Reversing the Decline in the Labor Share of National Income

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** Comments welcome **

Wealth inequality is greater than income inequality in most modern economic contexts. This means that shifts of national income from labor to capital will generally increase total income equality across the population.[2] Recent increases in the share of capital income relative to national income in the US and other advanced economies[3] -- and the corresponding decline in labor shares -- are concerning to many, in part, because high concentrations of incomes and economic power can lead to increased concentrations of power in other arenas, such as in politics, culture, or other social settings.

The rise in the share of capital income and decline in share of labor income is also seen by many as a sign of reduced power of middle- and lower-income populations, or workers more generally; thereby leading to poorer market outcomes for these groups in terms of wages and overall compensation. This can occur either through reduced power in direct negotiations with employers -- either collectively or individually -- or through the political capture of public policy by capital owners or private sector businesses.

This memo briefly reviews some of the common explanations for the decline in the labor share of national income in the U.S. (and the corresponding rise in the capital share) -- assuming such a shift is reflective of more permanent underlying forces -- and then asks what forces might swim against this tide, or, alternatively, what might be done to turn the tide around.

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[2] See Milanovic (2020), for a broader discussion of how income shares impact inequality under alternative capital ownership patterns: https://www.hup.harvard.edu/catalog.php?isbn=9780674987593&content=bios Some of the relevant findings are excerpted here: https://evonomics.com/capitalisms-alone/
[3] See for example, IMF (2017) at https://www.elibrary.imf.org/view/IMF081/23926-9781475564655/23926-9781475564655/ch03.xml?language=en&redirect=true

The task in this memo is to lean in, where possible, towards the drivers and root cause(s) of market outcomes on the labor/capital share, rather than on post-market fixes – such as redistributive tax or spending policies. Though it should be noted that these post-market policies can and do have 1) important feedbacks on market outcomes, and 2) significant impacts on labor shares and inequality more generally. Also beyond the scope of this memo is a fuller treatment of the causes of inequality *within* labor and capital incomes; though, here too, there are important feedback loops; the most obvious being that greater wage or labor income inequality could, in principle, lead to greater aggregate capital accumulation and capital share, since higher income individuals have a greater propensity to save.

What is driving the decline in the share of labor income?

There are several perspectives (and much debate) as to why there has been a decline in the labor share of national income. I do not attempt to fully summarize, let alone add another methodological complication in this note. But it is important to mention a couple potential views.

First, some research has focused on forces or trends centered in capital markets.

For example, it could be the case that the rise in capital income share is mainly due to higher levels of *capital accumulation* without an offsetting drop in returns. This is part of the core argument in Piketty (2013), which argues that higher rates of return on capital relative to the broader economy will lead to a reinforcing cycle of capital accumulation, and thus a growing capital share of national income.

Others have noted that that one should decompose investment and capital across sectors, recognizing that housing has accounted for most, if not all, of the increase in capital accumulation in the U.S. (rather than an increase of capital from the ownership of the means of production.) Thus, one alternative to the accumulation view is that the rates of return to capital are rising; perhaps through *scarcity* of housing or land leading to higher prices these goods (Rogline, 2015).[4]

Other perspectives on the declining share of labor income are focused on the forces and trends on the labor side.

Some have highlighted the role that *technology* might play, perhaps through greater automation, including robotics and AI. One study suggested that about half the decline in the labor share of income in advanced economies is due to technological progress that reduces the relative price of investment goods (IMF, 2017)[5].

[4] See: https://www.brookings.edu/wp-content/uploads/2016/07/RognlieNEW.pdf

[5] https://www.imf.org/en/Publications/WEO/Issues/2017/04/04/world-economic-outlook-april-2017 chapter 3.

However, other research has thrown this perspective into doubt. Hausman (2018)[6] for example looks at the manufacturing sector in the U.S., which is often held up as a prime example of where automation has reduced employment. She finds that the growth in productivity in this sector has been driven by the computer and electronics subsectors, and that there is "no prima facie evidence that productivity caused manufacturing's relative and absolute employment decline." Though, it should also be noted that technology could impact capital returns in other ways beyond automation (perhaps via an increased capacity to gather and analyze data).

Another leading explanation is that *globalization* is the primary force driving income shares. By increasing the pool of labor competing with workers in advanced countries, wages in advanced countries would be suppressed, and workers would be under continuing threat of having their jobs offshored. This competition could occur through cross-firm competition, but also as the result of the development and growth of global value chains globally (see various works by Susan Helper). Each of these factors could play a role in depressing the wages of those subject to automation or globalization, as well as those similarly situated in the labor market.

The growth of the "*financialization*" has been suggested as another potential driver of the rise in the capital share. For example, the rise in the importance of the financial sector, together with the rise of finance in other non-finance businesses and sectors could be seen as a driver of capital income increases as these activities divert resources from the real economy and labor incomes. For an overview, see Giovannoni, (2014)[7].

Finally, (and perhaps less explored in the academic literature, especially empirically) are changes in *market structures* that could lead to greater share of capital income, specifically, growth of market power in both the markets for goods and services, as well as labor. Greater monopsony power could force down wages. It also seems reasonable that greater monopoly power in the goods/services market would lead to higher profits and thus returns to capital. Though, on the flip side, the overall impact on the capital share in aggregate is less clear since that same market power could restrict competition, innovation, and the overall size of the market. While there is some evidence that these market changes impact wages, there is less evidence that there is sufficient growth in market concentration to explain more than a small fraction of the change in the wage share (EPI, 2018).[8]

I might also suggest another component to the changes in market structures noted above. Taking the word for "place of trade" or "mart" from the Greek, "ἐμπόριον" or "emporion" and in the Latin and English versions, "emporium", we may be seeing a potential rise of "monoemporium" or "oligemporia". These are markets structures in which there is one (mono-) or a few (oligo-) entities who own and control a particular market, and who thus set the market rules and can extract rents from both the buyer and seller in any transaction. The rise of online

[6] https://research.upjohn.org/cgi/viewcontent.cgi?article=1305&context=up_workingpapers
[7] http://www.levyinstitute.org/pubs/wp_804.pdf
[8] https://www.epi.org/publication/its-not-just-monopoly-and-monopsony-how-market-power-has-affected-american-wages/

platforms that create markets – or subsume existing markets – are likely not yet of significant scale to shift overall labor shares, but they will almost certainly grow more important in the future. I explore additional implications below.

Low and declining union density: root cause, accelerant, or both?

In addition to the causes above, some have pointed to the decline in union membership and low levels of people covered by collective bargaining agreements as a key factor in the decline in the labor share of national income.[9]

It should be noted that the decline in unionization can play two roles. First, since higher union density can create wage premiums, a decline in density can result in lower wages and a lower share of national income. Looking across sectors and states in the US, Abdih (2017) finds that about a fifth of the decline in the labor share from 2001 to 2014 was due to a decline in unionization.

Second, lower levels of unionization (and not only a decline) can also play a role as part of a transmission mechanism for the other forces described above. So, for example, if globalization or automation puts downward pressure on wages, and there is no countervailing pressure from organized labor, the impact on the labor share could be larger than if there were higher levels of union density. Looking across the OECD countries from 2004-2017, those with greater than 80% collective bargaining coverage saw a decline in labor share that averaged 0.7 percentage points; while those with less than 20% coverage saw a decline in labor share of twice that amount. Conversely, there were 6 countries that saw an *increase* in labor share over this time; and 5 of those had over 70% collective bargaining coverage.[10]

Addressing root causes

From the above, we find seven leading explanations for what might be driving the shift in the capital/labor share of income; which include capital accumulation, scarcity, technology, globalization, financialization, market structures, and the decline in unionization. These explanations are, of course, not mutually exclusive.

At this point it is also worth keeping in mind the *feedback loops* between the decline in worker power and the decline in labor share (and the inverse for capital shares). Lower labor shares may translate into less leverage (both in markets as well as in public policy decisions) and thus less power to increase wages and compensation (both market and post-market).

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[9] See for example, Kramarz (2016), OECD (2012) and Abdih (2017). At http://www.crest.fr/ckfinder/userfiles/files/pageperso/kramarz/offshoring072008.pdf https://www.imf.org/~/media/Files/Publications/WP/2017/wp17167.ashx

[10] Authors calculations from ILO (labor share) and OECD (bargaining density). Sample excludes the Baltics since they appear to be outliers. Change in labor share of income is between 2004 and 2017. Union coverage is average over same period.

Unionization

As noted above low and declining levels of unionization can be seen as both a cause as well as an accelerant or transmission mechanism. As such, we need to recognize the importance of trends and policies that explicitly aim to boost worker power – especially through a strong labor movement. See, for example, policies to reform labor law -- towards the end of strengthen labor's bargaining position -- from Block and Sachs (2020).[11] A stronger labor movement (including greater union membership and collective bargaining coverage) can be seen as one way to strengthen and capitalize on the forces that might raise the labor share; while pushing against the reverse.

Capital Accumulation

If this story is correct, and capital income is set to rise faster than the overall economy, then boosting labor productivity would perhaps be one way to achieve broader economic growth to chase capital returns (see technology section below). However, as Bob Solow reportedly quipped: "You can see the computer age everywhere but in the productivity statistics." Finding ways to impact productivity growth has been notoriously difficult.

Outside some unexpected rise in labor (or general) productivity, there are two basic ways to address growing capital accumulation. First, one can look to impact the post-market outcomes to slow or reverse the continuing accumulation – mainly through tax policy such as through higher capital gains taxes, wealth taxes, and/or inheritance taxes.

Second, one can look to how capital (or capital income) is distributed – to ensure that even though the capital share might rise, the income from capital does not add to overall income inequality. This might be achieved through a system of broad-based private ownership perhaps along the lines of employee stock ownership plans (ESOPs); or public investments in capital markets where the proceeds are delivered to individuals at a flat rate (via a universal basic income) or in some means-tested fashion.

Scarcity

Suppose that housing is the prime driver of the increase in capital income and capital share – and that part of this increase is driven by scarcity in housing and/or land. In this case, there is little by the way of existing economic forces that might reverse this trend. Shifts in preference for home ownership among millennials (and younger) might be one possibility; however, while home ownership rates among millennials appear to be lower than prior generations at their age; their aspirations appear to be similar. (Summary by Choi, 2019)[12]

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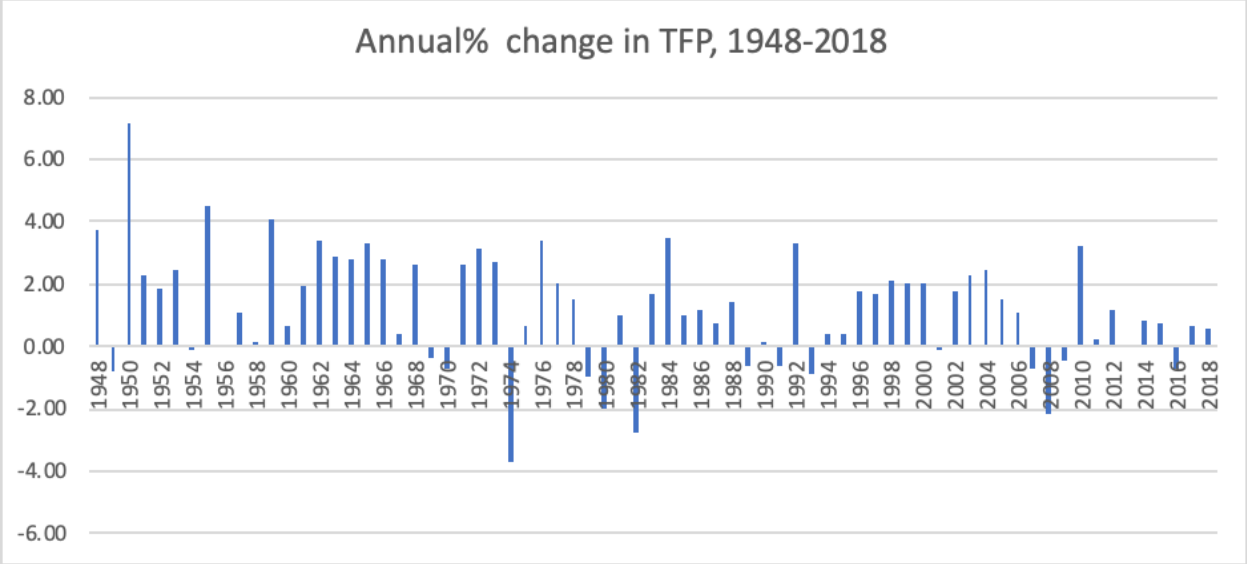
[11] https://assets.website-files.com/5ddc262b91f2a95f326520bd/5e3096b9feb8524936752fe0_CleanSlate_SinglePages_ForWeb_noemptyspace.pdf

[12] https://www.newamerica.org/millennials/reports/emerging-millennial-wealth-gap/homeownership-and-living-arrangements-among-millennials-new-sources-of-wealth-inequality-and-what-to-do-about-it/

In this scenario, one might imagine a range of affordable- housing policies, combined with tax policy changes that might impact the upper end of the market (such as limiting the home-mortgage deduction, or other policies) might help to reduce the upward pressure on the capital income share.

Technology

As noted above, the role of technology in explaining the decline in the labor share of income is a matter of great debate. While some point to the potential of technology to substitute for labor, it's been difficult to define a clear-cut case of how this has happened on a sufficient scale in the macroeconomy to drive down the labor share. To revise Solow's remark, you can find robots and AI everywhere, except in the productivity data. (See figure 1 for total Factor Productivity from 1948-2018, source: SF Fed)[13].



On a more hopeful side, in a recent MIT report by the Work of the Future project, the authors note that while technology can substitute for labor, it can also complement the "cognitive and creative capabilities of workers" as well as create new opportunities to deploy uniquely human skills. Importantly, the authors note that "(n)ot all innovations that raise productivity displace workers, and not all innovations that displace workers substantially raise productivity."[14]

Is there room to be optimistic here? If technology that augments labor, and that creates new tasks can outpace the forces that lead to substitution, then perhaps we could see a reversal in the decline of the labor share. But to achieve that end, there need to be two preconditions.

[13] https://www.frbsf.org/economic-research/indicators-data/total-factor-productivity-tfp/
[14] https://workofthefuture.mit.edu/sites/default/files/2019-09/WorkoftheFuture_Report_Shaping_Technology_and_Institutions.pdf

First, the incentives influencing R&D decisions must tilt towards complementarity technologies; and second, we need to have a workforce that can take advantage of new technologies in the workplace. At the moment, it seems as though most of the highly visible investments are aimed at substitution (e.g. autonomous vehicles); and skill development is not targeted enough to emerging technologies. Reversing these trends would seem to be a top priority.

Finally, new technologies are enabling (at least!) two additional shifts in markets. The first is the rapid growth of data (both in collection and in the analysis and use). This is in part through the ubiquity of data gathering devices connected to the internet; the so-called internet of things (IoT). How this might impact labor shares is not obvious (at least not to me), but it is perhaps worth thinking about in more detail.

The second is the role of technology in shaping markets – not how work is done, but how people connect to work. See below "*Technology meets Market Structure*" for further elaboration.

Globalization and Financialization

The impact of trade, globalization and financialization has been explored extensively in the literature and among experts. I have little to add here. I would only note that too often the discussion veers into polarized pro- or anti-trade camps; or to pro- or anti-finance camps; and what is often overlooked is how to help *shape* the terms of trade or investment for the benefit of labor; perhaps by re-examining the role of international agreements on trade and investment; either bilateral or multilateral. Mechanisms embodied in these agreements to boost worker voice, power, and leverage (for example, provisions that aim to strengthen enforcement mechanisms as related to violations of labor standards) may be an important tool to reverse the decline in labor share.

Market Structure

At noted by Krueger and Posner (2018), the competitiveness of labor markets is impacted by higher concentration on the employer side (monopsony), but also by a growing use of non-compete agreements with employees, and by the growing use of no-poaching agreements among employers in the same industry (or even the same franchise chain!).[15] For more on market concentration, see Autor et al (2017)[16]; Azar, Marinescu, and Steinbaum (2017)[17]; and Krueger and Posner (2018).

As in the cases above, current trends seem to be moving in the direction of greater concentration, not less. Krueger and Posner suggest three remedies: creating new merger

[15] https://www.brookings.edu/wp-content/uploads/2018/02/es_2272018_protecting_low_income_workers_from_monopsony_collusion_krueger_posner_pp.pdf
[16] https://www.nber.org/papers/w23396
[17] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3088767

guidelines, banning non-competes for those earning less than the median wage (by state), and by banning all non-poaching agreements.

At central issue here, too, is the relation between employer and employee. The current classification system, with a binary W2 vs 1099 distinction may also play into the vulnerability of workers as the labor market is increasingly "fissured" (Weil, 2017) and precarious.[18]

Technology meets Market Power

As noted above, much of the energy looking at the impact of technology on work has focused on potential loss of jobs (or of tasks); and what impact this might have on employment levels, wages, and bargaining power. In this sense, technology is impacting *what* work is done and *how* work is done.

However, in my view, a more significant shift will be in how people *connect* to work. That is, while the work or job itself may be unchanged – the work might entail driving someone around, cleaning a home, or taking care of an elderly person – the way work and workers connect (the way demand meets supply) is through a third party, digital technology platform such as Uber, TaskRabbit, or Care.com. There are myriad examples of these intermediaries across sectors in addition to labor markets. In retail: Amazon's marketplace or Ebay. In small manufacturing: Etsy. In travel: AirBNB, or Booking.com. For mobile apps: Apple's or Google's app stores. Online advertising: Google Ads.

These new platforms can be seen as ways to improve the efficiency of markets; by improving matches between buyers and sellers, or by improving the geographical reach of sellers and the options available to buyers.

But these intermediaries also then control many aspects of the market itself, ranging from payment negotiation, contract enforcement, and dispute resolution; to fixing prices, determining access to market, and controlling access to data. Some of these functions would otherwise have been the purview of the public sector (courts, oversight agencies) and other market stakeholders (unions or industry organizations), which, in theory, could be more accountable to the public and workers. These market parameters and processes are increasingly controlled by the platform intermediaries themselves who may have their own self-interest in mind.

These latter issues are magnified in the case of a monoemporium (single-market), where one dominant market maker is the primary or only intermediary. This might arise because of network externalities, unique access to information, a patented technology or business model, or other factors. In this case (as noted above), the market intermediary would be able to set the rules, fees and prices that most greatly benefit the intermediary; with little regard for what

[18] https://www.hup.harvard.edu/catalog.php?isbn=9780674975446

is best for either the buyers or sellers. The intermediary would be able to levy, in effect, a tax on the market, and would strive to set that tax at a revenue-maximizing level.

In a more competitive market, intermediaries would be constrained by other competitors and would be forced to limit how extractive they could be towards the market – market participants could move to another platform with better terms. But when there is increased concentration, the intermediaries would be able to use their market power to drive up their own profits.

The consequences of monoemporium (or oligemporia) for the labor market, and hence the share of labor income could be profound.[19] If returns to capital include both the returns to productive activities, as well as the returns to market intermediaries, then a market intermediary that extracts from labor income (through lower wages and/or less work) in excess of other value add to labor (through lower costs and/or additional opportunity) would increase the capital share of total income.

This effect would apply to broader markets, not just labor. An extractive market intermediary in a goods or services market could force down the price sellers receive (just like a tax) putting pressure on wages in turn, and thus pushing up capital's share of income.

In many cases, these market intermediaries pride themselves (and brand themselves) on increasing opportunities for workers and other market participants by improving market access and economic outcomes. And in many cases, this is very true. But along-side the success of the intermediaries also comes a shift in power – away from both buyers and sellers and towards the intermediary.

So what can be done? When viewed through this lens, there are familiar anti-trust tools that could be brought to bear if or when a monoemporium intermediary abuses their market position. They might include:

- Enabling the organization/aggregation of buyers and/or sellers on the platforms – especially on the worker side, (for example, due to existing anti-trust regulations Uber drivers cannot form or join a union to negotiate with the company);
- Mandating data transparency on market conditions, prices, etc.;
- Further analysis of why particular monoemporium intermediaries remains dominant;
- Enforcement and application of anti-trust regulations – perhaps with additional modifications -- preventing mergers or breaking up companies;
- Public regulation, control, or ownership (as in the case of public utilities).

Conclusion

[19] Cautionary note – I have not formally modeled or worked thought any of the math of the below. In particular the general equilibrium effects are less clear that a market-by-market analysis. I fully reserve the right to augment, clarify, or fully change my mind based on additional analyses.

In the conference description that stimulated this note, the question was asked “whether there are any new and plausible Gini-negative forces wholly within markets that might reverse the rise of Capital’s share of productivity.”

The first order answer given here, is largely “no”. Most of the forces described, at the moment, are moving in a way that increases capital share and income inequality. The exception might be on the technology side, where many advances may be of the technology-augmenting variety. (Though many other advances would substitute for labor).

This leaves three main (not mutually exclusive) options to address. First, is to look post-market – in terms of tax and spending policies that would offset the market outcomes. Second, is to look to ways to make capital income more evenly distributed – through more equal ownership or public ownership with more equal distribution of returns. Or, finally, as highlighted above, we might take a range of actions to address the root causes of the decline in labor income. In all of these cases, public policy changes would seem to be an essential element – the status quo would lead to a continuing erosion of labor income and power, and growing inequality.