

# How policy and institutions affect the shares of wages, profit, and rent in New Zealand

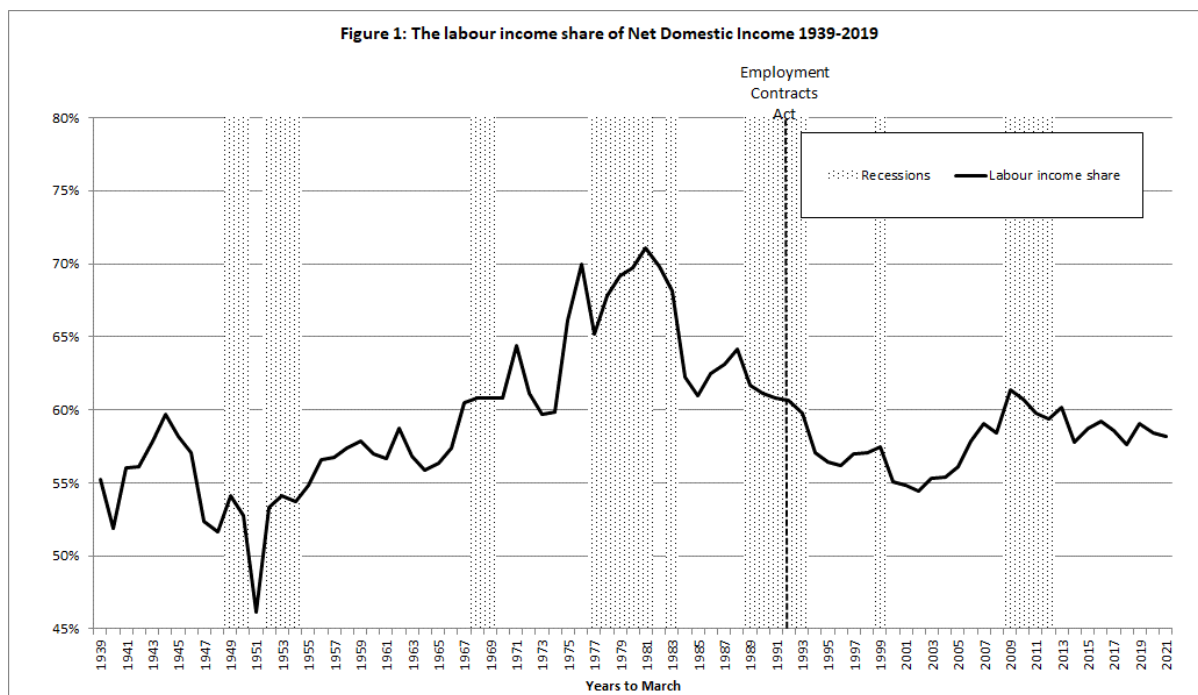
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In New Zealand as in several other OECD countries the labour share of national income has been falling in recent decades. In previous work we suggested that key neoliberal policy changes pushed through between 1989 and 1992 – tax cuts for the rich, radical reduction in social welfare benefits in the 1991 Budget, and above all the Employment Contracts Act 1991 (the ECA) – played a crucial role in changing the factor distribution of Net Domestic Product, but we had not been able to demonstrate a clear break around 1991-92 in the longer-run trend of factor shares. In our Conference paper last year, we applied Bichler and Nitzan's (2020) procedure for decomposing the wage share between (i) compensation per employee relative to national income per adult, and (ii) changes in the size of the employee workforce relative to the total adult population. This revealed an apparent break in the product-wage ratio at 1991/92, coinciding with the ECA. We have now extended the analysis by undertaking an international comparison<sup>1</sup>, an analysis of gender trends since 1972, and a nine-sector breakdown of the aggregate trend 1950-2020. In last year's paper we also applied Barkai's (2020) decomposition of operating surplus to identify the share of pure profit (economic rent), as distinct from the warranted competitive return on investment, in that national-accounts measure. We have refined this analysis further, including a sectoral decomposition and a discussion of the importance of market-power rents in the total.

The pre-tax share of wages and salaries ("compensation of employees") in New Zealand's Net Domestic Income over eight decades from 1939 shows four decades of relative gains for employed labour until about 1980, followed by two decades of a falling share that was then consolidated, but has resumed its fall – see Figure 1.



<sup>1</sup> Not reported in this paper.

In a paper to last year's NZAE conference we presented preliminary results from our research into the changing wage share of New Zealand's Net Domestic Income from 1939 to 2020. There were two motivating questions behind that work, both initially addressed to the well-recognised decline in the wage share since the 1970s:

1. Why did the Employment Contracts Act not show up as a structural break in the falling trend of the wage share – or, asking the same question a different way, why did the wage share start falling so strongly a decade before the ECA?
2. Where did the rising share of operating surplus in total income go – and specifically, why did it not show up as a surge in capital investment and consequent productivity growth?

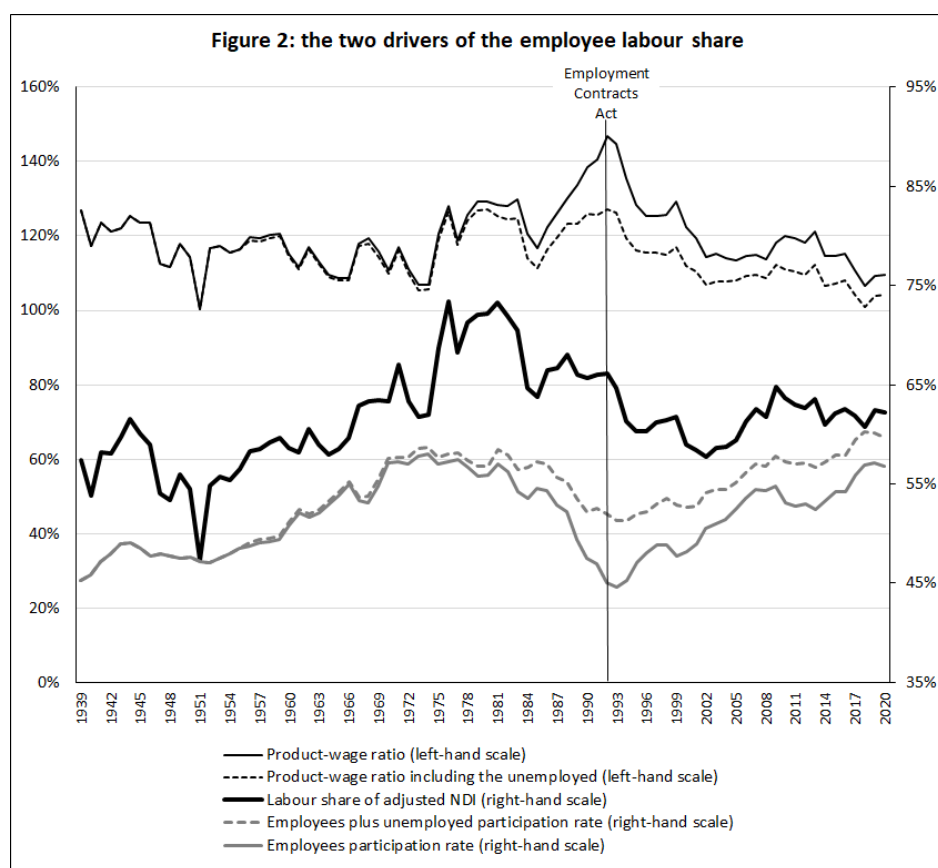
To address the first question, we followed up a suggestion in Blaug (1978), using an equation developed by Bichler and Nitzan (2020), to separate out two components of the wage share: the ratio of the per-worker product wage to the per-adult total product (the “product-wage ratio”) and the proportion of the adult population that were employees (the employment rate). Bichler and Nitzan's equation was:

$$\begin{aligned}
 & \frac{\text{compensation of employees}}{\text{national income}} \\
 &= \frac{\text{compensation of employees}}{\text{number of employees}} \times \frac{\text{number of employees}}{\text{adult population}} \times \frac{\text{adult population}}{\text{national income}} \\
 &= \frac{\text{number of employees}}{\text{adult population}} \times \frac{\frac{\text{compensation of employees}}{\text{number of employees}}}{\frac{\text{national income}}{\text{adult population}}} \\
 &= \frac{\text{number of employees}}{\text{adult population}} \times \frac{\text{compensation per employee}}{\text{national income per adult}} \quad (1) \\
 &= [\text{Labour participation rate}] \quad \times \quad [\text{Product-wage ratio}]
 \end{aligned}$$

The results of this decomposition<sup>2</sup> are reproduced below as Figure 2.

Here it can clearly be seen that the fall in the raw wage share from the late 1970s to 1992 was driven entirely by the arrival of mass unemployment, which cut the adult employment rate (the right-hand axis of figure 2) from 58% in 1974 to 45% in 1992 while the adult participation rate (employees plus unemployed) fell much less, from 59% to 52%. The product-wage ratio (the real wage rate of the employed, relative to national income per adult), was actually rising (or steady, if we count the unemployed as zero-wage workers) until 1992.

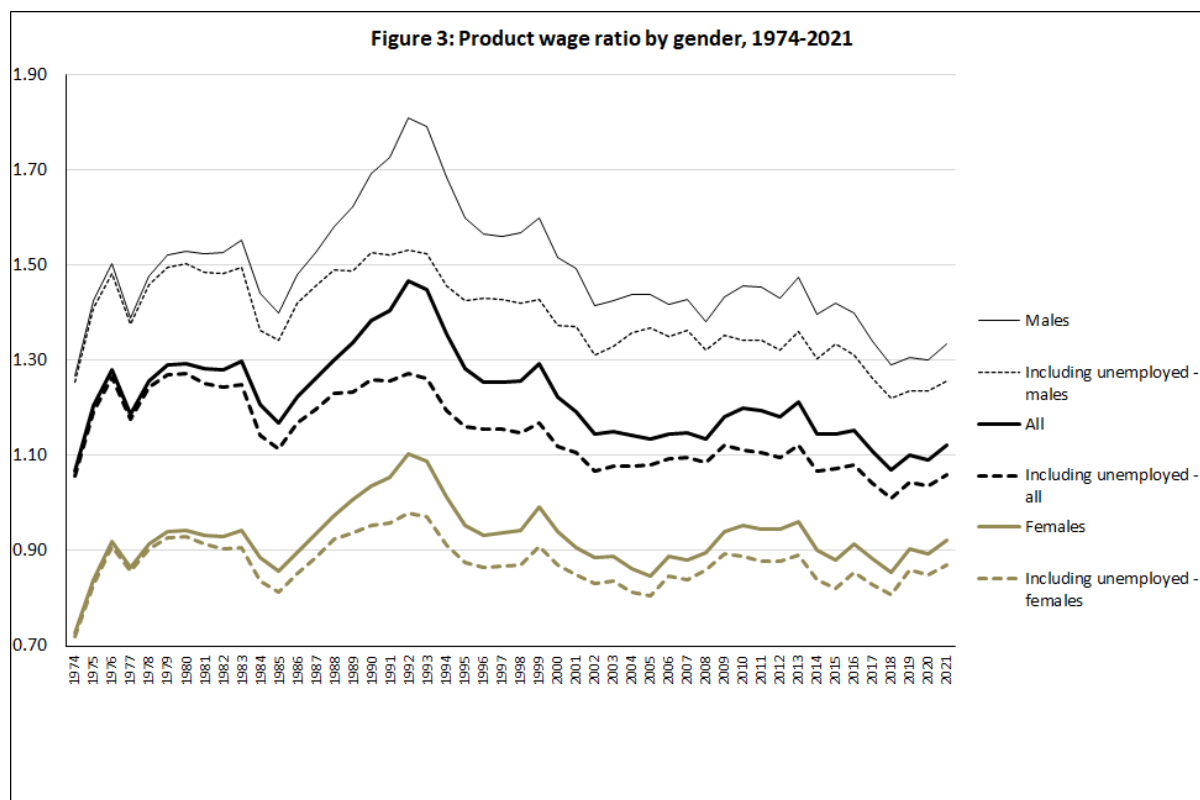
<sup>2</sup> “Labour participation” here is for employees only, including unemployed workers with zero income from employment. “Adult” is defined as 16 years old or over.



The turning-point of the Product Wage Ratio (PWR) in 1992 is clearcut and can be confirmed as a structural break in the product-wage-ratio series<sup>3</sup>. From 1992 to 2020 the product-wage ratio trended steadily downwards apart from a flat patch in the 2000s. The appearance of a sharp recovery in the raw labour share between 2002 and 2009 was due to rising employment and increasing labour participation – not any significant reversal of the still-ongoing process of wage suppression initiated by the major policy changes around 1990, of which the Employment Contracts Act was a central component along with the radical cuts to welfare benefits – and hence the wage replacement rate - in the 1991 Budget.

One possibility raised in discussion of last year's paper was that the rising participation of women in the labour force might have been driving the results. To check this, we decomposed the product wage ratio by gender for the period since 1974 (earlier wage statistics by gender do not exist so far as we are aware). The results, in Figure 3, confirm that the trends are essentially the same across males and females, employed and unemployed.

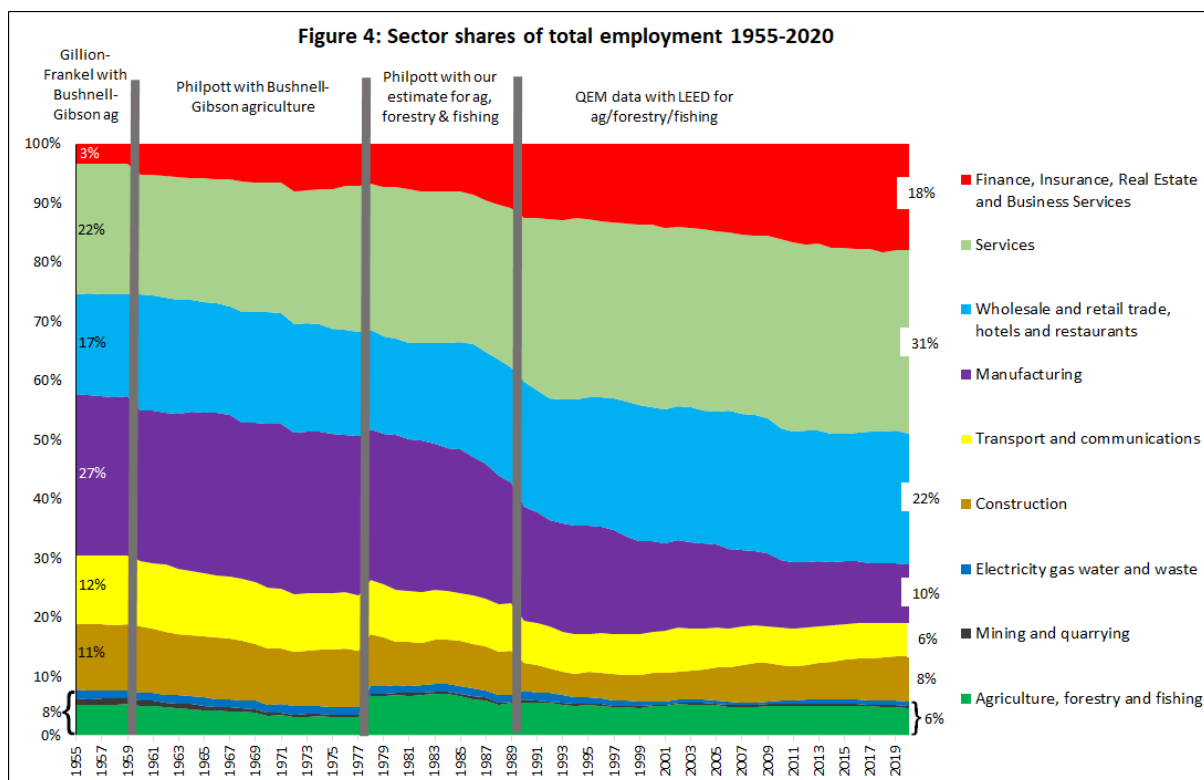
<sup>3</sup> We are indebted to John McDermott for testing for structural breaks.



A second question that arose from last year's analysis of the wage share was whether the downturn in the product wage ratio at 1992 might have been compensated for by an improvement in the relative position of the self-employed. We tried imputing wage income to the self-employed and found that they shared the 1992 downturn with employed workers - a result that supported our main argument that the impact of the ECA applied right across the labour market.

A third question from last year was whether any particular sector of the economy was driving the overall result. It could be, for example, that sectors with especially high wage rates were dramatically increasing their share of total employment from 1939 to the 1970s, then losing ground to sectors with lower real wages.

Figure 4 traces the sectoral composition of employment of wage and salary earners from 1955 to 2020. Detailed sector definitions changed from source to source. For example, "real estate and business services" are included in the FIRE (finance, insurance, real estate and business services) sector only from 1960, while hotels and restaurants are similarly excluded from the "trade, hotels and restaurants" sector prior to 1960. Also the agriculture, forestry and fishing series clearly jumps in 1978 as a wider range of activities and services were included - the pre-1978 data from Bushnell and Gibson 1982 counted employees only in agriculture itself. But these detailed definitional changes leave intact the broad trends.



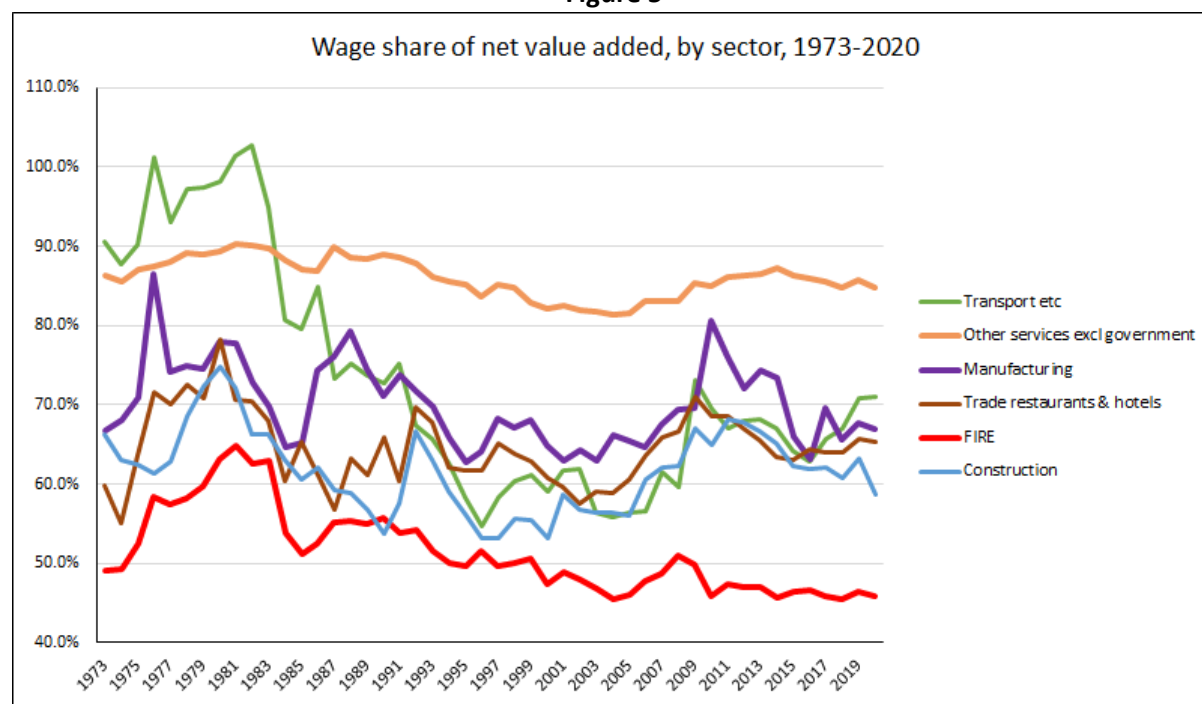
Primary production (agriculture, forestry, fishing, and mining) along with public utilities (electricity, gas, water and waste services) do not exhibit radical changes in their employment shares, and in any case do not carry enough weight in the total to shift the economy-wide product-wage ratio. Construction, transport and communications fall from 23% to 14%, a significant drop, with a slight turnaround of construction in the 1990s. Manufacturing collapses from 27% to under 10%, with an especially steep drop around 1990. The remaining service sectors (trade, restaurants and hotels, FIRE, and other services) rise from a combined 42% in 1995 to 71% in 2020, with the FIRE sectors accounting for 15% (over half) of the 29% increase.

Given this dramatic shift in employment from manufacturing to services, and especially to FIRE, the possibility arises that these sectors may have had major differences in the levels or trends of their real wage rates or wage shares sufficient to explain the product-wage-ratio trends in Figure 2.

Figure 5 traces some sectoral detail on the wage share of net product since 1973. In manufacturing, the wage share has averaged just below 70% since the 1950s, but with quite wide fluctuations, including a downturn around 1992 that it shared with trade, transport and construction. The sectors that gained employment share from manufacturing spanned a wide range of wage shares, from the FIRE sectors at 50% and falling to the “other (non-government) services around the 95% mark. A falling weight of manufacturing and rising weight of FIRE could have dragged the aggregate wage share down over that period, but the rising weight of other services would have counteracted this. Figures 4 and 5 do not display any trend break in the sector employment or labour share around 1992 that might translate to a full explanation for the PRW turning point at that year. The construction of satisfactory

PRW estimates for individual sectors has proved difficult, but our preliminary (not very satisfactory) look at the issue indicates that apart from the agriculture/forestry/fishing and electricity/gas/water/waste sectors, the sectoral product wage ratio trends – in particular, those for manufacturing and FIRE – were broadly similar and exhibit the 1992 turning point.

**Figure 5**

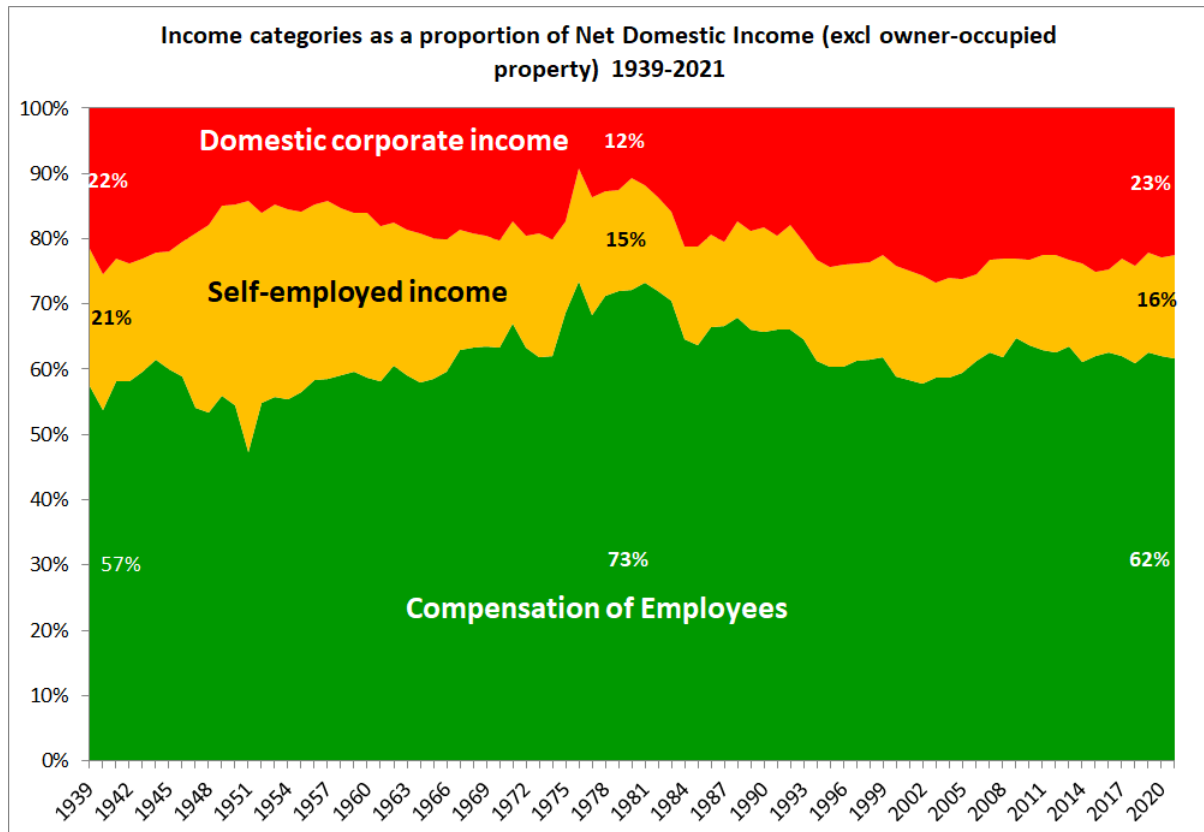


### ***Decomposing the operating surplus***

While breaking the power of organised labour and slashing the wage replacement rate clearly coincided with the 1992 downturn in the market fortunes of wage-earners, the anti-union policies taken in isolation were not a sufficient condition for the labour share to be pushed down. The other claimants competing with labour for shares of the total net product (excluding the notional rents on owner-occupied property) could potentially have been subjected to radically increased competitive pressures that might have prevented their income shares from increasing - indeed, some proponents of the neoliberal policy programme promised just such a flourishing of vigorous competition in product markets, sufficient to hold the profit share in check. In reality, the corporate profit share rose significantly as neoliberal policies took hold.

Figure 6 below shows the three main distribution categories, with the wage share at the bottom. The self-employed share was squeezed from 20% in 1939 down to 15% by the 1970s, since when it has remained around 13-16%. Meantime the share of “corporate net surplus” fell from 23% in 1939 to around 10% in the late 1970s (12% in 1981), then rose again to 27% by 2003, since when it has settled back to 23%.

**Figure 6**



Conceptual limitations prevent us from determining how much of the “mixed income” of the self employed is net surplus and how much is a return to labour. Consequently, in our analysis of operating surplus we have followed the Statistics New Zealand practice of rolling corporate surplus and mixed income together. We are thus looking at an increase in the overall profit share from 27% in the early 1980s to 39% in 2021.

Conceptually, the recipients of net operating surplus as factor income can be divided into three groups:

- Capitalists who have undertaken the installation and operation of fixed capital (including intangible capital insofar as that is included in the statistics for Gross Fixed Capital Formation), and who derive a flow of income representing the return on those investments;
- Owners of land and other scarce (“bottleneck”) resources that are required to support production and consequently command rent;
- Possessors of other forms of market power that enable them to exercise a primary income claim on Net Domestic Income which is a separate category of economic rent that we provisionally call “excess profits”.

Following the lead of Barkai (2020) we have constructed estimates of the part of operating surplus that corresponds to a warranted return to the economy’s capitalists on their investments. The procedure is as follows. First, we take each year’s Gross Fixed Capital Formation and divide it among three asset types (buildings and construction, plant and

equipment, and intangibles). To each asset type of each vintage we assigned a warranted return year by year, based on the cost of capital, the depreciation rate for the asset type, expected asset-price changes, and prevailing tax rate at the time of investment. This warranted-return annual sum was then treated as a consumption bundle (return, in consumption goods, on the sacrifice of consumption entailed in investment) and indexed forward using the Consumer Price Index. Aggregating across all asset types and vintages provided our estimate for the total amount in each year's operating surplus that was attributable to the warranted return on accumulated invested capital.

Our analysis was carried out in terms of gross warranted return and gross actual operating surplus because of the difficulties raised by different ways of measuring depreciation. In our warranted-return calculation we applied assumed lives of 50 years for buildings and construction, ten years for plant and equipment, and four years for intangibles, and set depreciation rates accordingly. In the national accounts, obviously, depreciation is derived rather differently. To avoid the complexities of addressing this, it was simpler to work with gross rather than net aggregates for both warranted return and realised operating surplus.

Our equation for total warranted return in year  $t$  was taken directly from Barkai (2020), with one change to allow for the fact that capital gains are untaxed in New Zealand whereas Barkai treats them as taxable. The equation is

$$W_t = \sum_s \sum_{y=1949}^{t-1} \left\{ \left[ WACC_y \frac{(1-z_y^s \tau_y)}{(1-\tau_y)} - E[\pi_y^s] \right] H_y^s + \delta_y^s \frac{(1-z_y^s \tau_y)}{(1-\tau_y)} I_y^s \right\} \frac{P_t}{P_y} \quad (2)$$

where

- $W_t$  is the warranted return on all accumulated capital, in current dollars, in year  $t$
- $H_y^s$  is the depreciated historic cost in year  $t$  of assets of type  $s$  installed in year  $y$ ,  
calculated as:  $H_y^s = \begin{cases} I_y^s [1 - (t - y)\delta^s] & \text{for } (t - y) \leq L_y^s \\ 0 & \text{otherwise} \end{cases}$
- $I_y^s$  is the amount invested in capital goods of type  $s$  in year  $y$ , with installation of the assets dated at the end of year  $y$ .
- $L_y^s$  is the life of an asset of type  $s$  installed in year  $y$ .
- $WACC_y$  is the after-tax weighted average cost of capital<sup>4</sup> in year  $y$
- $\tau_y$  is the company tax rate in year  $y$
- $z_y^s$  is a tax multiplier<sup>5</sup> to capture the present value in year  $y$  of future tax-deductions on allowed depreciation at rate  $\delta^s$ , evaluated using the tax rate for that year and with the WACC for that year as the discount rate.

<sup>4</sup> Calculated as  $WACC = \left( \frac{D}{D+E} i^D (1 - \tau) + \frac{E}{D+E} i^E \right)$  where  $i^D$  is cost of debt,  $i^E$  is cost of equity,  $D$  is debt finance,  $E$  is equity finance, and  $\tau$  is the tax rate.

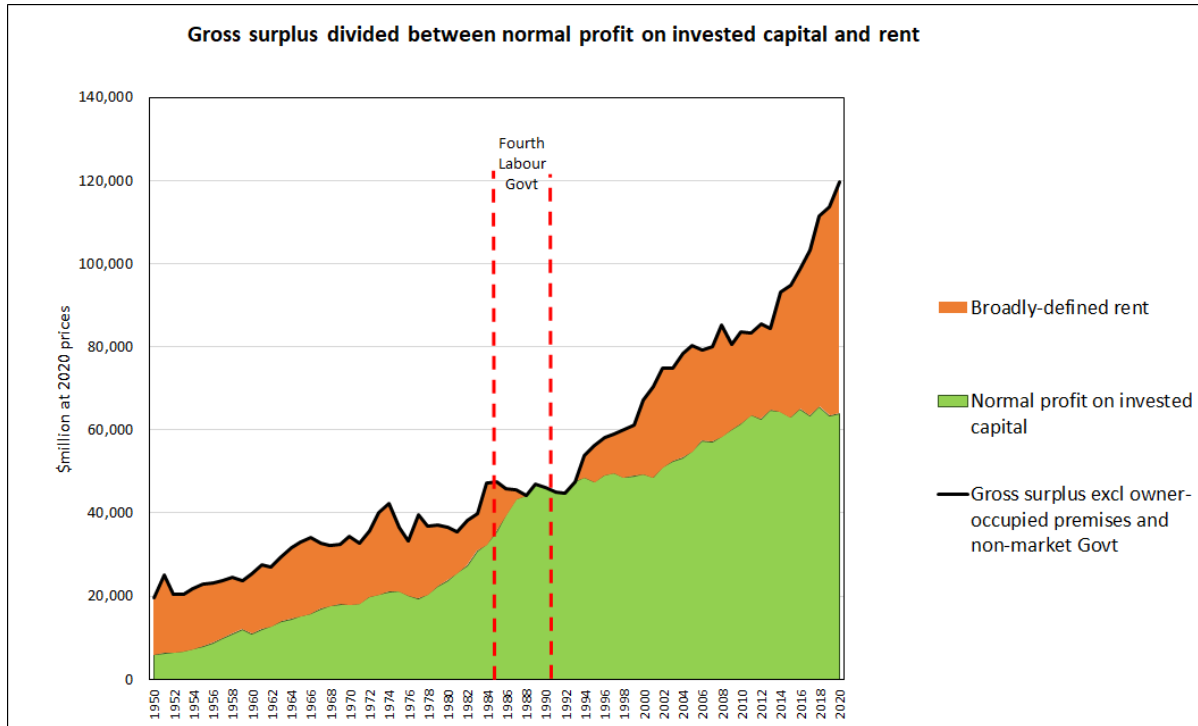
<sup>5</sup> From Hall and Jorgenson (1968) p.394 equation 7, under straight-line depreciation  $z = \frac{1}{rT} (1 - e^{-rT})$  where  $r$  is the discount rate and  $T$  is the life of the asset in years.



- $\delta^s$  is the straight-line depreciation rate for assets of type  $s$
- $\delta_y^s$  is the straight-line depreciation rate for assets of type  $s$  up to the moment when they are fully depreciated, calculated as:  $\delta_y^s = \begin{cases} \delta^s & \text{for } (t - y) \leq L_y^s \\ 0 & \text{otherwise} \end{cases}$
- $E[\pi_y^s]$  is the expected (in year  $y$ ) rate of change in the price of capital goods of type  $s$
- $P$  is the consumer price index

After deflating the results to 2020 dollars using the CPI, we obtained the striking results shown in Figure 7.

**Figure 7**



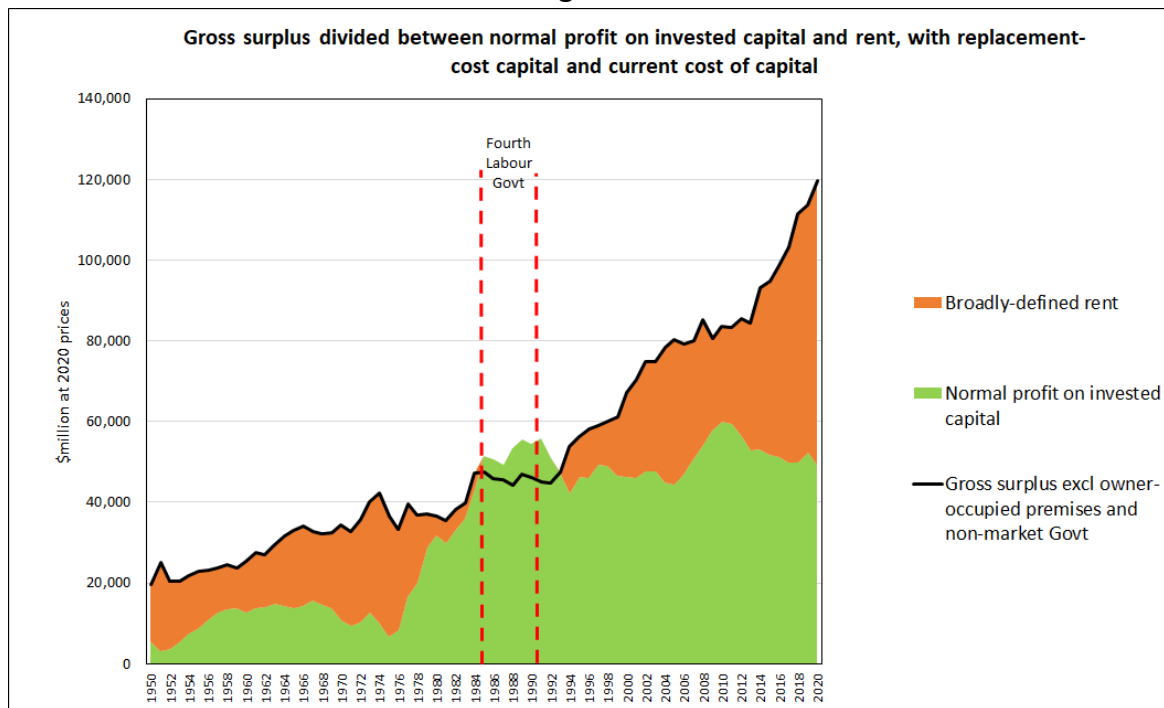
The period of the Fourth Labour Government and its National successor stands out as a political conjuncture of squeezed rents, between two periods when gross surplus substantially exceeded warranted returns. Prior to the 1970s, rents were a fairly steady dollar margin over warranted return (but a falling proportion of total surplus), but from the mid-1970s they were squeezed hard in aggregate terms. Since the policy changes of the late 1980s and early 1990s, rents have been on a steadily-increasing path, accounting for around half of the \$120 billion gross surplus by 2020 as warranted return flattened out.

These initial results raised a number of obvious questions. First, was the rents squeeze an artefact of our particular way of calculating warranted return? Second, which sectors of the economy collected rents at different times, and are the aggregate results driven by shifts in the sectoral composition of the overall surplus? Third, the squeeze was driven at least as much by the very steep rise in our warranted return estimate in the early 1980s as by the stagnation of operating surplus, raising the issue of whether this surge of warranted return against a flat-lining surplus (i) may be an artefact of statistical problems, given that the 1970s

were a period of high inflation and high nominal cost of capital, along with high nominal capital gains on fixed assets, or (ii) reflects a surge of real investment that failed to produce a commercial return.

Taking first the question of our methodological approach, the central pillar of the warranted return series in Figure 8 is our use of a strict historic-cost approach to valuing the total capital stock in each year, along with a warranted rate of return that remains tethered, throughout the life of each vintage of each asset, to the real cost of capital prevailing at the time the investment was undertaken. It might be that continually revaluing the entire depreciated capital stock to replacement cost in each year while simultaneously updating the cost of capital would give different results. We therefore re-ran our aggregate analysis on that basis with essentially the same result, shown in Figure 8. While the swings in the 1970s and 1980s are more dramatic, the overall picture remains the same, and the surge in warranted returns during the 1970s shows up even more clearly as the source of the rent squeeze.

**Figure 8**



Turning to the second question, the sectoral breakdown of warranted return and rent, an initial step is to track the sectoral distribution of operating surplus. Figure 9 shows a clear long-run story: agriculture, forestry and fishing dropped from 40% of gross surplus to just 10%, while finance, insurance, real estate and business services rose from 3% to 35%. Other sectors saw no such dramatic gains or losses. Manufacturing rose from 17% of the total to over 20% in the early 1970s, but had fallen to 10% by 2020. Mining showed booms and slumps but was never a big component. Trade, restaurants and hotels lost ground steadily, from over 20% to about 11%. Nothing here, however, obviously explains the dramatic profit squeeze of the early 1980s.

**Figure 9**

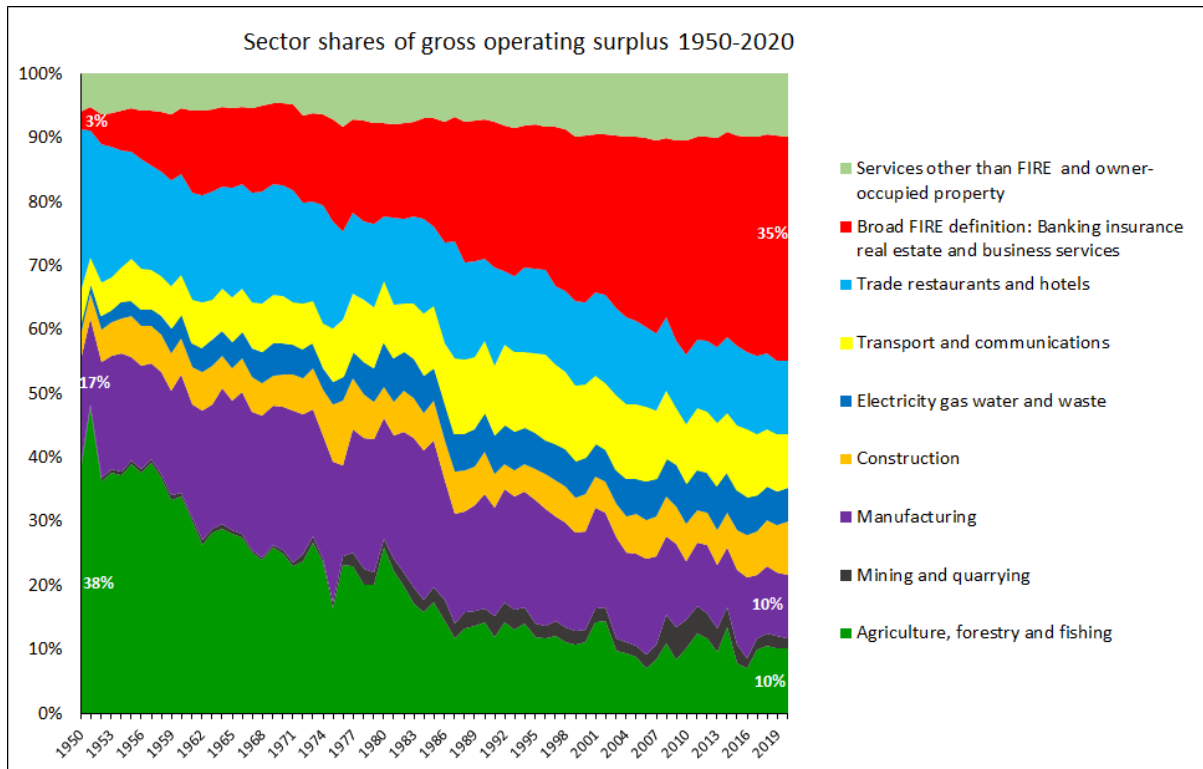


Figure 10 shows the sectoral breakdown of our warranted return on investment in terms of 2020 dollars, and Figure 11 does the same for our estimate of rent (calculated as the residual of gross surplus over warranted return).

**Figure 10**

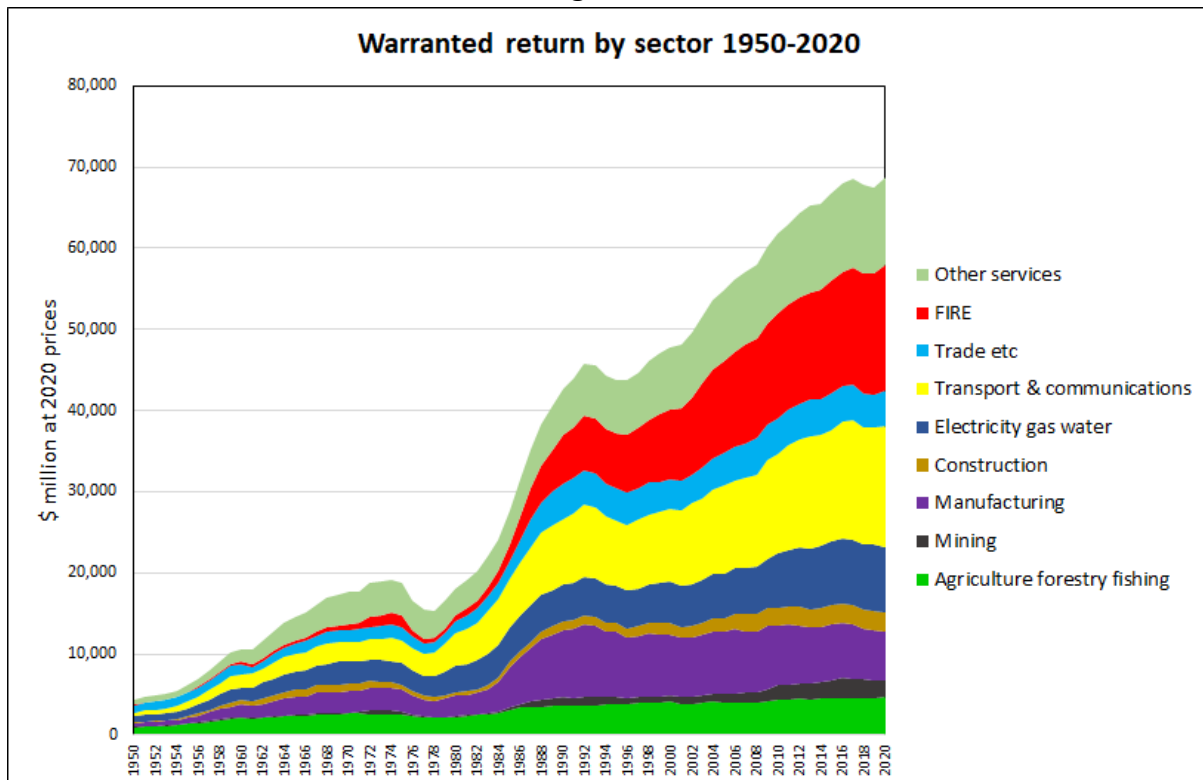
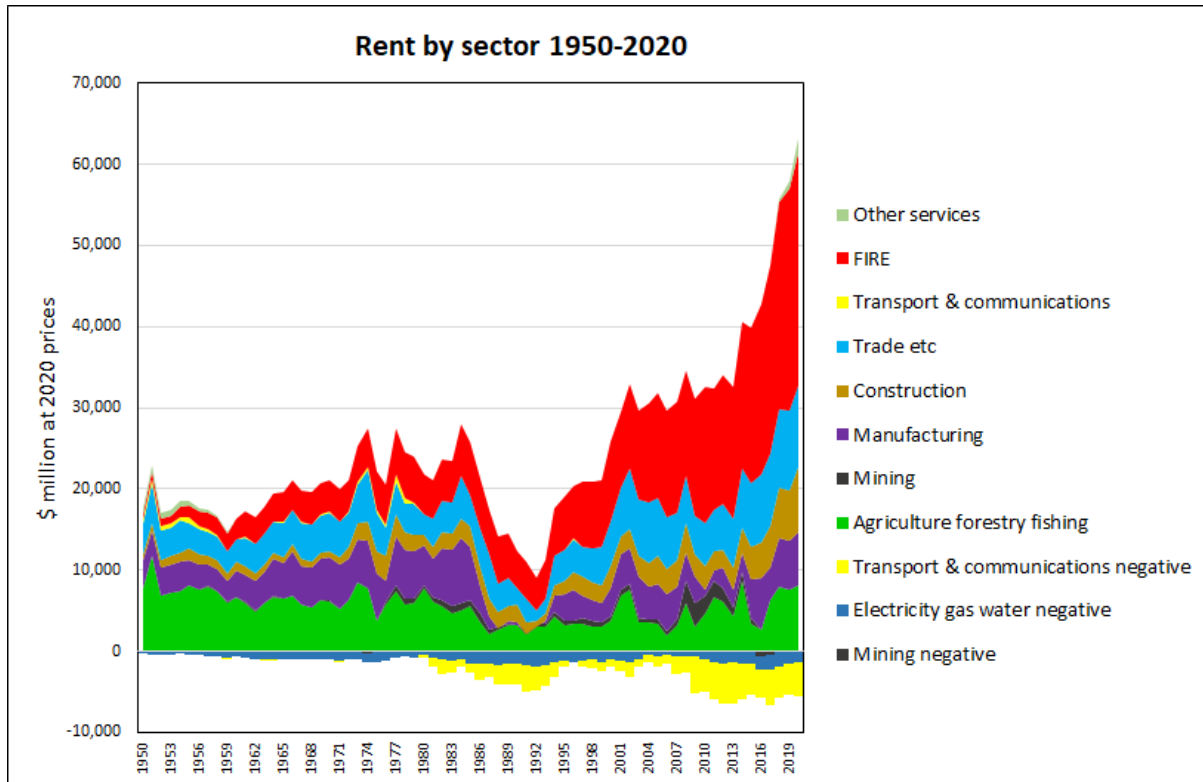


Figure 11



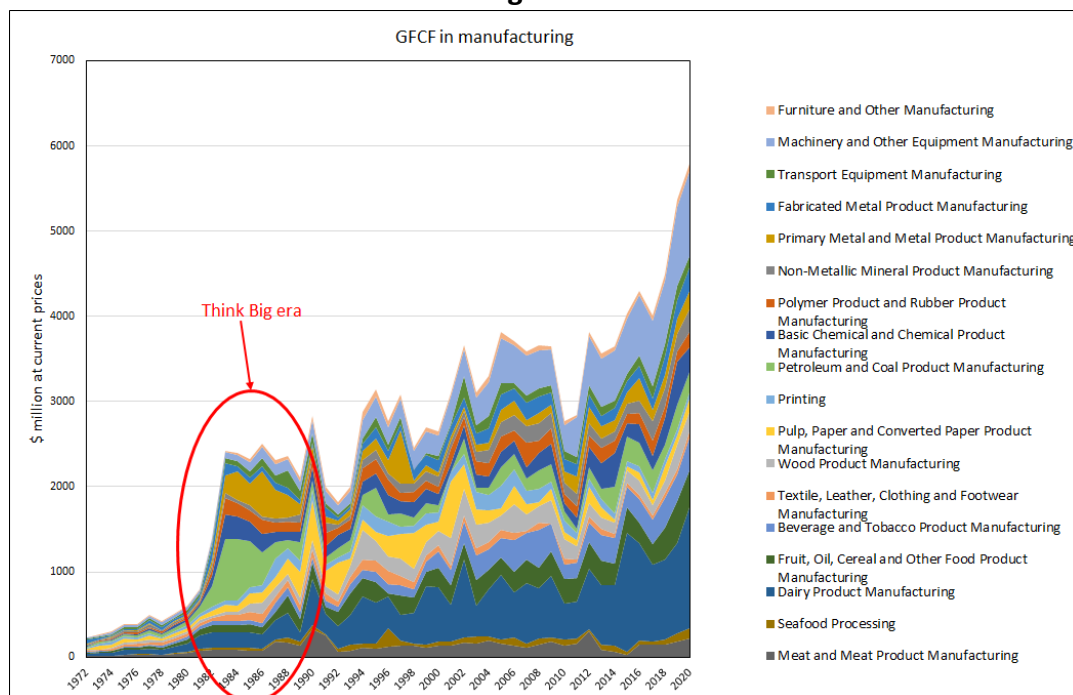
Three major points emerge from Figures 10 and 11:

- Agricultural rent remained fairly steady in real dollar terms throughout the seven decades, and can be treated as land rent that was quite incompressible even in the face of the profits squeeze of the 1970s and 1980s
- The FIRE sector equally exhibits incompressible rents that survived through the squeeze, and which exploded after 2000 to account for half of all estimated rents. This sector includes real estate services, suggesting that much of its recent boom may have been related to the pricing of urban real estate.
- Manufacturing, and transport and communications, were hit hardest by the squeeze.

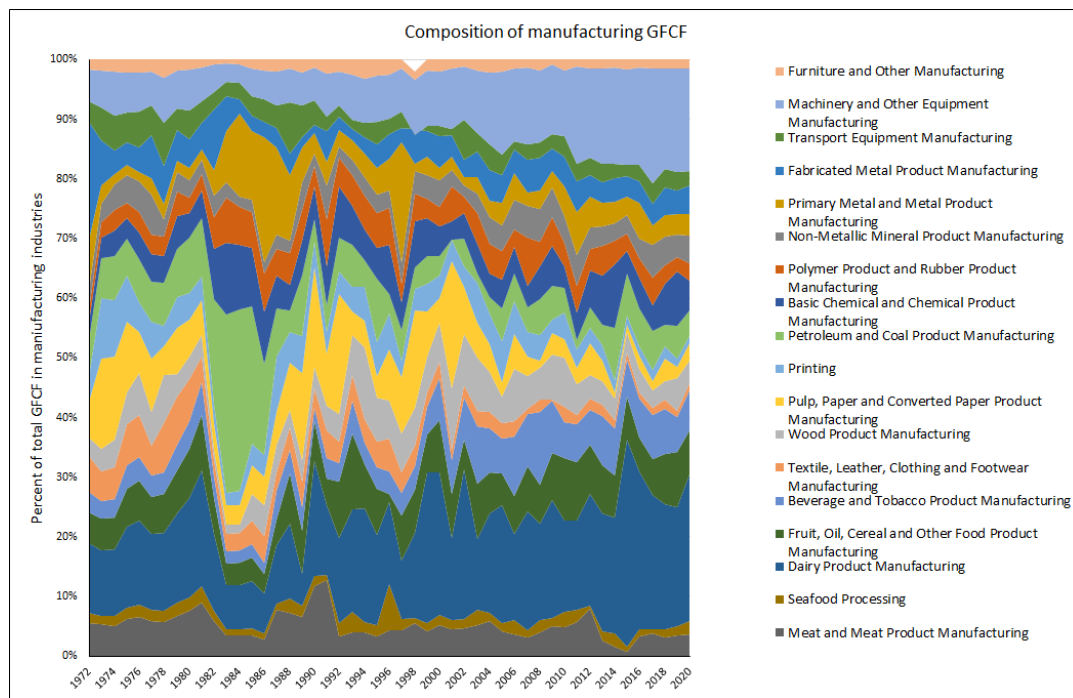
Turning therefore to the question of the extraordinarily steep rise of our warranted return estimates from 1978 to 1988, it is clear that this makes Figures 7 and 8 misleading as a guide to profitability across all sectors. On the contrary, the prime culprit is manufacturing, the sector in which a very large amount of investment spending occurred in the late 1970s and early 1980s, driven by the industrial promotion policies of the Think Big policy era (see Boshier 2022). Much of this investment did not deliver returns commensurate with the over-optimistic expectations of the promoters, and because the projects were very large relative to the New Zealand economy their poor performance dragged down the total surplus relative to our cost-based “warranted return” which is calculated on a capital base inflated by the full amount of the investment outlays.

Figure 12 shows GFCF in manufacturing by detailed sub-sector, in current dollars. Figure 13 shows the percentage breakdown of that investment, making clear the central importance of petroleum, chemicals, and primary metals sub-sectors in which Think Big investments were concentrated (methanol plant, synfuels plant, oil refinery expansion, urea manufacturing, aluminium smelting and New Zealand Steel expansion). Figure 14 deflates the GFCF numbers using the CPI (in other words, expressing the investment dollars as sacrificed consumption) to show how in real terms, Think Big drove a huge spike in manufacturing investment. The total capital investment in the Think Big projects was about \$8 billion (equivalent to around \$25 billion in 2020 dollars), consistent as an order of magnitude with the investment spikes in Figures 12 and 14 below.

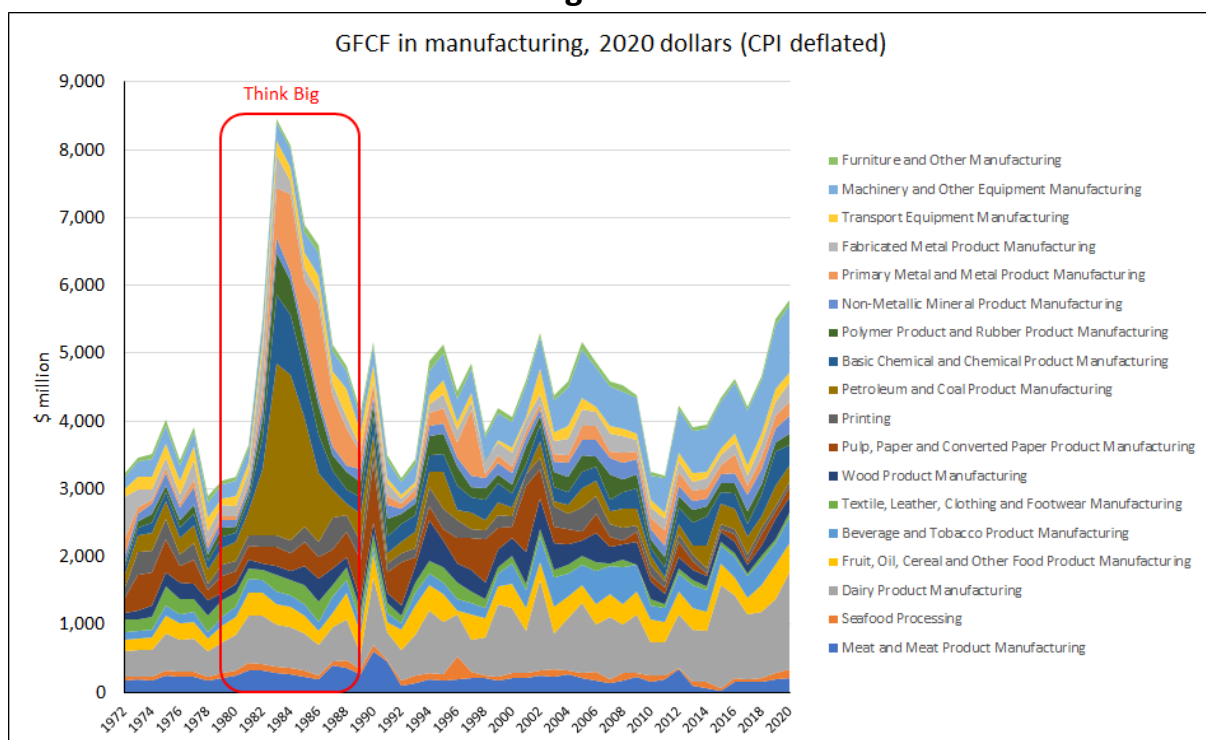
**Figure 12**



**Figure 13**



**Figure 14**



Given this extraordinary boom in manufacturing investment in the first half of the 1980s, it is not surprising that when our warranted-return-versus-realised-actual-surplus exercise is conducted for manufacturing in Figure 15, it shows where the 1980s squeeze shown in Figures 7, 8 and 11 above came from.

**Figure 15**

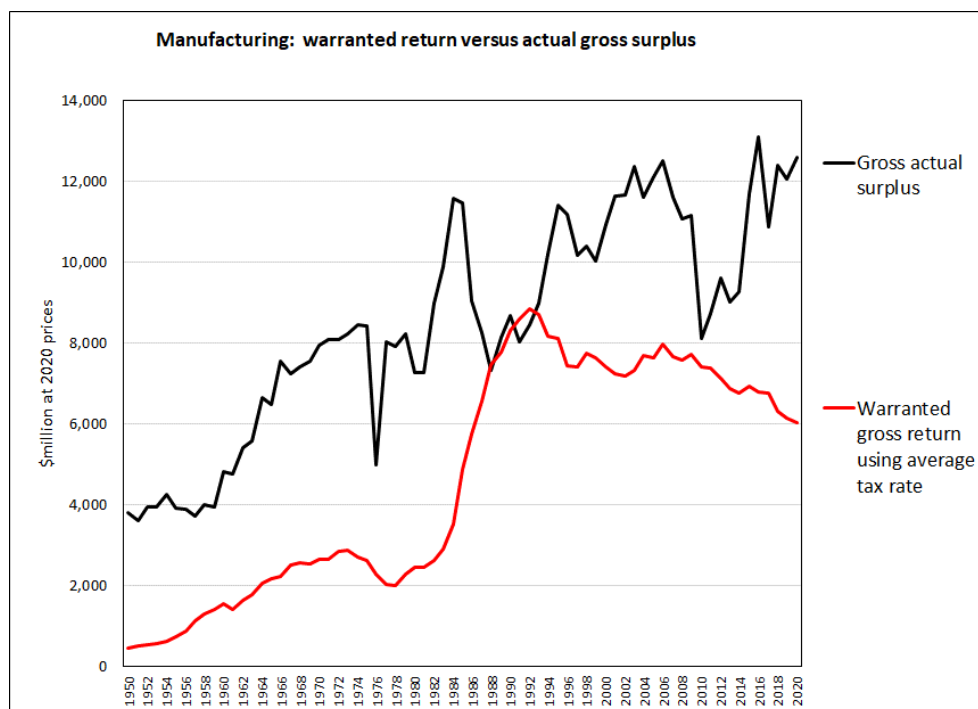
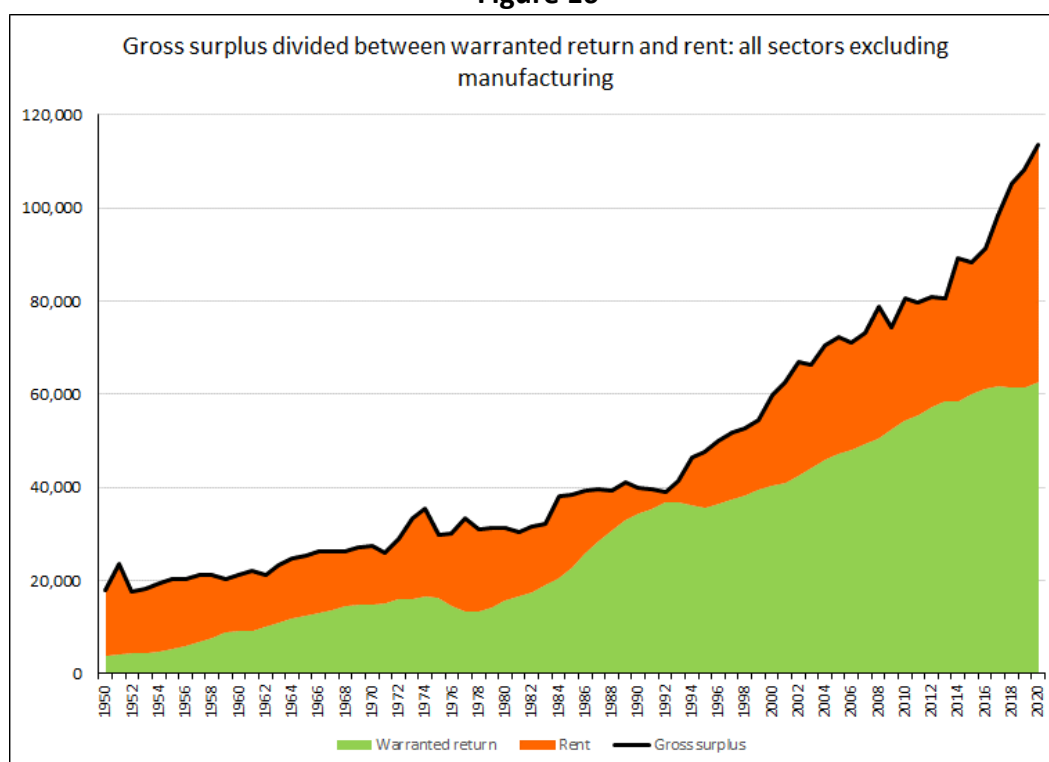


Figure 16 confirms this by plotting the warranted return and realised gross surplus data for all other sectors combined. Here the profit squeeze is still visible but less dramatic. Again the squeeze was driven by rising warranted return as much as by the temporary standstill in realised surplus.

**Figure 16**



This draws attention to the fact that Figure 16 still includes two sectors that were prominently included in the Think Big investment programme: transport and communications (electrification of the Main Trunk railway line) and electricity, gas, water and waste services (construction of the Tongariro and Clyde hydroelectricity schemes, and the Maui gas pipelines). Figure 17 shows our warranted-return-versus-realised-surplus picture for transport and communications, with the warranted return radically outstripping realised surplus from 1979 to 1994. This sector exhibits a second phase of increasingly negative rents in the decade to 2020, due in part at least to major publicly-funded roading projects including the Northern Expressway (around \$900 million), Transmission Gully (over \$1 billion) and Waikato Expressway (\$2.4 billion), all of which have full commercial rates of return imputed to them in our warranted return figures.

This highlights an important qualification that needs to be borne in mind in interpreting all the sectoral results. This is the fact that we have not been able (at this stage of the research) to separate out government investment, nor the government share of gross operating surplus, from the sector totals. The result is that in certain sectors our investment figures include large volumes of government spending on infrastructure, undertaken on a non-profit basis and receiving little or no return to be included in the sector operating surplus. Besides transport and communications, this applies particularly to construction, and to electricity gas water and waste services – sectors in which our aggregate figures may seriously understate the returns to private investment projects because of the inclusion of non-commercial government capital formation.

Looking back to the apparent rent squeeze of the 1980s, it has to be recalled that the public-private projects of the Think Big era in manufacturing, transport, electricity and gas typically involved contracts under which the government guaranteed a commercial rate of return to private-sector investors in projects that failed to deliver. This meant that the private investors were “kept whole” by second-round fiscal transfers over and above the meagre actual realised first-round operating surpluses recorded in the national accounts. The rent squeeze shown in our charts therefore fell to a large extent on taxpayers rather than private business, and came to bear on the New Zealand economy in the form of rising public debt rather than hard times for capitalists. We return to this point in our conclusion.

### **Figure 17**



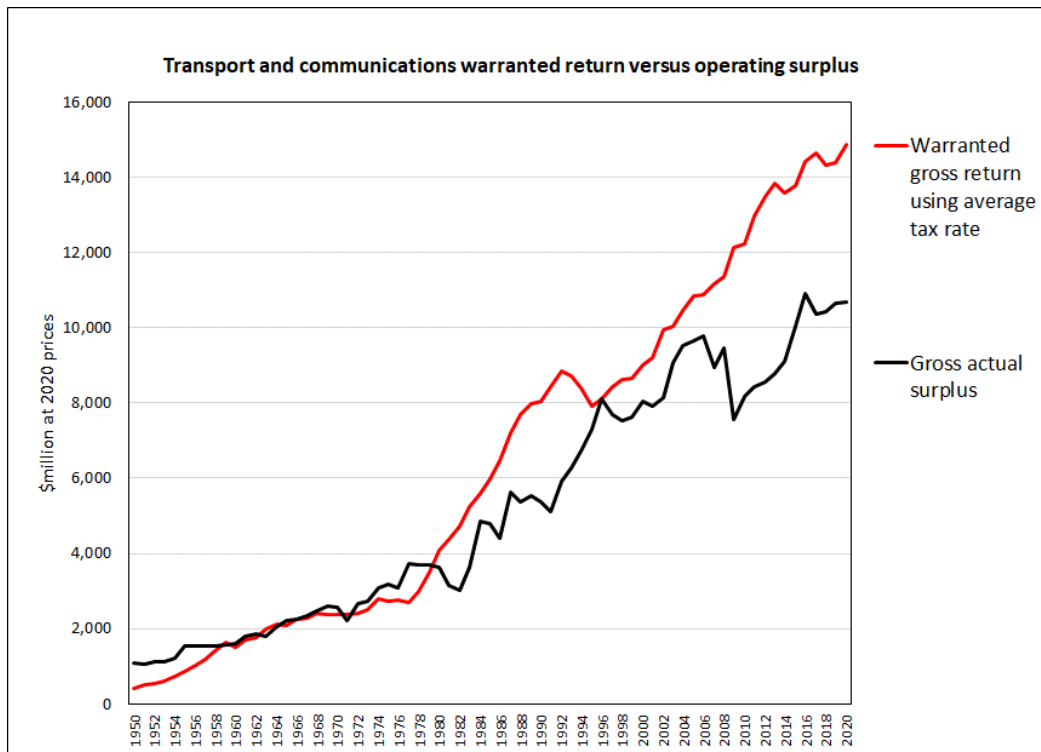


Figure 18 shows the electricity, gas, water and waste services picture. This is a sector in which very large investment projects were undertaken by Government on a non-profit basis up to the 1980s after which the industry was corporatised and subsequently part-privatised. Hence in terms of our framework for calculating warranted return, it has never returned a commercial profit margin on its legacy assets. The impact of the very large Thing-Big-driven construction projects of the 1980s is apparent. More surprising is the apparent failure of realised surplus to catch up with warranted return in the past decade, when the sector was fully commercialised and often accused of taking excess profits in terms of its margins (see e.g. Bertram 2015, 2019).

**Figure 18**

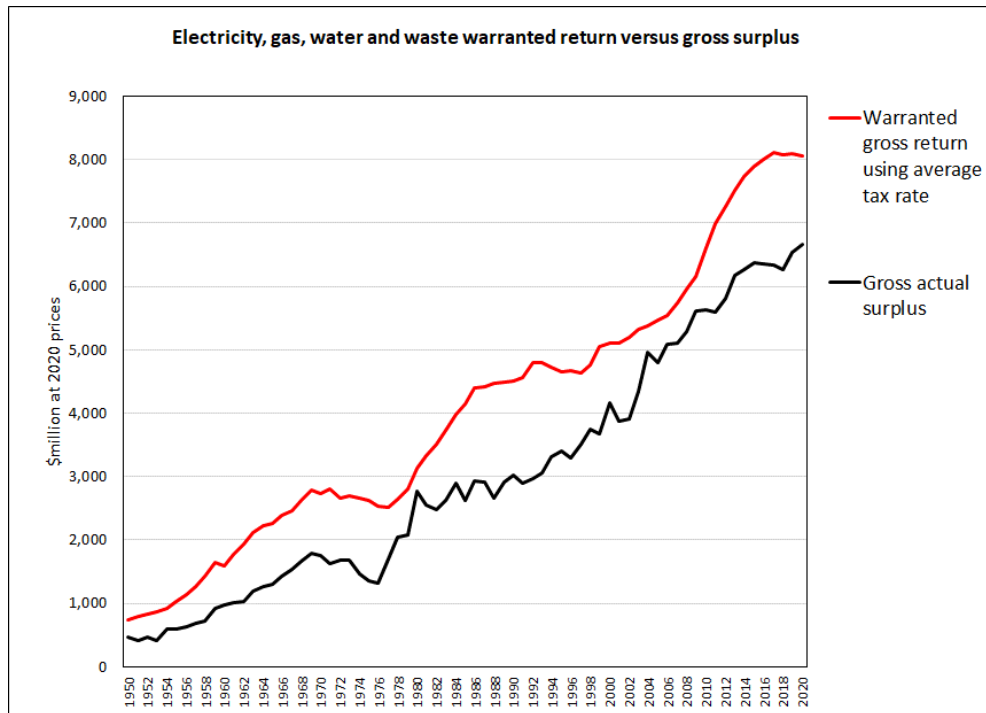
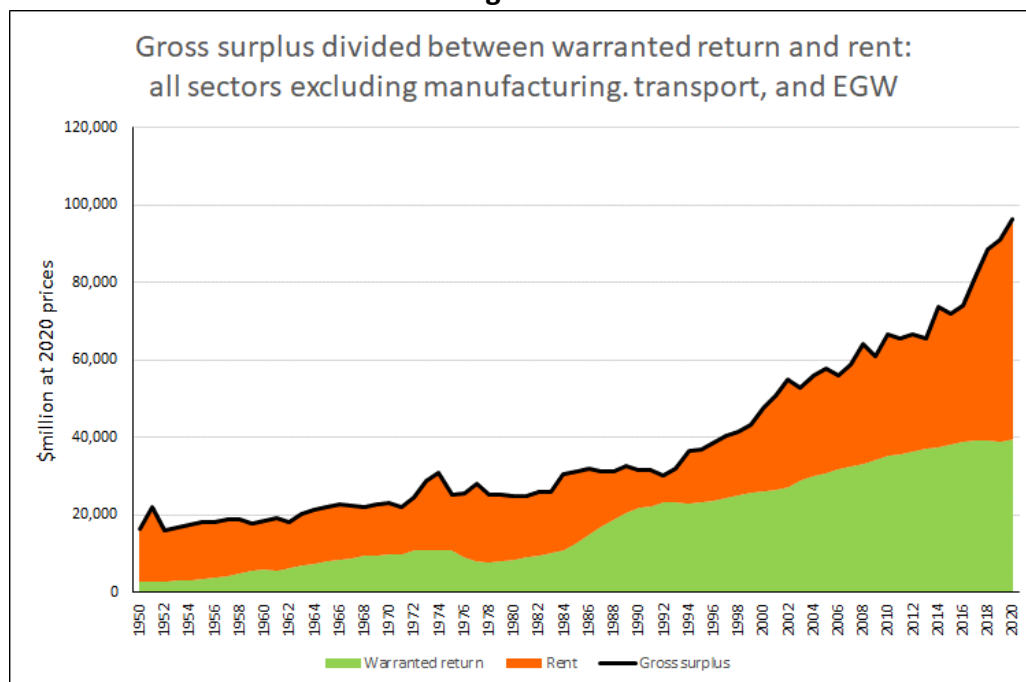


Figure 19 repeats the exercise of Figure 16, but this time excluding transport and communications and electricity gas water and waste, as well as manufacturing, from the total. Again the 1980s profit squeeze is lessened, though not entirely eliminated.

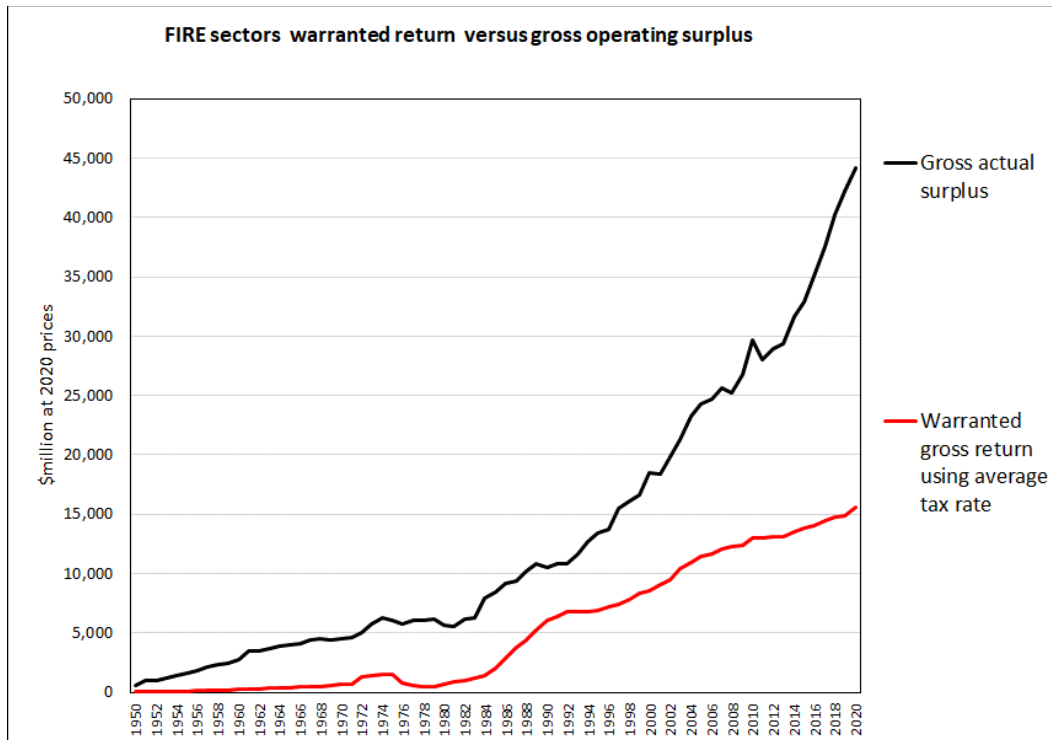
**Figure 19**



Finally, from Figure 9 it was apparent that in terms of the sectoral distribution of operating surplus, the rise of the FIRE sectors was the biggest structural shift in the New Zealand economy from 1939 to 2020. Figure 20 shows the picture for that sector. The FIRE sector's

gap between warranted return and actual surplus remained fairly steady unto the mid 1990s before exploding in the past two and a half decades – the period that Kelsey (2015) identifies as the era of FIRE dominance in New Zealand.

**Figure 20**



From my Excel file 'Final model for electricity gas and water, sheet 'Final results, Figs 11 and 12', columns BJ-BW

## Conclusion

Having undertaken the task of disaggregating our 2021 results, two important conclusions stand out.

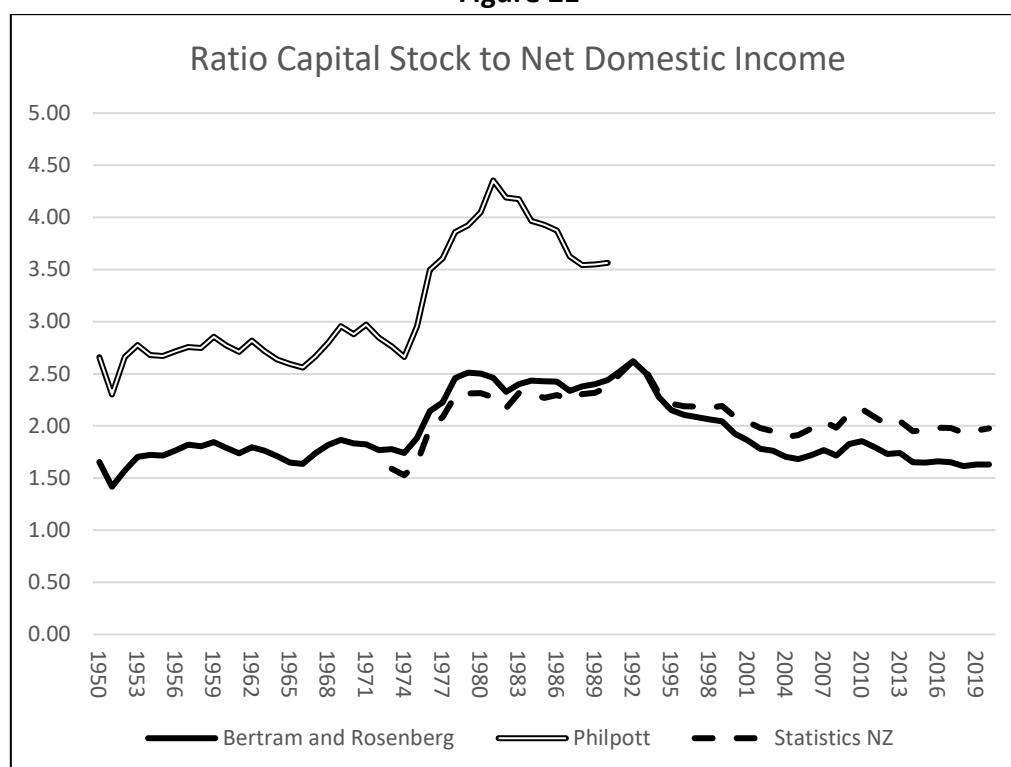
First, whereas in the decades up to the 1970s the “productive” sectors agriculture/forestry/fishing and manufacturing accounted for the bulk of economic rents, in the years since 1992 the FIRE sector has been dominant, though there are clear signs in Figure 11 of rising margins also in construction and trade/restaurants/hotels. The huge increase in rents secured in finance, real estate and business services could be construed as a transfer of surplus from other sectors of the economy that relied on FIRE services that were priced well above cost, insofar as we have captured the relevant aspects of cost. Payment of this growing stream of rents in a context of sluggish productivity growth would have required sacrifices of either or both of profits and wages. In the “competitive, flexible” labour market context after 1992, it was probably inevitable that wage labour bore the burden, while business interests in the non-FIRE sectors protected their margins.

Second, the dramatic appearance of a rent squeeze in the 1980s turns out to have been largely the consequence of the Think Big series of massive industrial projects initiated by the Muldoon Government, which failed to lift the economy’s NDI or operating surplus in line with

the expanded capital stock. For some of those projects (Main Trunk electrification, and hydroelectric construction) the intent was never to make a commercial return but simply to reinforce the economy's infrastructure. For others, the failure to trigger economic growth or recover their capital costs marks them out as questionable. It may be argued (as it certainly was by the promoters of Think Big) that while the projects themselves may not have been profitable, their spread effects on the wider economy justified the heavy commitment of public resources. The Marsden Point oil refinery, for example, clearly had strategic significance for security of energy supply. But the project with the most visible impact on the wider economy was probably the Kapuni ammonia-urea plant, which enabled the massive intensification and expansion of dairy farming on the basis of irrigation and nitrogen fertiliser – a process that has been a decidedly mixed blessing, given its environmental impact.

There remains one puzzling issue in our numbers that we have not at this stage been able to resolve. This is the economy-wide capital-output ratio, which appears to jump dramatically from 1.7 to 2.5 in the first half of the 1970s with no obvious technological change to explain it, then subsides back to 1.5-2.0 in the 2000s (see Figure 21)<sup>6</sup>. Provisionally we treat this as an artefact of the high inflation of the 1970s, but precisely how it worked is unclear at this stage.

**Figure 21**



## References

<sup>6</sup> We are indebted to Dennis Rose for raising this point. The chart is constructed from data in the tables appended to our long working paper.

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