Changing Methods for the Allocation of Scarce Resources to Competing Ends: A Possible Explanation for the Wages Squeeze and Responses to It

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Introduction

> Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses [Robbins 1932:15]

This paper argues that, consistent with this definition, we can and should appreciate how the ways in which economies change also entail changes in this "human behaviour". The paper develops an argument that whilst markets in contemporary economies clearly 'work', in the sense of being able to price and so sell almost anything, the very success of competition in reducing the prices of certain types of goods has extended the range and nature of market failure as other goods, characterised by own-consumption and joint production, then occupy a growing share of the value of total economic activity. As I explain below, it is well known that such goods cannot be produced in ways that use markets and competition (and regulation, where there is 'traditional' market failure, for example monology or public goods) to maximise welfare, as economic theory shows that there is no identifiable cost-curve as a basis for optimisation.

The paper platforms on the possibility that it may be the case that the nature of market failure has been changing in this way; it presents some ad hoc arguments to give it empirical support, but rigorous research is needed. However, it is I think intuitively appealing in the sense that the very success of markets that inherently tend either not to fail (or have well-known policy responses to the nature of their 'traditional' market failures) will lead the relative value of such goods and services to shrink compared with others, where market failure is inescapable. The paper also thus brings up the idea that certain sorts of 'non-traditional' market failure – here where there can be no cost curve – are inherently different from others, where a cost curve exists and so regulation or state ownership, or some other form of intervention, can get us closer to welfare-optimising conditions.

One possible implication of this is that the current wages squeeze and increasing dispersion of wages & salaries, and responses to this from organised labour, can be understood as engaging with such a situation (if I am right empirically) – one where market failure is caused by the rising relative prevalence of production where there is own-consumption and joint production. If so, then such responses can be seen as economically rational in Robbins' sense, and not simply a sectional political economy that seeks a larger share of the pie – rather as a rational economic behaviour seeking better allocation of scarce resources to competing ends in the national economy. However, if this is the case, then perhaps the particular languages and tactics used on both sides of the debate 'miss the point' as they seem to be trying to restore what cannot be restored – to deal with 'traditional' forms of market failure where there is a derivable cost-curve.

Stylised facts

In great contrast to my ancestors of the 16th and 19th centuries, I can today buy flour in my supermarket for A$0.75 a kg, a counter-top baker to bake it into bread for $150, and so (if I amortise the baker over 5 years and ignore yeast etc), I can produce 15 kg a month of my culture's traditional

staple (a pound a day of leavened bread) for just under A$150 a year: which, if I like coffee, is equivalent to 2/3 cup a week. Production of the flour and the counter-top baker both take place under conditions where competition and capitalism have combined to drive costs down to levels that, from the perspective of conditions two generations ago, are felt as 'very low'. The 'stylised fact' is that, for such goods, markets 'have worked', and it seems uncontentious to accept that this results from quite normal conditions of regulated profit-maximisation. It also seems reasonable to assert that, in consequence, they have become a relatively less important part of the economy, but this is contentious and needs empirical research to explore its validity.

Basic economic theory categorises economic activity according to production conditions:

> The conceptual framework adopted for the development of ANZSIC 2006 uses supply-side based industry definitions and groupings. Using this approach, units engaged in similar productive activities are grouped together. *Units in an industry will therefore exhibit similar production functions (a term used to describe the transformation of intermediate inputs, through the application of labour and capital, to produce outputs).* [ABS 2006: 209, stress added]

This implies that production functions matter and play a central role in resource allocation. But three stylised 'new facts' appear to be gaining ground in policy discussions in developed countries.

First, whilst the 1970s saw much discussion of a secular shift that was reducing the profit share of GDP (the 'profits squeeze'- e.g. Glyn & Sutcliffe 1972, amongst many studies), now the reverse seems to be the case: rather good growth in GDP and employment as we come away from the Global Financial Crisis (GFC) has not in general been matched by increases in real wages – the wages share of GDP appears often to be falling as GDP increases. And this pattern seems in some countries to predate the GFC – the emerging stylised fact is that increases in real labour productivity are not being matched *pari passu* by gains in real wages: a '*wages squeeze*'. To this argument is often added the point that *within* the labour share of GDP there has been increasing differentiation ("Within the labour share, the highest earners have captured an increasingly large portion, while those at the bottom have seen their shares decline significantly" [ILO 2015:2]).

Second, this 'wages squeeze' *is not well-understood and is on the whole unexpected*; whilst the policy debates of the 1970s sought to enhance growth through market-liberalisation, factor markets appear now to be operating in ways that under-reward labour and over-reward capital (and certain sorts of labour). But the reasons for this are not yet the basis for any emerging new consensus, such as that which argued for the 1980s liberalisations. Whilst this may be due to ideology and politics, it may also be because the resource-allocation mechanisms of modern rich economies are not well-understood.

An excellent summary of the range of explanations to hand shows that these are somewhat ad hoc and there is no consensus [ILO 2015]. ILO 2015 lists seven competing explanations and gives good sources for them. These are:

- Technological change
- Sectoral shifts towards more capital-intensive sectors
- Globalisation, in part caused by the entry of labour-abundant countries into the global economy
- Changes in labour market policies – declines in unionisation, weakening of other labour market institutions
- Regulatory reforms of strengthen product market competition
- Financial deepening
- Privatisation of state owned enterprises [ILO 2015: 20-23]

Third, we face a complicated set of political, economic and political economic issues. Populations of liberal democracies, who supported the shift to deregulation, are restless. Slow real wages growth,

like slow growth of profits in the 1970s, cannot continue endlessly: a rebalancing must occur at some point. To this can be added the political tensions created by the increasing differentiation *within* the wages share of GDP.[1] Clearly, this will entail a rethinking of how factor and product markets actually operate in liberalised open market economies, and central to this is the issue of why reasonable expectations, that the observed 'profits squeeze' would not be replaced by a 'wages squeeze', have proven false [ILO 2015]. In Australia, concessions by organised labour in the 1980s that saw reduced bargaining power traded for such benefits as compulsory superannuation cannot, rationally, have expected real wage stagnation [Mees & Brigden 2017]. Similar 'liberalisation from the Left' has occurred elsewhere, such as in Germany. What are the policy implications of the wages squeeze? Given that the existence of a 'wages squeeze' is accepted (stylised fact # 1), answers to this are coloured by the lack of agreed understanding on its causes (stylised fact # 2).

For example, take recent ACTU strategy statements, from the trade union wing of the country's progressive 'party of government', that seem thought-through and present a range of directions that would involve a radical shift in how factor markets work to determine the balance between profits and wages in the national economy [ACTU 2017; Schneiders 2017]]. The 'stylised fact # 3' therefore includes evidence that these amongst other powerful political forces are now reacting to the situation through a policy strategy that entails powerful assumptions about how a rich service economy works: these seem to come down to a scepticism about the ability of current relatively liberalised markets (for both factors of production and goods and services) to generate welfare-enhancing outcomes based upon an end to the wages squeeze (and increasing wage dispersion) and its corollary, changes in business behaviour.

The shift from 'traditional' goods and services production[2]

Since the main structural change during the past couple of generations in rich countries has been servicisation, I now discuss aspects of this.

Table 1 presents recent sectoral GDP per employee in services sub-sectors for the Australian economy. The table shows the division between GDP (Gross Value Added – the sum of all factor incomes) and labour remuneration (Wages and Salaries – W&S). Average W&S (that is, per employee) can be seen to vary greatly between sectors. Clearly, this could be caused by what could be called 'equilibrium' factors, such as variations in human capital or capital intensity, or by disequilibria, so that factors moving between sub-sectors capture transitionary rents.

< Table 1 >

It seems plausible, but more research is needed, that this picture shows a shift away from production of goods, where social costs are readily linked to price, accepted as a reasonable marker of social value and implicitly asserting that such objects are essentially similar – 'a cup of coffee' (dispensed from a machine). It is the issue of similarity that is most provocative. Basic economics courses often argue that one characteristic of many (but not all) services is that they are customer-specific ('bespoke'), and indeed one argument is that production in some important sub-sectors, often 'produces' 'altered humans' – such as education, health, retail trade ('the shopping experience'), accommodation and food services ('lifestyle choice').

[1] "One IMF study found that the most important determinant of increasing income inequality in the last four decades has been the growing dispersion of wages within labour income. This result reflects the fact that the lion's share of household income is labour earnings. It also occurs because top salaries have grown enormously …" [ILO 2015: 18].

[2] As above, by 'traditional' I refer to goods and services where conditions are such that a cost curve can be derived, and so policy and other interventions can be deployed to deal with market failure, unlike, as I discuss below, own-consumption and joint production, where a cost-curve cannot be calculated.

To put this in another way, services are increasingly 'bespoke' (as of course are some manufactures) and therefore viewed socially as unique items – 'a cup of coffee served to you, then and there' - and therefore in these welfare-enhancing areas of economic activity outputs are clearly viewed as socially diverse, that is, as *jointly produced*: the same cafe, but each cup is a unique experience 'for you'. And, of course, to produce each unique cup, the person who sells it to you uses inputs that are, thanks to capitalist competition, now far cheaper relative to the cup of coffee than they were two generations ago. After all, beside the bread-maker on the suburban or inner-city counter often sits a coffee-maker of a similar 'low' price relative to money wages. Such assets are used, either jointly to produce a series of unique items that the consumer seeks out and buys, or to generate 'own-consumption' within the household.

Another argument pointing to this conclusion is that some service sectors often are required by customers to treat their 'altered humans' as people rather than things, requiring management of them as individual clients, and so the information-economising powers of production for the market at a given price and with identifiable costs are seen as limiting the welfare-enhancement. In a more popular language, a facility that looks after grandmother is not viewed as producing the same thing as a factory that makes air-conditioners, and, from the standpoint of basic economics, rightly so.

Now, whilst empirical work is clearly needed, my argument is clear – in parts of modern rich-country economies it is not that we are in post-scarcity conditions, but that well-understood economic mechanisms that have successfully reduced the costs of certain goods seem to have greatly reduced the relative extent of those goods compared with others. Other sorts of goods, where use of such mechanisms (as I will now detail) cannot happen, have become relatively far more important, *and this poses qualitatively new problems and opportunities for welfare-enhancing social and economic organisation.*

The following sections explore a series of issues.

In the first, at a rather general level, I argue that the basic vision that economists have of any economy – what is taught - is in fact linked strongly to a 'factory' or 'field metaphor, where 'stuff is used to make stuff'. Central to this is the not entirely unreasonable assumption that each output can be thought of as being the product of the bringing-together of given inputs, so that there is a production function for it, and so a cost curve. I argue that this vision is increasingly troubling.

In the second, I rehearse various well-known results in economic theory that argue that in certain circumstances, because a cost-curve cannot be derived, prices cannot, in the standard models, efficiently allocate resources: the cases of own-consumption of production, and joint production. This contrasts with 'traditional' market failure, where prices misallocate resources but still guide decisions. I suggest that this may then imply that economically rational societies would then seek other mechanisms to increase welfare under conditions of scarcity.

In the third section, I expand the discussion by applying the adaption to servicisation by Sheehan 2008 of the Murphy, Shleifer and Vishny 1989 formalisation of Rosenstein-Rodan 1943's model of 'big-push' industrialisation. This approach focusses upon factors that may operate to preserve factor market disequilibria and perhaps point to how we might understand the macrodynamics of modern rich economies whose microfoundations are often ones of pervasive 'non-traditional' market failure.

A final section concludes.

Section 1- The 'factory or field' metaphor and its implications: 'turning stuff into stuff'

Standard explanatory economic models assume, on the side of production, either production of a single good or service by the production unit, or its equivalent: this allows for discussion to proceed in terms of an identifiable cost function, where produced and factor inputs, priced accordingly, can

be allocated to the level of output through a function. Under competitive pricing conditions, where all are price-takers, this leads to production efficiency, which can then be linked through a similar exercise on the consumption side to show how economic efficiency can be obtained. If there is 'traditional' market failure intervention tends to focus upon getting prices right.

Just as the production side assumes that there is a cost curve, so on the consumption side welfare-maximising takes place as consumers allocate given incomes to consumption. There is by assumption no joint production and no own-consumption by consumers of goods and services they themselves produce. Obviously, whilst this is the standard explanatory model, in the real world real markets operate in ways that can and do deviate from its assumptions.

The quotation from ABS 2006 at the start of the paper assumes that the most important distinction between sub-sectors of the economy when measuring economic activity is, *and can be without difficulty*, variation in production conditions understood as similarities in the "*transformation of intermediate inputs, through the application of labour and capital, to produce outputs*" [209].

This entails the assumption that such differences can be known (production functions identified clearly enough to differentiate between them), and that these differences stand in some relationship to the link between "application of labour and capital" and measured factor incomes. I think this comes down to an assumption that variations in production functions (with demand) explain variations in factor rewards; in the standard model, with no 'traditional' market failure, competition means that labour and capital, like intermediate inputs, are priced to receive their marginal product, which is given by the relevant partial differential of the production function. This is a powerful and beautiful position. However, as I discuss below, if other arguments, that come down to the view that prices including factor rewards are not likely to be determined by production conditions (and demand) thus understood, it follows that this basis for categorising sub-sectors loses its foundation (as expressed in the ABS 2006 quote), and others should then be considered. But what?

The standard conceptualisation, as economists know well, creates some rather beautiful results, arguing that decentralised economic decision-making can, unless the factors we call market failure (here I call this 'traditional') stop it, lead to outcomes that are welfare-maximising. It leads to views that assert that if market failures are widespread, we should be more concerned to intervene to correct for them, and if they are not, then it is likely better to leave well alone. Further, if we intervene we assume that 'prices matter' and guide economic decisions.

In terms of the steps required to make such models seem valid, it seems that on the production side they are naturally illustrated by the 'factory or field' metaphor. A good (or service) is produced using certain real inputs (including factors of production), which can be organised in a factory, or, if a farm, in a field being used for monoculture: a crop or an animal. Factor inputs are then conceptualised as real inputs, like produced inputs. Aggregation of such metaphors at a macroeconomic level is then simply an aggregation of factor incomes to construct gross domestic product, which is as economists know a measure of total factor incomes, whose spending on final demand allows for a far easier gauging of volume data than attempts to deflate factor incomes.

This powerful set of basic theories and data is, clearly, associated with a conceptualisation of an economy as something that 'turns stuff into stuff', so that activities that drive down inefficiencies in that process are expected to lead to better performance. This can happen through various policy interventions: liberalising to allow prices to drive choices, dealing with market failures, and investing publicly in improving the economic value of factors of production, such as education and skills development for labour.

I think it self-evident that this basic vision has two important aspects:

First, it has been, since at least the late 1970s and early 1980s, the core consensus in the liberal democracies governing how economies should work.

Second, it assumes that markets will price factors of production well, and that this will lead to a balance between them in the sense that increased real productivity of the economy will see increased rewards for all factors. After all, the end of the Keynesian consensus was in part driven by concerns that the profits squeeze was unsustainable, and, if Soviet central-planning or something like it was to be avoided, a new economic strategy was needed.

It seems that modern service economies question, and increasingly so over time, these implications. The question is why. We remain unsure of the answers, but consider the following:

First, such ideas, and their implications for economic development, push for their realisation, and this can be thought to mean a massive development of production that fits with them: in rich countries, for production under conditions where, in the absence of joint production and own-consumption (see next Section), inputs can be well-priced.

Second, that as relative prices of such goods fell, structural change would then be towards goods and services that did *not* meet such criteria, *and this is the core of what we call the servicisation of rich countries*. Services are a residual – they are neither industrial nor primary products – and these are increasingly economic areas that market forces find problems with, leading to social tensions and an emerging concern with balance.

Third, we can therefore learn from what economic theory tells us about situations where markets, for various reasons, will face problems in establishing the cost and value of inputs and outputs to allow for resource allocation decisions that are experienced as welfare-enhancing. Since these focus our attention upon joint production and own-consumption, this throws into better relief the economic meaning of such phenomena as the suburban house, with its computers, Xboxes, white goods, cars etc, all of which turn its household into something far more like a hunter-gatherer living under rather good natural conditions than a 19th century proletarian, and large public services, such as aged care, where consumers demand that they be able to buy, not just a well-fed grandfather, but one who is happy and well cared-for by people he knows and likes and can chat with – joint production by the aged care facility under conditions where market calculation faces great problems for it in establishing a cost-curve, so as to maximise profits. This suggests, but by no means confirms, that we can learn more rather than less from economic theory, as it shows clearly how markets can do what they can, and so what they cannot.

Section 2 - Joint production and own-consumption: the absence of a cost-curve and its implications for economic calculation

It is well-known, as an issue in economic theory, that joint-production and own-consumption pose problems that are unsurmountable. This comes down to the evident reality that a cost-curve for a given good or service under those conditions cannot be constructed. However, if one accepts the two points above – that the core consensus in the liberal democracies is that this vision governs how economies should work, and that this entails an assumption that on the whole markets will price factors of production well – then it follows that validity of this consensus should erode as and if it becomes increasingly evident that what it is meant to apply to has an expanding range of activities to which the theory is known not to apply: joint-production and own-consumption.

Joint production

A standard paper on joint production is Bailey and Friedlaender 1982. They say, “traditional economic analysis of the theory of the firm has concentrated on single-product firms” [1024]. Their focus is upon situations where production of different goods and services is treated as the combined activities of a single firm. This leads to the valuable concept of ‘economies of scope’. They report:

> There are said to be positive economies of scope when a single firm can produce a given level of output of each product line *more cheaply* than a combination of separate firms, each producing a single product at

> the given output level. As a general matter, the authors state that economies of scope arise from the sharing or joint utilization of inputs. [1026, stress added]

But what is meant by 'more cheaply'? They confirm - my point here - the problems encountered in constructing a cost curve:

> In essence . . . conventional measures of average cost are not well defined for a multiproduct firm. There is no single economically meaningful way to aggregate output. [1025-1026] … There is no single meaningful definition of average cost since there is no meaningful way to aggregate {different outputs} into a single output measure [1029] … there is no one correct way to allocate … costs between the two {outputs} [1031]

To overcome this, some simplifying conceptualisation might be used, such as what they call "ray economies of scale" which "are a straightforward extension of the concept of single-product scale economies and indicate the behaviour of costs as the production levels of a given bundle of outputs change proportionately; that is, the composition of output is assumed to remain fixed whilst its scale is permitted to vary" [1029]. This assumption assumes that, with given proportions, in effect there is at that point only one product, which shows the problem rather clearly: either in effect there is just one output (definably constructed from its components), in which case changes in the relative prices of those outputs that suggest a change in their proportions violates the integrity of the single output, or there is not, in what case there is no well-defined average cost measure.

If we examine a standard microeconomic textbook, such as Jehle & Reny 1998, we find that their Chapter 5, on the Theory of the Firm, reverts to discussion of a single output firm when (Section 5.3) it must generate a cost function. The 'cost function' is defined as the relationship between a vector of inputs and their use to generate a single output [230].[3]

This suggests, though weakly, that the rational economic calculation that economic theory argues underpins the efficiency of resource allocation and consumption in markets without 'traditional' market failure is harder when there is more joint production, and easier when there is less. As a hypothesis, this would suggest that when market forces are unleashed and well-regulated, they will push resources into single production, driving down costs and reducing scarcities. As this happens, joint production would become relatively more extensive.

Own-consumption

The problems posed for rational economic calculation as discussed above when joint production is relatively extensive also happen in situations where producers consume significant amounts of what they themselves produce. This is most obvious in poor countries where there are many farmers, but the point is a general one.

Thus Chapter 2 of Bardhan & Udry 1999 starts with the observation that many people in developing countries earn at least part of their livelihood by working in their own enterprises (often farms) and often consume a significant part of their own output. They therefore:

> … make simultaneous decisions about production (the level of output, the demand for factors, and the choice of technology) and consumption (labor supply and commodity demand). This mixture of the economics of the firm and of the household is characteristic of the situation of most families in developing countries and provides the starting point for our analysis. [7]

My point is that, as discussed above, this is increasingly true in rich countries where substantial welfare-enhancing activities take place within households.

Bardhan and Udry initiate their discussion by viewing markets as complete, meaning that everything has a price and so everybody can calculate trade-offs in monetary terms. Inherent in this conceptualization is that decisions exist by themselves, and so, among other things, it is possible to

[3] See also Baumol and Willig 1988 and Lloyd 1983 (Baumol's earliest article on this is Baumol 1977).

develop an algebra that separates the production decisions of the household from its consumption decisions. Then the original microeconomic conceptualization appears valid, since there are in effect two households—one a producer and one a consumer. This provides a standard against which to develop the analysis further. However, they conclude from their empirical references that "In most developing-country contexts, the separation property seems more useful as a benchmark for comparison than as a basis for empirical work" [11]. By "separation property", they are referring to the argument that the algebraic model of consumption decisions may be kept separate from those of production decisions: that the decisions are separate, mediated through markets. This is a similar assumption to the assumption that a firm producing more than one input is in effect using two or more separate production functions, so that inputs used for one can readily be accounted for separately from those used for another. When such assumptions are reasonable, standard economic theory suggests economically efficient results. But:

> The available empirical evidence casts serious doubt on the validity of the unitary model. While the available work is mostly supportive of the more general model of efficient households, there is some evidence, particularly in Africa, that calls even this weaker model into question. More research is required before the general validity of the efficient household model can be accepted. *If the efficient household model cannot adequately account for the intra-household allocation of resources, it appears that it will be necessary to move towards more detailed, culturally and institutionally informed noncooperative models of the interaction between household members* [18, emphasis added]

The conclusion is similar to that reached by the discussion of joint production: if, because the society is 'still' poor and rural, with extensive 'subsistence farming', so that farming households consumer much of their own output, or, as in contemporary rich societies, with similar patterns of 'own-consumption' by 'suburban Amish', again the fields over which resource allocation decisions apply will have shifted towards areas where rational economic calculation as embodied in the standard economic models will be impossible: I do not, within the family household economy, negotiate with my children through markets – there is no 'separation'.

These two observations suggest that *if* there is a growing prevalence of own-consumption and joint production then other forms of economic calculation by economic agents are likely to become socially relevant.

Section 3 - Structural change and economic growth

It is clear from Table 1 that factor rewards seem vary greatly between sub-sectors. I would not expect other economies to differ from this. It seems clear that it is possible that the 'law of one price' often does not hold and, for various reasons, relatively high factor rewards (and so higher Gross Value Added - GVA) persist in the faster-growing sectors, as a generalisation. It is not clear exactly what is happening here. On the one hand the arithmetic of economic growth with structural change is that shifts in factors to sectors where GVA/factor are higher is, definitionally, what is happening. But it is not easy to obtain measures of real capital inputs, as even estimates of capital stock pose valuation problems; but the basic argument, that variations in factor rewards should drive factors to shift between sectors and sub-sectors, appears powerful.

Sheehan 2008 re-worked the Murphy, Shleifer and Vishny 1989 (henceforth - MSV 1989) formalisation of Rosenstein-Rodan 1943's model of 'big-push' industrialisation to explore its applicability to servicisation, and the basic conceptual mechanisms are plausible. The model is one of sustained disequilibrium, explaining why rapid structural change need not reduce inter-sectoral differences in factor rewards. It points to three mechanisms:

1. Internal increasing returns

For industry, this was thought to be caused by fixed costs, reducing unit costs as output rises, creating additional profits for the firm. This, conceptually, can obviously happen in services – think of a vocational training school, or a tourist resort.

2. Transfer of labour into higher GVA activities

For industry, this meant that surplus labour in the traditional sector would shift to the factories at the going wage rate, which was low enough to maintain factory profits. This can obviously happen in services too. The model is conceptually robust enough to be extended to different framings.

3. Pecuniary externalities

For industry, this was the way in which increased effective demand arising from higher total wage incomes increased the demand for all factory products (more or less, given competition etc). This again is easily to think as something that can happen if services grow fast. Arguing from the notional case studies of the school and the hotel, the staff at both may thought of as experiencing earnings increases and, as their numbers rise, these lead to demand increases, and this may increase services demand more than demand for manufactures.

These mechanisms of course, whilst plausible, require detailed research to explore their explanatory value properly. Whilst the 'traditional' central question is the extent to which observed differences in GVA/worker reflect disequilibria or factors such as different levels of human capital, the argument in this paper is that *if* there is widespread joint production and own-consumption then producers *cannot*, as there is no cost curve, optimise based upon the pricing of such variations in inputs. Analysis of macroeconomic change is then analysis of how factors of production move (or not) between sectors where GVA/worker vary *enough to add to total GDP.*

Table 1 shows Australian data on GVA. The data includes information for some but not all sub-sectors on wages and salaries (W&S), so we can see the split between factor rewards. For Education & Training, and Health care & Social assistance, this is only given for the private sectors within the sub-sector. The public administration and safety data is clearly problematic, as this includes defence with its very high value assets.

Again, we see wide variation in average W&S – that is, per employee. But this variation is far harder to explain plausibly. Crucially, there seems to me to be no clear pattern that would support the ABS view, articulated in the ANZIC, that "*Units in an industry will therefore exhibit similar production functions (a term used to describe the transformation of intermediate inputs, through the application of labour and capital, to produce outputs*", which, as discussed above, implies that distributional relations are, in general, determined by production conditions and demand.

The basic argument of the paper is then put clearly: *if own-consumption and joint production are increasingly prevalent then economic theory tells us that the share of the economy where 'traditional' market failure happens will be declining, and so traditional social mechanisms to overcome market failures such as monopoly and public goods will be of declining relevance, as producers cannot identify, and so use, output-specific cost-curves to explore the implications of decisions for optimisation.* Such a society, arguably, will increasingly experience actual economic resource allocations as sub-optimal in terms of welfare-maximisation, and so seek alternatives.

Discussion

Standard economic theory engages with reality in various ways, well aware as a science that its theory's applicability is contingent. The above argument suggests that an expanding scope for joint production and own-consumption would reduce the relative applicability of standard theory, and I am taking this to mean that it should be concluded that other processes than the standard constrained optimisation framework *in reality* must be determining prices, such as factor incomes,

and specific wage levels (such as the increasing gaps between low-paid and higher-paid employees) etc., and so the door is opened to a re-examination of possible determinants of such prices. In Australia, given the political importance of trade unions and the role of the ALP in the reforms of the 1980s, wages are a central part of this debate.

Given that the abandonment of the post-war Keynesian consensus occurred in liberal democracies, and was therefore, at the end of the day, political legitimate, we can therefore learn from how progressive political forces are now organising to alter policy. ACTU 2017 shows this for the Australian case.[4]

ACTU 2017 can be read as arguing that factor rewards are no longer determined by competitive markets, but by power and position. Logically, given that the ACTU is an organisation that aims to change policy, this means that the non-economic factors that determine power and position can and should be changed ("The rich have too much power and get too much special treatment" [5]). Much follows from this view, some of it unexpected:

First, the ABS's classification of sub-sectors based upon grouping units that "*exhibit similar production functions*" [ABC 2006: 209] has to be questioned. The basic rationale for the classification is that factor rewards and other prices are determined by production conditions (and demand), and there are, clearly, good economic reasons for questioning this. Policy responses to 'traditional' market failure assume that this logic still holds, whilst with own-consumption and joint-production, it does not: the production function is irrelevant as producers cannot derive a cost-curve. So how do we classify sub-sectors?

Second, it follows also that if we accept that the sort of economic insights broached in this paper are valuable then the ACTU's position is simply a reflection of far more powerful and wide-ranging changes in society as prosperity has changed how welfare-enhancing activities happen, and why. The position taken in ACTU 2017 is not, therefore, simply another turn in the redistributionist cycle, evoking memories of past rent-seeking by a minority of politically-influential groups within organised labour, but rather a reflection of how our economy works, and what we mean by it: how do we allocate scarce resources to competing ends, and do it well?

Conclusions

The core argument of the paper is that the 'turn' to greater reliance upon markets of the late 1970s has had various outcomes that merit discussion. Here I start from the point that these can and should be seen within the lens of Robbins' definition of economic science as the study of the allocation of scarce resources to competing ends. The paper has argued that economic theory, which shows clearly when and how constrained optimisation fails utterly and, in terms of traditional policies to address market failure, irremediably – when there is own-consumption and joint production – therefore tells us that we need to look for other ways in which better welfare outcomes may come from other resource allocation methods. Viewed in this way, the paper argues that recent declarations of strategic intent from Australian organised labour can be seen as economically efficient. The paper suggest that these can be seen in part as the natural outcome of the economic effects of the 'pro-market' ALP economic reforms of the 1980s.

First, the pro-market economic strategy has largely been successful, in that the relative cost of what can readily be produced as commodities has declined steeply. This fits with the standard economic result that constrained optimisation, in the absence of market failure, is welfare-enhancing and production-efficient.

[4] Reference can also be made to the British Labour Party Manifesto for the UK 2017 Election [Labour Party 2017], and the Sanders US Presidential Campaign of 2016 [Sanders 2016]

Second, what seems to have happened is that this very success has shifted the relative value of economic resources towards areas where these processes, and the associated constrained optimisation behaviour, do not happen: *and economic theory argues that this will include areas of joint production and own-consumption, where prices inadequately reflect, for the people concerned, social costs and values.*

Third, under such circumstances, factor rewards and other prices are *not* determined by technical production conditions, consumer tastes, or 'traditional' market failure.

My review of theory thus suggests that we should consider further the idea that important economic theory suggests that resource allocation in rich service economies such as Australia's will, for reasons to do with the success in generating economically efficient production of certain commodities, increasingly rely upon social processes that reflect the theoretical insights of economics, which is that 'it is hard' for markets to work well (in an economically efficient sense rather than just monetising and pricing things) when there is joint production or own-consumption. This suggests that the political responses to the observed 'wages squeeze', and the increasing dispersion of wages, reflect a new economic rationality.

The benefits of the abandonment of the post-war Keynesian consensus in the late 1970s and 1980s can therefore by understood as having been largely exploited: 'where markets work, they do, and traditional policies for dealing with traditional market failure can work'. The considerable efforts put into securing efficient economic institutions can then be seen as having exhausted certain growth possibilities. Joint production and own-consumption are as a result increasingly pervasive, reducing the economy's capacity to link producers' cost-curves through markets to consumers' welfare-maximising decisions. The obvious responses, socially, which is what we see, seek other mechanisms to secure socially acceptable – because reasonable - pricing, such as positional markers, for workers' pay; a higher rather than lower social wage; interference with macroeconomic prices such as levels of nominal interest rates; social engineering encouraging non-commoditised services ('stay at home fathers') etc. These are all profitable avenues for economic research that sees them, not as responses to post-scarcity, but as ways of enhancing welfare that are creative and highly rational.

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