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Transformation of capitalism to enforce ecologically sustainable GDP growth: lessons from Keynes and Schumpeter

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An economy with a low stable medium-term growth rate given by ecological needs is only possible after a radical reform of the type of capitalism we have today. In an ecologically sustainable economic system, aggregate demand has to be controlled on a macroeconomic level. Of focal importance is the steering of investment. Here a national credit plan that fixes the national credit volume and to a certain extent the allocation of credit is in the centre. For consumption demand in a low-growth economy it is important that saving is low or in a zero-growth economy even zero, whereas at the same time accumulation of deficits of economic sectors or sub-sectors such as poorer households are not sustainable. Here policies to achieve a more equal distribution of income and wealth are suitable. Although comprehensive government interventions and rules are needed in an ecologically low-growth economy, the recommended system is not comparable with a planned system of the former Soviet type. Whether such an alternative system is understood as a version of highly regulated capitalism or as a new system is a question of taste.

Keywords: *ecological transformation, low-growth economy, credit plan*

JEL codes: *B20, B52, P41*

1 INTRODUCTION

It is almost a consensus that the existing patterns of consumption, production and technologies coupled with an economic system geared towards growth of gross domestic product (GDP) are not sustainable and will lead within a number of decades to catastrophic ecological developments which are very costly, not only in economic terms. Ecological tipping points cannot be excluded, with the possibility of extremely radical political, social and economic reactions to guarantee the survival of mankind.

A radical technological revolution leading towards a sustainable economy is needed, including fundamental changes in the structure of consumption and production. However, fundamental changes in the patterns of consumption and production, including changes to new environmentally friendly technologies, may not be sufficient to reach ecologically sustainable conditions. It is very likely that GDP growth rates established after

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the rise of capitalism in the nineteenth century will not be able to continue in the future. In spite of the fact that we do not know the potential of technological revolutions, it is obvious that GDP growth rates have to be adjusted to ecological needs, whatever such growth rates for sustainability might be. It cannot be ignored that only very low growth rates or even zero growth of GDP are needed to achieve ecological sustainability. Taking into account the situation of the Global South, which wants and needs to catch up with the Global North, even a de-growth of GDP in a number of countries may be required.

Giuseppe Fontana and Malcolm Sawyer (2016) have discussed three potential long-term growth paths. The first growth path, g_1 , is given by the dynamics of the capitalist system. According to the post-Keynesian approach, g_1 is basically demand-driven, where aggregate demand depends on investment demand, consumption demand, government demand and net foreign demand. The second growth path, g_2 , is given by the available supply of labour, which depends on population growth, working time, the percentage of active working population entering the labour market, and a number of other factors. Finally, there is a third growth path, g_3 , which reflects natural constraints.

This last growth path depends on the material and energy throughput (measured in physical units) of a certain GDP growth rate. In traditional calculations of GDP, natural resources including natural waste absorption capacities are not included. 'Ignoring the metabolic throughput in the basic pre-analytic vision has the further consequences that in our national income accounts resources in the ground and natural waste absorption capacities are valued at zero' (Daly/Morgan 2019: 144).

There is an unavoidable positive relationship between GDP growth and metabolic throughput; the relationship depends on the structure of consumption and production and the technologies used (Daly 2014). Assuming a certain relationship between GDP growth and metabolic throughput, which can become looser when policies towards ecological transformation are followed, and taking into account the boundaries given by nature, a growth rate of GDP, which is compatible with ecological sustainability, can be calculated. This then would be the sustainable g_3 growth path of GDP compatible with natural boundaries of the Earth.

Tim Jackson and Peter A. Victor (2020) presented a simulation model of the Canadian economy covering the period 2017–2067. Three scenarios were assumed. In the Base Case Scenario, current growth trends and relationships between GDP and carbon emissions continue, with the result of aggravating the ecological crisis. In the Carbon Reduction Scenario, carbon emissions are moderately reduced, but development is still not sustainable. In the Sustainable Prosperity Scenario, net zero carbon emissions are reached by 2040. In the Base Case Scenario, average GDP-per-capita growth is 1.3 per cent; in the Carbon Reduction Scenario it is 1.1 per cent; and in the Sustainable Prosperity Scenario it is only 0.4 per cent.

If we take this as a typical example it becomes clear that g_3 , the growth path if GDP follows long-term natural boundaries, is substantially lower than GDP growth created by the market process. If g_3 is substantially lower than g_2 and g_1 , the question must be asked how such a low growth of GDP given by ecological boundaries can be realised. What kind of macroeconomic instruments exist to implement ecologically sustainable growth rates of GDP? In this contribution, the theoretical question is asked: how, given the existing capitalist system as we know it today, can a low- or even zero-growth economy be established? What does this mean for different macroeconomic markets? What kind of regulations and policies are needed to implement growth rates dictated by ecological needs?

This topic also touches on the question of how the present economic system can be made less fragile and more stable. Since capitalism has existed, growth of GDP has been unstable and driven by cyclical movements. Longer phases of dynamic high growth

alternate with crises or even longer periods of stagnation with lasting high unemployment. For example, even the best-equipped expert groups can hardly predict GDP growth in three years or five years, not to mention for longer time spans. In capitalist history, GDP growth has been the outcome of a great number of economic and political factors, endogenous instability processes and external shocks.

In capitalist development dynamics there are different and changing constellations between different demand elements. For example, there are constellations in which, based on relatively equal income distribution, high investment demand leads, via income creation, to high consumption demand, high capacity utilisation, and further high investment. But there may also exist constellations in which consumption demand is too low and high overcapacities slow down investment. Autonomous demand elements, such as government demand or net export demand, can in such a situation stimulate demand. However, there is no guarantee that high profits and high capacity utilisation will lead to high investment. It is worth listening to John Maynard Keynes: the marginal efficiency of capital (the expected rate of return of investment) 'depends on the rate of return expected to be obtainable on money if it were invested in a *newly* produced asset; not on the historical result of what an investment has yielded on its original costs if we look back on its record after its life is over' (Keynes 1936: 136, emphasis in original). Even if the expected rate of return is high, there will be low investment if the interest rate is even higher or credits and other funds are not available. Furthermore, there may be a constellation in which very optimistic expectations and cheap and available finance lead to an investment boom, which creates huge overcapacities with increasing asset prices and debt quotas of companies and other economic agents. Sooner or later, such an investment boom will collapse and asset-price deflation and non-performing loans can potentially lead to deep and long crises (Minsky 1986). Joseph Schumpeter (1942: 84f), analysing economic development and technological change, and building at this point on Karl Marx (1867), argues in the same direction. The incentive to earn extra profit 'revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism' (Schumpeter 1942: 83, emphasis in original). It 'is a kind of bombardment in comparison with forcing a door' (ibid.: 84) and 'it disciplines before it attacks' (ibid.: 85).¹

What do we learn from these well-known arguments in the Keynesian tradition? To achieve a certain growth rate of GDP given by natural boundaries, *all* demand elements have to be controlled on a macroeconomic level. This is obvious for investment demand, which theoretically and empirically is the most unstable demand element. But consumption demand and net external demand both have to be steered to realise a certain growth rate. And of course, government demand also plays an important role to stabilise aggregate demand.

1. The debate above implies that no serious investment function can be developed which captures short-, medium- or even long-term development and is stable over longer historical periods. Keynes (1936: 162–163) writes: 'In estimating the prospects of investment, we must have regard, therefore, to the nerves and hysteria and even the digestions and reactions to the weather of those upon whose spontaneous activity depends We are merely reminding ourselves that human decisions affecting the future, whether personal or political or economic, cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist'. This implies that models of future developments modelling investment functions can show certain scenarios of potential development and illustrate certain possibilities, but are not able to make predictions about the future. Jackson/Victor (2020), in their paper about Canada, are very clear about this.

The debate on how to stabilise aggregate demand and how the existing type of capitalism may develop has a long tradition. But it may not be generally known that Keynes and Schumpeter in particular developed visions about the future of capitalism and its fundamental transformation. In this paper, these contributions which enrich the debate about macroeconomic policies to steer the economy to a certain low, zero or even negative growth of GDP are taken into account.

Section 2 discusses how investment demand can be controlled on a macroeconomic level. This topic represents the centre of this contribution. A macroeconomic credit plan is recommended, which is able to achieve a certain volume and also allocation of credit and investment. In Section 3, the regulation of consumption demand is discussed, since among other things, in economies of low growth of GDP, planned and actual saving also have to be low. Section 4 touches upon other macroeconomic variables, which have to be controlled in an economy with low growth. Section 5 concludes.

2 CONTROLLING INVESTMENT AND THE FUNCTION OF THE CREDIT PLAN

Investment is the only demand element which increases capacities. But investment also embodies new technology and it must have a certain proportion to the other demand elements. Thus, investment is of key importance for structural changes also in the field of ecological transformation and at the same time has effects on the level of income and production. Any policy with the aim of achieving a certain growth rate of GDP needs to control investment.

Keynes, who saw private investment demand as a major disturbing factor, was sceptical about whether monetary and fiscal policy could stabilise investment and economic development: 'I conceive, therefore, that a somewhat comprehensive socialisation of investment will prove the only means of securing an approximation to full employment; though this need not exclude all manner of compromises and of devices by which public authority will co-operate with private initiative' (Keynes 1936: 378).

In earlier publications, he made clear what he meant with socialisation of investment and compromises between public authority and private initiative:

I believe that in many cases the ideal size for the unit of control and organisation lies somewhere between the individual and the modern State. I suggest, therefore, that progress lies in the growth and the recognition of semi-autonomous bodies within the State – bodies whose criterion of action within their own field is solely the public good as they understand it, and from whose deliberations motives of private advantage are excluded, though some place it may still be necessary to leave, until the ambit of men's altruism grows wider, to the separate advantage of particular groups, classes, or faculties – bodies which in the ordinary course of affairs are mainly autonomous within their prescribed limitations, but are subject in the last resort to the sovereignty of democracy expressed through Parliament. (Keynes 1926: 17)

Ports or railway companies are mentioned as examples. Thus, Keynes recommended that all public utilities and also companies which are of key importance for infrastructure, social well-being and providing public goods should be state-owned and not profit-oriented. Depending on the company, the owner can be a local community, a provincial state or the federal state. There is an even more important point according to Keynes (1926: 18):

But more interesting than these is the trend of joint stock institutions, when they have reached a certain age and size, to approximate to the status of public corporations rather than that of

individual private enterprises. One of the most interesting and unnoticed developments of recent decades has been the tendency of enterprise to socialise itself. A point arrives in the growth of a big institution ... at which the owners of capital, i.e. its shareholders, are almost entirely dissociated from the management.

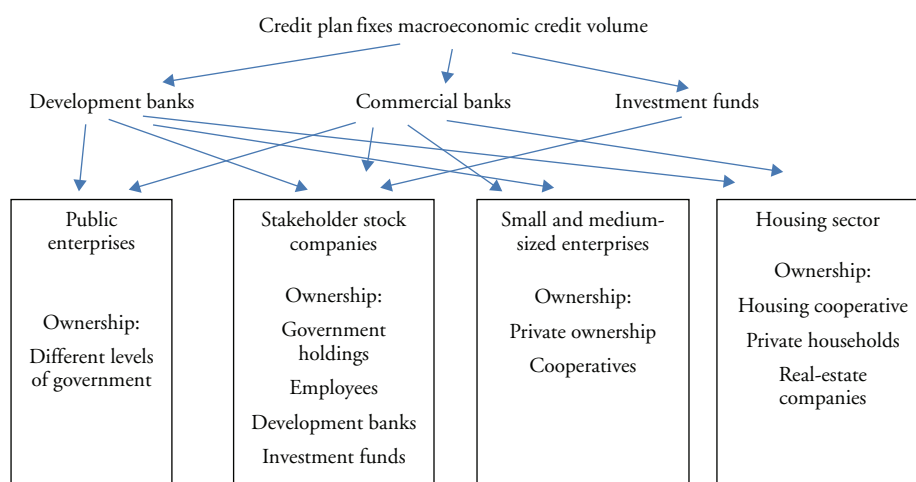
Schumpeter (1942) argued, following Marx (1867), that, based on internal economies of scale, companies become bigger and take the form of stock companies. An important argument for Schumpeter is that innovations become automated in research departments of big firms with managers being especially responsible for this. Owners and old types of entrepreneurs do not have much to do with these innovations. In addition, he mentioned that with economic development the need and function of public companies increases, from the area of public health or urban development to public transport or insurance companies. 'National and municipal investment could thus be expected to expand, absolutely and relatively, even in a thoroughly capitalist society, just as other forms of public planning would' (Schumpeter 1942: 120). And, along the same line of argument as Keynes:

The perfectly bureaucratized giant industrial unit not only ousts the small and medium-sized firm and 'expropriates' its owners, but in the end it also ousts the entrepreneur and expropriates the bourgeoisie as a class which in the process stands to lose not only its income but also what is infinitely more important, its function. (Schumpeter 1942: 134; see also Marx 1894: 522–523 for this point)

To sum up: public enterprises completely owned by state authorities can and should play an increasing role in investment and macroeconomic development. Even more importantly, owners of stock companies become redundant. In many cases, shareholders have no idea of the business of the company they own. Shareholders become a parasitic class earning dividends and making speculative gains without any important role for economic development. A counter-argument is that the shareholder-value principle, which was established in the 1990s, positions shareholders as the masters of management via the linkage of management salaries to stock-market developments. But it is highly questionable whether shareholders in such a system have a positive effect on companies, and management follows best strategies for long-term development. The now-dominating shareholder-value principle is speculative and short-term-oriented. It leads to short-term-oriented management practices, while irrational exuberance, and stock-market crashes destabilise economic development in general. Even Alfred Rappaport (2005), one of the famous advocates of the shareholder-value principle, criticises the harmful short-term performance obsession of this type of corporate governance. Last but not least, the exorbitantly high management salaries and bonuses suggest that managements seem to be poorly controlled and well-positioned to fill their pockets with very high incomes.

A key institution to enforce a certain growth rate of GDP could be a *macroeconomic credit plan*. The credit plan fixes the macroeconomic credit volume and in this way the volume and structure of investment. Macroeconomic credit allocation could be divided into four main sectors: credits going to public companies; stakeholder stock companies; private small and medium-sized enterprises (SMEs); and the housing sector (see Figure 1).

- Public companies are state-owned enterprises owned by different levels of government, mainly in the area of public utilities and production of public goods.
- Stakeholder stock companies comprise big companies with mixed and different ownership structures outside the housing sector. They can make profits and compete with other enterprises. They can also go bankrupt. Owners can be employees of the company, governments or government-owned holdings, insurance



Source: Own figure.

Figure 1 Structure of institutions of the credit plan

companies, or, in capital-based pension systems, pension funds. Direct ownership of private households is possible, but not necessary. A model could be that private households become shareholders of investment funds, and investment funds are able to keep shares of stakeholder stock companies. Purchase and sales of shares should be possible but only with high transaction costs. In stock markets, 'the introduction of a substantial government transfer tax on all transaction might prove the most serviceable reform available' (Keynes 1936: 160). The purpose is to reduce speculation and support a long-term horizon of investors.² In the economic policy model suggested here, private ownership in stakeholder stock companies should not have the majority, anyway. Independent of ownership, stakeholder stock companies should follow strong co-determination models. In supervisory boards of a stakeholder stock company, employees' representatives should have a strong voice.³ Even representatives of environmental organisations could have a seat on such a board. Especially important for these companies is the selection and control of management and the implementation of mechanisms that lead to long-term strategies and social responsibility of management. Corporate governance would follow and further develop the stakeholder–corporate-management model described by John K. Galbraith (1967).

2. James Tobin (1978) recommended such a tax for foreign-exchange transactions with the same motivation.

3. In the German co-determination model in a stock company, employees including trade unions appoint 50 per cent of the members of supervisory boards. The other 50 per cent comes from owners. The supervisory board elects an additional chairman or chairwoman. However, if workers' representatives and owners' representatives do not agree, the owners decide alone. The supervisory board then appoints the management board. These institutions in stock companies established after World War II became an important element of the German version of stakeholder capitalism which to a large extent still exists today.

- SMEs, defined by a maximum number of employees and invested capital, are owned by business partnerships or single owners. In this group of enterprises, co-determination models depending on size should also be implemented. Also collectively owned companies can play a role.
- The housing sector covers companies, for example housing cooperatives, specific stakeholder stock companies, or private households investing in housing.

The banking system could have the same ownership structure as stakeholder stock companies. Parts of banks could be owned by local communities or could be collectively owned.⁴ Conceivable also are banks owned by different levels of government and banks with partly private ownership.

Economic development implies structural changes; some sectors in the economy expand, while others shrink. Such changes can easily take place within the institutions suggested. Some sectors get more credit to expand, others less and have to shrink. Economically successful and socially cushioned structural changes, including ecological transformation, need comprehensive industrial policy. It is highly recommendable to establish a strong development bank, which can support industrial policy and transformation in all economic sectors. Germany is an example here. The third-biggest German bank is a state-owned development bank, the KfW, which was founded as part of the Marshall Plan support by the US after World War II to help Germany recover from war. The KfW supports certain economic sectors via credits or guarantees, is involved in venture-capital activities, and can even invest in equity of companies. Most of the activities are in cooperation with commercial banks (Detzer et al. 2017; Dünhaupt/Herr 2020).

The credit plan fixes an overall volume of credit, which the banking system is allowed to grant. In this way, gross investment in the national economy is determined. The credit plan includes specific ceilings for credits given to different sectors. This means a credit rationing system is implemented with credit ceilings. To be more exact: the central bank refinances the banking system via short-term open-market operations, using credit claims to firms as collateral. At the same time, the central bank fixes the credit volume which single banks are allowed to give in a certain period of time. To give an example: if we assume an economy with zero growth, the central bank fixes the credit ceiling in a way that only new credits according to the volume of credits paid back are allowed to be given. Additional credits are not allowed, as net investment has to be zero. If, in a zero-growth economy, technological progress takes place and with a given capital stock more can be produced, the capital stock has to shrink to keep GDP constant. In such a case, the credit ceiling has to become stricter. Thus, the growth of the credit volume can be adjusted according to the growth rate strived for.

It is recommendable that the real refinancing rate for banks fixed by the central bank is around zero or only minimally positive. The lending rate by banks could be fixed by the central bank as well, but it would also be possible to let the banks fix the lending rate or that the central bank fixes a maximum lending rate. As in the existing banking system, banks would select good debtors to avoid non-performing loans. In case debtors of banks could not pay back, banks could be punished by reduced finance by the central

4. Germany, with private banks having a share in banking of less than 50 per cent, is a good example of how such a banking system could look. The 'Sparkassen' in Germany are owned by local communities, are only allowed to give credit in their local area, and preferably give credit to SMEs and households in the housing area. In addition, they have their own nationwide network and central institutions which allow transfers of funds and mutual help. The system of collectively owned banks, the 'Volksbanken', is also very successful in Germany (Detzer et al. 2017).

bank or by bankruptcy or merger. Credit-rationing is nothing alien to the banking system; it belongs to its normal working. Nothing would be more wrong than to analyse credit markets in a way in which demand and supply are balanced at an equilibrium interest rate (Stiglitz/Weiss 1981).⁵

Joshua Farley et al. (2013) argue that a positive interest rate drives an economy towards growth and is not compatible with zero growth. This is not necessarily the case (Jackson/Victor 2020). Let us assume a zero-growth economy with credit volume that is not changing. Firms would have a mark-up, which at least would cover interest payments. Banks would use their interest revenues to cover their costs in the form of wages, building, etc., to pay interest for deposits and for refinancing by the central bank. If all income is consumed, including deposit interest flowing to private households, no pressure to grow exists (see Hein/Jimenez 2022).⁶

In the national credit plan, the planned credit volume leading to the planned gross investment should be allocated to the four economic sectors. This allocation should be under democratic control – similar to the federal public budget in democratic societies. Allocation of credit within the different sectors can, to a large extent, be decided on decentralised levels. In case of public companies, investment can be decided by the different levels of government. In the other sectors, banks can decide on a microeconomic level.

Certain further regulations are needed to make the credit plan work. Firstly, it is obvious that international capital flows have to be strictly regulated. The credit plan could be circumvented when companies would have the right to take credit in foreign countries. Secondly, the issue of debt securities by companies directly to private households has to be restricted. In countries with a tradition of investment funds, such funds could become part of the credit plan and get the right to give a certain volume of credit to certain groups of companies. Thirdly, profits made by companies should be allowed for investment. This gives companies an incentive to expand faster than others. Of course, investment financed by profits has to be taken into account by fixing the total credit volume. Fourthly, stakeholder stock companies can issue new shares, or new stock companies can be created, for example when SMEs become too big. This has to be taken into account by the credit plan as well.⁷

It seems that the implementation of the credit plan is very complicated. But it has to be taken into account that no fine-tuning is needed, only the brought development of investment over a medium-run period is in the centre of the credit plan and not an exact realisation every year. There are a number of historical experiences with credit plans which were, however, implemented in a different context. In spite of this, the examples show that credit plans can be successful.

5. If you do not believe this, go to the next bank and ask for a high credit.

6. De-growth is more complicated since in this case the credit volume to firms as well as bank deposits have to be reduced. When companies keep high deposits and a smaller credit volume is given, then the stock of deposits of firms can be reduced. In this case no problem comes up. However, a problem arises when private households do not reduce their holding of deposits, for example for additional one-time consumption, and this is needed to keep banks stable. Here policies would be needed, for example, to force households to use part of their deposits for consumption. De-growth without more consumption in the short term to use up part of the capital stock implies a forced reduction of capital stock, with, at the same time, a cut of credit obligations and deposits.

7. The issue of new shares (initial public offerings (IPOs)) does not play a big role for investment. For example, in the US between 2000 and 2017, IPOs in the US were on average below 1.5 per cent of gross capital formation (OECD 2021; StatInvestor 2021). Buybacks of shares in the US were in almost all years positive, meaning that in the US more shares are bought back by companies than new shares issued (Gruber/Kamin 2017).

Let us first look at the credit plan by the Bank of Japan (BoJ) – called window guidance – which was used from World War II until the early 1990s. Other East Asian countries, such as South Korea, followed more or less the same policy.

The BoJ decided the loan quotas of the large city banks first. A proportion of that was then allocated to the other banks. Since the banks in turn allocated their quota among their hundreds of branches all over the country, where they were further divided and allocated to thousands of individual loan officers, window guidance was the pinnacle of a comprehensive quota allocation pyramid that pervaded the entire economy. ... Window guidance was the control centre, providing the economy with the monetary ammunition. ... As with Japan's corporations, banks were also run by managers who were unfettered by shareholders and interested in market expansion. (Werner 2003: 63)

Window guidance took the form of fixing credit ceilings for banks. These ceilings were almost perfectly followed by the banks. To give more than the allowed credits led to punishment in the form of a reduced quota in the future. Not to use the quota meant losing market share and was avoided whenever possible. The system broke down after the financial system became liberalised – for example companies could attain foreign credit – and the US pushed Japan to higher credit expansion in the second half of the 1980s to reduce the Japanese current-account surplus which existed especially vis-à-vis the USA (Werner 2003: 89ff). A substantial part of credit was politically guided and development banks played an important role (Stiglitz/Uy 1996). 'Credit was directed not only toward priority areas, but away from speculative real estate and consumer durables' (Stiglitz 1996: 173). Joseph Stiglitz and Marilou Uy (1996: 272) reported that in Japan up to 15 per cent of credits were politically decided; in South Korea even up to 40 per cent. To be clear, Japan and other South East Asian countries after World War II were economic miracle countries and not economically depressed countries stifled by destructive regulations in the financial system (Herr/Kazandziska 2011).

China is another example of a credit plan which dominated monetary policy after the beginning of transition to a capitalist economy in the late 1970s. It existed officially until the end of the 1990s, but window guidance exists informally until today (Herr 2010).⁸ In China this happened on the basis of an almost completely state-owned banking system, which has been dominated by four big banks and has not much changed today. During the first decades of transition, China fixed a credit ceiling and at the same time interest rates for deposits and lending of banks. The credit volume according to the credit plan was allocated to the different provinces and the centre. On the provincial level the allocation of the given credit volume took place in a kind of negotiation between companies, mainly state-owned companies, banks and officials of the Communist Party searching for a compromise between supporting promising companies as part of industrial policy and stabilising companies for social purposes. Tendencies of the banking system to circumvent the credit plan, for example in the early 1990s, were successfully stopped by hard policy interventions. Over time, the share of credits flowing to private companies increased. Certainly, this kind of credit allocation does not look optimal. But it delivered low interest rates, long-term credits, and was part of a policy which triggered an economic dynamic almost unique in capitalist history.

To control credit flows to the real-estate sector was not only characteristic for successful East Asian countries. After World War II, the real-estate sector in almost all developed

8. I worked for nine years in a macroeconomic training programme for staff from the People's Bank of China. Knowledge about the credit plan is partly based on conferences, personal interviews and informal meetings.

countries, including the USA and Europe, was especially regulated and was overall very stable. Unregulated integration of real-estate financing in general financial markets only happened together with the general deregulation of the financial system in the 1980s and 1990s. The consequences have been asset-price bubbles in real-estate markets, non-performing loans, and serious challenges for monetary policy (Cardarelli et al. 2008).

Farley et al. (2013) have suggested another model of the financial system to achieve ecologically sustainable growth rates. They suppose that central-bank money is created and brought into circulation only via government spending, and not via the banking system. Banks, so the idea goes, should have a 100 per cent reserve obligation, an idea that was also supported by Milton Friedman (1948) to stabilise the relation between central-bank money and credit or deposit expansion. This means banks are not able to create more credits than they can attract deposits: banks become pure intermediaries. This model is not leading to a strict credit ceiling needed to restrict investment. For example, households can put money they got from the state as a deposit in a bank, the bank gives accordingly credits to firms, the money flows via income to households, the household puts the money again in a bank and holds a deposit, a new credit is given, etc. In addition, a lender of last resort might be needed to stabilise the banking system. Last but not least, money creation and money destruction by government expenditures and tax payment are not flexible enough to control money and credit creation in a stable way.

3 CONTROLLING CONSUMPTION DEMAND

Consumption demand is, to a large extent, a dependent demand element as consumption depends first of all on income. While many factors may influence the propensity to consume in addition to current income, for example the availability of consumption credit or the extent social welfare systems cover basic risks of life, the distribution of income and wealth is particularly important (for a summary, see Hein 2018; Foley et al. 2019). A research group from the Federal Reserve Bank of Boston, to give an example from an ideologically unsuspicious source, found, using panel data from 1999 to 2013, that in the US the average propensity to consume for the median of the quintile with the lowest income is 0.974 and for the highest quintile is 0.475. For wealth, the values are 0.774 and 0.607 (Fisher et al. 2019). ‘This suggests that low-wealth households cannot smooth consumption as much as other households do, which further implies that increasing wealth inequality likely reduces aggregate consumption and limits economic growth’ (ibid.: 1). It implies, as a general rule, that redistribution of income and wealth towards poorer households is a key instrument for economic policy to change the propensity to consume and increase consumption demand.

In a low-growth or even zero-growth economy, a high propensity to consume is needed to avoid high net saving or saving at all. This implies that rich households also have to consume all their income, which usually stems from wealth and high-paid employment. Rich households with permanent net saving could give consumption credits to poor households, but in an economy with very low or zero growth this would lead to unsustainably high indebtedness of poor households. Only temporary credits between households avoid mounting debt quotas in economies with low or zero growth of GDP. This implies that an economy with low growth can realistically only be realised when the concentration of wealth and income is radically reduced.

To achieve a relatively equal income and wealth distribution, a number of policies are available. Firstly, the increasing role of public enterprises reduces the sectors in the economy, which earn profits. In addition, private ownership in stakeholder stock companies is limited. Both lead to the result that the sum of profits flowing to private households shrinks.

Secondly, Keynes (1936: 376) expected the ‘euthanasia of the rentier’. An important element of this vision is a real interest rate of around zero. In the credit plan, the refinancing rate for banks could be reduced to a level that brings the real interest rate down to zero. In such a case, real interest rates for deposits would be around zero as well. Lending rates would be slightly higher, to cover the costs and risks of banks. Real interest rates of zero are justified as ‘interest today rewards no genuine sacrifice, any more than does the rent of land’ (ibid.: 376). Interest as an incentive for saving, and unequal income and wealth distribution to allow the rich to save, are not needed. In an economy with low growth some saving may be needed.⁹ But it would ‘be possible for communal saving through the agency of the State to be maintained at a level which will allow the growth of capital up to the point where it ceases to be scarce’ (ibid.: 376).

Thirdly, if the interest rate is very low the minimum profit rate will become low as well. Interest payments are costs of firms in case of indebtedness and opportunity costs in case of equity finance. In a situation of intense competition, normal profit mark-ups fall more or less to the level of the interest rate. In his *General Theory*, Keynes (1936: ch. 17) put forth this argument and stressed that the interest rate would determine the profit rate. For SMEs, to a large extent, this may be the case. But in the tradition of Kalecki it is obvious that profit rates can increase far above the interest rate in the case of monopolies or oligopolies (Hein 2016).¹⁰ Stakeholder stock companies in many cases will have market power and can follow rent-seeking strategies. Here tax policy can play a role in reducing rents as well as anti-trust policy and other regulations to prevent rent-seeking. Furthermore, it has to be kept in mind that no or only a low proportion of profits from these firms flow to private households.

Fourthly, tax policy can play an important role to prevent very high differences in household incomes and wealth distribution. High inheritances are in any case violating the merit principle, which is so often stressed. Again Keynes (1936: 373–374) can be followed: ‘For there are certain justifications for inequality of incomes which do not apply equally to inheritances’. Anthony Atkinson (2015), for example, recommends a high gift and inheritance tax. A person or institution can receive a gift or inheritance of, say, €100 000 from another person or institution without tax; then a high and progressive inheritance tax has to be paid. For private firms, tax allowances in cases where the inheritor continues a business could be introduced. Also, the state can become a sleeping partner of the inherited firm for some time. Furthermore, rents from real estate and speculative gains should be taxed.

Last not least, wage dispersion plays an important role for inequality. A low-wage dispersion can be achieved by minimum wage policy and a high-wage bargaining coverage. Provision of public goods by the state is important for distribution as well as a developed welfare state (ILO 2020; Herr 2021).

4 PUBLIC HOUSEHOLDS, THE LABOUR MARKET AND THE EXTERNAL SECTOR

Public households do not need many elaborations here. Important is that in a low-growth or even zero-growth economy the government sector should have a low or in the last case balanced budget in the medium term. Budget deficit would otherwise in the long run lead

9. If growth of the economy is completely based on productivity increases, no saving is needed.

10. In monopsonies and oligopsonies, for example in global value chains, rent-seeking also plays a role (Dünhaupt/Herr 2021).

to ever-increasing government-debt quotas. Variations of the size of the government sector are possible. The government sector can increase when private consumption is reduced and vice versa. Fiscal policy to stabilise demand will also be needed in the suggested vision of a low-growth economy. Shocks can happen and quick fiscal adjustment is an important instrument to cope with them and to stabilise aggregate demand. The government sector has otherwise the usual distributional and allocation functions.

We have to assume that in low-growth economies technological progress will also take place. This implies that less and less labour is needed to produce the targeted output. If the population is not shrinking, working time has to be cut to avoid unemployment. Already Keynes (1930) thought that in a few generations working time could fall to not more than 15 hours a week, and humans would be faced with the problem of how to use their leisure time. In the long term, at least for the Global North, this may be a realistic scenario. Stagnating or shrinking population as a long-term scenario should not be ignored.

The external sector in a low-growth economy should realise a balanced current account in the medium term. Any imbalance in the current account would lead in the long run to unsustainable foreign debt for countries with current-account deficits. This does not disregard that for political reasons some countries may for some time realise surpluses or deficits in the balance of trade and services.

Capital controls are needed to implement the national credit plan and realise balanced current accounts. The global economy could be regulated along the lines of Keynes's (1943) proposal for the international monetary system after World War II (Herr 2011). He proposed fixed exchange rates within a small band and the possibility of adjusting the central rates in case of bigger current-account imbalances. An international clearing union should be established to issue the supranational 'bancor' as liquidity for central banks and to help countries in balance-of-payment crises. Adjustments of imbalances in current accounts should be symmetrical and, not as in the case of the market mechanism, shift the burden of adjustment only to the current-account deficit country.

It is important that capital controls are an integral part of the proposal developed in this contribution. Already Keynes stressed the need for capital controls: 'There is no country which can, in future, safely allow the flight of funds for political reasons or to evade domestic taxation. ... For these reasons it is widely held that control of capital movements, both inward and outward, should be a permanent feature of the post-war system' (Keynes 1943: 31).

It should be obvious that the present globalisation model, with the key feature of international capital flows, must be radically changed. A country that wants to start a low-growth economy does not have to wait until the whole world economy follows such a strategy. It is possible for a bigger country or an economic block to protect itself via capital controls and, if needed, some trade regulations.

5 CONCLUSION

An economy with a stable medium-term low growth rate of GDP, or even a growth rate of zero or de-growth, needs new regulations and institutions to realise this target. Such an economy would look very different compared with the existing type of capitalism we have today. In the existing capitalist system, private investment demand as well as consumption and net external demand, together with fiscal and monetary policy and many other elements of economic policy, determine the dynamics of GDP. Economic development in such a system is volatile. But overall, the system, at least in past centuries, has led

to growth rates of GDP, which most likely (even in the case of radical technological transformation and changing patterns of consumption) are too high for ecological sustainability. A certain material and energy throughput is inevitably linked to a certain GDP. Given technological possibilities, natural boundaries and sustainability needs will determine a growth rate of GDP that then has to be realised by economic policy.

With the help of a credit plan, macroeconomic gross investment can be steered in a way that investment fits to the ecologically targeted growth of GDP. In the centre of the credit plan are credit ceilings for credit expansion of banks and allocation of credit to different sectors. A major role for public investment and reformed governance systems of big companies are important parts of the credit plan as well.

Marx, Schumpeter and Keynes came to the conclusion that the existing capitalist system was not sustainable and would transform itself, independently of ecological boundaries. They also argued that the system would endogenously develop institutions and structures that would make a radical transformation possible. Public companies in different areas would have to play a key role. Even more important is that the development of big stock companies would have been leading to a situation in which the owners of such companies have almost no positive function any longer. The opposite is the case; the frequent turbulences in stock markets driven by speculation, irrational exuberance and the short-sightedness of investors have been becoming a disturbing factor for long-term-oriented economic development. Managers have become important for the development of stock companies; owners were left without important functions. These developments pave the way to new and innovative corporate governance systems of big stock companies, which complement the functioning of the credit plan.

Aggregate consumption demand has to be macroeconomically controlled and steered as well. High saving is not needed; depending on productivity development and concrete growth rates, even no macroeconomic saving is allowed. To achieve low or no saving, radical redistribution of income and wealth is needed. Inheritances, which violate the merit principle anyway, should be progressively taxed, as well as income which is much above average income levels. Government consumption demand in an economy with low growth should in the medium term be financed by taxes. Otherwise, permanently increasing public-debt quotas will result. Current accounts have to be balanced in the medium term, also to avoid cumulating international debt. Control of international capital flows is inevitable.

To sum up, the proposal of an economy with low GDP growth implies radical transformation and changes of institutions (see also Dullien et al. 2011). But the outcome is not a planned economy of the Soviet type. Among other things, a large SME sector of purely private companies can exist. Stakeholder stock companies also compete with each other and SMEs. The price system, after internalising external effects, takes over an important allocative function.

The vision of the mode of production and consumption as well as wealth and income distribution sketched here can only be realised when the political will exists to establish it. When we look back at history, it becomes clear that elements of the feudal system, with its special role for the aristocratic class, have been surviving. Even today, institutional monarchy with privileges by birth exist in a number of countries. The wealth owner earning interest and dividends even while violating the merit principle may also survive for a long time, even if there is no function left for this class. But change is possible. Even the aristocratic class is today no more than a shadow of its former self. 'But, soon or late, it is ideas, not vested interests, which are dangerous for good and evil' (Keynes 1936: 384). Let us hope that good ideas are able to stop current trends, which otherwise may lead the world into the abyss of ecological catastrophe.

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