, or even the unconcern, of capitalist hyenas in London or New York, or just to Welsh donkeys in Cardiff and Caernarvon.

The Tables are taken from, or calculated from J. Williams, Digest of Welsh Historical Statistics, 2 vols., Cardiff, Welsh Office, 1985.

Notes

1 Defence; Fishing; Precious metals, jewels, watches, instruments and games; Chemicals, oil, grease, soap and resin; Skins, leather, hair and feathers; Gas, water, electricity, sanitary work; Wood, furniture, fittings, decoration; Brick, cement, pottery and glass; Paper, print, books, stationary; Textile fabrics.


3 In 1899 the coal industry in South Wales employed 132,682 men: by 1913 this reached 233,134. Welsh Historical Statistics, I, 300.


5 Baber and Williams (eds.), op.cit., 203.

6 H. S. Jevons, The British Coal Trade (1915), 109,111.

7 Second Industrial Survey of South Wales (Cardiff, 1937), I, p. 16.

8 When bunker fuel and the coal equivalent of coke and patent fuel exported are added the 1913 exports were 36.8m. tons compared to 35.8m. tons in 1923.


10 In the mid-1930s 15 of the 18 steelworks in South Wales were mostly engaged in supplying for tinplate manufacture. Ibid., 90.

11 Ibid., 103,108.


See, e.g., G. A. Williams, *When Was Wales?* (Harmondsworth, 1985), Ch. 10.

Table 1. Population. Wales and Selected Counties, 1881-1931. (000s)

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<th>Caerns.</th>
<th>Cards.</th>
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1 Mid-year estimate

Table 2. Occupations. Wales, 1881-1931. (000s)

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<th>Transport &amp; Communic.</th>
<th>Total</th>
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Table 3. Iron, Steel and Tinplate

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<th>Pig Iron Production</th>
<th>No. of Works</th>
<th>North Wales Built</th>
<th>Pig Iron</th>
<th>Tinplate Output (00s of boxes)</th>
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<td>63</td>
<td>824</td>
<td>416</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>1911-13</td>
<td>9</td>
<td>32</td>
<td>12</td>
<td>787</td>
<td>1,807</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1930-32</td>
<td>6</td>
<td>20</td>
<td>3</td>
<td>392</td>
<td>1,375</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

1 1913 figure 2 1909-11 to keep comparable basis. 3 Ave. 1878-80
Table 4. Coal

<table>
<thead>
<tr>
<th>Year Average of:</th>
<th>Output (000s tons)</th>
<th>South Wales Shipments of which Anthracite</th>
<th>Foreign &amp; Coastal</th>
<th>No. Employed</th>
<th>North Wales Output (000s tons)</th>
<th>No. Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1879-81</td>
<td>20,406</td>
<td>906¹</td>
<td>9,330</td>
<td>69,515</td>
<td>2,442</td>
<td>10,175</td>
</tr>
<tr>
<td>1911-13</td>
<td>52,383</td>
<td>4,359</td>
<td>37,098</td>
<td>226,519</td>
<td>3,400</td>
<td>15,690</td>
</tr>
<tr>
<td>1930-32</td>
<td>39,022</td>
<td>5,435</td>
<td>24,811</td>
<td>159,024</td>
<td>3,104</td>
<td>13,813</td>
</tr>
</tbody>
</table>

¹ 1888

Table 5. Lead¹ and Slate, Wales

<table>
<thead>
<tr>
<th>Year Average of:</th>
<th>No. of Mines</th>
<th>Lead Output (tons)</th>
<th>No. Employed</th>
<th>Output (000s tons)</th>
<th>Slate No. Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1879-81</td>
<td>98</td>
<td>20,118</td>
<td>6,363</td>
<td>443⁴</td>
<td>14,019³</td>
</tr>
<tr>
<td>1911-13</td>
<td>26</td>
<td>7,042</td>
<td>1,867</td>
<td>312</td>
<td>18,764</td>
</tr>
<tr>
<td>1930-32</td>
<td>192²</td>
<td>201</td>
<td>18.4³</td>
<td>1924-6 Last years available.</td>
<td></td>
</tr>
</tbody>
</table>

¹ Covers lead, zinc and copper. ² From 1933 there was revival from Flints. Ave. 1934-6, 18,837. ³ 1925-6 (last years available) less than 500. ⁴ 1882-4 Earliest available. ⁵ Figs. deficient before 1895 Quarries Act made them compulsory. ⁶ 1924-6 Last years available.

Table 6. Unemployment. Wales, number and per cent. Males, Annual Averages, 1923-32.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Per cent.</th>
<th>Year</th>
<th>Number</th>
<th>Per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>34,209</td>
<td>6.4¹</td>
<td>1928</td>
<td>127,030</td>
<td>24.4</td>
</tr>
<tr>
<td>1924</td>
<td>49,995</td>
<td>8.6¹</td>
<td>1929</td>
<td>105,294</td>
<td>19.2</td>
</tr>
<tr>
<td>1925</td>
<td>96,557</td>
<td>16.5¹</td>
<td>1930</td>
<td>142,758</td>
<td>27.5</td>
</tr>
<tr>
<td>1926</td>
<td>104,011</td>
<td>18.0¹</td>
<td>1931</td>
<td>177,146</td>
<td>34.3</td>
</tr>
<tr>
<td>1927</td>
<td>117,108</td>
<td>20.9</td>
<td>1932</td>
<td>207,292</td>
<td>39.1</td>
</tr>
</tbody>
</table>

¹ Ave. percentage only available for all unemployed (males, females and juveniles). This figure normally a little over 1 per cent below figure for males only.