Edward Nevin and the evolution of the Welsh economy since 1950

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Introductory Editor's note

Edward (Ted) Nevin produced a considerable body of research on the Welsh economy and regional policy, publishing a total of fifty monographs, academic papers and press articles between the early 1950s and 1990. February 2025 will be the centenary of Nevin's birth. To mark this milestone, his son, Michael Nevin, has recently published a book 'Edward Nevin: An impression of his life, times and legacy' (Nevin, 2024). In addition, Michael Nevin has authored this paper which provides a synthesis of Edward Nevin's work on the Welsh economy and considers its implications for Welsh economic policy in the 2020s. Edward Nevin's work was of great significance and importance, in particular the pioneering work he co-authored on the structure of the Welsh economy, producing the first set of input-output accounts relating to Wales. This work formed a foundation and provided inspiration for research in input-output analysis in Wales and beyond. In Wales, much of the activities of the Welsh Economy Research Unit at Cardiff Business School have been based around compiling input-output tables for Wales and applying these in a range of contexts.

The fifties: The first estimates of Welsh national income

"Fortuna est quae fit cum praeparatio incidit."
(Luck is what happens when preparation meets opportunity)
– Seneca (attributed)

It could be argued Edward Nevin was lucky to gain a reputation as a leading authority on the Welsh economy, as the first person to publish estimates of Welsh national income in the mid-fifties and, ten years later, leading the team that prepared the first input-output table of the Welsh economy. He was in the right place at the right time. The first official estimate of UK GDP (The Blue Book) was published in August 1952. Before then, no-one inside or outside government had produced separate GDP estimates for Wales, so the opportunity was open for innovative research, and he made his own luck through careful preparation to take that opportunity.

The Welsh Economic Research Group (WERG) was set up at the University College of Wales, Aberystwyth, during the 1954/55 academic year, with a mission to analyse the size and structure of the Welsh economy. The Group published its first provisional social accounts of the economy in 1956 (Nevin, 1956). The approach it applied resembled double-entry bookkeeping by drawing on separate data sources to calculate Gross Domestic Product (GDP) for Wales, so that there were automatic checks and balances within the system confirming that the final estimates were as accurate as possible, within the constraints of data availability in the mid-1950s.

By securing as much data as they could, the WERG was able to estimate Welsh GDP for each of the years between 1948 and 1952. For example, Welsh GDP was estimated at £491 million in 1950, equivalent to approximately £22.75 billion in today's prices.[1]

The political response to this first set of Welsh social accounts generated more heat than light. "This demand for statistics," declared Mr David Llewellyn, Conservative MP for Cardiff North and erstwhile Under-Secretary of State for Welsh Affairs during the Welsh Day debate in Parliament on February 2nd, 1956, "is tainted with nationalism" (quoted in Evans, 1956). The Deputy Leader of the Labour Party, Mr James Griffiths MP, was quoted in the *Welsh Republican* as observing that, since the figures indicated that a net amount of £174 million was invested in Wales from outside over the period covered by these first social accounts, Wales was "taking more out the United Kingdom than she was putting in", thereby benefitting from being part of the UK (Welsh Republican, 1956). Unsurprisingly, the President of Plaid Cymru, Mr Gwynfor Evans, read the figures rather differently. He was fulsome in his praise for the WERG's research, writing in *The Welsh Nation* that the social accounts, prepared "under the very able direction of Dr Edward Nevin", had "brilliantly vindicated" his faith that the Welsh economy could be separately measured and discussed. Mr Evans went on to conclude that, "the picture that emerges is of a Wales that is fully self-supporting.……Wales would better off economically under a Welsh government" (Evans, 1956).

These early interchanges have a curiously contemporary feel about them (see for example, Ifan et al., 2022; Hayward, 2022). However, the political controversy somewhat discombobulated Edward Nevin, who sought to depoliticise the accounts with an update in 1957 revising the earlier estimates and extending them to cover the period 1948–1956 (Nevin, 1957).

Ten years later, Nevin was to find himself in the middle of a greater political firestorm.

The sixties: Input-output analysis, the National Plan and the 'jobs gap' controversy

Nevin's career took him outside Wales for a period, hence a gap in the publication of a further set of Welsh social accounts. In October 1957 he travelled to Jamaica where he took up an appointment as Head of External Finance. Returning to Aberystwyth, he then concentrated on completing *Capital Funds in Underdeveloped Countries* (Nevin, 1961) which set out a vision of central banking in an emerging economy based on his Jamaican experience. With *Capital Funds* still hot off the press, in 1961 he took up a senior appointment with the newly founded Irish Economic Research Institute in Dublin. It was therefore not until the 1963/64 academic year, following his appointment as Professor of Economics at Aberystwyth, that he was able to turn his attention to the Welsh economy once more.

This was the era of the National Plan, devised by the incoming Labour Government of 1964 to boost economic growth. In Wales, a Regional Economic Council was set up, which Nevin was invited to join.

New estimates of Welsh GDP were prepared with the assistance of two researchers at Aberystwyth, Alan Roe and Jeff Round (Nevin et al., 1966). For the first time, input-output analysis was applied to assess the impact of the National Plan on employment levels in particular sectors within the economy. This approach did not greatly change the earlier estimates of total Welsh GDP. For example, estimated GDP for the Welsh economy for 1950 was only amended from £491 million to £495 million. However, the input-output methodology was more accurate than earlier methods in estimating the impact of GDP growth on employment across different sectors.[2]

Prior to the publication of *The Structure of the Welsh Economy* (Nevin et al., 1966) the impact of economic growth on job creation had been

[1] Based on a Retail Price Index (RPI) adjustment. Source: https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/cdko/mm23

[2] Interested readers are directed to Miller and Blair (2022) for an explanation of the input-output methodology and applications.

estimated by a simple linear equation of the form:

$$J = a + (b \times GDP) \qquad [1]$$

where J = number of jobs,
a = the intercept parameter,
b = the slope parameter, so that

$$\frac{\delta J}{\delta GDP} = b \qquad [2]$$

Equation [2] had the merit of simplicity. However, the estimate for ‘b’ generated seriously erroneous forecasts. *The Structure of the Welsh Economy* extrapolated data for the years 1956–1960 to forecast job creation for the years 1961–1964. They differed from the actual number of jobs created by no less than 52%. (Nevin et al., 1966, Table 12, p.16). Drilling down into the numbers revealed that, whereas Welsh GDP growth during the fifties had been driven by investment in capital-intensive projects such as the Velindre and Llanwern steelworks and the Milford Haven oil refinery, during the early sixties GDP growth was driven by labour-intensive manufacturing, distributive trades and hospitality services within the Principality. In terms of Equations [1] and [2], the parameter ‘b’ was not stable, but shifted significantly upwards in the early sixties compared to the late fifties, rendering any forecasts based on it unreliable.

By contrast, the input-output approach, which disaggregated demand across different sectors, yielded an employment estimate that was only 13% out – still not entirely accurate, but a good deal better than linear extrapolation, and therefore a better basis for estimating the likely impact of the National Plan over the period 1965–1970.

An input-output table comprises a matrix whose columns estimate the inputs to each economic sector (intermediate purchases) while the rows list the outputs from each sector to other sectors (intermediate sales) and to the final consumer (final sales). The vectors of input-output coefficients that can be derived from the matrix can be applied (with the use of some assumptions, see Miller and Blair, 2022) to estimate the impact of an increase in the output of each industry or sector on demand for inputs from other sectors.

The 1960 Welsh input-output table in Nevin et al. (1966) comprised 31 sectors, separately distinguishing trade within Wales and between Wales and the rest of the UK[3] – thus a total of 62 rows and columns, or 62^2 = 3,844 (intermediate) entries. The creation of such a table would have been enormously time-consuming in the days before computers. However, with computation, it was possible to estimate the impact of two scenarios. The first scenario was based on National Plan GDP growth forecasts, and the second assumed ‘business as usual’ where Welsh GDP grew at the same rate as in 1960–1964. The results are shown in Table 1.

Table 1: Estimated job creation in Wales, 1965-1970.

Scenario	Change in male employment	Change in female employment	Total change
National Plan	(-43,000)	+22,000	(-21,000)
Business as usual	(-59,000)	+16,000	(-43,000)
National Plan boost to jobs	**16,000**	**6,000**	**22,000**

Source**:** Adapted from Nevin, et al. (1966) p.17.

[3] The nature of the tables, being inter-regional, is of particular significance. In the years that followed, Ireson and Tomkins compiled inter-regional tables for Wales and the rest of the UK for 1968 (Ireson and Tomkins, 1978). Following a long publication gap, the next set of input-output tables related to the Welsh economy in 1994 (Hill and Roberts, 1996), whilst these and subsequent tables produced by the Welsh Economy Research Unit have been partially survey-based, they have not been inter-regional. The most recently published Input-Output accounts for Wales are summarised in Jones (2022), with details of earlier published tables in Jones et al. (2010). A Welsh Government project to better understand the Welsh economy through the estimation of Input-Output tables is ongoing (Jones, 2023).

Recognising that the forecasts derived from the input-output analysis were based on certain limiting assumptions, and limited data, the report recommended that further research be undertaken to secure more detailed data specifically for Wales, concluding that:

> In its present form, the model is no more than the merest outline of the finished product which might conceivably emerge one day in the future; but it is nevertheless a considerable advance on any other technique of regional economic planning currently available. (p.1)

It produced results significantly lower than the Government's own estimates of likely future job creation under the National Plan. In its coverage of *The Structure of the Welsh Economy*, the *Western Mail* wrote that:

> Professor Nevin commented that, 'since the figures in our report (for job losses in declining sectors such as coal) are distinctly higher than those quoted in official pronouncements, the Government will find they have been working to a target (for job creation) that is far too low.' But he thought that, if the Government accepted his figures, the problem could be overcome. 'In fact we do not look at it as a problem at all but rather as an opportunity to redeploy 60,000 men from traditional industries,' he added. 'But the Government must accept that their figures are far too optimistic.' (Western Mail, 1966)

Disenchanted with the National Plan, Nevin resigned from the Welsh Economic Council in July 1967, setting out his concerns about the direction of regional policy in a polemical article entitled 'The Plan for Wales that isn't', published in the *Liverpool Daily Post* (Nevin, 1967a). His critique brought a rebuke from the Welsh Office, which felt that he had jumped the gun by referring to a White Paper yet to be published.

Jeff Round, one of the co-authors of *The Structure of the Welsh Economy*, provided further information on the facts pertaining to the *Liverpool Daily Post* article in an e-mail correspondence on 9th October 2024, when he wrote:

> I have such a vivid memory of the event. I do remember the morning when it happened very well… Ted had drafted a piece for the newspaper, presumably critical of the White Paper, but it was to be held back until after the White Paper had been published. Whether the newspaper inadvertently or intentionally broke the embargo, or whether it was a consequence of the White Paper publication being delayed – this is something I simply do not know. All I do know is that he did not intend his article to be published in the newspaper until after the White Paper was itself published. Unfortunately, he suffered the consequences of this, professionally, within Wales afterwards.... (Round, 2024).

The Welsh Office may have concluded in 1967 that Edward Nevin had authorised publication of the article ahead of the presentation of the White Paper to Parliament. If so, its irritation at such an egregious breach of protocol would have been understandable. In fact, it seems he gave no such authority, and the premature publication of the article was the responsibility of the *Post* in breaking an embargo.

The consequence was that Nevin never worked with or for the Welsh Office again. The fracture between academic research and policy on the Welsh economy did not heal during his lifetime. This was unfortunate, as a more constructive relationship between the two could have helped to enhance the economic performance of the Welsh economy.

Looking back on the 'jobs gap' controversy of the sixties today, it is difficult to avoid the conclusion that official figures to support the 'line to take' were problematic. So far from achieving the job creation targets set out in the National Plan, unemployment across the UK doubled between 1966 and 1971, when the number of people registered as unemployed rose above one million for the first time. The official GDP and job forecasts proved grossly over-optimistic, as Nevin had feared.

Nevin was equally sceptical of micro-economic initiatives to boost the Welsh economy during this period, describing them as a "haphazard, penny-packet" approach (Nevin, 1968, p.20), spraying money around in the hope that some of it would benefit someone, somewhere. He pointed out that advance factories, built with government money ahead of any tenants to occupy them, mostly remained empty with "only four tenants found so far for the 32 advance factories in the programme authorised for Wales" (Nevin, 1967a). Nevin was unimpressed by proposals to build a New Town in mid-Wales to reverse rural depopulation (Nevin, 1969). Nevin questioned the value for money of grants given to various enterprises in an attempt to "pick winners" (Nevin, 1968). His overall scepticism about the effectiveness of regional planning was summed up in a 1967 article entitled 'Wales after the Freeze' (Nevin, 1967b).

> Despite all the grand speeches and escalating bureaucracy, regional planning for Wales in the past two and a half years has boiled down to precisely the same recipe as before – to build advance factories, give special allowances and hope for the best (p. 25).

The seventies and eighties: Wales in Europe

Disillusioned with Welsh regional policy, Nevin was an early and enthusiastic supporter of British membership of the European Common Market. His thinking is summarised in the title of one article written in the late sixties entitled 'The Common Market: a worthwhile gamble for Wales' (Nevin 1966). He accepted that joining the Common Market was a gamble with no guarantee of success. However, he believed that membership would help "those two great foundation stones of the Welsh economy – coal and steel" (Nevin, 1966, p.11). The Welsh coal industry would continue to decline, but that was inevitable whether or not Britain joined the Common Market, and "the Europeans have shown themselves at least as capable as Britain in coming to terms with the problems posed by declining coal mining regions" (Nevin, 1966, p.11). The Welsh steel industry might, he hoped, benefit from scale economies within a larger market. "Gamble membership may be," he concluded, "but what we stand to win exceeds by far what we stand to lose" (Nevin, 1966, p.12).

In a subsequent article (Nevin, 1971) Nevin accepted that membership might constrain Britain's ability to pursue its own regional policies, but argued that only one of the instruments of British regional policy – the "ill-conceived" Regional Employment Premium – would fall foul of the Treaty of Rome, while other aspects of regional policy "had amounted to no more than a collection of ill-integrated measures, inept in application and inadequate in effect" (Nevin, 1971, p. 10).

Britain's entry into the Common Market on January 1st, 1973, was followed by the progressive withdrawal of regional financial incentives funded by the UK Government and the repeal of the Regional Employment Premium. By the early 1980s, expenditure on regional assistance in Wales had fallen to a half of its mid-1970s level in real terms (Thomas, 1994).

The decline in regional assistance from London was only partly compensated by an increase in assistance from Brussels, in particular through a new European policy instrument, the European Regional Development Fund (ERDF), a mechanism to transfer of funds from richer to poorer regions within the European Economic Community, initially providing grants for up to 20% of the cost of projects submitted by national governments (this percentage was later increased).

Since the ERDF was first introduced half a century ago, it has increased considerably in value, to some €226.7 billion in the programming period 2021-2027. Today it serves as a mechanism to support the single currency, as predicted in Nevin (1990).

> Monetary union effectively makes member countries into regions of a single larger whole, and hence makes conventional regional policy measures less effective….the likely emergence of greater regional inequalities (within a Single Market) will therefore make some form of regional policy central to the success of a monetary union (p.288).

The growth of the Welsh Economy since 1990

In September 1992, Sterling left the European Exchange Rate Mechanism (ERM) and thus distanced itself from the process of monetary union which led to the creation of the Euro in 1999. Twenty-two years later, on January 31st, 2020, Britain left the European Union (EU) altogether. Departure first from the ERM and then from the EU has in principle given the Welsh Government greater freedom to pursue distinct economic policies for Wales. However, the performance of the Welsh economy in the quarter century since it was established has been disappointing. During the period 1998–2022, Wales' GDP per capita is estimated to have grown by just two percent in real terms, from £30,394 to £31,036 in constant 2024 prices.[4] The size, causes and consequences of the Wales/UK GDP gap and general issues relating to Welsh economic performance in the period since devolution have been the subject of much debate and economic research (see for example, Bristow, 2018; Bradbury and Davies, 2022; Hansard, 2023; Henley, 2024).

So how can the Welsh Government narrow the gap between Wales and the UK in incomes, job opportunities and economic activity rates?

The *dirigiste* macroeconomic approach of the National Plan of the 1960s did not work. Nor did the "haphazard, penny-packet" microeconomic approach of spraying money around arbitrarily.

Perhaps what is required is a revival of classical Ricardian economics, identifying the sectors in which comparative advantage lies as Wales progresses towards Net Zero. Government could then devise a coherent framework of planning, infrastructure investment and financial support for Green infant industries to promote their growth, drawing on the most advanced analytical techniques currently available to determine where scarce taxpayer funds are best allocated.

The input-output methodology of the sixties has evolved into Computable General Equilibrium (CGE) models. A CGE Model is used by HM Treasury to assess the impact of potential tax changes. Its strength is to build upon input-output methodology by measuring, not only changes in demand, but also changes in supply allowing for price movements. Its weakness is that, like input-output models, it is 'comparative-static' – measuring the impact of policy changes on a simple "before" and "after" basis. HM Treasury's CGE model has the further limitation that it measures only the fiscal impact of tax changes, rather than their wider economic impact.

To address these weaknesses, UK Hospitality, the representative body of the British Hospitality industry, recently employed a dynamic partial equilibrium (DPE) model, known as the Nevin-Wason model (see Cut Hospitality and Tourism VAT Campaign, 2022)[5] to inform their discussions with HM Treasury on the likely impact of lower VAT rates applied to British hospitality services. The Nevin-Wason model has the advantage of simulating the dynamic impact over time of lower VAT on direct and indirect tax receipts, jobs and foreign exchange earnings. Interestingly, the results of the Treasury's CGE simulations and those of the Nevin-Wason DPE model were remarkably close on a comparative-static basis. This provided the Treasury and the hospitality industry with a common foundation for their discussions, and, since the DPE model was developed independently of government, it helped avoid the groupthink and optimism bias which marred the 1960s National Plan.[6]

Edward Nevin was a of pioneer of applied research on the Welsh economy, with a purpose in addressing economic policy issues

[4] Sources: For GDP Data current prices, ONS GDP by regions, given in https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/regionalgrossdomesticproductallnutslevelregions. For RPI, https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/chaw/mm23. For population statistics, ONS and Welsh Government.

[5] Results summarised in Figures 6 and 7, pp. 13-14.

[6] Both models forecast that a lower VAT rate for hospitality services appeared a highly cost-effective means of stimulating business turnover, jobs and foreign exchange earnings. A temporary 5% VAT rate on most tourist and hospitality services of 5% was applied from July 15th, 2020, to September 30th, 2021, and 12.5% from October.

of the day. Nevin left a legacy in the body of work he produced, that has found application and interest in the years that followed the end of his career. The framework of regional input-output accounts remains the most detailed means of understanding the structure of the contemporary Welsh economy.

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