Seminar paper: Income inequality and economic growth

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1.1 Theoretical considerations

The question of the interrelation between economic growth and social inequality is as old as capitalism itself. A deeper analysis of "underconsumption" was conducted by Simonde de Sismondi already at the beginning of the 19^{th} century (Anselmann, 2020, p. 39f). One hundred years later, Rosa Luxembourg found clear evidence that "expansion of production [...] must inevitably lead to slumps, crises and ever greater misery for the great masses" (after Anselmann (ibid., p. 39). In the mid 21^{st} century, the most prominent scholar investigating the relationship between growth and inequality was Simon Kuznets and his thesis, that capitalism is characterized by two phases, one with strong growth in both, production and inequality, and the second one with an decrease in inequality and persisting productivity growth.

Michal Kalecki was the first economist who focussed with regards to economic growth on the role of the wage share and unequal income distribution (Kalecki, 1943; Anselmann, 2020, p. 180; Baccaro and Pontusson, 2016, p. 181). Kalecki argued that "[a]s real wages decline with a rise in the degree of monopoly, workers' consumption, effective demand, and hence output in the economy as a whole decrease" (Anselmann, 2020, p. 172). This thesis is also known as the "corporate veil" (Behringer et al., 2016, p. 10). He sees the poor as the major drivers of consumption due to their higher *marginal propensity to consume*, i.e. that rich tend to save a higher share of their incomes in comparison to the poor. The willingness of the masses to consume stimulates companies to invest what eventually leads to economic growth. When the share of consumption overweights companies investments in the total demand, scholars speak of wage-led, otherwise from profit-led growth (Anselmann, 2020, p. 424; Baccaro and Pontusson, 2016, p. 182). Josef Steindl was Kalecki's follower who investigated further the role of monopoles/oligopoles, their rent-seeking behaviour and its implication for wage and profit shares. He finds that "distribution turns out to be a most important element in the explanation of the normal growth process" (Steindl, 1976, p. 172). However, already in his time and especially later on, research on the effects of consumption on growth remained a niche in economics. Demand oriented research focussed rather on the mechanisms of employment and later on price stability (monetarism).

Krugman (2013, see Anselmann 2020, p. 181ff) responded to the Kaleckian thesis, that rising inequality, i.e. a rising profit share, leads to higher aggregated savings. He argues empirically, that "despite an increase in income inequality in most advanced countries, private household net saving rates have generally been declining during the past decades", and therefore "consumption spending by the affluent can be sufficient to sustain an adequate percentage of private consumption demand in the economy" (Krugman, 2013, after Anselmann, 2020, p. 183). Anselmann argues against Krugman, that the marginal propensity to save is empirically supported at the micro-level and that other reasons might be responsible for this macro-economic contradiction of the Kaleckian thesis. Factors which might "overcompensate" for a decline in saving rates due to shrinking incomes might be demographic changes[1] or expenditure cascades[2].

However, current research on the demand-side growth debate[3] is dominated by other factors, such as the 'natural rate of interest' and its effects on consumption (ibid., p. 181).

I want to suggest another point of discussion which was lacking the theoretical considerations concerning the nexus between inequality, mass demand and growth. In the tradition of Kalecki, scholars today keep their argumentation of the mechanisms quite sketchy. Stiglitz (2014, p. 9), for example, argues that "[w]hat creates jobs is demand: when there is demand, firms [...] will create the jobs to satisfy that demand". However, growth can only happen when increasing demand triggers productivity, in "developed" markets this predominantly works through *innovation* (and technological change in investment goods). Mass demand is important to sustain productivity, how it can affect growth remains often unaddressed (Stiglitz, 2015; Elsenhans, 2019). One could say, "you do not miss what you don't know". Concerning for example the current smartphone technology, before its release in 2007, it was unclear whether or not this technology would find (such a) demand. Although the past needed to prove that there could be a demand for smaller phones which contained and eased the access to already existing services, the role of innovation and risk taking of companies remains a key component in the process of growth.

Another reason why there is still little interest in "mainstream economics" in the relationship between income inequality and economic growth may be drawn from a historical perspective

[1] Anselmann (2020, p. 184) argue that retirees spend more money than younger individuals (e.g. for care services)

[2] The term expenditure cascades refers to the thesis that consumption may increase even among individuals with stagnating or decreasing incomes because consumption behaviour is socially oriented towards those socially positioned slightly above themselves. Therefore, increasing expenditures by the richer 'trickle down' to the poorer, which eventually consume credit based, see also Behringer et al. (2016, p. 9f).

[3] This strand of research is also often named as "heterodox" or "wage-led" economics.

where 'Keynesianism' had no answers for the economic reality in the 1970s: stagflation, i.e. the co-occurrence of price inflation together with a stagnating (and following recessing) economy was not explainable with demand-oriented models. Kalecki's and Steindl's assumptions, that a rising profit share (due to oligopolistic markets) was the major cause of economic stagnation, was empirically falsified in the mid 1970s where the recession was accompanied by decreasing profit rates (see Li et al., 2015). Furthermore, Keynesianistic measures to overcome the stagnation, such as increased state demand, failed (e.g. Plumpe, 2019, p. 483). Here, supply side oriented paradigms, especially the school of Chicago's monetarism gave new impulses. The following 'neo-classical' theories were influenced by Arthur Okun's thesis, that the relationship between equality and growth is characterized by a clear trade-off: the more from the one, the less from the other (Okun, 1975; see also Behringer et al., 2016, p. 24).
First in the last decade, scholars such as Stiglitz (2014) and Ostry et al. (2014) emphasized the role of rising inequality again[4]. But like in the past, many researchers approach this from a rather macro-economic/functionalistic perspective. As Steindl (1990, p. 183) mentions in his late work the importance of the actual "inequality of *personal incomes*" remains hardly addressed:

> In the light of these observations, the question of functional distribution (the share of profits in full employment income) ceases to be the only matter of concern, and the question of the inequality of personal incomes — which is presumably much more relevant for the personal saving ratio — moves into the foreground. Thus consideration of the trend of household saving may involve a certain shift in attitudes of economists interested in full employment.

Therefore, scholars today distinguish clearly between research focussing on the functional income distribution measured as the share of wages and profits at the overall incomes, and personal income distribution measured - for example - with a countries Gini-Coefficient. Furthermore, next to the demand hampering effect of rising inequality, other theories emerged[5]. A current prominent explanation of the nexus between inequality and growth is the "idea that higher inequality may result in under-investment in human capital by the poorer segments of society" because they can no longer afford education (Cingano, 2014, p. 12). Other theories assume

[4]Some researchers such as Elsenhans (2019, p. 1) and Truger (2016) see a paradigmatic shift back to demand-oriented political economy rooted in the problems austerity policies caused after the Eurocrisis 2009/2010.
[5]For a detailed overview of these theories see Cingano (2014, p. 12f).

that growth is hampered because rising inequality leads to a higher demand in governmental redistribution which lowers companies willingness to invest. Some theories propose a positive relationship, for example when rising investments due to a higher profit share overweight domestic demand. Or when rising inequality "motivates" individuals to work harder because they might fear to loose their social position (Cingano, 2014, p. 12). Moreover, although until today the "literature is suggestive that causality runs from inequality to growth, [...] caution is still warranted in interpreting the correlations" (Berg et al., 2018, p. 264). Most literature assumes that causality runs from inequality to growth, whereas only few scholars investigated the reversed causality (see next section).

1.2 Empirical findings

I first want to present recent findings concerning functional income inequality (i.e. the division of income into wages and profit), and then I will present results concerning the impact of personal income (i.e. for specific income groups) on national growth.

Functional income inequality is associated with the relationship between wage- and profit-share of the total income. Aggregated demand is considered to be wage-led, when "private consumption outweighs the alleged negative impact on investment and net exports", otherwise it is considered profit-led (Anselmann, 2020, p. 424; Baccaro and Pontusson, 2016, p. 182). Anselmann (2020, p. 242f) finds that the literature is heterogeneous. For example, focussing on *domestic demand*, Eckhard (2014) finds that most scholars agree that within the G20 countries wage-led mechanisms dominate demand. Including exports, i.e. referring to *total demand*, there is no clear picture even within countries[6]. Anselmann (2020, p. 424) points out, that scholars usually draw on cross-country comparisons and she only found one longitudinal study which assesses the impact of a *change* in the relationship between wage- and profit share: Stockhammer and Onaran (2004) find no significant correlation between a change in the distribution of income on growth for the United States, the UK and France whereas they find a nexus in Turkey and South Korea, suggesting here economic growth to be wage-led.

[6] Anselmann (2020, p. 424) presents studies for France and the United States where scholars come to contradictory findings.

With regards to personal income inequality[7], empirical analysis before the mid-1990s found a negative effect of inequality on growth. Scholars today, however, take these findings with a grain of salt as the quality of data was not well suited (Anselmann, 2020, p. 244). Research conducted before the financial crisis 2008/2009 came to heterogeneous findings. Voitchovsky (2009, p. 16) summarizes that

> [y]et, in spite of a large number of studies on this topic, the contemporary empirical literature has so far failed to reach any substantive conclusions regarding the overall influence of inequality on economic performance.

This heterogeneity is also attributed to different research questions. Behringer et al. (2016, p. 25ff) present studies which suggest that the relationship between personal inequality and growth may be influenced by several factors:

1. the level of economic development: high levels of inequality hamper growth in "developing" economies whereas it might stimulate growth in "developed" economies[8].
2. the starting level of inequality: a shift from a rather egalitarian income distribution to stronger inequality could support growth whereas increasing inequality in an already very unequal society harms growth.
3. which income groups benefit from inequality: an increase of incomes at the top end of the income distribution might support growth whereas a decrease at the bottom might harm economic growth.
4. the general heterogeneity of countries: studies which selected countries based on their similarity (former Sowjet states and their development after their independency) come to a stronger negative effect than studies including as many countries as data are available.
5. the short- and long term effects: scholars found that in the short run, increasing inequality could support growth (due to a higher willingness of companies to invest) whereas the

[7] Personal income inequality can be measured in various ways, for example by considering the income distribution as a whole (Gini-Coefficient) or by analysing it for specific income groups (income ratios between different deciles).

[8] This finding, however, contradicts the thesis, that in economies where physical capital is more important for growth than human capital, i.e. developing countries, high profits drive the economy whereas when human capital is more important, i.e. in "developed" countries, wages drive growth (see for example Berg et al., 2018, p. 261). For an analysis how developing countries suffer from a lack of a domestic market as a cause and consequence of a low wage-share see Elsenhans (2019).

long run effects could be negative for growth (predominantly because of a loss of human capital[9]).

6. credit based consumption: a positive effect of inequality on growth was predominantly found in the United Kingdom and United States where credit based consumption grew in the same periods as well. Behringer et al. (2016, p. 31) assume, that this short run effects might explain the findings.

The most prominent articles in the last decade are from Ostry et al. (2014), Berg et al. (2018), and Cingano (2014). The two former researchers from the International Monetary Fund draw on a panel cross-country dataset which allows to distinguish between income inequality before and after redistribution. They summarize their findings, that a) "inequality is a robust and powerful determinant both of the pace of medium-term growth and of the duration of growth spells, even controlling for the size of redistributive transfers: more equal societies grow faster and more sustainably than less equal ones" (Berg et al., 2018, p. 292), b) "more unequal societies tend to redistribute more", and c) "redistribution appears generally benign in terms of its impact on growth; only in extreme cases is there some evidence that it may have direct negative effects on growth." (Ostry et al., 2014, p. 4). The authors conclude, that "we should [...] not [...] assume that there is a big trade-off between redistribution and growth" (ibdi.), suggesting that Okun's (1975) "trade-off" thesis can be rather falsified.
Drawing on the "OECD Income Distribution Database", Cingano (2014) came to similar conclusions as the IMF research group. The author presents a nice visualisation of the effects of income inequality (Gini-Coefficient) on growth for 25 OECD countries. Figure 1 can be interpreted as "the growth rate that would have been observed in the country had inequality not changed" (ibid., p. 18). Rising inequality had the most negative growth estimates on Mexico and New Zealand, whereas rising *equality* supported growth estimates for Spain, France and Ireland. Furthermore, the author's data did not suggest a non-linear relationship as pointed out by previous studies (see the summary of Behringer's 6 factors above):

> [T]he effect on growth of an increase in inequality from 20 to 21 Gini points was found to be the same as the effect of increasing the Gini from 40 to 41. Nor was there any evidence found that effects varied significantly in the short and long term.

[9]When the assumption holds, that rising income inequality leads to a rise in inequality of educational opportunities, a economy looses potential skills which could contribute positively to growth. See also the last part of section 1.1

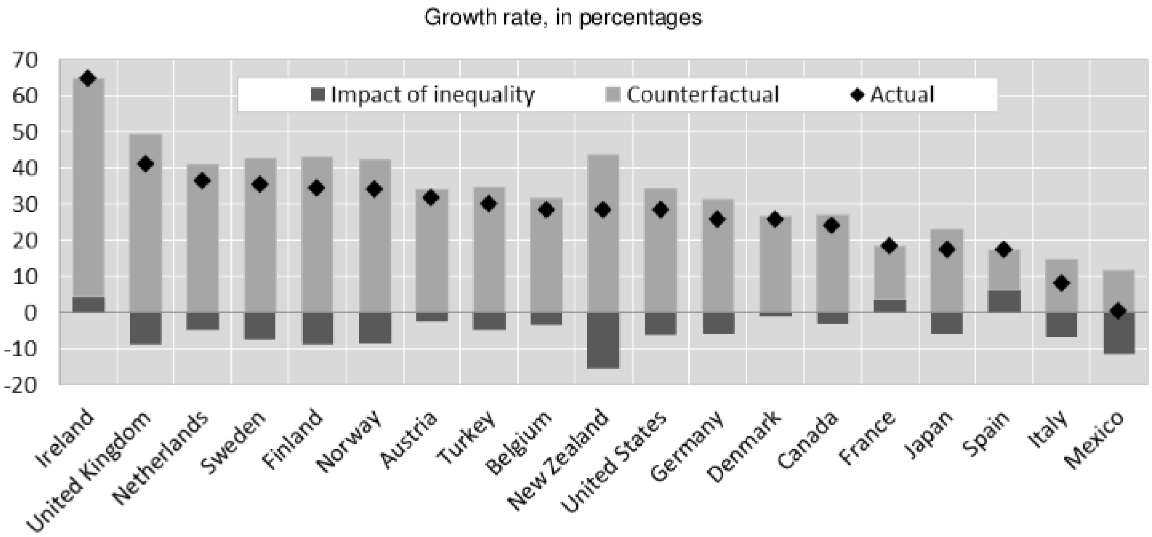

Figure 1: Estimated consequences of change in inequality on cumulative per capita GDP growth (1990-2010). Source: Cingano (2014, p. 18)

> Attempts to identify differences in the effect of inequality by sub-groups of countries (e.g. income per capita, geography or institutions) were uninformative, most likely because of the relatively small country sample.

Besides the reproduction of the findings from the IMF (and the nice visualisation), Cingano also investigated the effects of income inequality with ratios between the bottom and top incomes to the middle - and thus catches up on a string of research followed by Voitchovsky in the early 2000s. Cingano (2014, p. 20) finds that

> [t]he estimated coefficients imply that lowering bottom inequality by half of a standard deviation (which is the same as changing bottom inequality in the UK to be like that in France, or that of the US to become like that of Japan, or Australia) would increase average annual growth by nearly 0.3 percentage points over the subsequent 25-year period, with a cumulated gain in GDP at the end of the period in excess of 7 per cent.

Although one has to note, that such formulation of statistical counterfactual analysis remain estimates, Cingano states that the findings for a positive effect of a decrease in inequality not only hold for a decrease in the bottom income inequality but also for almost every income decile except the top decile (ibid., p. 21). Merging information about skill developments in the countries under investigation, Cingano furthermore finds that an increasing inequality between the poor and the middle class may "depress skills development among individuals with poorer parental education background, both in terms of the quantity of education attained (e.g. years of schooling), and in terms of its quality (i.e. skill proficiency)" (Cingano, 2014, p. 6). His insights emphasize that the mechanism how inequality may affect growth is mediated by changes in human capital (see point 5. "long term effects" of Behringer's summary above) rather than increasing consumption.

One of few articles which investigate the reversed effect of the inequality-growth nexus[10], i.e. how "growth dividends" are distributed among different income decile groups is from Hermansen et al. (2016). By differentiating between growth due to labour productivity (qualitatively) and an increase in labour utilization (quantitatively), they show that changes in labour quality "is found to have contributed to rising market income inequality, while this was partly mitigated through government redistribution" whereas changes in labour quantity "translates into higher market and disposable incomes for middle class and poor households." (ibid., p. 3/7). As these two effects sum up to almost zero, the authors conclude that other factors than growth are responsible to the increase in income inequality over the last three decades (ibib.).

2 What drove Germany's growth? What role plays income inequality?

The literature I presented above presents rather accumulated empirical results. To get a better understanding of which mechanisms might work "behind the scenes", I want to discuss an explanatory approach by Baccaro and Pontusson (2016), how they see inequality as a consequence of a specific growth model and which further research questions can be derived from their approach.

Baccaro and Pontusson investigate growth models of four European countries - Germany, Sweden, the United Kingdom and Italy - and their relationship to both, functional and personal income inequality. They argue that the wage share in Germany did not rise in the last two decades because of Germany's dependency on exports (export-led growth model). They suggest that the strong price sensitivity of German exports in manufacturing allowed companies to restrain wages. Labour unions in Germany even supported these wage restrains in favour of

[10] The authors tackled the issue of potential correlation feedbacks due to reversed causality by applying "dynamic panel data estimation[s]" (Hermansen et al., 2016, p. 6).

risking job cuts. Furthermore, a rising wage share may induce rising domestic prices which upgrades the domestic currency. Thus, rising wages would hamper the German economy twofold: i) by increasing production costs due to higher labour costs and ii) by stressing foreign demand due to a currency appreciation: "[t]o the extent that exports are price-sensitive, growing exports requires repression of wages and consumption to prevent an appreciation of the real effective exchange rate" (Baccaro and Pontusson, 2016, p. 189; see also Behringer et al., 2016, p. 9). They argue, that income inequality at the bottom of the income distribution in the three other investigated countries did not rise as strong as in Germany because i) their economies rely stronger on domestic demand and ii) their exports are much less price sensitive[11]. However, Baccaro and Pontusson leave two points unaddressed. First, within their argumentation line they do not provide evidence for their precondition that German exports are more price-sensitive than those from the UK and Sweden. As Sauer (2018) shows, German export products - at least still - can be characterized as "price-making" products (in comparison to "price taking" products). One reason for this is the high prestige German products have in their exporting regions like Asia. The other reason is that industrial investment goods such as automation technology are lacking concurrency.

The second point is that they do not work out the mechanisms they actually wants to address. They state

> [t]he key difference between Germany and Sweden is, we believe, that German export firms, by virtue of the price sensitivity of their products, were less willing to concede to the wage claims of their own employees and also pushed much harder than Swedish export firms to ensure that wage increases in the export sector would not spill over into economywide increases in labor costs. In this effort, they were aided by the weakness of service-sector unions or, in other words, the dominance of export-sector unions within the German labor movement.

How "German export firms" have the power to "ensure that wage increases" do not "spill over" into other sectors remains open. Also, how "the dominance of export-sector unions" is connected to the low-wage service sector stays unaddressed. This is astonishing as the authors themselves steadily speak of "mechanisms" which connect inequality to growth (see for exam-

[11] They assume a lower price sensitivity for the UK's rise in financial services and Sweden's ITC services. Italy serves as a reference country where both, growth and inequality remained almost the same within the period of interest.

ple Baccaro and Pontusson, 2016, p. 197). This precondition of their argumentation remains without evidence or theoretical considerations. The authors, however, recognize that institutional factors such as changes in labour protection and the rise of "Atypische Beschäftigung" allowed companies to further decrease wages at the lower end (ibid., p. 196). Whether or not labour market deregulation affected the German growth, remains unsolved. Achim Truger (2019), for example, disagrees with the assumption that the institutional expansion of low-wage occupations[12] supported Germany's growth rates. The liberation of labour regulations may not have contributed to the German growth in the last decade: Germany in comparison to other countries still has relatively labour supportive market regulation policies[13]. Following the argumentation of (Baccaro and Pontusson, 2016), the introduction of the minimum wage should have had a negative impact on Germany's international and domestic competitiveness, but no negative consequences emerged whatsoever.

When wage negotiations in the manufacturing sector are not directly linked to the wage development in the service sector the question remains open, what mechanisms hold back incomes in this sector to rise. From a naive Kaleckian perspective, when the middle class enjoys rising wages[14], this should also lead to an increase in consumption, i.e. rising demand for gastronomy, tourism and other "low skill" services. However, figure 2 shows that these incomes remain decoupled from this upswing as the incomes of the lower 20%, i.e. the first two income deciles, even decreased between 2000 and 2015. First after 2015 incomes of the lowest decile rose again, after the introduction of a minimum wage (Grabka and Goebel, 2020, p. 318). Grabka and Goebel show that differentiating between migrants and native low-wage earners may also give hints which mechanisms might be at work. They show that the share of native low-wage employed among all employed natives declined slightly between 2011 and 2017 ($\approx$ 12.5%), whereas it rose steadily for individuals with a migration background (from 23% to 30%). As pointed out by Cingano (2014, p. 6), education may mediate the mechanism between (low) incomes and growth. As individuals with a migration background have - by means - a lower level of education[15], this factor could be both, a cause of inequality and of hampered growth. Baumol's cost disease theory (see Hartwig and Krämer, 2018, p. 3), which appreciates the fact that

[12]Low wage earners share among the working population rose between 1995 and 2017 from 17% to 23% (see for OECD data Baccaro and Pontusson, 2016, p. 196; for SOEP data Grabka and Schröder, 2019, p. 118).

[13]Measured for example as "protections against dismissal" or "social security contributions for employees" (Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, 2013, p. 258).

[14]Overall household incomes rose about 12% between 2000 and 2015 (Grabka and Goebel, 2020, p. 315).

[15]For example have about 10% of all migrants (with and without German citizenship) in Germany no formal schooling whereas the share among natives is about 1% (Statistisches Bundesamt, 2020b).

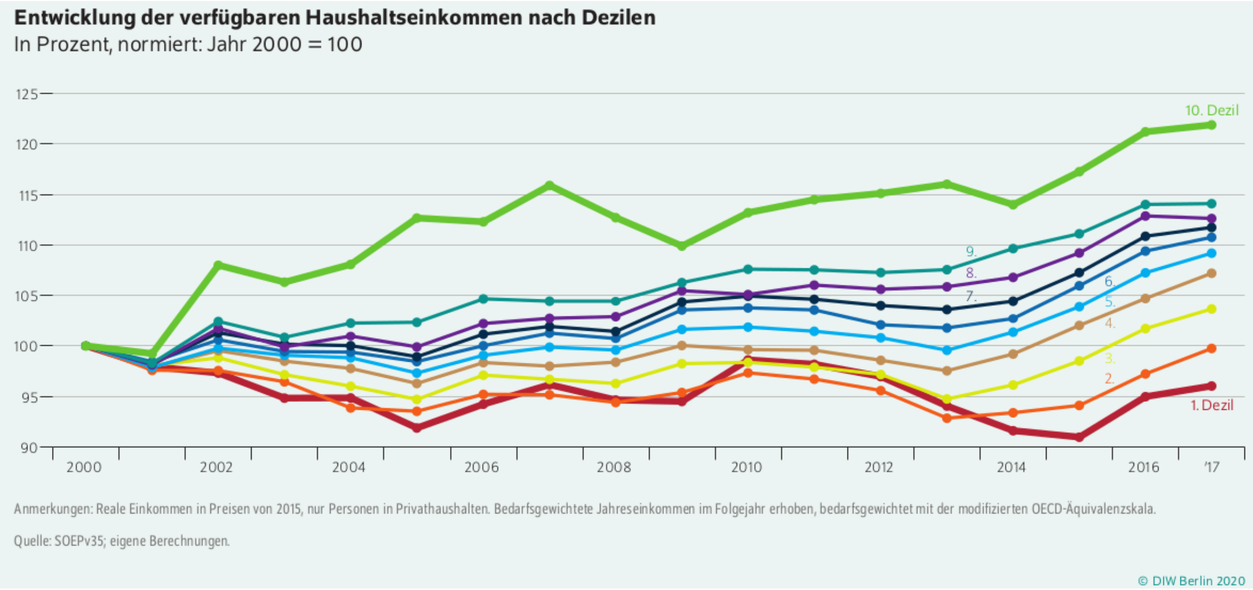

Figure 2: Disposable household income in Germany by decile since 2000. Source: Grabka and Goebel (2020, p. 320).

technological change - and thus productivity increases - affects manufacturing much stronger than service labour, may also help to explain why wages did not increase in the German service sector. However, it gives no explanation, why they even fell in times of growth.

3 Conclusion

The presented literature suggests, that the connection between economic growth and functional/personal income inequality "seems to be complex and heterogeneous" (Anselmann, 2020, p. 247). This is reflected in both, theoretical considerations and empirical findings. However, current research suggests that when there is a relationship between inequality and growth, it is not characterized by a "trade-off" as stated by Okun (1975).

I want to sum up my suggestions previously made. First, concerning theoretical considerations between the nexus of inequality and growth. What was striking reviewing the literature from "heterodox" economists and scholars from the field of political economy, I was slightly surprised that within the argumentation line of rising inequality → stagnating demand → hampered growth, the role of innovation did play actually no role. I argued above, without innovation much of economic growth in developed societies can't be explained. A stronger integration of 'neoclassical' economics seem fruitful. Second, based on my thoughts about the development of the German economy and income inequality, a micro-data based analysis could help to bring light into this nexus. Considering stronger the structure and demographic characteristics of job incumbents, especially concerning the development of education and quantity of low-wage earners, the development of consumption behaviour of the middle class and upper strata and (on the right hand side of the equation) the share of different sectors at the GDP might help to answer the question if a stronger demand oriented policy is supportive for the society as a whole.

However, considering the question if growth in itself is generally desirable and a sound indicator of the "health" of an economy, Skott (2017, p. 20) points out that

> [i]t is dangerous to base policy recommendations for lower inequality on their growth-enhancing benefits. It is dangerous for a number of reasons. The weakness of the empirical evidence and the theoretical problems with the concepts provide one set of reasons. A general uneasiness about the universal benefits of higher growth may also weaken growth-based arguments; involuntary unemployment is a scourge, but environmental concerns as well as negative consumption externalities [...] suggest that economic growth as usually measured should not be the primary concern, at least for advanced economies".

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