1. Introduction

1.1 WHAT IS NEW IN THE NEW ECONOMICS OF INCOME DISTRIBUTION?

The study of income inequality is of fundamental importance to economics. The most obvious reason is that if economics is at all concerned with understanding the development of the economy over time, we must understand not only changes in means, but also changes in distributions.

(Gordon and Dew-Becker 2008, p. 46)

The inequality of income (and wealth) distribution is a subject neglected for a long time in the discipline of economics. The new and rising interest has to do with a number of quite different phenomena. A selection of them could be the following. One is undoubtedly the obvious exaggeration to be observed in the remuneration of managers in general and of investment bankers in particular. Another is linked to recent trends in personal income distribution of OECD countries, where significant increases of the Gini coefficient (after taxation) have been detected in the two past decades. A third quite visible aspect raised by such prominent fellows as Nobel Prize winner Joseph Stiglitz is related to the distribution of income and wealth within emerging economies, but also between this (rather heterogeneous) group of countries on the one side and representatives of the northern hemisphere on the other.

If one looks at the set of (more or less) accepted goals of economic policy, a more or less equitable income and wealth distribution is a part of them, but it has never been defined in a sound way. By contrast, ‘full employment’, ‘acceptable rates of economic growth’, ‘balance of payments equilibrium’ and ‘price stability’ seem to be in comparison easy to capture and well understood. The science of economics, surprisingly, has used with some success in the past the notion of ‘equilibrium’ in so many areas, as in the analysis of markets (for labour, among others) and competition, of growth processes, inflation trends and balance of payments situations (recently, for example, in conjunction with the Target imbalances within the Euro system). The main purpose of this book is to develop – on different levels and in various fields – a concept of equilibrium in the area of income distribution. This is what we label the ‘new economics of income distribution’.
The last one and a half decades have been dominated by the literature on social preferences such as fairness and reciprocity (Fehr and Schmidt 1999; Bolton and Ockenfels 2000). In both concepts, which are quite similar to each other, empirical and game theory-based experiments reveal that economic agents have an aversion against ‘taking it all’. This is quite helpful in explaining why a Gini coefficient in the neighbourhood of 1 is not sustainable, neither on a social nor individual level. But then the question remains, why some countries have Gini coefficients of almost 0.5 while others seem to live well with coefficients below 0.25. Furthermore, one finds that in many cases these coefficients tend to be quite stable and robust over time. Why is this? A hypothesis followed in this book suspects that the fairness and reciprocity literature has based its arguments too much on the attitude of ‘inequity aversion’, neglecting the somewhat opposite, but (at least) as plausible preference of ‘equity aversion’ (see Sell and Stratmann 2009): people don’t want to take it all, but they don’t want to leave too much to the others either. Every Sunday’s cake division at the heart of the family meal may serve as proof. In economics, the concept of ‘equilibrium’ still retains much intellectual attractiveness and theoretical appeal though the Lehman Brothers case showed to all of us in 2008 how fragile presumed equilibria (in the financial markets) can be – if the financial market it is an equilibrium phenomenon at all.

What then are the new equilibrium aspects introduced by this book? Firstly, we offer some sort of a methodological innovation as we discuss income distribution on all three levels of equilibrium concepts in economics: market equilibrium, bargaining equilibrium and political economy equilibrium. In doing so, we are interested in the dynamics of these equilibria in the vein of Schumpeter: when and why are these equilibria destroyed, what happens during phases of disequilibrium and which forces may push income distribution back again into a (new) equilibrium? Second, we address the question of how main factor markets (labour, capital) are related to income distribution. We investigate not only – as traditional economics of income distribution do – global income quotas, the aggregate distribution of income between labour and capital and so on, but also the distribution of incomes within the group of labour income and the group of profit income earners. Third, we offer some new models – for instance, rooted in the field of fauna evolution science – to explain the dynamics of income distribution during business cycles and as a companion to long-term economic growth. Fourth, we identify – via the channels of trade flows, of capital and of labour mobility – the way globalization affects income distribution. Fifth, in all of these chapters, we look at income distribution as a result of the struggle within society between different social preferences such as inequity aversion, on the one hand, and (the much less popular though important) equity aversion, on the other hand. Sixth, we
ask for future research to adopt a more comprehensive theory of income distribution. Seventh, we close by concluding our findings.

1.2 WHY THIS BOOK AFTER PIKETTY’S *CAPITALISM IN THE TWENTY-FIRST CENTURY*?

Thomas Piketty (2014) has written a comprehensive, eloquent and brilliant book about the historical trends and the future prospects in the distribution of income and wealth. Is there a need for additional contributions in the same field of economics? We believe so and in order to substantiate our argument we shall briefly describe the main hypothesis put forward by Piketty. The model he uses has the following components/(in)equations:

\[ r > g \quad \text{(1.1)} \]

\[ \alpha = r \cdot \beta \quad \text{(1.2)} \]

\[ \beta = s/g \quad \text{(1.3)} \]

The first, and according to Piketty, essential inequation says that the real rate of return on capital, \( r \), is substantially higher than the overall real growth rate of the economy, \( g \). Piketty calls it the ‘fundamental force for divergence’ (Piketty 2014, p. 25). If this is the case, ‘then it logically follows that inherited wealth grows faster than output and income . . . and the concentration of capital will attain extremely high levels’ (p. 26). The second equation, following Piketty, is the ‘first fundamental law of capitalism’ (p. 52), which argues that the share of income from capital, \( \alpha \), is given by the product of the real rate of return, \( r \), and the capital/income ratio, \( \beta \). The third equation, according to Piketty, the ‘second fundamental law of capitalism’ (p. 166), states that the capital income ratio of each economy is given by the ratio between the savings rate, \( s \), and the overall real growth rate, \( g \). Notice that the third equation can be rearranged so that Solow’s famous equilibrium growth rate appears:

\[ g = s/\beta \quad \text{(1.4)} \]

According to Solow, \( \beta \) is nothing but the capital coefficient. So if Piketty shows for the world and for single countries (pp. 196, 461) that
this coefficient grows – unless large parts of the active capital stock are being destroyed, as happened during the years 1914–45 (p. 25) – he does not prove more or less that in the course of the increased capital intensity of production, the capital coefficient must move upwards. But Solow also shows that a growing capital intensity of production, whenever the production function is linear homogeneous, is always accompanied by a declining marginal productivity of capital. The latter, in turn, will reduce the real rate of return, ceteris paribus (Engelkamp and Sell 2013, pp. 308–12). In steady state, r and g may converge fully, a phenomenon that Phelps has given the attribute of a ‘golden rule of accumulation’ (Piketty 2014, p. 563).1

If one solves the second equation for the rate of return, r, and combines it with the first inequation and the third equation, we achieve (see also Piketty 2014, p. 652):

\[
\frac{\alpha}{\beta} > \frac{s}{\beta} \text{ or } \alpha > s
\]  

(1.5)

As a, say, modified condition for the concentration of wealth, this new inequation, however, can be shown to be not so much a ‘fundamental force for divergence’, but the mere consequence of some appropriate definitions in the vein of Nicholas Kaldor’s theory of income distribution (Kaldor 1955):

\[
\frac{S}{Y} = s = \alpha s_\alpha + (1 - \alpha) s_{(1-\alpha)}
\]  

(1.6)

This (not more than a) definition explains the domestic savings rate as a weighted average (the weights being capital income share (CIS), the share of income from capital, \(\alpha\), and \((1 - \alpha)\), the labour income share (LIS), or likewise human capital) of the (distinct) savings rates of the two main income groups in society: owners of physical and owners of human capital. Rearranging this definition yields:

\[
\alpha = \frac{s - s_{(1-\alpha)}}{s_\alpha - s_{(1-\alpha)}} = \frac{s}{s_\alpha - s_{(1-\alpha)}} - \frac{s_{(1-\alpha)}}{s_\alpha - s_{(1-\alpha)}}
\]  

(1.7)

Whenever

\[
s_\alpha, s_{(1-\alpha)} > 0; 0 < s_\alpha, s_{(1-\alpha)} < 1 \text{ and } s_\alpha > s_{(1-\alpha)}
\]  

(1.8)

we can be quite (but not totally) sure that \(\alpha > s\). Let us make two numerical examples. Assume \(s_\alpha = 0.6; s_{(1-\alpha)} = 0.2\). Then, we achieve for \(\alpha = 0.3\), \(s = 11/50 < 3/10 = 15/50 < \alpha\)! Also, if \(s_\alpha = 0.9; s_{(1-\alpha)} = 0.2, \alpha = 0.3\) yields: \(s = 21/100 < 30/100 < \alpha\)! To be totally sure, however, we have to make some calculations:
\[ \alpha (s_{a} - s_{(1-a)}) = s - s_{(1-a)} \Rightarrow s = \alpha (s_{a} - s_{(1-a)}) + s_{(1-a)} \]  
(1.9)

Then the ‘Piketty condition’ \( \alpha > s \) from above is satisfied if and only if:

\[ \alpha > \alpha (s_{a} - s_{(1-a)}) + s_{(1-a)} \text{ or } \]

\[ \alpha > \frac{s_{(1-a)}}{1 + s_{a} - s_{(1-a)}} \]  
(1.10)

A second observation emerges from the combination of his equations two and three:

\[ \frac{g}{s} = \frac{r}{\alpha} \text{ or } \alpha = \frac{s \cdot r}{g} \]  
and \( 1 - \alpha = \frac{g - s \cdot r}{g} \)
(1.12)

This formula can also be ‘vitalized’ by a simple numerical example. Suppose the overall growth rate to reach 0.02 and the measured LIS to equal 0.7 (CIS = 0.3). Then we have \( s \cdot r = 0.02 - 0.02 \times 0.7 = 0.015 \). Assume \( s = 0.1 \), then we achieve: \( r = 0.06! \)

From the above result, we may easily derive what is (not) in the interest of labour because it affects positively (negatively) the LIS:

\[ \frac{\partial \text{LIS}}{\partial g} = \frac{d}{d g} \left[ \frac{g - s \cdot r}{g} \right] = \frac{s \cdot r}{g^2} > 0 \]  
(1.13)

\[ \frac{\partial \text{LIS}}{\partial r} = \frac{d}{d r} \left[ \frac{g - s \cdot r}{g} \right] = -\frac{s}{g} < 0 \]  
(1.14)

These two results are interesting insofar as they match exactly the hypotheses of the so-called ‘partisan theory’ of monetary policy, which has proved to be very relevant for US policy and elections: the electorate of the Democratic Party in the USA – owners of low, medium and (less so of) high skills – favours an expansionary monetary policy, that is, low real interest rates and high economic growth (Sell 2007, pp. 116–20).

A third observation concerns Piketty’s third basic equation, his ‘second fundamental law of capitalism’: if we realize that the growth rate of national income equals the population growth rate, \( n \), plus the per capita real growth rate, \( G \) (see also Piketty 2014, p. 593):
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\[ g = (G + n); \quad G = g - n \quad (1.15) \]

Then, we achieve:

\[ \beta = s/(G + n) \quad (1.16) \]

The problem with the first formula and, hence, indirectly with the denominator of the second formula is that \( g \) and \( n \) are not independent from each other or, put another way, there is an endogeneity problem affecting \( g \). As Siebert (2000a, p. 103) explains, a low population growth leads to ageing societies; the latter, in turn, tend to achieve much lower growth rates. That is, when \( n \) comes down, \( g \) is also negatively affected:

\[ G = g(n) - n; \quad \frac{\partial g(n)}{\partial n} < 0 \quad (1.17) \]

\[ \frac{\partial G}{\partial (-n)} = -\frac{\partial G}{\partial n} = -\frac{\partial g(n)}{\partial n} + 1 \quad (1.18) \]

This repercussion from ageing societies on the growth rate \( g \) and hence on the ‘second fundamental law of capitalism’ was not considered by Piketty.

A fourth observation applies to the impact of ageing societies on the rate of return to capital, \( r \): following Siebert (2000a), ageing and low population growth societies exhibit a greater abundance of capital and a greater scarcity of labour. As a consequence, real wages should increase and real rates of return should decline. The relative abundance of capital will moreover be strengthened by the increasing need of the working labour force to substitute (or at least to complement) the fading resources of the pay-as-you-go system by private pension schemes. A higher supply of savings on the capital market will, in turn, lower the real rate of return.

A fifth observation concerns the time horizon of Piketty’s analysis. It is doubtful whether we can look at the phenomenon of income and wealth distribution the way Piketty does: do those long time spans he is looking at really exist any longer in a globalized world, where the distinct phases of economic development are becoming shorter and shorter (Von Bechtolsheim 2014, p. 48)? By the way, we have serious doubts whether the ‘second globalization’ ‘has been under way since the 1970s’ (Piketty 2014, p. 28). Many indicators show that this second wave of globalization did not start before the late 1980s or early 1990s.

A sixth observation is related to Piketty’s severe critique against the use of specific economic or statistical tools. This applies in the economic sphere to the principle of marginal productivity and in the sphere of
statistics to the Gini coefficient. Piketty’s point against the principle of marginal productivity (see Piketty 2014, pp. 330–3), which is seemingly unable to explain the remuneration of the ‘super-managers’, is in our view flawed. If the latter is a phenomenon of globalization, the enormous increase in worldwide mergers and acquisitions coupled with growing firm sizes and ‘the growing diversity of functions within the firm’ (p. 334) are good examples too. In this area, we clearly have discontinuities and large shifts in the production function. To make or not to make a big deal has significant consequences for the firms’ productivity and does not in principle contradict the marginal analysis of factor rewards.

Piketty also has a clear predilection for the deciles, centiles and so on as a means to measure inequality: ‘the statistical measure of income inequality that one finds in the writings of economists as well as in public debate are all too often synthetic indices, such as the Gini coefficient, which mix very different things, such as inequality with respect to labour and capital, so that it is impossible to distinguish clearly among the multiple dimensions of inequality and the various mechanisms at work’ (p. 243; see also pp. 266–7). The limitations of the Gini as well as the Theil index are well known and it is true that they mix measurement of inequity of capital and of labour income. However, they meet another, highly relevant target as they reflect inequality to be an ubiquitous, integral and overwhelming phenomenon of economies/societies.

A seventh observation affects Thomas Piketty’s policy suggestions. In the vast majority of cases, we can fully support his views: ‘the best way to increase wages and reduce wage inequalities in the long run is to invest in education and skills’ (p. 313). Or: ‘if a small group of employers occupies a monopsony position in a local labour market . . . imposing a minimum wage may be not only just but also efficient’ (p. 312; see also Werner et al. 2013). If labour income falls short of the dynamics of capital income, why not follow the many proposals put forward in the 1970s to let the factor labour participate in the profits of the firm rather than install national (and necessarily) global taxes on capital? If labour wins a share of profits, a part of former fixed costs turns into variable costs, which can be adjusted downwards easier in the case of a recession (Von Bechtolsheim 2014, p. 48). Piketty sees two possibilities to correct the distribution of wealth: a well-defined, progressive one-time tax on private capital ‘or, failing that, by inflation’ (2014, p. 567). Here, it is quite difficult to follow the author because the regressive effects of medium and high inflation rates are well documented, both theoretically and empirically.

Last but not least, what is Piketty’s position towards the idea of equilibrium in the distribution of incomes and wealth? ‘Inequality is not necessarily bad in itself: the key question is to decide whether it is justified, whether
there are reasons for it’ (p. 19). The first argument is normative, the second rather positive. But the latter is not very convincing: one can enumerate many reasons for multifarious effects and causes, what is important are whether social preferences endorse either these results or the corrections of these results by economic policy. In contrast, Piketty is right when he finds that ‘how this history plays out depends on how societies view inequalities’ (p. 35).

Furthermore, ‘inegalitarian consequences [of globalization over the course of the next two centuries] would be considerable and would probably not be tolerated indefinitely’ (p. 358). This said, one gets the impression that Piketty also has some sort of equilibrium in the distribution of income and wealth in mind. The longer this equilibrium is disturbed, the greater the likelihood for a severe correction of the lasting disequilibrium by economic policy or by the people itself (revolution). On page 361 of Piketty’s book, we do find the headline ‘Is there an equilibrium distribution?’, but his answer (pp. 361–4) is more of a short journey through history than a clear affirmation or rejection. Later on, he finds, ‘If the difference $r - g$ surpasses a certain threshold, there is no equilibrium distribution: inequality of wealth will increase without limit . . . ’ (p. 366). This statement, however, does play with the idea of a mathematical extreme value of income distribution rather than accept the idea of a social consensus on distribution. In his thoughtful discussion of ‘Pareto’s law’ (pp. 366–8), he seems to doubt much more the stability of personal income distribution than the existence of equilibria (p. 368).

Make no mistake, Piketty is quite critical when he blames American TV series ‘offering a hymn to a just inequality’ (p. 419). But equilibrium in wealth and income distribution is not necessarily a question of justice or of religio-moral judgements. It can be just the outcome of a social consensus achieved by bargaining and/or electoral processes (see the next chapter). And equilibrium is, in the end, a question of taxes: ‘all the rich countries, without exception, went in the twentieth century from an equilibrium in which less than a tenth of their national income was consumed by taxes to a new equilibrium in which the figure rose to between a third and a half’ (p. 476).

1.3 A STARTING POINT FOR THIS BOOK

The main hypothesis that shall take the reader through this monograph is the idea of equilibrium in income distribution. This idea of equilibrium in income distribution is not new at all: Blümle (1992), following already famous Vilfredo Pareto (1895), held the view that social distribution of incomes was situated in a stable over time equilibrium. He based his
statement on the observation that the dispersion of incomes did not fluctuate, either internationally or inter-temporally. Ramser (1987), in turn, detected stationarity in his empirical research in the secondary (that is, net of government intervention with taxes and transfers) distribution of incomes, but not so in the primary (that is, out of the market process) distribution of incomes. The time span covered by his research was 1927–87 and the countries investigated were mostly developed.

The possible existence of equilibrium in income distribution has quite interesting implications: on the one hand, it would mean that the preservation of a specific degree of income inequality is not accidental, but intentional: the existing skewness of income distribution could be interpreted as a display of overall social preferences (Blümle 1992, p. 224). In a democracy, such an outcome can only endure if it is backed by corresponding majorities in the parliament. On the other hand, this result would in principle contradict the assumption made by Anthony Downs (1968), according to which democracies tend to achieve in the long run an equitable distribution of incomes, provided this process is not interrupted by external problems/shocks of the society in question. Also, equilibrium in income distribution would raise doubt as to whether some degree of inequality in income distribution has to be taken always as something that reduces welfare (Blümle 1992, p. 212). Distributional justice continues to be an economic goal for economic policy, but not in the strict sense of a perfect equitable income distribution. Now, also in the long run, some degree of inequality is accepted, if not warranted (see Blümle 1992, p. 225).

Let us become a little more specific: if one looks at the distribution of incomes, no matter what definition of income is supposed, no matter which economy is regarded and no matter what time period is under consideration, it is surprising to see that distribution of incomes is skewed to the right and left-steep. This has important consequences for the parameters of the density function. The maximum of this function – which is called modus \( (y_{mo}) \) and is the most frequent event – will usually be located to the left of the median \( (y_{me}) \) and the latter, in turn, is located to the left of the arithmetic mean \( (y_{ar}) \). The characteristics of this sort of density function are depicted in Figure 1.1.

In order to verify and, at the same time, support this view, we look at some time-stable figures for Germany. In 1969 (the year in which the first coalition of the social democrats with the liberals was established), 64.8 per cent of total households received a (net) income lower than the arithmetic mean \( (y_{ar}) \). At the same time, the modus of incomes \( (y_{mo}) \) stood at around 65 per cent and the median \( (y_{me}) \) at, by and large, 85 per cent of the average of incomes. This result is extremely stable over time and it strongly points to the stability of income distribution (Blümle 2005, pp. 2ff.).
What is the explanation for these findings? When economic agents perceive their general circumstances of life, it is very likely that the most frequent event – in our case the modus of incomes, \(y_{\text{mo}}\) – will be taken as typical and representative. In other words, the average of incomes \(y_{\text{ar}}\) will not achieve the same degree of relevance as the modus. The consequence of this is far-reaching: according to Blümle (2005), a majority of economic agents will receive an income above the modus. Based on this observation, agents will have the impression of being well posed. Therefore, their attitude towards a redistribution of incomes should be quite critical. When the same agents were asked about their degree of satisfaction with their economic situation during the polls conducted both in 1990–95 and 1996–2000, 66 per cent of those polled answered that they were content. This figure corresponds almost exactly to the percentage of income receivers who earn an income above the modus. One may suppose that this outcome is a major reason for the political stability of income distribution in Germany (at least until the beginning of the new millennium) and it was a strong argument against tendencies to level the inequality of incomes, particularly as the income distribution pattern found for the overall economy also applied to the different groups of income recipients (Blümle 2005, pp. 2ff.).

Looking at the individual level, we find a synonymous effect: the modus

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**Figure 1.1** The time-invariant distribution pattern of personal incomes

of incomes of one's own peer group is decisive for our judgements, not the modus of total incomes in society. Closely watched, however, this difference is not as relevant. Why? The distribution of income in the respective subgroups of incomes follows the same pattern as the density function in Figure 1.1. Even for the lowest income groups, we can say that their income is not too far away from the overall modus, given the left-steep and skewed to the right distribution of incomes. As a consequence, feelings of unfairness among the members of such low income groups are (at least were, see above) not widespread. Whenever the modus is lower than the median and the arithmetic mean, one can expect a majority of the population to be satisfied, by and large, with their own status, given their group of reference (see Blümle 2005, p. 5).

There is an additional effect that tends to establish a sort of status theory of income distribution: when low income receivers compare their own income with the modus, they can be more or less satisfied the lower the modus is, ceteris paribus. In this case, the likelihood increases to be neighbouring the modus income. In a sense, individuals are prepared to reduce their pretensions regarding their own income and thereby be ‘happy’ with a status of a rather low income. Status is perceived here as one’s own relative income (in the sense of Duesenberry 1967), in this case relative to the modus income. Gains in status can be achieved the higher the relative income grows with respect to the reference income, the modus. At the same time, such a status theory of income distribution argues implicitly with ‘bounded rationality’: individuals do confuse the arithmetic mean with the modus of incomes.

A major advantage of Blümle’s approach is in its simplicity, plausibility and vividness. The limitations of his theory, though, are obvious. The equilibrium may not be unambiguous. According to Blümle (2005), the equilibrium in income distribution is reached when an overwhelming majority of individuals is pleased with its own household income. The share of satisfied agents did in fact correlate almost perfectly in the past with the share of income receivers that gained an income above the modus of incomes. As a consequence, one may say that this equilibrium is as stable as the modus of the underlying distribution of incomes. Over time, however, an increasing share of individuals whose income exceeds the modus will increase satisfaction in society and will make redistribution policies of the government less likely. But what if the opposite occurs? By how much must the degree of satisfaction decrease to make redistribution not only likely but inevitable? In a sense, Blümle’s concept of equilibrium is still quite provisional: the model is not yet ‘closed’ appropriately. We shall show in the following section as well as in Chapters 3 and 4 how this deficiency can be healed.

Even if these theoretical weaknesses were not there, it is a fact that
the concentration of incomes (measured by the net Gini coefficient) has increased in Germany, but also in many other developed countries since the beginning of the new millennium (Sell and Stratmann 2013). We shall give evidence for this statement in later chapters. As Table 1.1 reveals, German society has changed its evaluation of the distribution of personal incomes since 1995 dramatically: while in 2000, the last (!) year of the old millennium, the approval rate was 35 per cent and the rate of rejection stood at 47 per cent, the same sample of interviewed persons accepted the concentration of incomes in 2010 with a rate of only 21 per cent, while 58 per cent denied the fairness of income distribution.

Contrary to Thomas Piketty, we believe that it is primarily the process of globalization that has destroyed earlier equilibria in income distribution. Globalization has created a new dilemma: on the one side, it has contributed to make income distribution more unequal. This applies not only to inter-income comparisons, that is, to labour and capital shares in GDP, but also to intra-income comparisons, that is, to the shares of skilled and unskilled labour, to the distribution of profits and so on. On the other hand, globalization has weakened the traditional welfare state and its scope and ability to correct the income distribution out of the market according to the goals of the electorate/median voter. This is due to tax competition and to new institutional settings like the EU/Eurozone, where the member states and their governments give away a part of their autonomy and sovereignty. Also, unemployment plays an important role: rigid real wages were and are the wrong answer to afford the challenges of the integration of large, emerging economies like China and India into the world economy. This integration has not only changed the relative scarcity of capital vis-à-vis labour on a world scale but has put under severe pressure wages for the low and medium qualified labour force in the North of the world economy.

It is not very likely that Western societies can live for a long time with huge disequilibria in the distribution of incomes and wealth. It is in the self-interest of each society to search for a new equilibrium and not necessarily to restore the old equilibrium. What are the policy options? Thomas Piketty has made several proposals (see above), figuring prominently the international coordinated taxation of wealth. We believe this could be erroneous. International coordination of tax policy is a must if the erosion of the tax base is to be stopped. But is the introduction of a new tax for the owners of wealth the right measure? If capital is the big winner of globalization and (more or less) unqualified labour is the loser, there are other alternatives, which, by the way, do follow much more the suggestions of modern psychology: you will achieve a better result if you do not punish for ‘bad action’ but instead reward for ‘good action’. Incentives for ‘good action’ should consist in helping the (more or less) unqualified labour force to
better participate in the gains of capital: either by working on the accumulation of their human capital, or by enabling the workforce to share part of the firm’s profits or, finally, by creating more attractive offers for the labour force to realize savings in the financial sector of the economy. Notice that these three options cannot be taken as substitutes but as close complements.

### 1.4 A FLAVOUR OF THE NEW CONCEPT

F.A. Von Hayek (1977) put forward the type of reasoning in the late 1970s that will pass through this book: according to him, the traditional viewpoint of the unions and many associated experts which asserts that income in an economy can be distributed once it has been generated is definitely wrong. It is rather the expected distribution of the pie that will determine its actual size!\(^3\) Assume we proxy the expected distribution of income by its standard deviation \(\sigma^e\) and model its impact on total supply \(Y^s\) in the following, simple manner:

\[
Y^s = Y^s\left(\sigma^e\right) \tag{1.19}
\]

The first derivative of \(Y^s\) with respective to \(\sigma^e\) is ambiguous: the more equal the distribution of incomes, the less efficient the allocation and productivity of labour, given the existing differences in skills and talents. Once

### Table 1.1 How Germans evaluate fairness of personal income distribution between 1995 and 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Distribution is considered as fair (%)</th>
<th>Distribution is considered as not fair (%)</th>
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</thead>
<tbody>
<tr>
<td>1995</td>
<td>39</td>
<td>43</td>
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<tr>
<td>1998</td>
<td>23</td>
<td>60</td>
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<tr>
<td>1999</td>
<td>30</td>
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<td>2002</td>
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<td>56</td>
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<tr>
<td>2007</td>
<td>15</td>
<td>56</td>
</tr>
<tr>
<td>2010</td>
<td>21</td>
<td>58</td>
</tr>
</tbody>
</table>

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σ_e surpasses a critical level, a further increase in the expected inequality of income will depress income: a too high concentration of expected incomes will hamper competition and will give rise to envy, jealousy and so on, which necessarily dampens productivity.

To close the model, we go beyond Von Hayek, and specify (this simplification will be abolished later on in this book), in the vein of Nicholas Kaldor, demand to be negatively correlated with the standard deviation of incomes: the more (un)equal the distribution, the (lower) higher total demand.

$$Y^D = Y^D(\sigma)$$  \hspace{1cm} (1.20)

Finally, we assume rational expectations vis-à-vis the distribution of incomes:

$$\sigma^*_t = \sigma_t + \varepsilon_t \text{ with } E[\varepsilon_t] = 0$$  \hspace{1cm} (1.21)

As a result, we may be confronted with more than one possible equilibrium, as depicted in Figure 1.2. On the y axis we have total (linear falling) demand and total (backward bending) supply, on the x axis we

Source: Author.

Figure 1.2  Determining simultaneously income level and income concentration
find the standard deviation of incomes, $\sigma$. We disregard the difference between expected and realized values of total supply. At the first intersection point between total demand and total supply, we find a high income/intermediate concentration equilibrium. At the second intersection point between total demand and total supply, we achieve an intermediate income/high concentration equilibrium. Shifts in the supply and/or the demand schedules will necessarily lead to new intersection points or likewise equilibria.

A major insight of this enhanced Von Hayek approach is that income and income distribution are both endogenous variables and that only their simultaneous equilibrium can provide us with an almost accurate description of economic reality.

1.5 SKETCHING THE NEW FACTS OF INCOME DISTRIBUTION IN THE WORLD

It is fair to say that reports on income distribution from the IMF, the OECD and major national research institutes of the developed world have raised enormous interest in present times. In the following, we present our own statistical basis. It will focus on the world in total, on the one hand, and on Germany, in particular, on the other hand. Germany is a special and interesting case for many reasons. It is one of the very few countries that managed to leave the world economic crisis of 2009 even stronger than it was before. It is one, if not the, reference for the Continental European welfare state. Germany, as one of the world’s leading exporters, is exposed to the forces of globalization to a larger extent than the majority of OECD countries. An equitable income distribution, furthermore, has always belonged to the set of macroeconomic goals of economic policy in Germany. Last, but not least, it is the country best known by the author over a career of almost 35 years as an economist.

Looking at the concentration of incomes over the world is an almost unresolvable issue. Even so, there are attempts to assess such a concentration (Berthold and Brunner 2010). Our own procedure is closely linked to the way data of income distribution are collected and presented by the World Bank (2013, 2014). In the first place, we follow the World Bank’s classification of low income (LI), lower medium income (LMI), higher medium income (HMI) and high income (HI) countries. Because of the severe missing observations problem (see also Berthold and Brunner 2010, p. 5) and our special interest in the impact of globalization (see above and subsequent chapters), we secondly start our analysis only in 1990. Thirdly, we have computed, for each year of observation, unweighted average Gini
coefficients for each income group. Why unweighted? In our context, it is not meaningful to give a special weight to small or large economies, either measured by population or GDP figures. On the contrary, we want so see whether the (rising, falling or stable) development of the Gini coefficient is a ubiquitous phenomenon for all kinds of economies, provided, however, they belong to the same World Bank classification. The Gini coefficient, as is well known, measures the concentration of personal incomes, stemming from both labour and/or capital. As we saw above, when commenting on Thomas Piketty’s extensive monograph, it somewhat mixes up the concentration of capital income and labour income. Even so, the Gini coefficient is a useful tool of analysis. Figure 1.3 reveals an interesting result: there is an obvious tendency for convergence of the country group-specific (net, after taxation and transfers) Gini coefficients since 1990. While high income (HI) countries seem to converge from below, low income (LI) and middle income countries (LMI, HMI) tend to converge from above. The latter result is in harmony with the predictions of the Kuznets-curve (see Chapter 6), the former points at the possibility that the Kuznets-curve may not end as an inverted U, but may have a ‘third’ knot.

Note that the main message of Figure 1.3 is highly interesting: globalization and possibly other forces linked to the revolution in communication and information technologies have contributed to an almost worldwide convergence in the distribution of personal incomes.

More precisely, one can say that developing (developed) countries have become more equal (unequal). What does this imply? In the first place, it somehow confirms the popular (but often not really substantiated) view that globalization works as a dynamic equalizer. So far, theory and empirical research has shown this effect only to be significant for goods’ prices, for factor prices, adopted technologies and so on. Secondly, it is obvious that countries that leave their earlier position in income distribution tend to destroy old equilibria, but this process may be productive, as in Schumpeter’s creative destruction concept. As a consequence, it is thirdly all the more important to understand the determinants for an equilibrium in income distribution.

Looking at the special case of Germany, it is worthwhile to plot both the Gini coefficient out of the market and the net Gini coefficient (Figure 1.4). It seems as if redistribution policy (see also Chapter 4, which presents some econometric evidence) was able to stabilize, by and large, the ups and downs of the market-induced variations in income distribution during the 1990s. Since the beginning of the new millennium, however, concentration of incomes after redistribution policies of the government shows a clear upward trend that fiscal policy was unable to correct according to the preferences of the electorate. The other possibility – a change of preferences

Figure 1.3 The development of Gini coefficients for different income groups according to the World Bank classification (1990–2011)
Source: Courtesy of Markus Grabka (DIW, SOEP) and author’s calculations.

Figure 1.4 The development of market-determined and government-corrected Gini coefficients in Germany (1991–2011)
towards more inequality – is rather unlikely. Various polls conducted by different institutions show, on the contrary, that the German electorate shifted its preferences in the respective period towards more equality.

Does this finding match circumstances in other OECD countries? Why don’t we have a look across the Atlantic Ocean? In an earlier, very often cited study on the USA, Gordon and Dew-Becker (2008, pp. 6–10) diagnose, when analysing the 90th, 50th and 10th percentiles, ‘a distinct increase of the 90–10 ratio between 1980 and 1988, followed by a plateau between 20 and 25 per cent above its 1979 level’ (p. 7). Looking closely, one discerns even a slight upward trend from the end of the 1990s onwards. The same applies to the 50/10 and 90/50 ratios. A recent publication of Standard & Poor’s Capital IQ (2014) confirms this suspicion and finds that ‘the US Gini coefficient, after taxes, has increased by more than 20% from 1979 – to 0.434 in 2010’ (p. 2). Furthermore, ‘all sources of income were less evenly distributed in 2007 than in 1979’ (p. 3).

The evaluation of the US government’s policies is similar to our own given above with regard to Germany’s: ‘government policies on taxation and government transfers, such as Social Security and Medicare, have done little to reduce income inequality – and may have contributed to a further widening of the gap’ (Standard & Poor’s Capital IQ 2014, p. 4). Standard & Poor’s finds that ‘the current level of inequality in the U.S. is dampening GDP growth’ (p. 1). In a way, this fits nicely with our view that a number of developed countries have in the meantime moved quite a bit away from early equilibria in the distribution of incomes and wealth.

Another debated and sometimes even disputed field in the empirical analysis of income concentration is the area of macroeconomic income shares (profit share versus wage share). Ellis and Smith (2007) have made a thorough analysis of the presumed upward (downward) trend in the profit (wage) share, covering major industrialized countries, including the USA and Germany.

In Figure 1.5, we have two highly correlated curves: one plots the development of the uncorrected wage share/quota (W/Y), the other the course of the corrected wage share/quota (W/Y)c. ‘Correction’ means in this context to take account of the changing ratio between the economically active persons (A) and the total labour force (LF) during time:

\[
(W/Y)^{c} = \frac{W_{t}}{Y_{t}} \frac{A_{0}}{A_{t}} = \left(\frac{W}{Y}\right)^{c} = \frac{LF_{0}}{A_{0}} \frac{A_{t}}{LF_{t}}
\]  

(1.22)
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It is obvious that in the recent past the wage share has had two tendencies. There continue to be observed up- and downswings related to the business cycle (see Chapter 5 for a more detailed analysis). At the same time, there seems to be a downward trend in the underlying time series.

1.6 AN OVERVIEW OF FORTHCOMING CHAPTERS

The main body of the book consists of Chapters 2 to 8; this first chapter serves as an introduction and Chapter 9 gives some final remarks including a view on redistribution policies, the scope of future research as well as a summary of findings. In this section we present not quite an overview of the forthcoming chapters but a selection of topics that will be dealt with.
Chapter 2

In economics, there exist a number of different concepts of equilibrium. This is not a disadvantage for our own approach, quite the contrary: in microeconomic theory and in the theory of optimal allocation, equilibrium is associated with a vector of (goods, factors of production) prices that clears the respective markets and maximizes utilities/revenues. In public choice theory/political economy of business cycles, equilibrium stands likewise for the maximization of voting functions, given some ‘economic laws’ that have to be respected, such as, for example, the Phillips curve. In modern welfare economics, we minimize social loss functions, given again some sort of economic constraints that have to be taken into account. In both of the latter cases, expectations and expectation changes play significant roles. In this monograph, we will present, according to the diversity shown above, various equilibrium concepts for income distribution, both for the distribution of personal incomes as well as the distribution of real income between labour and capital (income quotas). Given the above distinctions, one can investigate at least the existence of either ‘market’, ‘social’ or ‘political economy’ equilibria in the distribution of incomes. If the ‘market solution’ goes along with (positive or negative) external effects, it is indispensable to consider also an internalization strategy, which is the social planners’ view (which is not being confounded with the ‘social equilibrium’ from above).

Chapter 3

The policy of introducing a minimum wage pursues manifold goals; one is without doubt to change, that is, to ‘improve’ income distribution in favour of labour and to the detriment of capital. Whether this can happen or not and under what conditions can be analysed in simple market diagrams both for the extreme case of full competition and the other extreme of a monopsony. Why then is this not (or very seldom) done? The minimum wage is a good case for showing how income distribution would look in equilibrium and what changes are introduced once the market itself is turned into disequilibrium, or a new but different equilibrium. The resulting income distribution after the implementation of a minimum wage hinges to a considerable extent on the assumed production function and the involved elasticities of substitution. This analysis, in turn, is less graphical and more formal.
Chapter 4

The integration and globalization of financial markets has increased both the volume and the mobility of capital flows. Abundant capital in the North shows decreasing returns and tends to flow into the comparatively capital scarce South of the world economy where the real rate of interest and the marginal productivity of capital is higher. These flows change the capital intensity of production both in the South and in the North of the world economy and, hence, go along with important changes in the income distribution between labour and capital. If there was an ‘old equilibrium’ in the distribution of incomes, this has been necessarily destroyed. The question arises as to how economic policy faces these facts: with more/less regulation and/or protectionism? Is there room for compensation policies, and if so, in which areas?

Chapter 5

Status and consumption theory of income distribution, which goes back to contributions of Duesenberry (1967) and Johnson (1951, 1952a), is nearly forgotten, but it remains so important for the matter. The authors leave the traditional ‘two persons/two classes’ framework of Nicholas Kaldor behind and decide in favour of a setting with three income groups, where the ‘middle class’ figures prominently. This is highly relevant to the background of the recent discussion about a shrinking middle class accompanied by significant real income losses facing globalization. Furthermore, this school, so to say, incorporates two visible patterns of behaviour in consumption. One is the ‘keep ahead of the Smiths’ attitude, which has a lot to do with the social preference of ‘equity aversion’ mentioned above. The other has been labelled ‘keep up with the Joneses’ and represents quite well the opposite social preference of ‘inequity aversion’. As has been shown recently by Sell and Stratmann (2013), the Duesenberry-Johnson framework helps to understand why during the business cycle a ‘keep up with the Joneses’ behaviour tends to strengthen the upswing of the economy while a ‘keep ahead of the Smiths’ attitude helps to stabilize the course of the cycle.

Chapter 6

In the context of a Schumpeterian economic growth theory, the twin notions to ‘keep ahead’/‘keep up’ are innovation and imitation (see Blümle 1989b). The relationship to the income distribution issue is straightforward: innovators, especially in their role of temporary monopolists, tend
to create a high inequality in the distribution of profits; the latter, in turn, attracts imitators into the market/sector. Their investment behaviour has a threefold effect: it organizes the diffusion of new knowledge throughout the economy, it perpetuates the initial growth stimulus produced by innovators and it also has a levelling effect on the distribution of profits. The next growth cycle begins when new innovators come up again with technological progress located in the production process, in the organization of the enterprise or in the design of products.

Chapter 7

A further stylized fact of the globalization phenomenon is factor mobility in general and migration in particular. There are at least two types of emigrants: one group stands for a more or less skilled part of the domestic labour force that expects to achieve higher market wages in the country of destination. By leaving the country, it reduces the domestic amount of human capital and tends to lower the average productivity of labour. A second group of emigrants has quite different expectations: its main aim is to leave poverty behind and to achieve the benefits of social programmes offered by the welfare state in the country of destination. When leaving their country of origin, they won’t affect the stock of existing human capital and their decision to emigrate will by tendency increase the average productivity of labour. In the immigration country, these two totally different groups of the labour force will produce contradictory effects on (at least the relative) abundance of human capital and the level and dispersion of wages.

Chapter 8

Globalization has increased trade flows between the North and the South of the world economy. This fact applies to the exchange of goods and services (‘horizontal globalization’) as well as to the trade with fragments (‘vertical globalization’). At the same time, large emerging economies such as China and India integrated into the world economy with their huge reserves of low and medium qualified labour force and, in comparison, rather small stock of physical capital. This process of integration via trade and factors of production has significant impacts on the world’s (both absolute and relative) endowment with capital and labour. Hence, income distribution between these two factors of production is affected, both in the North and in the South of the world economy.
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NOTES

1. Piketty found a U-shaped curve for $\beta$ between 1870 and the present (2014, p. 461). This is no surprise given the vast destruction of physical capital between 1914 and 1945, which is also suitable to the Solow model!

2. Notice that if one finds the Kaldorian split into labour income and capital or likewise profit income too strict, the reader is referred to Luigi Pasinetti who considers in addition labour income of capitalists and capital income of workers. This differentiation, however, does not alter the essence of our results (see Külp 1974, pp. 33–7).