Inequality and economic performance

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Förord

Långtidsutredningen 2019 utarbetas inom Finansdepartementet under ledning av enheten för ekonomisk-politisk analys. I samband med utredningen genomförs ett antal specialstudier. Dessa publiceras som fristående bilagor till utredningen. Av det kommande huvudbetänkandet framgår hur bilagorna har använts i utredningens arbete.

Denna bilaga till Långtidsutredningen bidrar till att förbättra kunskapen om sambandet mellan inkomstskillnader och ekonomins funktionssätt. I bilagan analyseras inkomstspridningen i Sverige och övriga OECD-länder, och hur inkomstspridningen påverkar ekonomins funktionssätt i dessa länder. Dessutom analyseras genom vilka kanaler inkomstspridning kan påverka ekonomisn funktionssätt.

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Summary

Upward trending income inequality has spurred a discussion on the underlying causes, and the consequences for economic performance and social cohesion more broadly. The key question debated is whether inequality is good or bad for economic performance. While simple inference based on observed movements in inequality and various performance measures has prompted strong and simple answers to the question, the matter is complex. Economic performance affects inequality, but inequality also affects economic performance, and these links are continuously affected by shocks and policy changes. This complexity warns against making simple and unconditional statements on how inequality and economic performance are interrelated.

This report gives a comprehensive review of the literature on the nexus between inequality and economic performance. Outset is taken in a discussion of notions of fairness and in particular equality of opportunities, and how these aspects are captured by the most widely used measures of income inequality. Developments in various dimensions of inequality in OECD countries are reviewed with a specific focus on income and social mobility and measures of (in)equality of opportunities. Specific attention is devoted to empirical analyses of how inequality affects economic performance and whether there is a trade-off between economic performance (efficiency) and (in)equality. Theoretical arguments on the mechanisms through which various structural changes affect economic performance and thus inequality and the channels through which inequality may affect economic performances are discussed. Finally, the political-economy consequences of increasing inequality are considered. This summary first outlines the main general points, and then related to the specific Swedish situation and developments.

The inequality debate is about differences that are considered problematic and unfair. However, not all differences are problematic and unfair. The difficult task is to make the split between the fair and unfair part, both conceptually and empirically, but it is indispensable both for discussions of how inequality affects economic performance and society more widely and for adequate policy responses.

Inequality discussions tend to focus on differences in income – typically disposable income – to capture living standards. Annual income is related to, but an imperfect measure of livings standards due to e.g. differences in family situation, savings (wealth) and needs (health). Disposable income may differ across the population for many reasons, some under and others outside individual control. The notion of control vs. no control is closely related to notions of fairness. Many people consider differences arising as a consequence of choices (e.g. working hard) as justified if all have the same opportunities for making such choices, while differences caused by factors outside individual control (e.g. loss of work capability) or lack of options are considered problematic and unfair. Fairness questions cannot be answered absolutely and depend on individual views and attitudes in a given social context. However, equality of opportunity is a broadly shared value, although it is subject to different interpretations.

Income inequality is typically summarized by the Gini-coefficient, measuring the deviation of the observed income distribution from a completely equal income distribution (all having the same income). However, this is not an obvious benchmark since e.g. age automatically produces difference in incomes across the population, even in the hypothetical case where all would have the same income at a given age. More importantly, this measure – and other ways of comparing incomes - does not distinguish between problematic and unproblematic (fair and unfair) components of inequality. This is an important caveat since changes in the Gini-coefficient are often given much weight in policy debates. This does not make such measures useless, but they should be interpreted with care.

To gauge income and social mobility, it is necessary to look at income dynamics at the individual level. Are individuals stuck in a particular position in the distribution, or is social mobility making it

possible for individuals to shift position in the income distribution? Related is intergenerational mobility, namely, the extent to which the position of the parents determines the position of children in the income distribution. Such mobility measures capture crucial aspects of the opportunities for the individual. There are also methods providing more direct measures of equality of opportunity, but they rely on a number of identifying assumptions, and are therefore debatable.

Many OECD countries have experienced increasing inequality measured both by the Gini coefficient and decile ratios. The income distribution is widening because income growth at the bottom is lagging behind (and in some cases been negative), and at the top it is accelerating relative to the income growth for middle-income groups. In many countries, the root of these changes is to be found in the labour market, where wage dispersion is increasing, and employment prospects differ across the population. These changes are broadly attributed to new technologies and globalization (interacting with labour market structures), but also capital income and policy changes play a role. Social mobility is stagnating or declining. So-called tail persistence is growing; it has become harder for low-income groups to move up in the income distribution, while high-income groups tend to remain at the top. Likewise, inter-generational mobility is not improving. Inequality in annual income may be more acceptable if it creates incentives and opportunities for success to individuals depending on personal initiative. However, intergenerational mobility is not higher in countries with more income inequality. In this context, the Nordic countries stand out having both low income inequality and a comparatively high intergenerational mobility.

Comparative evidence on co-movements between income inequality and measures of economic performance like economic growth has attracted much attention recently and has spurred the widespread view that inequality is harmful for economic growth. While this is certainly possible in some instances, the statement does not hold generally or unconditionally. A closer look at the empirical evidence shows that the co-movements between inequality and economic growth vary over time and countries compared. It is far from clear what can be learned from such simple correlations. Countries may be affected by various policy changes and shocks

(having country-specific effects on inequality and economic performance, making these indicators move in the same or opposite directions), and countries may be in different positions depending on institutional, political and historical factors.

When it comes to the influence of policies, a basic insight from economic theory is that there is a trade-off between efficiency (economic growth) and equity (equality of income). The trade-off arises because a quest to ensure a more equitable distribution of incomes requires intervention in the form of e.g. taxes and transfers, which in turn distorts economic incentives and reduces efficiency. Importantly, the trade-off view holds also when public intervention mitigates market failures and thus is motivated on efficiency grounds. Intervention in such cases can give gains in both the efficiency and equity dimension, but optimal policies would bring the economy to a position where a trade-off is present for marginal policy changes, otherwise the possibility of increasing either efficiency or equity is missed, and policies are not optimal.

Empirical evidence finding that inequality is negatively correlated with e.g. economic growth seems to invalidate this trade-off insight from economic theory. Before drawing such a conclusion, it is important to understand the premises underlying the "trade-off"-view. It presumes that policies are optimally designed given the political objectives so as to ensure either maximum efficiency for given equity, or maximum equity (minimum inequality) for given efficiency along the possibility frontier available to policy makers. It is far from obvious that actual political processes deliver this outcome since political institutions, rent seeking and many other factors can be at the root of policy failures, implying that the best practice frontier is not reached. Empirically, it is thus essential to distinguish between countries at the frontier facing a trade-off between efficiency and equity, and countries inside the frontier having the possibility of moving closer to the frontier and thus make improvements in both efficiency and equity.

Estimates of the best practice frontier show that the above reasoning is important in interpreting cross-country evidence. The best practice countries do display a trade-off between efficiency and equity, while many countries are systematically "underperforming" being positioned well inside the best practice frontier. Sweden – together with Switzerland, USA, the Netherlands and Denmark –

has consistently been among the best practice countries. This is not implying that all policies are "optimal" and that there is no room for improvements, but it shows that there are no easy solutions, and further improvements would have to be carefully designed given possible imperfections or market failures.

The theoretical literature points to various mechanisms through which inequality and economic performance may be positively or negatively correlated. Incentive structures are associated with some forms of inequality conducive for economic performance. Oppositely, inequality can also have negative effects on economic performance, especially in the presence of market failures. Breach of equality of opportunities creating barriers for education is particularly problematic. The barrier can be financial or social, creating a social gradient where educational opportunities are better for children with educated and/or high-income parents, while children with less educated and/or low-income parents have less favourable opportunities. Such barriers imply that the human capital potential of the population is not used in full. In this situation inequality is associated with less human capital and thus a worse overall economic performance.

The consequences of rising inequality are not only economic, but also depend on the political responses, which in turn hinge on whether the particular changes are considered fair or unfair. Since inequality has been rising without policy initiatives to counteract it, and in some cases policy changes have even contributed to increasing inequality, it may be concluded that revealed political preferences show that inequality is not a political problem. This conclusion is too hasty for several reasons.

Firstly, redistributive policies may have become more costly, not least due to globalization making it easier to relocate production and factors of production across countries. If so, more inequality has to be accepted, even for unchanged political preferences. However, the empirical support for this view is not strong. Welfare arrangements are rather persistent across countries, and there is no general trend in the direction of a race-to-the-bottom with retrenchment of welfare arrangements. While country interdependencies have surely grown, country influence on the design of social safety nets, taxation systems etc. remains large. It is too simple a view that "competitiveness" only depends on taxes or other simple aggregate measures;

what these taxes are financing must be taken into account. Notably, the Nordic countries have been among the best economic performers among OECD countries despite having extended welfare arrangements.

Secondly, those facing the negative consequences of increasing inequality may not have a sufficiently strong political voice, either because the costs of inequality fall on a small subset of the population or because the winners have captured the political process. Political unrest and populist tendencies in some countries may be interpreted in this perspective.

Thirdly, and related, the costs of rising inequality may evolve gradually and thus be given insufficient weight in the political process until it has reached some critical level or even reached a point of no return. The costs of inequality may go beyond the narrow economic consequences to effects on social cohesion, trust in institutions etc.

What can be done to make growth more inclusive, i.e. to reduce the unfair sources of inequality? The answer basically falls in two parts: equality of opportunities and insurance/redistribution.

Breach of equality of opportunity is a key channel through which inequality can have negative effects on economic performance. In this context education plays a particularly important role. Equal access to education is not only a matter of formal access and financing possibilities (e.g. tax-financed education), it also involves social barriers. Measures to reduce social barriers include early schooling, but also more broad family-oriented policies. Improved access to housing and prevention of segregation of the population in neighbourhoods are also important elements. Policies to ensure adequate education involve both a supply and a demand side. The supply side is concerned with the financing of education and living costs. In the Nordic context education is tax-financed, and study grants/loans ease the financial constraints for education. The demand side includes the motivation and support to undertake education, but also the economic incentive to receive education. The latter refers not only to the level of education, but also the specialization, including whether educational choices are guided by the "consumption" value of education or the "investment" value in relation to labour market options. In a Nordic context these aspects are challenging since tax-financing of education also implies high tax

rates, which in combination with a compressed wage structure may reduce educational incentives or induce distortions between the "consumption" and "investment" value of education.

Structural changes make insurance mechanisms important. Education is about setting the initial conditions right, but various events can influence later options and outcomes for the individual. Structural changes may have large effects on the realized return to human capital and may even in some cases make education and experience obsolete. Structural changes produce both winners and losers, and while the winners in principle can compensate the losers, it does not necessarily happen. Potential compensation of losers takes place via the income support to those without a job and the ability to adjust in the labour market. For the latter, labour market policies (including life-long learning) are crucial, but also the design of the educational system is important. Recent research shows that among individuals with a professional education, those with a more general-based education rather than a more specialized stay on longer in the labour market. More broad-based education thus provides more resilience to changes in the labour market compared to educations tightly designed to match current job options. The difficult part is not to provide income support, but to prevent it from developing into permanent support. This raises a number of issues in relation to the design of the social safety net which are beyond the scope of this report.

Sweden is among the countries having experienced the largest increase in income inequality among OECD countries over the last couple of decades. The increase in inequality holds whether the Gini coefficient or decile ratios are considered. However, considering this increase in inequality in more detail, there are some notable differences to most other countries.

Across the entire income distribution, real incomes have grown, although not at the same rate, and hence the increase in income inequality. In contrast to many other countries, developments in the labour market are not the prime reason for increasing income inequality. Wage dispersion has remained unchanged since the turn of the century, and employment rates are generally high, although there are challenges for low skilled and immigrants. The Swedish labour market has thus not to the same extent been challenged by technological developments, globalization or other factors as in

many other countries. It is also noteworthy that the labour share (total wage income as a share of GDP) has remained roughly constant over the last couple of decades.

That being said, equality of opportunity is challenged, and social background does play a role, despite an extended welfare state. While social background factors play a smaller role than in many other countries, it is striking that they still play a large role in a mature welfare state. This is a problematic part of inequality, having negative effects on both economic performance and social cohesion.

The increases in inequality can be attributed to demographic factors, capital income and redistributive policies. An ageing population and more one-person households have contributed to increased income inequality. Capital income has increased and contributes to widening income differences since capital income primarily goes to high-income households. Finally, the social safety net has become less redistributive as a consequence of political decisions to adjust benefits by less than wage increases and to tighten eligibility for benefits. The political motivation for this change has been to improve work incentives. The effects of such policies depend critically on whether non-employment arises from the demand side due to inadequate qualifications given prevailing wage levels or from the supply side due to too weak economic incentives to be in work. For the former group lower benefits may result in marginalization, while the latter responds to the incentives and thereby attain labour market attachment.

The larger role of capital income is due to wealth accumulation and the return to capital (including capital gains on private housing). Moreover, capital income is generally more leniently taxed than labour income. In the perspective of the Nordic welfare model, it is important to note that direct and indirect taxation of labour income (income taxes, social contributions and consumption taxes) constitutes the predominant financing base, and taxation of capital income contributes 5-6% of total tax revenue. Capital income is taxed more leniently than earned income due to the dual income tax system. On the one hand, this makes the tax system more robust in a globalized world with free capital mobility, but, on the other hand, it contributes to widening income inequality (which can also be a driver for some income shifting taking out income as capital rather than labour income). However, the mobility argument does not

apply to property (housing), which is a so-called immobile tax base. Housing is leniently taxed in Sweden, although there are both efficiency and distributional arguments for a higher level of taxation. The low taxation of housing, wealth, bequest etc. may be interpreted either as showing that these sources of income/wealth inequality are not creating unfair inequality, or as indicating some political barriers to reforms in this area.

In the perspective of the Nordic welfare model, Sweden still stands out by having achieved both high per capita income (ranked 8 among 38 OECD countries in 2017) and low income inequality (ranked 9 among OECD countries). In comparative perspective, Sweden is among the best practice countries in the efficiency-equity space. The employment rate is high, and there are few working poor. Although the model is challenged by low employment rates for low skilled and immigrants, it still stands as an example of "inclusive growth". Developments in recent years have primarily been driven by policy choices rather than race-to-the-bottom mechanisms. While society is continuously changing and policies have to be adapted to such changes, recent developments show that policy choices are possible, and that the welfare state can be maintained - if it has political support.

Sammanfattning

Den ökade inkomstspridningen har orsakat en diskussion om de bakomliggande orsakerna till utvecklingen, konsekvenserna för ekonomins funktionssätt och för den sociala sammanhållningen mer allmänt. Den centrala frågan i denna debatt är om inkomstspridning är positivt eller negativt för den ekonomiska utvecklingen. Även om det är enkelt att dra slutsatser från observerade samvariationer av inkomstspridning och olika mått på ekonomisk tillväxt, är sambandet komplext. Ekonomins funktionssätt påverkar inkomstspridningen, men inkomstspridningen påverkar också ekonomins funktionssätt, och denna ömsesidiga påverkan påverkas i sin tur ständigt av chocker och förändringar i den förda politiken. Komplexiteten innebär att man bör undvika alltför tvärsäkra slutsatser om hur inkomstspridning och ekonomisk utveckling påverkar varandra.

Denna bilaga innehåller en omfattande genomgång av litteraturen om sambandet mellan jämlikhet och ekonomisk tillväxt, och tar sin utgångspunkt i en diskussion om begreppen rättvisa i allmänhet och lika möjligheter i synnerhet, samt hur dessa begrepp fångas i de vanligaste måtten på inkomstspridning. Detta följs av en genomgång av olika aspekter av ojämlikhet i OECD-länderna, med ett särskilt fokus på inkomster och social rörlighet och mått på förekomsten av (eller frånvaron av) lika möjligheter. Särskild uppmärksamhet ägnas empiriska studier om hur inkomstspridning påverkar den ekonomiska utvecklingen och om det finns en motsättning mellan ekonomisk utveckling (effektivitet) och (o)jämlikhet. Därefter diskuteras teoretiska argument om hur strukturella förändringar påverkar den ekonomiska utvecklingen, och inkomstspridning, och genom vilka kanaler inkomstspridning kan påverka den ekonomiska utvecklingen. Slutligen beaktas de ekonomisk-politiskt konsekvenserna av en ökad inkomstspridning. I sammanfattningen redogörs först för

de viktigaste punkterna och därefter för situationen och utvecklingen i Sverige.

Debatten om inkomstspridning handlar om de skillnader som anses vara problematiska och orättfärdiga. Alla inkomstskillnader är dock inte problematiska och orättfärdiga, men det är svårt att skilja mellan vad som kan vara rättfärdiga respektive orättfärdiga skillnader, både begreppsmässigt och empiriskt. Uppdelningen är dock nödvändig i diskussionen om hur inkomstspridningen påverkar den ekonomiska utvecklingen och samhället i ett vidare perspektiv samt om adekvata politiska åtgärder.

Debatten om ojämlikhet brukar fokusera på skillnader i inkomster – vanligtvis disponibel inkomst– för att åskådliggöra skillnader i levnadsstandard. Årsinkomsten relaterar till, men är inte ett fullständigt mått på, levnadsstandarden på grund av t.ex. skillnader i familjesituation, sparande (förmögenhet) och behov (hälsa). Det finns många orsaker till skillnaderna i disponibel inkomst inom befolkningen. Vissa av dessa ligger inom medan andra ligger utanför den enskildes kontroll. Uppfattningen om vad som ligger inom eller utanför den enskildes kontroll är nära kopplad till uppfattningen om rättvisa. Många anser att skillnader som uppstår till följd av val (t.ex. hårt arbete) är motiverade, om valmöjligheterna är lika för alla, medan skillnader som uppstår till följd av faktorer som ligger utanför den enskildes kontroll (t.ex. förlorad arbetsförmåga) eller avsaknad av valmöjligheter ses som problematiska och orättvisa. Vad som är rättfärdigt kan inte besvaras kategoriskt och är avhängigt individuella åsikter och attityder i ett givet socialt sammanhang. Lika möjligheter är dock ett värde som delas av de flesta, även om det tolkas på olika sätt.

Det vanligaste måttet på inkomstspridning med Gini-koefficienten, som mäter den observerade inkomstfördelningens avvikelse från en fullständigt jämn inkomstfördelning (där alla har samma inkomst). Detta är dock inte en självklar referenspunkt, eftersom till exempel åldersskillnader automatiskt skulle ge upphov till inkomstspridning i befolkningen även i det hypotetiska fallet där alla har samma inkomst vid en given ålder. Ännu viktigare är att detta - i likhet med andra mått på inkomstskillnader - inte skiljer på problematiska och oproblematiska (orättfärdiga och rättfärdiga) orsaker till inkomstspridningen. Detta är ett viktigt förbehåll eftersom det i den politiska debatten läggs stor vikt vid en förändrad

Gini-koefficient. Det innebär inte att sådana mått är meningslösa, men de bör tolkas med försiktighet.

För att mäta inkomstmobilitet och social mobilitet är det nödvändigt att följa inkomstutvecklingen på individnivå. Är de enskilda individerna fastlåsta i en viss position i inkomstfördelningen, eller finns det en social mobilitet, där de har möjlighet att byta position i fördelningen? Detta rör också intergenerationell mobilitet, det vill säga i vilken utsträckning föräldrarnas position i inkomstfördelningen påverkar barnens position. Sådana mått på mobilitetsmått fångar centrala aspekter av vilka möjligheter den enskilda individen har att påverka sin situation. Det finns även metoder som ger mer direkta mått på lika möjligheter, men dessa är omstridda eftersom de utgår från ett antal antaganden.

Inkomstspridningen har ökat i de flesta OECD-länder oavsett mätmetod. Inkomstspridningen ökar eftersom inkomsterna i botten av fördelningen släpar efter (och i vissa fall utvecklats negativt), samtidigt som inkomsterna i toppen av fördelningen drar ifrån i förhållande till medelinkomsten. I många länder orsakas utvecklingen av förändringar på arbetsmarknaden, där lönespridningen ökat och där skillnaden i sysselsättning ökat mellan olika grupper. Utvecklingen har till stor del sin grund i ny teknik och globalisering (i samspel med arbetsmarknadsstrukturen), men även kapitalinkomster och politiska förändringar har betydelse. Den sociala mobiliteten stagnerar eller minskar. Det har blivit svårare för de med låga inkomster att röra sig uppåt i inkomstfördelningen, samtidigt som de med höga inkomster i högre utsträckning stannar kvar i toppen. Utvecklingen av den intergenerationella mobiliteten går i samma riktning. Inkomstskillnader kan vara mer acceptabla om de skapar incitament och möjligheter för den enskilda individen att förbättra sin situation genom eget arbete. Den intergenerationella mobiliteten är dock inte högre i länder med större inkomstspridning. I detta sammanhang utmärker sig de nordiska länderna genom att ha både liten inkomstspridning och en relativt hög intergenerationell mobilitet.

Under senare tid har flera studier som visat på en negativ samvariation mellan utvecklingen av inkomstspridningen och olika mått på ekonomisk utveckling, t.ex. ekonomisk tillväxt, rönt stort intresse, vilket lett till att uppfattningen att större inkomstspridning har en negativ inverkan på ekonomiska tillväxt blivit vanligare. Även

om detta kan stämma i vissa fall är sambandet inte allmängiltigt eller utan villkor. En närmare granskning av de empiriska bevisen visar att samvariationen mellan inkomstspridning och ekonomisk tillväxt beror på vilken tidsperiod som studeras och vilka länder som ingår i de olika studierna. Det är långt ifrån självklart vilka slutsatser det går att dra av sådana samvariationer. Enskilda länder kan påverkas av olika politiska förändringar och ekonomiska chocker (vilket kan påverka både inkomstspridning och den ekonomiska utvecklingen i enskilda länder och kan få dessa indikatorer att röra sig i samma eller olika riktningar). Även institutionella, politiska och historiska faktorer kan innebära att förutsättningarna i olika länder skiljer sig åt.

Vad gäller politikens påverkan är en grundläggande slutsats inom ekonomisk teori att det finns en avvägning mellan effektivitet (ekonomisk tillväxt) och jämlikhet (inkomstspridning). Avvägningen beror på att för att omfördela ekonomiska resurser från höginkomsttagare till låginkomsttagare krävs insatser i form av t.ex. skatter och transfereringar, vilket snedvrider ekonomiska incitament och leder till lägre effektivitet. Det är viktigt att notera att avvägningen gäller även när offentliga åtgärder minskar effekten av marknadsmisslyckanden och därmed är motiverade av effektivitetsskäl. Åtgärder kan i sådana fall förbättra både effektivitet och jämlikhet.

Det kan verka som om de empiriska beläggen för att inkomstspridning är negativt korrelerat med t.ex. ekonomisk tillväxt omkullkastar slutsatsen om en avvägning mellan effektivitet och jämlikhet i ekonomisk teori. Men innan det går att dra denna slutsats är det viktigt att förstå de underliggande antaganden som ligger till grund för denna teori. Teorin förutsätter att politiken är optimalt utformad utifrån de politiska målsättningar att antingen säkerställa högsta möjliga effektivitet för en given nivå av jämlikhet, eller största möjliga jämlikhet (lägst inkomstspridning) för en given effektivitetsnivå, utifrån de beslutsmöjligheter som är tillgängliga för de beslutsfattarna. Det är långt ifrån självklart att politiska processer i verkligen leder till detta resultat eftersom politiska institutioner, intressegrupper som söker fördelar för den egna gruppen, och många andra faktorer kan leda till att den förda politiken inte är optimal utifrån de uppställda målen. Empiriskt är det därför viktigt att skilja mellan länder som för en politik som överensstämmer med bästa

praxis och därmed står inför en avvägning mellan effektivitet och jämlikhet, och länder där det finns möjligheter att förbättra båda måtten.

Beräkningar av bästa praxis visar att resonemanget ovan är viktigt för att tolka resultat från studier som analyserar utvecklingen i flera länder. Medan det i bästa praxis-länderna finns en avvägning mellan effektivitet och jämlikhet, finns inte denna avvägning på samma sätt i länder som inte tillhör denna grupp. Sverige – tillsammans med Schweiz, USA, Nederländerna och Danmark – har genomgående varit bland bästa praxis-länderna. Detta innebär inte att all politik är "optimal" och att det inte finns utrymme för förbättringar, men det visar att det inte finns några enkla lösningar, och att ytterligare förbättringar måste utformas noggrant med hänsyn till eventuella brister eller marknadsmisslyckanden.

Den teoretiska litteraturen pekar på olika mekanismer genom vilka jämlikhet och ekonomisk utveckling kan samvariera, positivt eller negativt. Incitamentsstrukturer är förknippade med vissa former av ojämlikhet som främjar den ekonomiska utvecklingen. Å andra sidan kan ojämlikhet även inverka negativt på den ekonomiska utvecklingen, särskilt i samband med marknadsmisslyckanden. Det är särskilt problematiskt när möjligheten att utbilda sig inte är lika för alla. Dessa hinder kan vara ekonomiska eller sociala och skapar en social gradient där utbildningsmöjligheterna är bättre för barn till föräldrar med högre utbildning och/eller hög inkomst, medan möjligheterna för barn till föräldrar med lägre utbildning och/eller låg inkomst är mindre gynnsamma. Sådana hinder innebär att befolkningens humankapitalpotential inte utnyttjas fullt ut. I denna situation är ojämlikhet knutet till ett mindre humankapital i befolkningen och därmed en allmänt sett sämre ekonomisk utveckling.

Konsekvenserna av en ökande inkomstspridning är inte bara ekonomiska utan också beroende på den politiska responsen, vilket i sin tur hänger på om ändringarna i fråga anses rättfärdiga eller orättfärdiga. Eftersom inkomstspridning har ökat utan verkningsbara politiska motåtgärder, i vissa fall har politiska förändringar till och med bidragit till att öka inkomstspridning, kan man dra slutsatsen att de uppdagade politiska preferenserna visar att ojämlikhet inte är ett politiskt problem. Denna slutsats är dock förhastad av flera anledningar.

För det första kan omfördelningspolitiken ha blivit mer kostsam, inte minst på grund av att globaliseringen förenklar flytt av produktion och produktionsfaktorer mellan länder. Om så är fallet kan ökad ojämlikhet vara tvungen att accepteras, även om de politiska preferenserna är oförändrade. Det finns dock inget starkt empiriskt stöd för att så är fallet. Välfärdssystemen i olika länder är fortfarande ganska olika varandra, och det finns ingen allmän trend mot en underbudspolitik med nedskärningar i välfärdssystemen. Även om länderna är ömsesidigt beroende av varandra idag är de enskilda ländernas inflytande på utformningen av sociala skyddsnät, skattesystem osv. fortsatt stort. Det är alltför förenklat att definiera "konkurrensförmågan" som t.ex. skattenivån eller något annat aggregerat mått, man måste även beakta vad dessa skatter finansierar. Det är slående att de nordiska länderna, trots omfattande välfärdssystem, ekonomiskt sett varit bland de mest framgångsrika länderna inom OECD.

För det andra kan de som upplever de negativa konsekvenserna av ökad ojämlikhet ha svårt att göra sin röst hörd i politiken, antingen på grund av att de är en liten del av befolkningen, eller på grund av att den politiska processen har tagits över av vinnarna. Politisk turbulens och populistiska strömningar i vissa länder kan tolkas mot denna bakgrund.

För det tredje kan kostnaderna för en ökad ojämlikhet växa gradvis och därigenom inte beaktas tillräckligt i den politiska processen fram till att den når en kritisk nivå eller till och med en nivå bortom det inte finns någon återvändo. Kostnaderna för ojämlikhet behöver inte begränsas till ekonomiska konsekvenser utan även innefatta social sammanhållning, förtroende för institutioner osv.

Vad kan göras för att skapa en mer inkluderande tillväxt, dvs. minska de orättfärdiga orsakerna till inkomstskillnader? Svaret kan delas upp i två delar; lika möjligheter och försäkringar/omfördelning.

Avsaknaden av lika möjligheter för alla är en viktig kanal genom vilken ojämlikhet kan inverka negativt på den ekonomiska utvecklingen. I detta sammanhang spelar utbildning en särskilt viktig roll. Lika tillgång till utbildning är inte bara en fråga om formell tillgång och möjligheter till finansiering (t.ex. skattefinansierad utbildning), utan inbegriper även sociala hinder. Tidig skolstart är en

åtgärd för att minska de sociala hindren, men det kan även handla om en mer omfattande familjeorienterad politik. Även tillgång till bostäder och att förebygga segregationen är viktiga inslag. En politik för att säkerställa adekvata utbildningar har både en utbuds- och efterfrågesida. Utbudssidan handlar om att finansiera utbildnings- och levnadskostnader. I en nordisk kontext handlar detta om att utbildningen är skattefinansierad, och studiebidrag/studielån minskar den ekonomiska hindren för utbildning. Efterfrågesidan inbegriper motivation till och vägledning om utbildning, men även ekonomiska incitament för att utbilda sig. Det senare gäller inte bara utbildnings- nivå, utan även inriktning, inbegripet huruvida utbildningsval styrs av utbildningens "konsumtionsvärde" eller "investeringsvärde" i förhållande till möjligheterna på arbetsmarknaden. I ett nordiskt perspektiv innebär detta en utmaning, eftersom en skattefinansierad utbildning underförstått också medför höga skatter, vilka, i kombination med relativt små löneskillnader, kan minska incitamen- ten till utbildning eller leda till en snedvridning mellan utbildningens "konsumtionsvärde" och "investeringsvärde".

Strukturella förändringar innebär att försäkringsmekanismer är viktiga. Utbildning ger grundläggande förutsättningar att klara sig i arbetslivet, men olika händelser kan påverka möjligheter och utfall för den enskilde individen. Strukturella förändringar kan ha stor inverkan på avkastningen av humankapitalet och i vissa fall till och med leda till att utbildning och erfarenhet blir förlegade. Strukturella förändringar skapar både vinnare och förlorare, och även om vinnarna i princip kan kompensera förlorarna innebär detta inte alltid att så blir fallet. Denna kompensationen kan bestå av inkomststöd till arbetslösa och möjlighet till omskolning. För det senare är arbetsmarknadspolitiken (inklusive livslångt lärande) avgörande, men även utbildningssystemets utformning är viktig. Aktuell forskning visar att bland personer med en yrkesutbildning stannar de med en mer allmän utbildning kvar längre på arbets- marknaden än de med en mer specialiserad utbildning. En bredare utbildning ger således bättre möjlighet att anpassa sig till för- ändringar på arbetsmarknaden, jämfört med smalare utbildningar som är utformade för att matcha yrken på den rådande arbets- marknaden. Svårigheten ligger inte i att ge inkomststöd, utan att undvika att de utvecklas till permanenta stöd. Detta ger upphov till

ett antal frågor om utformningen av det sociala skyddsnätet, som dock ligger utanför ramen för denna rapport.

Sverige är ett av de OECD-länder där inkomstspridningen ökat mest under de senaste årtiondena, oavsett mätmetod. Vid en närmare granskning av den ökade inkomstspridningen framträder dock några påfallande skillnader gentemot de flesta andra länder.

Inkomsterna har ökat över hela inkomstfördelningen, om än inte i samma takt, och därigenom har inkomstspridningen ökat. Till skillnad från många andra länder är utvecklingen på arbetsmarknaden inte den främsta orsaken till den ökade inkomstspridningen. Lönespridningen har varit oförändrad sedan sekelskiftet och sysselsättningsgraden är i allmänhet hög, även om det finns utmaningar för lågutbildade och invandrare. Den svenska arbetsmarknaden har i denna mening således inte genomgått samma förändring på grund av den tekniska utvecklingen, globaliseringen och andra faktorer som i många andra länder. Det är också värt att notera att löneandelen (den totala löneinkomsten som en del av BNP) varit relativt konstant under de senaste årtiondena.

Inte desto mindre har inte alla samma möjligheter, och trots en omfattande välfärdsstat har social bakgrund betydelse. Även om faktorer som social bakgrund har mindre betydelse än i många andra länder, är det slående att de fortfarande är av betydelse i en utvecklad välfärdsstat. Detta är en problematisk del av ojämlikheten som har en negativ inverkan på både den ekonomiska utvecklingen och den sociala sammanhållningen.

Den ökade inkomstspridningen kan till stor del tillskrivas förändringar i demografiska faktorer, kapitalinkomster och fördelningspolitiken. En åldrande befolkning och fler en-personshushåll har bidragit till att öka inkomstspridningen. Kapitalinkomsterna har ökat och bidrar till en större inkomstspridning, eftersom kapitalinkomster i huvudsak går till höginkomsthushåll. Slutligen har det sociala skyddsnätet blivit mindre omfördelande som en konsekvens av förmånerna inte anpassas efter löneökningarna och politiska beslut som har skärpt villkoren för att ha rätt till förmånerna. Det politiska motivet till denna förändring har varit att öka incitamenten till arbete. Konsekvenserna av en sådan politik beror på om arbetslösheten härrör sig från efterfrågesidan, som en följd av otillräcklig kompetens i arbetskraften i förhållande till rådande lönenivåer, eller från utbudssidan, som en följd av alltför svaga ekonomiska

incitament till arbete. För den förra gruppen kan lägre förmåner leda till marginalisering, medan den senare reagerar på incitamenten och tar sig ut på arbetsmarknaden.

Kapitalinkomsternas ökade betydelse beror på att den samlade förmögenheten växer och på kapitalavkastningen (inklusive kapital- vinster för privatbostäder). Kapitalinkomster beskattas dessutom i allmänhet lägre än inkomst av arbete. I den nordiska välfärds- modellen är det viktigt att notera att den huvudsakliga finansieringen av offentlig sektor sker genom direkt och indirekt beskattning av arbetsinkomster (inkomstskatt, sociala avgifter och konsumtions- skatt), och att beskattning av kapitalinkomst endast utgör 5–6 % av de totala skatteintäkterna. Kapitalinkomster beskattas inte lika mycket som arbetsinkomster på grund av det duala inkomstskatte- systemet. Å ena sidan gör detta skattesystemet mer robust i en globaliserad värld där kapital kan röra sig fritt, men å andra sidan bidrar det till att öka inkomstspridningen (vilket också kan vara orsak till att det sker en viss inkomstomvandling där inkomst tas ut som inkomst av kapital snarare än som inkomst av arbete). Argumentet om rörlighet kan dock inte tillämpas för fastigheter (bostäder), vilket är en så kallad orörlig skattebas. Skatten på bostäder är relativt låg i Sverige, trots att det finns både effektivitets- och omfördelningsargument för en högre skattenivå. Den låga beskattningen av bostäder, förmögenheter, arv osv. kan ses antingen som ett tecken på att dessa källor till inkomst-/förmögenhets- spridning inte ses som en orättfärdig källa till ojämlikhet, eller på att det finns politiska hinder för reformer på detta område.

I ett jämförande perspektiv utmärker sig Sverige fortfarande genom att ha uppnått både hög inkomst per capita (rankat 8 av 38 OECD-länder 2017) och låg inkomstspridning (rankat 9 bland OECD-länderna). Sverige ett av de mest framgångsrika länderna vad gäller förhållandet effektivitet-rättvisa. Sysselsättningsgraden är hög och det finns få arbetande fattiga. Även om modellen utmanas av låg sysselsättningsgrad bland lågutbildade och invandrare utgör den fortfarande ett exempel på "inkluderande tillväxt". Utvecklingen under de senaste åren har främst drivits av politiska beslut snarare än av underbudspolitik. Samhället förändras kontinuerligt och politi- ken måste anpassa sig till detta, men utvecklingen under den senaste tiden visar att det går att göra politiska val, och att välfärdsstaten kan upprätthållas – om det finns ett politiskt stöd för den.

1   Introduction[1]

Inequality has increased in most OECD countries over the last decades. The causes and consequences of this development are debated, not least how inequality affects economic performance. Is inequality good or bad for economic performance? A question with obvious political implications, but what can be said about it in light of recent developments and theoretical insights?

The key drivers behind increasing inequality are new technologies and globalization. But in historical perspective such changes are not new. Is this time different with technological developments and globalization taking new directions? Or are other forces at play? Demographic changes – ageing and migration – have been experienced historically but are new to the economic, social and political structures developed during the 20th century. Societal and political changes more generally play a role also.

Is the consequence of these developments for inequality in part due to policy failures? Has the need for adjustment and restructuring been underestimated and the ability to cope with changes been overestimated? Globalization is not only a result of technological changes (lower transport/information costs) but also of political decisions. Economic and political integration has – not least among European countries – been taken to induce a process of convergence to higher income levels to the benefit of all. At a global level poverty has been reduced and the income distribution become more equal, but this does not apply at a country level. This is particular striking across European countries. While some new EU countries on the scene have been able to catch-up, differences between "old" countries have persisted and even in some cases widened. At the same

time, differences within countries have in many countries increased. Developments have not "lifted all boats", and this has raised doubts on the entire process. It is well established that new technologies, globalization etc. are associated with potential aggregate gains, but adjustments are a precondition to reap these benefits. This is a process involving both gainers and losers. In theory, the gainers can compensate the losers, but it does not happen automatically. Moreover, the need for adjustment is very country-specific, depending among others on industry and labour market structures, welfare arrangements etc. It is fair to say that the adjustment problems were generally underestimated.

It may be questioned whether these developments are (unintended) side-effects of the strong focus on incentives since the 1980s and the corresponding downplay of the role of insurance/redistribution. In short, insurance mechanisms were reduced at a time when they were more needed. A notable example of the change in policy focus is the OECD's job strategy. While the strategy launched in the 1990s (OECD (1994)) stressed incentives, the recent strategy (OECD (2018b)) stresses the importance of insurance as well as social inclusion and cohesion etc. as important for economic performance. Similarly, developments in the EU are viewed as suffering from a social deficit, and a social pillar has been launched to rectify this; see European Commission (2016). The economics profession is partly responsible for these developments, since research has had a bias towards studying the incentive effects of e.g. the social safety net, unemployment benefits etc.

Why is inequality a problem? No smoke without a fire - the extensive focus and debate on inequality suggest that it is a problem. But what exactly is the problem? There is nothing new in the fact that societal changes produce winners and losers. However, earlier – perhaps clearest in the 1960s – gains were more general and improvements in living standards more widespread. Economic growth was associated with declining inequality, but now it seems to be the opposite. This is perhaps most clearly seen in the US with declining real incomes for broad groups; see OECD (2018a). But other countries have also seen widening wage dispersion, and there have been large increases in top incomes, while incomes at the bottom have grown less rapidly or even declined in real terms. The present concern is that the balance has changed, since the new

opportunities produce a clearer divide between winners and losers at the same time as welfare arrangements providing insurance/cushion may be under economic and political pressure. Issues of fairness and justice are core to the discussion, and there is a concern that social balance and cohesion are at stake. Increasing perception of unfair developments and lack of opportunities frame political views and depreciate trust in policies and institutions. This may breed populist policies, leading to more fragmented societies and releasing a centripetal force where economic inequality causes economic and political uncertainty, which then reinforces the problems.

It may be asked why increasing inequality is a problem if it is largely a result of changing market prices. Is this an economic problem, or a political problem only? This perspective is too narrow and assumes that the market mechanism is perfect. If there are inequalities of opportunities, the case is less simple. More inequality may make opportunities less equal, and this may in turn hamper economic performance. The prime channel is through education and health, but also wider segregation of neighbourhoods. Through such channels, economic performance depends on distribution/inequality, but in a complicated way to be discussed extensively below.

There is an extensive discussion of the nexus between inequality and economic performance. Simplifying, two contrasting views can be identified. One viewpoint is that inequality is conducive, or even necessary, for economic development and growth. Inequalities are inevitable, since agents make different choices, and they provide incentives to effort and entrepreneurship. Moreover, savings and thus capital accumulation are strengthened, since high-income groups have higher saving rates than low-income groups. Increasing income for some groups is taken to trickle-down improving the living standards of the entire population. Another viewpoint is that inequality hampers economic performance. Inequality may, via economic (the ability to finance) and social (social background factors) mechanisms, have negative effects e.g. on education and thus lead to a suboptimal use of the human capital potential in the population. This is detrimental to employment and growth. A further political-economy argument is that inequality creates political support for redistributive policies distorting economic incentives and thus hampering economic performance. These different viewpoints show that many effects are at play; the under-

lying mechanisms are complicated, and no simple statements can be made on how inequality and economic performance are interrelated.

Adding to the complexity of this discussion, the interplay between inequality and economic performance unfolds over time. Along such trajectories, policy responses may further complicate matters. Does increasing inequality release forces tending to increase inequality further, or will there be dampening effects? What are the differences between the short-run and the more permanent effects? It is easy to see how changes may affect particular individuals, causing their human capital to depreciate in value, possibly becoming worthless. They could face dire consequences. However, what effects would this have on future generations? Will new cohorts respond to the changed incentive structure (those with specialized education/qualifications may be adversely affected, but no youth would acquire this obsolete education) and acquire human capital which is in demand - the incentive view. While not downplaying the serious short-run consequences, one could argue that there would be no long-run consequences. This argument is straightforward in a world of equal opportunities and perfect (capital) markets. In such a setting individuals can insure themselves against declines in the value of human capital, and new cohorts can invest in human capital in demand. Reality is different; markets are not perfect, and economic and social conditions have important implications across generations. The interesting question is whether these disequilibrating forces are stronger or weaker today than in the past. Developments in labour markets may be a reason for more specialization and hence less adaptability and higher vulnerability to shocks than in the past.

In sum, inequality is affected by many drivers (technology, globalization, demographic etc.), and inequality in turn affects not only economic performance but also society more broadly and may trigger policy responses. These interdependencies are multifaceted and complicated and need to be considered seriously. Simple answers to the question of how inequality affects economic performance should not be expected.

While the discussion on the causes and consequences of inequality is global, it has a specific Swedish or Nordic perspective. The Nordic countries stand out in comparative perspective due to the ability to reconcile a strong economic performance (e.g. high per

capita income) with a low level of inequality and an extended welfare state. International debates highlight Sweden and the other Nordic countries as examples of inclusive growth. However, inequality is also increasing in the Nordic countries, although still remaining low in comparative terms. These developments prompt the question whether it is becoming more difficult to reconcile a strong economic performance with a relatively equal distribution of income and an extended welfare state. Is there anything suggesting that the Nordic model is better apt to cope with these changes, or is it more vulnerable?

This report surveys the economics literature on the interaction between inequality and economic performance. To set the scene, Section 2 starts by discussing the concept of inequality, and considers the question whether all forms of inequality are a problem. The developments in the income distribution and other key variables are reviewed in Section 3, while Section 4 turns to the empirical evidence on how economic performance (growth) is related to inequality. Theoretical explanations of why inequality may be good or bad for economic performance are discussed in Section 5, and Section 6 discusses inequality from a political economy perspective. Section 7 offers a brief discussion of policy implications, and Section 8 gives a few concluding remarks.

2   Inequality

Inequality is all about differences – differences in income, education, health or other essential elements of well-being and welfare. How should we think of such differences? Are all differences and thus any type of inequality a problem? Does the answer depend on the cause of the differences? In particular, whether the individual has an influence on the outcome? Is inequality a universal concept, or is it dependent on the particular social contexts and thus possible differences across societies? Crucial questions which have to be addressed both for measurement and to clarify when and how inequality is a problem calling for policy action. We start off by briefly discussing inequality in the perspective of theories of justice, and then gives a brief account of the traditional treatment in economics.

Inequality is intimately related to notions of equity and fairness. The various aspects associated with these concepts pop up recurrently in discussions and are important for the views people hold and thus for policy formation. A large philosophical literature addresses these issues, and it is beyond the scope of this report to provide a detailed account, rather a few essential issues are highlighted; see e.g. Konow (2003) for an overview.

2.1   Notions of fairness and equity

Basic concepts and ideas on fairness and equity can be explained by the aid of Figure 2.1, illustrating the key factors affecting the individual situation, choices, outcomes and achievements. Each individual (family or group) is endowed with some initial conditions (endowments) which include individual characteristics (family back-

ground, genes, etc.) and the society into which one is born[2] and the implied possibility set of options in life. The individual makes choices (e.g. education, work, savings etc.) and exerts effort (e.g. working hours). The outcome depends on these factors and the state of nature (risk). The endowments and states of nature are exogenous to the individual and are also termed *circumstances* for the individual. The outcomes or achievements/consequences are jobs, income, consumption etc., all of which is related to the ability to fulfil various needs and thus the well-being/happiness/utility of the individual.

Figure 2.1   Fairness and equity
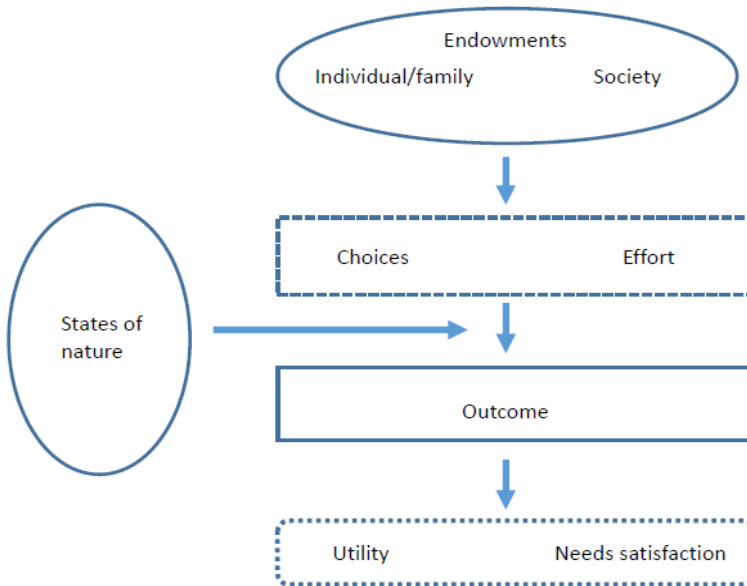
Various theories of justice emphasize different elements in the "decision tree of life" captured by Figure 2.1. Some theories focus on the end-state in the form of fulfilment of needs and attained welfare/utility. A dominant line of thinking is *Egalitarianism*, associating equality with equal fulfilment of needs (outcome/results). In e.g. Marxism it is the ultimate aim to ensure that all can satisfy needs to the same extent. Related is the so-called "needs

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[2] By migrating, this can partially be changed, but there are still some factors depending on the country of birth which are exogenous to the individual. Moreover, not all have this option.

principle", according to which all basic needs should be fulfilled to the same extent for everyone.

The standard approach in economics takes outset in individual utilities (welfare) – the welfare approach. This rests on two fundamental assumptions, namely that individual decisions and utilities are respected – "the individual knows best" - and that only utility matters. This is a consequentialist approach; the only criterion on which to judge the situation is the outcome or achievements as captured by the utilities of individuals. The process as such does not matter; only the outcome in terms of utility matters. The essence is that outcomes, and thus the need for policy intervention, should be assessed solely in terms of the utilities to individuals. *Utilitarianism* evaluates the social outcome by the sum of utilities. While this may seem a logical step from acceptance of individual utilities, it entails the crucial assumption that utilities are measurable on a cardinal scale and thus can be compared across individuals (individual utility maximization only requires utilities to be measurable on an ordinal scale). While utilitarianism is distributionally neutral[3] in the sense of weighing utilities of individuals equally (only the sum matters), redistribution is justified if it makes aggregate welfare increase. A classical textbook example is when agents have the same utility function (utility is increasing in consumption at a decreasing rate) and some are rich and some poor (high/low income). Since the rich have more income and thus consumption, they have lower marginal utility of consumption than the poor, and aggregate welfare can be increased by redistributing income from the rich to the poor. Redistribution is in this case justified on utilitarian terms.

Utilitarianism has been criticized on several grounds. The cardinality assumption is very demanding. Utilities are unobservable, and choice theory only relies on agents being able to rank (ordinal scale) different choices open to them[4], and adding such rankings impose strong assumptions. Acceptance of individual choices or utilities is not unproblematic due both to informational and behavioural

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[3] In some formulations interdependencies in utilities between individuals are allowed; i.e. the utility of one person may depend on the well-being (utility) of others. In the parent-child case, it is a "narrow" form of altruism, but it can also be generalized altruism. A generalization of the Utilitarian approach is to consider the weighted average of utilities, where the weights reflect distributional preferences across individuals/groups.

[4] A preference ordering which is complete, reflexive, transitive and continuous can be represented by a utility function giving an ordinal ranking of choice options; see e.g. Varian (1970).

aspects. A growing literature is analysing behavioural aspects and how they may lead to sub-optimal decisions; see e.g. Bernheim and Taubinski (2018). Moreover, the implications in terms of (re)distribution may or may not accord with common views. The example above with rich and poor makes sense to most, but the utilitarian criterion can also justify redistribution to e.g. individuals with very expensive taste – even if they have high incomes (e.g. if they have a high marginal utility from driving expensive cars). Finally, and crucially, the process leading to the end-result in terms of utility does not matter – only the consequences in terms of utility are important.

Influential critique of Utilitarianism has been voiced by Rawls (1971), associating fairness by decisions made under the "veil of ignorance" not knowing your own position in society. That is, an impartial view not influenced by one's own position or interests. Initial endowments are considered as "morally arbitrary" and not a legitimate reason for differences across individuals. According to Rawls a just system ensures civil liberties and maximizes the provision of so-called "primary goods" - those that the citizens need as free people and as members of the society - to those who are worst off in society (the difference principle). Inequalities are thus only justified if they contribute to improve the situation of the least well-off.

Sen (1983, 2009) takes a different perspective focusing less on utilities or primary goods and more on the quality of the life the individual can achieve – the capability approach. The essence of this view can be summarized as follows:

> …the right focus is neither commodities, nor characteristics, nor utility, but something that may be called a person's capability. …the comparison of standard of living is not a comparison of utilities. So the constituent part of the standard of living is not the good, nor its characteristics, but the ability to do various things by using that good or those characteristics, and it is that ability rather than the mental reaction to that ability in the form of happiness that, in this view, reflects the standard of living. (Sen, 1983, p 160).

In Sen's view both the process and end results are important. "*A serious departure from concentrating on the means of living to the actual opportunities of living*" (Sen, 2009, p. 233). This is associated with a fierce criticism of the traditional focus solely on end-results

(consequentialism) as is in utilitarianism. Important is the distinction between *functionings and capabilities*. Functionings are states of "being and doing" such as having shelter, being well-nourished, social activities etc. This should be distinguished from the goods or commodities needed to achieve this ("cycling" versus "possessing a bike"). Capability is the set of valuable functionings that a person can actually achieve or access. Capabilities thus refer to the ability of the individual to choose the kinds of life considered valuable.

The above lines of thought focus on the process. Everybody should have equal opportunities in the choices they can make. Since various individuals will make different choices, the end-results may differ, but this is not in itself posing a problem provided that all have had the same opportunities. Differences caused by different choices and efforts under individual control are not a concern for policies (redistribution). It is important to distinguish between de jure and de facto equal opportunities. The former arises if e.g. all have equal access to schooling, the latter if various background factors (circumstances) make a real difference to the choices and options available to individuals. The following discusses equality of opportunities from a de factor perspective.

2.2   Opportunity egalitarianism

Opportunity egalitarianism makes a distinction between inequality caused by differences in circumstances beyond individual control and inequality caused by different choices/efforts under individual control. The former is considered unfair and thus ethically unjustified, while the latter is ethically legitimate; for surveys see Ferreira and Peragine (2015), Ramos and van der Gear (2016), and Roemer and Trannoy (2016). Individual responsibilities in relation to choices and effort are thus stressed. Differences arising from choices/efforts are not raising a fairness issue requiring any intervention (*reward principle*), while differences due to circumstances are ethically unjustified and should be compensated (*compensation principle*). The interesting aspect is the explicit recognition and empirical attempts at distinguishing between inequalities which are considered

fair and those which are considered unfair. We return to the empirical work along these lines in Section 3.

While the logic is clear, in practice inequalities caused by circumstances and effort are hard to separate[5]. This raises issues in relation both to measurement and the normative question of how to socially rank possible outcomes. The stress on individual responsibility in decision-making is controversial, not least in light of various behavioural aspects[6]. If agents are not fully rational in their choices, how should equality of opportunity then be interpreted? How to think of abilities is also unclear. Is a reward to ability fair or unfair? How to interpret "fair reward to effort" is also unclear if there are market imperfections (market power)[7]. Risk also raises difficult questions. If risk is entirely exogenous, the case is clear-cut. But what about cases where individuals undertake (moral hazard) very risky behaviours (extreme sports) or refrain from acquiring insurance? Ex ante, it may seem straightforward; the individual has the responsibility and must either abstain from such behaviour or acquire the insurance. But is this view time-consistent, if someone ends up in an adverse situation, even if self-inflicted? This is the classical Samaritan dilemma; how can an altruist deny to help, even if the problem was self-inflicted? See Buchanan (1965), Coate (1995) and Lindbeck and Weibull (1988).

The idea of distinguishing between "fair" and "unfair" inequalities is consonant to many. This necessitates a distinction between state-of-nature (risk), choices, effort and endowments/circumstances. A given initial situation may arise depending on: i) luck or bad luck (e.g. an accident), ii) choices (low income because it was decided not to take an education), iii) effort (high income as a result of long working hours and little vacation) or iv) social and biological conditions (born with a silver spoon in the mouth).

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[5] Moreover, the separation is made difficult by the fact that behaviour is affected by circumstances. The stress on responsibility is challenged by behavioural theories pointing to decision biases (myopia, hyperbolic discounting, lack of self-control etc.); see e.g. Bernheim and Taubinsky (2018). Empirical work on equality of opportunities typically considers one dimension at a time (e.g. income, education, health) with no attempt at weighing them together. Moreover, empirical work cannot separate unequal opportunities driven by exogenous factors and policy (e.g. tax/transfer schemes).

[6] Also, differences in preferences, e.g. the disutility from work, may differ and be unobservable. I.e. it is unclear whether a given outcome is subject to effort or factors outside individual control.

[7] The liberal reward principle accepts the laissez-faire outcome once circumstances have been compensated for (equal transfers to individuals with equal circumstances). The utilitarian view focuses on the sum of utilities and will thus redistribute so as to maximize the sum of utilities.

Experimental studies confirm that perceptions of justice and fairness depend critically on which of the four above-mentioned factors cause a given situation; see e.g. Konow (2003) and Starmans et al. (2017) for surveys and references. There is a clear tendency that respondents accept differences caused by choices/effort, whereas there is little acceptance of differences caused by state-of-nature and endowments/circumstances. Choices of importance for one's "productivity", like education, are generally considered as giving rise to just outcomes provided that the consequences were known at the time the choices were made. Interestingly, experimental studies do not find statistically significant differences in the perception of basic questions concerning justice and equity across various socio-economic groups, nor age groups. However, the perception of specific questions turns out to be very situation- or context-dependent. As an example, basic needs are more strongly emphasized by people living in low-income countries compared to those living in high-income countries. This also reflects an adaptation of views to institutions (norms) related to the way society is organized and the average level of living standards. Hence, institutions etc. can frame basic values. The importance of the societal context is illustrated by surveys showing that Americans more often than Europeans tend to think of low income as due to low effort rather than bad luck, and vice versa (International Social Survey Programme, 1999).

To summarize, evidence from experiments and surveys generally indicates that someone whose contribution is more highly valued is more deserving if that person bears responsibility for the contribution, but not if it is due to factors outside individual control; Konow (2003). From an economic perspective, the evidence has two interesting implications. It shows that choices and effort, and therefore incentives, are not necessarily in conflict with the perception of justice held by most people. Moreover, it is justified to compensate individuals for differences caused by risk (insurance) and birth (social heritage) beyond own control

2.3   Poverty

Poverty should be distinguished from inequality. Poverty is a symptom of inequality, but it is qualitatively different than, say, wage

differences between educational groups. Poverty is associated with a critical level of economic (and social) resources, implying risk of social exclusion and a situation the individual has difficulty escaping by itself. Poverty is in this sense a more serious form of inequality, having large costs to individuals and society. Poverty is part of the inequality discussion but differs in important ways depending on the societal context and specific aspects of opportunities (poverty traps).

Poverty can be considered in absolute or relative terms. In absolute terms it is a question of survival and being able to meet basic needs (food, clothing and housing). This is relevant in a development context, but not in more affluent countries with welfare states. Here a relative interpretation is more appropriate; that is, whether living conditions are significantly worse than for most other members of society with marginalization and social exclusion as a consequence. This line of thinking stresses that the possibilities and outcomes are not independent of the context in which the individual is situated. This view is captured by the notion of deprivation by Townsend (1979).

> *…relative deprivation -- by which I mean the absence or inadequacy of those diets, amenities, standards, services and activities which are common and customary in society. People are deprived of the conditions of life, which ordinarily define membership of society. If they lack or are denied resources to obtain access to these conditions of life and so fulfil membership of society, they are in poverty (Townsend 1979, p. 915).*

In particular two aspects are important, namely the emphasis on the relative position (the social context) and a broader notion than material living standard. Although the phrasing is different, this accords well with Sen's focus on functionings and capabilities. If an individual is severely strained in his capabilities to perform essential functions, it is a case of relative deprivation or poverty. Since functionings are to be seen in a social context, the notion becomes relative. A tablet or smart phone may be considered a luxury to a young child, but if it is needed to be in contact with friends, it is a necessity to prevent social exclusion. Poverty is thus associated with a situation which the individual has difficulty escaping on its own (poverty trap). Deprivation of resources can be so severe that it constrains the possibilities of the individual and the situation

becomes persistent in the absence of intervention. Deprivation in early childhood may be particularly problematic, see below.

In sum, the preceding discussion highlights that fairness and equity are complex issues not readily summarized along a single dimension. The cause is important, in particular whether differences arise for reasons under individual control or outside their control. Differences of the former type are more acceptable to most than the latter. Equalities of opportunities play an important role in this context, and breaching it leads to unfair inequalities. These considerations suggest an important distinction between rewards and incentives on the one hand and compensation (lack of equal opportunities, factors outside control) on the other. From this follow three important insights. First, simple inequality measures (or changes herein) are at best imprecise proxies of what is considered fair or unfair. Secondly, the link from inequality to economic performance depends crucially of the underlying causes of inequality, some may be problematic, others are not. Thirdly, policy responses to inequality depend on the extent to which the underlying causes are considered to be fair or unfair.

3 Inequality – developments

Proceeding from these principles to measurement of inequality is not trivial. Often, policy debates rely on e.g. the Gini-coefficient or other measures without much concern as to how they relate to the aspects of inequality considered problematic. However, widely used measures of inequality – like the Gini-coefficient – may at best only imperfectly capture the issues and problems associated with inequality in policy debates. It is accordingly important to be aware what the different measures actually capture.

The following first discusses some methodological issues in relation to measuring inequality - what do we want to measure, and how can it be measured? Then, empirical evidence on the developments in the different metrics of inequality (income, wealth, equality of opportunity and poverty) is briefly reviewed as well as developments in the functional distribution of income. The section also briefly reviews evidence on living conditions more broadly. Next, evidence on income mobility, equality of opportunities and social mobility is presented.

3.1 Measurement issues and metrics

Measuring inequality raises some issues of importance for the interpretation of the inequality metrics usually reported. These are briefly discussed here; for further discussion see e.g. Ravallion (2016). The key dimensions are the outcome variables, time horizon, unit and the specific metric.

Inequality in outcomes is most frequently measured for income as a metric of material living standards (the economic possibility set). The income concept can be either market income (labour income, capital income etc.) or disposable income (equal to market

income plus transfers and less taxes). Market income is important for assessing how market forces influence the distribution of incomes, while the disposable income gives the economic resources a given individual/household can allocate for consumption or savings. Disposable incomes depend on market incomes and the design of tax and social systems.

Measuring income is not straightforward, since income can be defined in different ways; how should e.g. owner-occupied housing (imputed rents) or non-realized capital gains be treated? Moreover, disposable income does not measure actual consumption possibilities due to access to tax-financed individualized public services like health care and education. Including such provisions tends to reduce inequality; a factor which is particularly important for the Nordic countries given the importance of provision of such services; see Andersen (2015).

Whether inequality should be measured by income or consumption is a standing discussion. Consumption is closely related to welfare/utility, but it also depends on individual choices between consumption and saving. Current capital income thus depends on past savings decisions. This raises the question whether inequality should be assessed in terms of actual or potential consumption[8]. Neither of these outcome variables include needs aspects. Since statistical recordings of consumption are less precise (or lacking) than recordings of income, most empirical assessments consider income inequality.

A further issue is the horizon over which inequality is measured. Typically, income inequality is assessed based on annual incomes, but longer horizons, including life-time incomes, are also often considered. Using a metric with a horizon longer than a year gives an idea of the more permanent position in the income distribution averaging out annual fluctuations. However, this approach raises issues of interpretation, depending on how the capital market works. If the capital market is perfect, households can use the capital market to smooth income variations and thus base consumption on the more permanent level of income. Therefore, the average income over some period is a better metric of the actual consumption possibilities than annual income. In the presence of capital market imperfections, it is difficult for households to smooth consumption, in particular

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[8] The treatment of durable consumption goods is a further complication.

shifting consumption forward in time via borrowing. In this case annual income fluctuations influence consumption possibilities, and averaging may lead to a downward bias in the assessment of inequality in consumption possibilities.

Next is the issue whether income inequality should be assessed individually or on a family basis. The argument for a family approach is that there is sharing of economic resources within the household (family). Considering individual incomes may thus give an imprecise measure of actual inequality in consumption possibilities. This is an argument for making assessments on a family basis, but this requires a definition of the household; something which has become less straightforward than in the past. Moreover, to account for different needs for adults and children as well as economies of scale within the household, an equivalence scale is needed to make incomes across families of different sizes and compositions comparable. The OECD currently uses a simple scale where the equivalence factor is the square root of the household size; i.e. if a family of four has an income twice the income of a single, they would have the same equivalent income per person. Statistics Sweden uses a more refined scale which assigns a value of 1 to the household head, 0.51 to the spouse/partner to the household head, 0.6 to other adults, 0.52 to the first child 0-19 years old, and 0.42 to other children 0–19 years old; see e.g. Statistics Sweden (2018a).

This brief discussion of measurement issues highlights two important points in interpreting inequality measures. First, even for unchanged incomes at the individual level, measured inequality may change if there are changes in household structures; i.e. more choosing to live as singles tends to increase measured income inequality. Likewise, changes in the age structure of the population influence measured inequality. In short, demographic changes can have significant effects on measured disposable income inequality, even if the underlying income formation process as well as tax and transfer structures are unchanged. OECD (2011a) assesses that changes in family structure and assortative mating can explain about 20% of the increase in income inequality between 1981 and 2005 in Sweden.[9]

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[9] The change in Gini-coefficient is? defined over disposable income. Assessed in terms of the rise in the P90/P10 ratio, these factors account for about 25% of the increase. The two factors are of the same importance for the change in the Gini-coefficient, but assortative mating matters most for the increase in the P90/P10 ratio. Almost half the increase in inequality for both measures is explained by increased dispersion in the earnings for men.

About 25% of the change in the Gini-coefficient between 1987 and 2013 can be explained by changes in household structures and the age composition of the population; see OECD (2017b). Second, a benchmark of zero inequality of annual incomes is problematic. Suppose, for the sake of argument, that all are identical in the sense of having the same market income at a given age. With a standard life-cycle bell-shaped age dependency of income, there would be income inequality across the entire population at a given period in time, but none in a life-time perspective. Some would be young having low income, some would be at the peak of their labour market career having a high income, and some would be old having a pension. Hence, a completely equal distribution of annual incomes is not an obvious benchmark, even from an egalitarian perspective.

The most widely used metric for income inequality, the Gini-coefficient, measures how far the income distribution is from an equal distribution. The Gini-coefficient is defined to be between 0 and 100 (or 0 and 1), and it is 0 if all have the same income and approaches 100 if all income goes to a few (one) persons[10]. The Gini-coefficient has the advantage that it summarizes the entire income distribution in a single number, but it is far from unproblematic. It has the disadvantage that it is not additive across subgroups. Moreover, the measure may be too insensitive to changes at the tails of the income distribution; see e.g. Ravallion (2016) for a discussion.

The decile (or percentile) ratios are often used to give a more detailed account of the income distribution; e.g., the P50/P10 ratio as a measure of the medium (mean) relative to the bottom, and the P90/P50 ratio as a measure of the top to the medium. Recent discussions focusing on top income have considered the top 1% or even the top 0.1% group.

Economic poverty is usually measured by the fraction of people living in households with equalized incomes falling below some poverty line, typically defined as some fraction of median income; e.g., 60% as used by the Swedish Ministry of Finance, Regeringen (2018)).

The many measurement issues raised above also point to a difficulty for international comparisons, since national statistics operate with different definitions of income, household etc. Cross-country

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[10] The expected income difference in percent relative to the mean between two randomly drawn individuals is two times the Gini-coefficient.

comparisons are thus more difficult, although some effort has been made to construct comparable statistics.

3.2 Income inequality – trends and cross-country differences

Recent changes in income inequality have been widely documented; see e.g. OECD (2011, 2018a), Bourguignon (2018) and Morelli et al. (2015), and Roine and Waldenström (2015). The following summaries and highlights some key points of importance for the subsequent discussion focusing on Swedish developments in comparative perspective[11]. Unless otherwise stated, the inequality metrics reported in this section are based on equivalized incomes.

Sweden has – as most other countries – experienced increasing inequality in recent years. The Gini-coefficient for disposable income since the 1970s has followed a U-shaped pattern with inequality first declining and then increasing[12], cf. Figure 3.1. The developments in the other Nordic countries also display a long-term U-pattern, although less strong for Denmark and Norway.

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[11] Data from different sources are used to highlight specific points. The data differs across sources due to differences in methods, including income concept, definition of households and equivalence scales. This gives some differences across data sources which should be taken into account in interpreting the data. For most international comparisons data from the SWIID database (Solt (2019)) are used, while specific Swedish developments use data from Statistics Sweden. Across these two sources there are some differences since the SWIID database attempts to make data comparable across countries.
[12] Taking a longer historical perspective, the U-pattern is even clearer; see Domeij and Flodén (2010) and OECD (2017b).

Figure 3.1   Inequality in disposable income – Nordic countries, 1970–2016
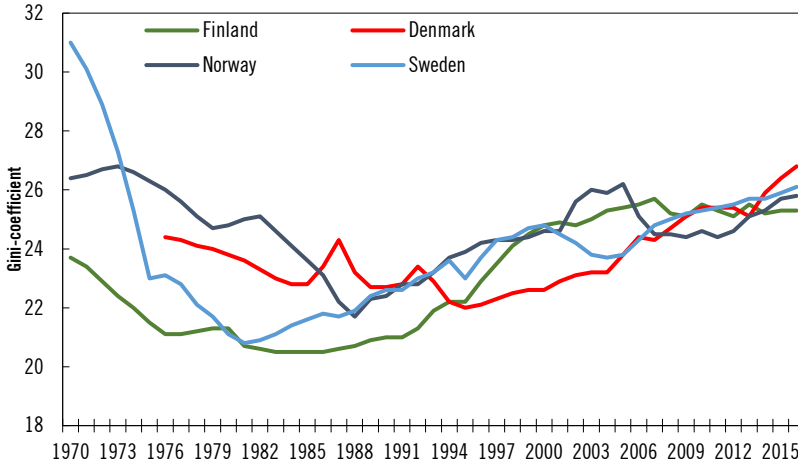
Note: Equivalized disposable income.
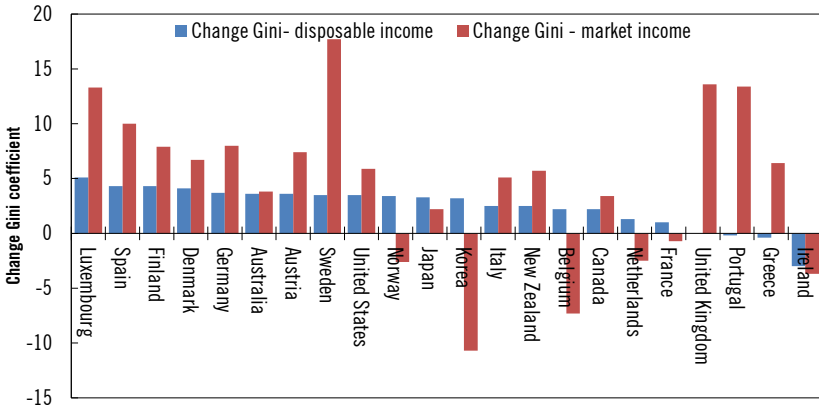Data source: SWIID database, see Solt (2019).

For other OECD countries, a less clear pattern emerges; see Figure 3.2. The US and the UK are examples of countries with a clear trend increase in inequality. For the US, there has been a steady increase in inequality since the 1980s, while the UK experienced a steep increase in the 1980s, but subsequently inequality has been at a steady level. The Netherlands is an example of a country where inequality has not changed much over recent decades.

Figure 3.2　　Inequality in disposable income – selected OECD countries, 1970–2016
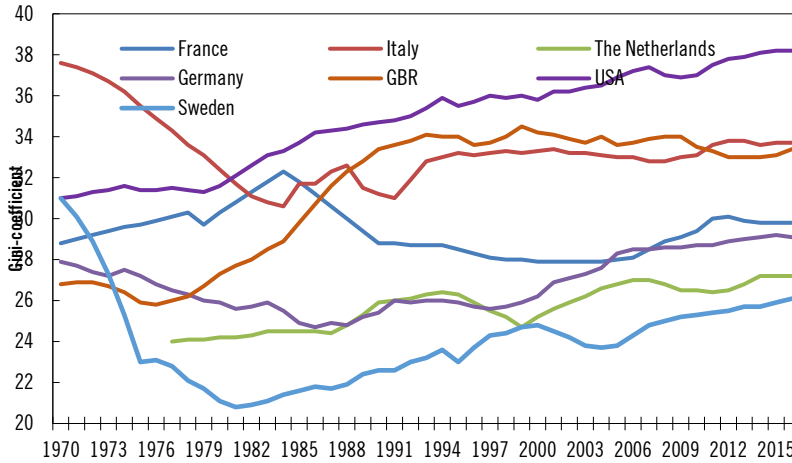
Note: Equivalized disposable income.
Data source: SWIID database, see Solt (2019).

The developments across OECD countries are summarized in Figure 3.3, showing the change in the Gini-coefficient for market and disposable income between 1990 and 2015. While there is a general tendency towards larger inequality, in particular in market incomes, there are also considerable country differences. As should be expected, increases in inequality in market income are larger than the changes in disposable income due to redistribution mechanisms in all OECD countries. The correlation between changes in Gini market income and Gini disposable income is 0.9 across the 23 countries for which data is available.

There is no clear relation between the developments in income inequality and the extent of welfare arrangements. It is striking that the increase in inequality in the Nordic countries is among the largest in this sample since the 1980s, although the level of inequality is still low in comparative perspective. This raises the question whether the way the Nordic countries have achieved low inequality has been challenged in recent years, or if inequality was unusually low in the late 1970s/early 1980s Contrasting the low inequality in the 1980s with other macroeconomic indicators for Sweden in this period suggests that the situation was not sustainable. Similar arguments apply to the other Nordic countries, and hence it may be

misleading to use the low level of inequality in the late 1970s/early 1980s as a yardstick for the "normal" level of inequality.

Figure 3.3   Change in Gini coefficient for market income and disposable income, selected countries, 1990–2015

Source: Equivalized disposable and market income.
Data source: SWIID database, see Solt (2019).

The underlying developments in Sweden in incomes for various groups can be seen from Figure 3.4. Across the income distribution, real incomes have been increasing. Generally, incomes below the median have been growing less, and income above the median have been growing more than the median income. Over the period 1995–2017, the average annual growth rate in real disposable income for the top 5%-group was 3.3%, median income was growing by 2.5%, while income growth was 1.5% for the bottom 5% -group. For top income groups, capital income plays an important role. The primary driver is asset price increases in combination with tax changes and deregulation of financial markets; see Roine and Waldenström (2012). As seen from Figure 3.4b capital incomes are in particular important for top 1% incomes. Most individuals in the three lowest income deciles have public transfers as their main source of income. The lower income growth for low-income groups reflects that transfers have been declining relative to wages since transfers are not indexed to wages; see Regeringen (2018), Socialförsäkringsutredningen (2015), Finanspolitiska Rådet (2018), OECD (2017b). The gap in income developments between individuals in work and out of work is thus increasing; see Finanspolitiska Rådet (2018).

Figure 3.4   Real income developments across the income distribution, Sweden 1995–2017

(a) Developments across the income distribution



(b) Developments for top incomes
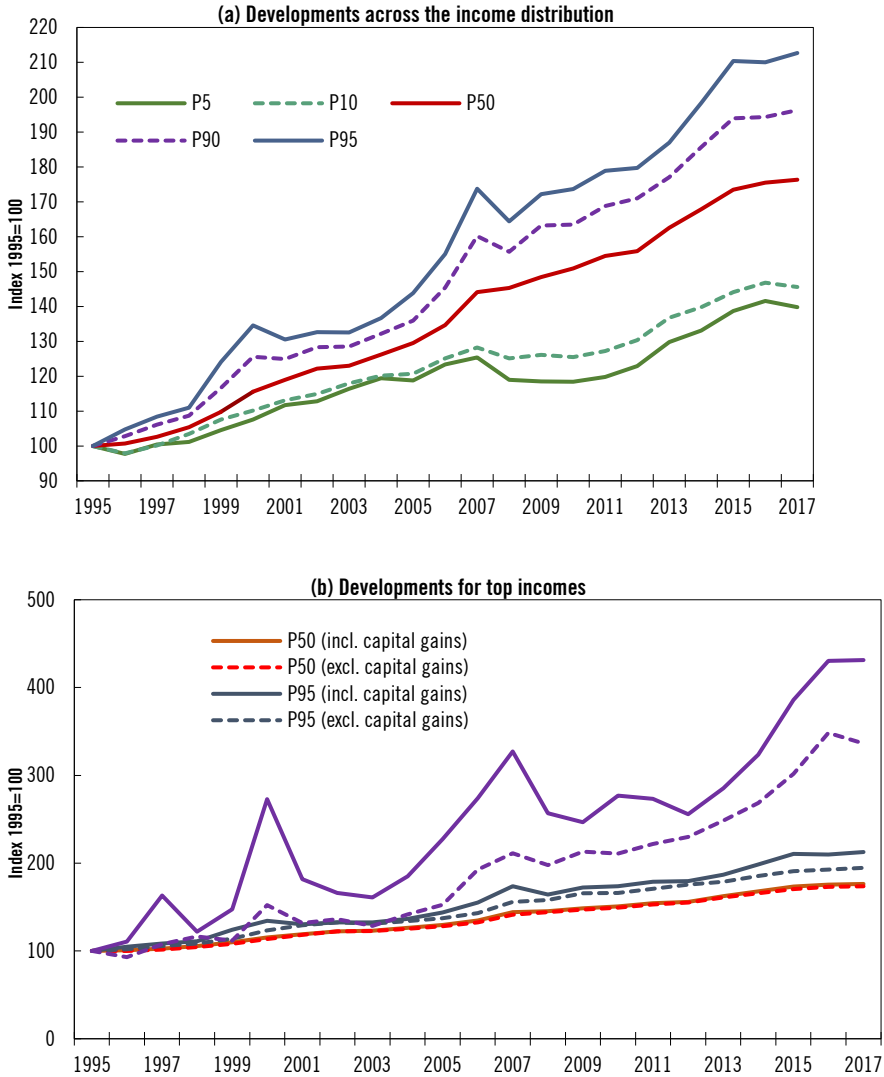
Note: Index for development in real income, 1995=100. Incomes are inclusive capital gains. Panel b also shows incomes exclusive capital gains for income in the upper half of the income distribution. Data source: Own calculations based on data from Statistics Sweden.

These developments can also be seen in terms of relative incomes by considering the middle-to-the-bottom (the P50/P10) income ratio and the top-to-the-medium (the P90/50) income ratio; see Figure

3.5. For middle-income groups the gap has widened to the bottom (especially over the period 2005–2010), but at the same time they have lost ground to the top. In short, the income distribution is widening, but the drivers are changing over time.

Figure 3.5   Decile ratios P50/P10 and P90/P50, Sweden 1991–2017
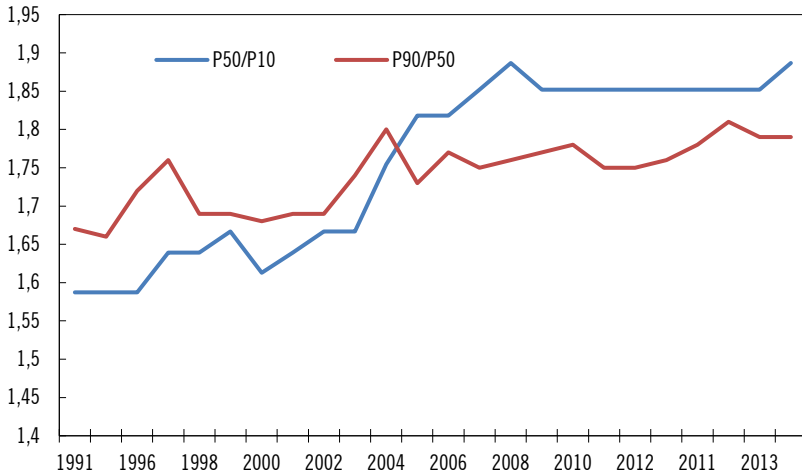
Note: Decile ratios computed based on equivalized disposable income (including capital gains).
Data source: Statistics Sweden (2019).

Eurostat measures risk of poverty based on a poverty line set at 60% of the median income, and poverty measured in this way has been increasing since the mid-1990s (see also OECD (2017b)); see Figure 3.6. Poverty rates remain below EU levels, and Sweden ranks lowest on the European Commission index of material deprivation[13].

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[13] The index considers severely materially deprived persons defined as having living conditions constrained by a lack of resources and experienced at least 4 out of 9 deprivation items, see https://ec.europa.eu.

Figure 3.6   Risk of poverty, Sweden and selected countries, 1995–2015
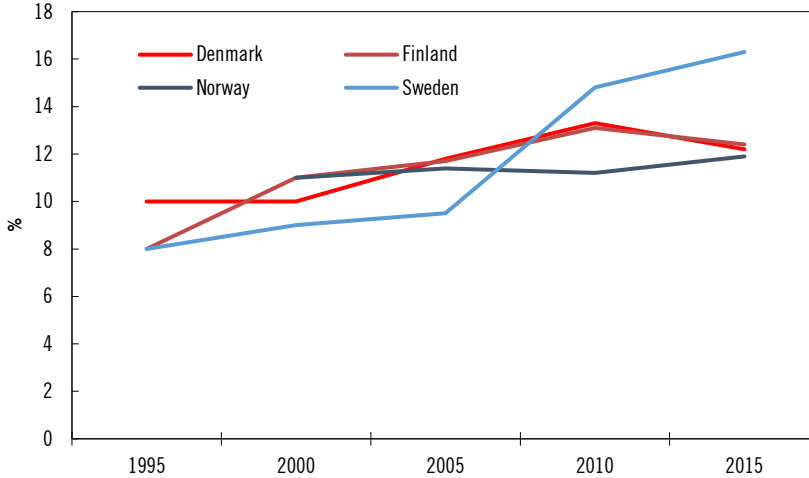
Note: Observations for every 5th year or closest year. EU definition of poverty as 60% of median income.
Data source: Eurostat.

A notable trend is the increase in income for the very top – the 1% highest incomes; see Roine et al. (2009), Atkinson et al. (2011), and Roine and Waldenström (2015). This is also the case in Sweden, but the increase is smaller than in e.g. the US; see Figure 3.7. The share of income going to the top 1% is lower than in Norway but higher than in Denmark. Roine and Waldenström (2008) show that the ranking of Sweden depends critically on whether capital gains are included. When including such gains Sweden's experience, the same trend with large increases in top incomes as in the US and the UK, but the level is lower.

Figure 3.7   Share of total income going to the top 1% income group, 1970–2015
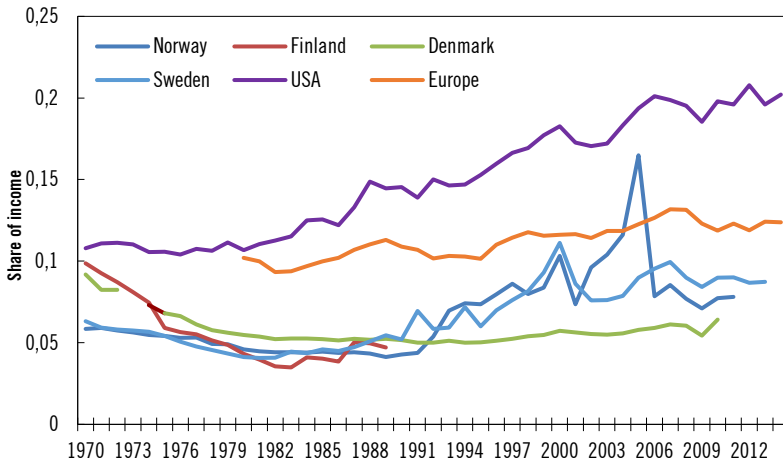
Note: The spike for Norway in the mid-2000s is due to a tax reform. Income (excl. capital gains) is measured pre-tax and as a share of national income.
Data source: World Bank.

Inequality in disposable income can increase either because market incomes become less equally distributed or because there is less redistribution (either lower taxes/transfers or income types more leniently taxed have risen in importance). We consider briefly these two components, and later return to a more detailed discussion when considering the relationship between inequality and economic performance.

Across OECD countries there has been an upward trend in the inequality of market income. Figure 3.8 shows the developments for the Nordic countries, and it also displays a U-pattern as inequality in disposable incomes in Figure 3.1.

Figure 3.8   Gini market income, Nordic countries, 1970–2016
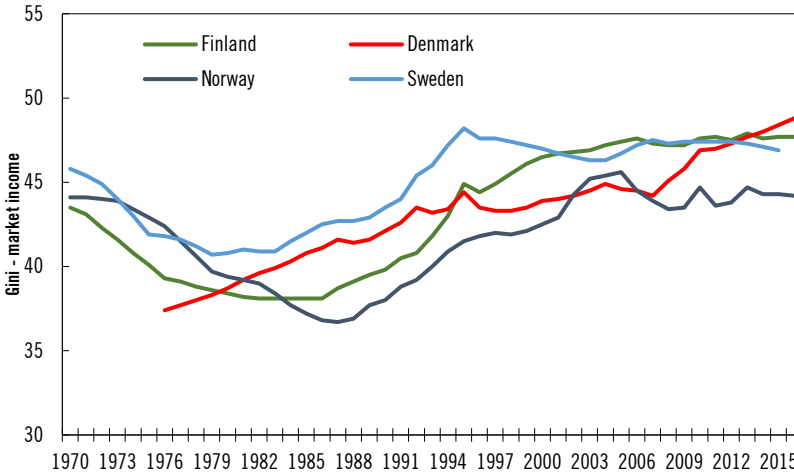
Data source: SWIID database, see Solt (2019).

As noted, an important driver of income inequality is capital income and the fact that it is concentrated among high income groups (high correlation between income and wealth)[14]. Over the period 1995–2016, the distribution of earned income is almost unchanged, and the observed increase in inequality is largely driven by capital income. Inequality has mainly risen due to within- rather than be-tween-group (age, gender, and ethnicity) inequality; see Regeringen (2018). Since capital income tends to be concentrated among higher income strata, it tends to increase overall inequality; see Regeringen (2018) and Finanspolitiska Rådet (2018). It should be noted that there is a large temporary component to capital income for many households, e.g., upon realization of housing wealth. About 40% of households with top income are only temporarily among high in-come groups, and 1/3 is permanently in the group; see Regeringen (2018).

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[14] In a study of 16 countries, Roine et al. (2009) show that periods of high economic growth disproportionately increase the top percentile income share at the expense of the rest of the top decile. Financial development is an important driver, whereas trade openness is not.

Figure 3.9   Earnings deciles – full time employment, Sweden, 1980–2013
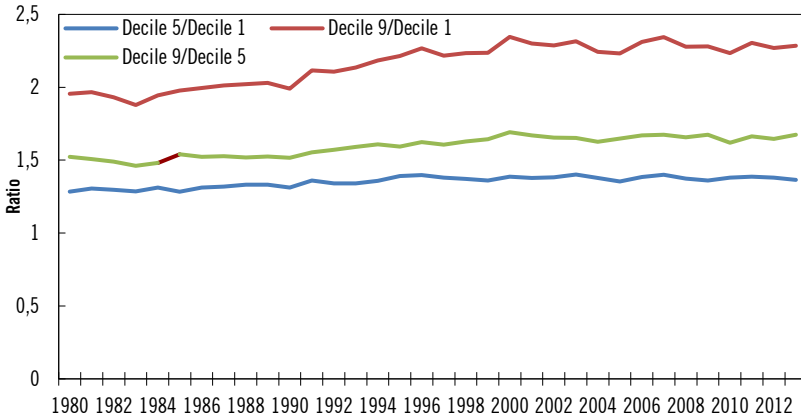
Note: Decile ratios of gross earnings for full-time employed.
Data source: stats.oecd.org.

Labour incomes are depending on developments in wages and employment. The earnings structure in Sweden has been rather stable, see Figure 3.9, though with some tendency towards higher increases for groups at the top relative to both the median and the bottom. While historically there has been considerable wage compression (across age, education and gender), there was some increasing dispersion during the 1990s (see Domeij (2008) and Domeij and Ljunqvist (2019)), but real wage growth has been similar across the wage distribution since 2000, and thus wage dispersion has remained almost constant; see Carlsson et al. (2019). The rather stable wage distribution in recent years differs from the experience in many other countries, see OECD (2018a).

Figure 3.10   Employment and education, Sweden and OECD average, 2017
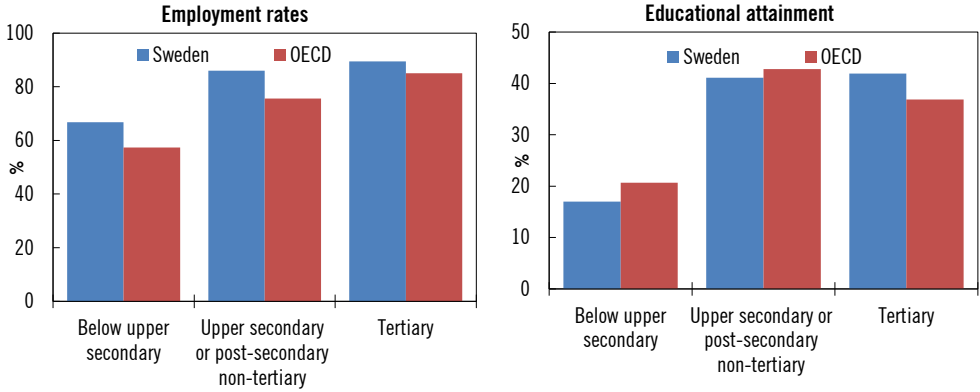
Data source: OECD-ilibrary.org.

Employment is as important as wages for developments in earned income. There is a well-established educational gradient in employment rates; see Figure 3.10. For all educational groups, Sweden has higher employment rates than the OECD average. One key to maintaining high aggregate employment rates is to upgrade the human capital of the work force; see discussion in Section 4. Sweden has historically achieved this, and the share of the population with low education is below the OECD average, while the share with tertiary education is above the average.

Figure 3.11   Employment rates, natives and immigrants, 2016
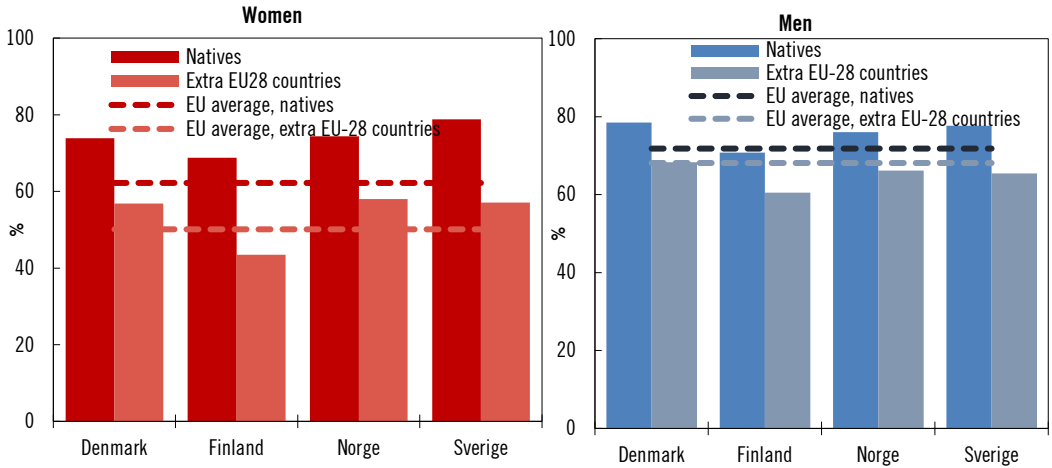
Source: Own computations based on data from Eurostat.

The employment rate differs significantly across natives and immigrants, especially for women; see Figure 3.11. Employment rates for immigrants from outside EU-28 are not lower in Sweden than in the EU on average (slightly higher for women and slightly lower for men); however, the gaps to the employment rates of natives is high; see also OECD (2017a). The high gaps reflect the generally high employment rates in Sweden for both men and women. There are many causes for these gaps, including language, qualifications, gender roles, discrimination, economic incentives as well as the time it takes to adapt skills to the labour market. In a Nordic context, high minimum wages (no working poor) may reduce labour demand for persons with low qualifications, and at the same time the social safety net may reduce work incentives. Across EU, countries with low employment gaps between natives and immigrants tend to have a higher share of working poor. This suggests a trade-off between distributional concerns and employment. There is a small increase in the incidence of working poor in Sweden, see Figure 3.12, but it remains below the EU average at about 9%.

**Figure 3.12   Working poor – Nordic countries 2003–2017**
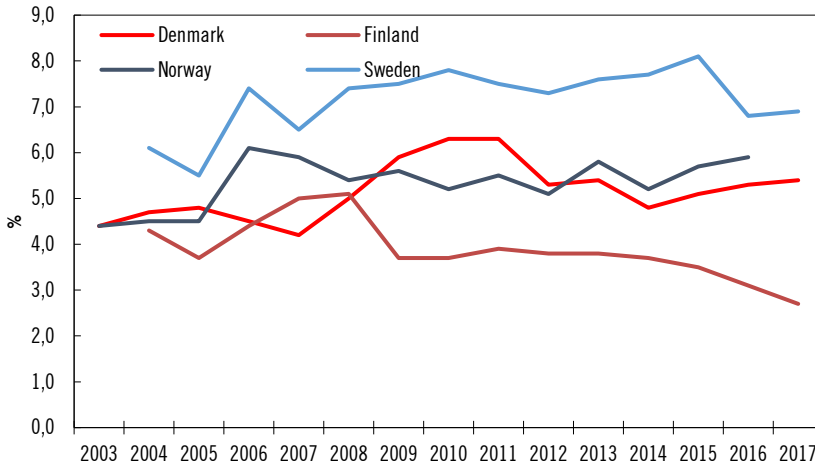
Data source: Eurostat.

As already noted, policies in Sweden have become less redistributive over the years. This is a result of both tax reforms and the general decline in social transfers relative to wages; see above. It is difficult to summarize the extent of redistribution in a single measure due to the many aspects of the tax system and the design of the social safety net. Figure 3.13 shows a simple summary measure of redistribution displaying a downward trend from the mid-1990s[15].

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[15] Using data from Solt (2019) gives a less marked decline in redistribution.

Figure 3.13   Summary measure of redistribution, Sweden 1991–2017
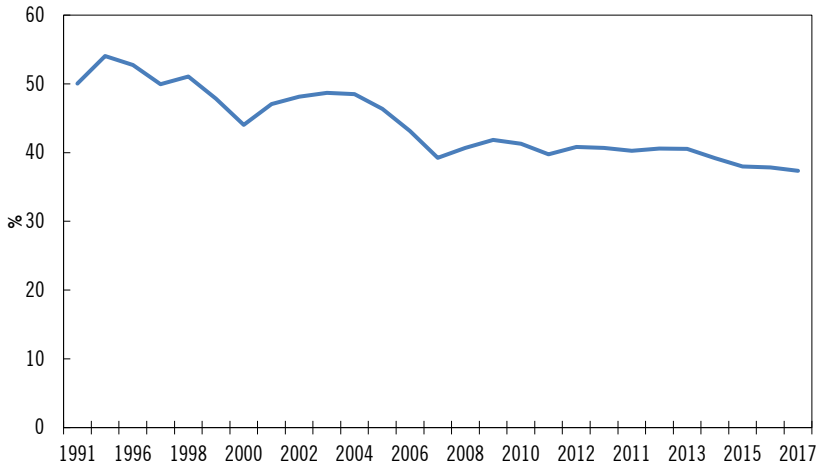
Note: Computed as how much – percentage difference - lower the Gini-coefficient defined over disposable income is relative to the Gini-coefficient defined over the market income.
Data source: Own calculations based on data from Statistics Sweden.

Figure 3.14   Development path for inequality in market and disposable
incomes, Sweden, Denmark, France and the US, 1970–2015
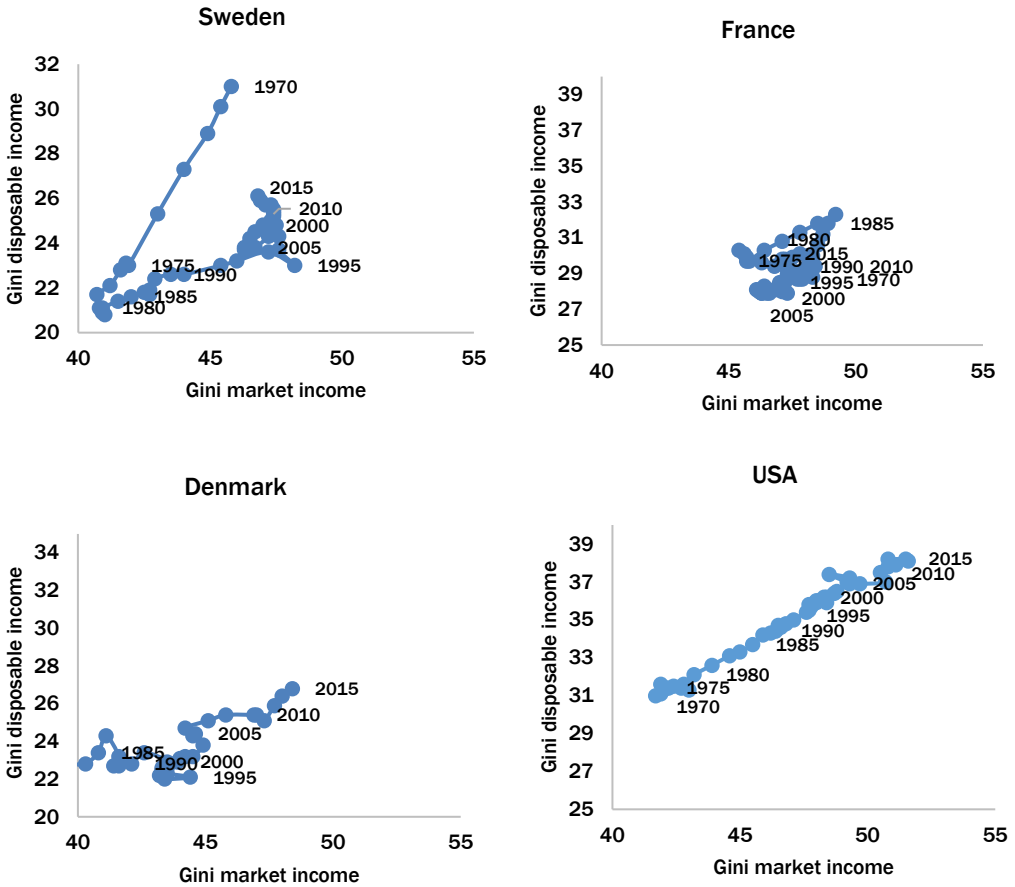
Data source: Based on data from the SWIID database, Solt (2019), see Figure 2.1.

Recent developments display some interesting features. In the past, comparatively low income inequality in the Nordic countries could in part be attributed to more redistribution and in part to lower inequalities in market incomes; see e.g. Andersen (2018). The latter could in turn in part be attributed to high employment rates and a relatively compressed wage structures. Tracing the developments in inequality in market and disposable income since 1970 as done in Figure 3.14 for Sweden, Denmark, USA and France shows interest-

ing paths. For Sweden, there is only a small reduction in market inequality during the 1970s into the 1980s, but inequality in disposable income was declining significantly. Since the 1990s, market income inequality has increased (driven mainly by capital income), driving up inequality in disposable incomes. For Denmark, inequality in disposable income is largely unaffected until 2000 despite an increase in market inequality (though less than in Sweden), and since then inequality in disposable income has been increasing alongside increases in market inequality. For comparison, the US shows a much clearer pattern with co-movements between inequalities in market and disposable incomes. For France, there is first a phase where a rather substantial decrease in market inequality only leads to a moderate fall in disposable income inequality (reduced redistribution) followed by a phase with a marked decrease in disposable income inequality with a largely unchanged market inequality (more redistribution), and finally a co-movement between the two income inequality measures.

To sum up, the trend increase in disposable income inequality in Sweden is driven by several factors, including demographic changes, market incomes becoming less equally distributed and less redistributive policies. While income inequality has increased as in many other countries, there are some notable differences. Developments in the labour market are not the main driver, wage dispersion has remained constant over recent years, and all employed have experienced similar real wage growth since 2000. Employment rates are high, although low employment rates among low educated and in particular immigrants are a source of inequality. Capital incomes have been increasing and contributing to increasing income inequality, since capital incomes tend to be concentrated on high-income groups. Since capital income is generally more leniently taxed than labour incomes, this has reinforced the effects of this change on the distribution of disposable income. Policies have become less redistributive as a result of tax reforms and a decline in replacement rates for social transfers seen relative to wage levels. This has, on the one hand, increased work incentives but, on the other, reduced redistribution and social insurance.

3.3   The functional income distribution

The wage share has shown a declining trend in many countries, see OECD (2012a) and Karabarbounis and Neiman (2014), and this has been proposed as a reason for increasing income inequality since capital incomes are concentrated on high income groups (Piketty (2014). However, there are some important measurement issues, and Cho et al. (2017) document that declines in wage shares are much lower if, as is more appropriate, the wage share is measured on net incomes (after depreciation) rather than gross income. This indicates that the decline in the wage share measured on gross income is driven by increasing depreciation rates.

The wage share falls if real wage growth falls short of productivity growth, and it has been suggested that the falling wage share reflects a declining bargaining power of unions and/or technological changes. Empirical work shows that sector shift account for a small part of the decrease in the wage share; see OECD (2012a) and Karabarbounis and Neiman (2014).

The declining wage share has been seen as a reason for increasing income inequality, and e.g. OECD (2012a) presents cross-country evidence indicating that increasing income inequality has been associated with a declining wage share. Figure 3.15 shows the wage share for Sweden, Denmark, the US and EU 15. While there has been a clear downward trend for the US and EU15, the path for Sweden and Denmark is different. Over the entire period 1960–2017, there has been a decline in the wage share, but the wage share has not displayed any trend decline since the mid-1990s. For Sweden, we see a negative correlation between the market share and the Gini for both disposable and market income, but it is only statistically significant for the latter. The fact that the wage share has remained largely constant in recent years implies that the aggregate functional income distribution cannot explain the increase in inequality in the last 20-30 years.

**Figure 3.15   Wage share for Sweden, Denmark, USA, and EU 15: 1960–
2017**
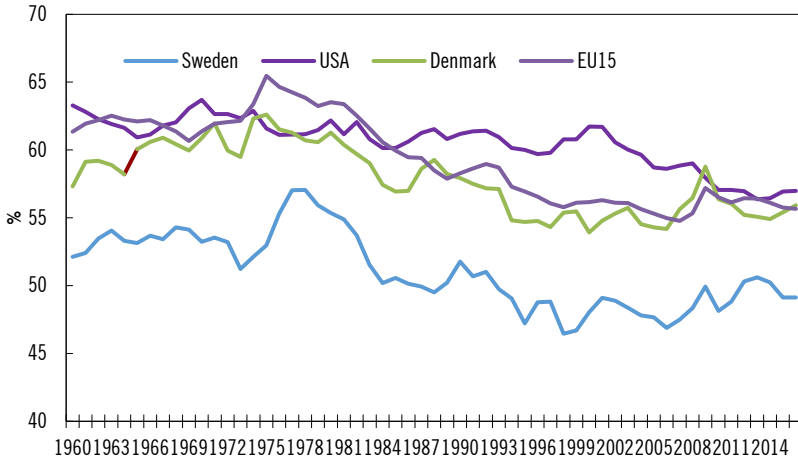
Note: Adjusted wage share: total economy: as percentage of GDP at current prices (compensation per
employee as percentage of GDP at market prices per person employed).
Data source: AMECO database.

Although the wage share has not changed, capital income has played
a role for increasing income inequality in recent years, cf. the
discussion above. These two facts are consistent, since capital
income included in market incomes (and thus disposable income)
also depends on accumulated wealth and the rate of return (inclusive
capital gains). Waldenström (2014) documents an increase in the
wealth-to-income ratio from the 1980s to 2014. Moreover, Sweden
has running current account surpluses for some years resulting in
significant reduction in the net foreign debt position and thus in the
outflow of income.

3.4   Housing, segregation and health

Assessing inequality solely in terms of income may give an incom-
plete characterization of living conditions and thus inequalities more
broadly. The following briefly considers additional aspects, especi-
ally those that can have consequences for future options, choices and
living conditions.

A particular concern is the implication of low income or poverty
in childhood. This is a possible mechanism whereby even transitory
low income in families can have lasting effects, but also a mechanism

reducing social mobility; see discussion below. Significant differences in educational performance across the income distribution is already visible at very young ages; for a discussion and references see Caucutt et al. (2017). Empirical evidence shows that factors of importance for intergenerational and social mobility are determined by the time children reach adolescence. Caucutt et al. (2017) list four factors as important for early investment and achievement gaps by family income: i) differences in ability, ii) bequest motive (high income families can invest more in their children), iii) low-income families being unaware of the importance of returning to education, and iv) inability of poor families to invest in their children. Evidence clearly documents high marginal returns to early investments in disadvantaged children, while the marginal returns are lower for children from high income families; see Caucutt et al. (2017).

Access to housing has a geographical dimension, and agglomeration of the population affects the pricing and access to housing. The income gradient in house ownership is strong in Sweden; see OECD (2017b). The heavily regulated rental market pushes many into owner-occupied housing (one of the highest rates in EU) or leads to overcrowded housing. But even if rent-control is an implicit rent subsidy, it does not benefit households with low education/income, households with children, young households or households with a migrant background;[16] see Enström Öst et al. (2014). Geographical segregation may affect children in relation to schooling; a factor which has been reinforced by school choice options following a reform in the early 1990s. Such segregation is particularly visible for low-income groups and immigrants. This affects schooling options for children. Results for PISA indicate that social background variables have become more important also in Sweden, but also that variations between schools are mainly driven by residential segregation (OECD (2017b)).

Böhlmark et al. (2015) show that school segregation between immigrants and natives, and between children of high/low educated parents, has increased in regions where school choice has become more prevalent. However, the effect is quantitatively small, and Sweden still ranks as a country with a low-to-medium segregated

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[16] Evidence for Sweden shows that migrants, especially those from non-European countries, face high levels of segregation in Sweden; see Malmberg et al. (2018). However, segregation for the entire population, defined as an uneven distribution of different populations across residential contexts, has not increased over the period 1990–2012.

school system. The Nordic tradition of unified compulsory schooling can be seen as a way to minimize the consequences of segregation and to reduce barriers of equality of opportunity. School choices may challenge this. However, parental background remains of strong importance for children's performance in education, but there is no indication that this effect has become stronger in light of schooling reforms; see Holmlund (2016) for references and discussion.

Socioeconomic gradients (income and education) in health indicators are well established; see e.g. OECD (2017c). This also applies in the Nordic countries, and it has even been suggested that health inequalities are no less in the Nordic countries than in other comparable countries, although this view is contested; see Brekke et al. (2011). Nonetheless, there are socioeconomic gradients also in the Nordic countries as illustrated by Figure 3.16, showing indicators for self-assessed health across the income distribution; see also Lundberg (2018).

Figure 3.17 shows that longevity systematically differs across educational groups. This difference is largest for males, whereas the female advantage in life-expectancy also holds for women with low education; see Bohácek et al. (2018). Education is also positively correlated with healthy ageing.

Figure 3.16   Share of income group assessing health as good or very good, OECD countries, 2015.
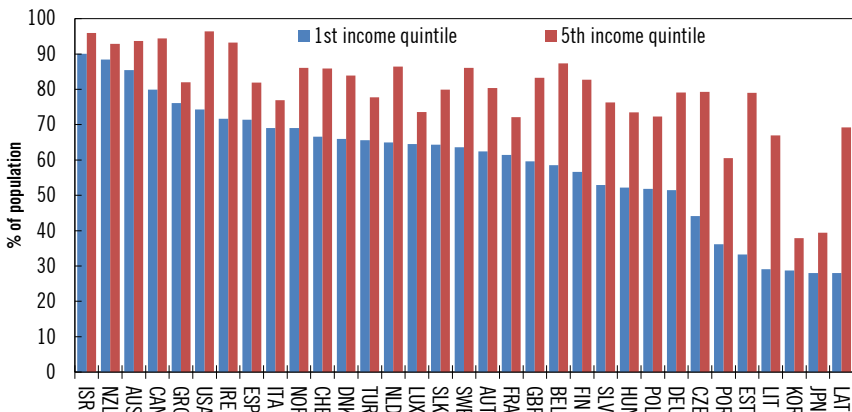
Note: Perceived health status by socio-economic status, age group 15+. 2015 or nearest year.
Data source: stats.oecd.org.

While health is correlated with income/education both in micro- and macro-data, the direction of causality is open for discussion; see Galama et al. (2018), Rossi (2018) for discussions and references. However, there is evidence suggesting a causal effect from education to health (Conti et al. (2010)) and from education/income to e.g. mortality.[17] This is an example of how difference in opportunities and inequalities can multiply over the life course and thus influence living standards and well-being.

Figure 3.17   Gap in life expectancy at age 30 between low and high education level, 2015
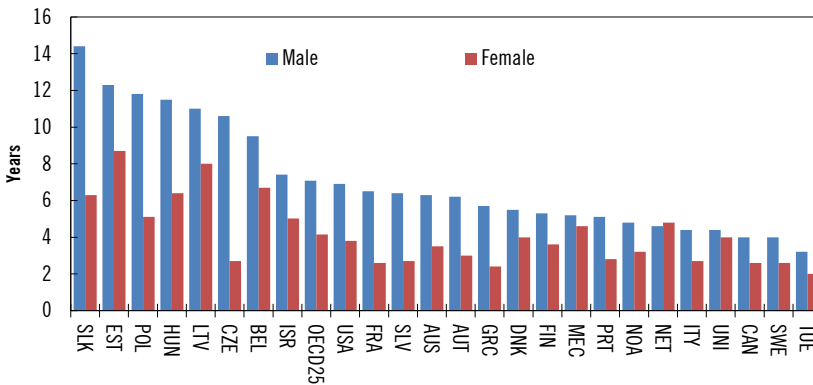
Note: The figure shows the gap in the expected years of life remaining at age 30 between adults with the highest level ("tertiary education") and the lowest level ("below upper secondary education") of education. 2015 or nearest year. Data source: stats.oecd.org.
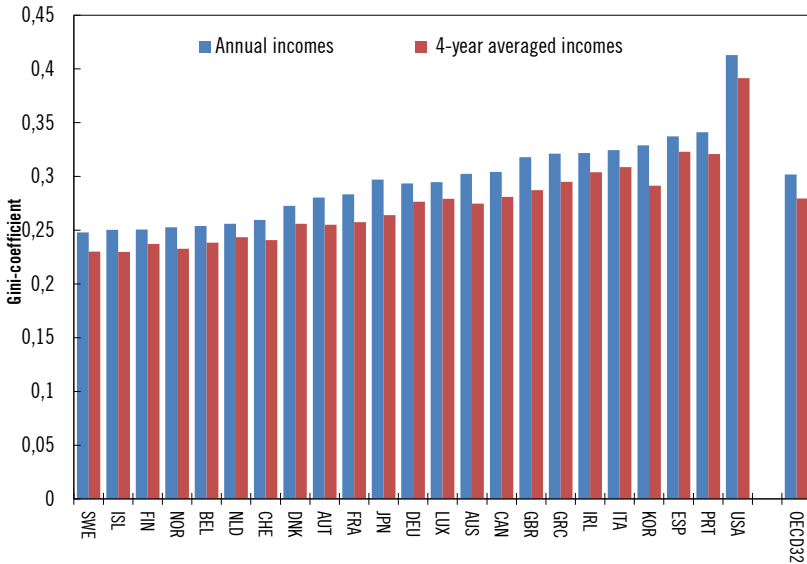
3.5   Income mobility

Mostly, measures of income inequality are reported based on annual data. This may be problematic for several reasons. It is well known that considering income over a multi-year period rather than a single year reduces inequality. Figure 3.18 illustrates this, showing the Gini-coefficient based on annual data (the most frequently used measure) as well as average income over a four-year period. The differences arise because a multi-period income measure tends to average out transitory income changes. This may be more informative on more persistent inequalities in incomes, although it is not an unproblematic measure; see discussion above. The reduction is

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[17] Based on Swedish data, Lindqvist et al. (2018) find that lottery wealth has a positive long-run effect on life satisfaction, while the effect on mental health is significantly smaller.

similar across countries and hence it is not important for the ranking of countries.

Figure 3.18　Inequality in annual and four-year average income, selected OECD countries

Note: Inequality for the working-age population (18-65 years). Gini-coefficient for most counties in 2011–2014 or latest available.
Data source: OECD, 2018a, A Broken Social Elevator? How to Promote Social Mobility.

However, measures on the income distribution at a particular period in time (or over some years) are not informative on the underlying dynamics across time for the position of individuals in the income distribution. A given individual/household can have a persistent position in the income distribution, or there can be lasting changes with some moving up or down in the income distribution; see Jäntti and Jenkins (2015). Importantly, a given level for the Gini-coefficient does not necessarily imply that the same people permanently stay rich or poor. Some of these movements can be predicted, since the young tend to move up and the old to move down in the income distribution[18], but movements can also be triggered by e.g. events like unemployment and structural changes. A particularly interesting question is whether the dynamics differ across the income

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[18] Hence, there is not an obvious benchmark level of mobility by which to judge the mobility level.

distribution; i.e. is it easier to move up or down, and have such dynamics changed over time? Moreover, there are differences in the welfare consequences of upward and downward movements. Some analyses suggest that downward mobility can have a negative effect on subjective well-being working through income and health channels, and it is stronger than the positive effect of upward mobility; see Nikolaev and Burns (2014).

A simple metric of income mobility divides the population into income quintiles and considers whether individuals change position in the income distribution over time[19]. Considering this as here over a four-year period, removes temporary changes, and a clearer picture emerges on the underlying dynamics. Importantly, different levels of mobility can be consistent with the same overall distribution of income. Income mobility is a question about whether the position for individual in the income distribution changes, i.e. is it the same persons having high or low income over time? On average for OECD countries about 50% stayed in the same quintile over a four-year period, 26% moved one quintile up, and 24% moved one quintile down; OECD (2018a). Income persistence is slightly stronger in Sweden than the OECD average, since 55% stayed in the same quintile.

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[19] It is important to note the difference between stocks and flows. The metrics reported in the text are transition probabilities, that is, the probability that the position in the income distribution is changed between two points in time. To give an example, split the income distribution in two – the top (T) and the bottom (B). Then the change in the number of people in the top group is $\dot{T} = b_u B - t_d T$ where b_u is the rate at which a person in the bottom group transit into the top group (upward mobility) and td is the rate at which a person in the top group transit into the bottom group (downward mobility). Similarly, the change in the bottom group is $\dot{B} = t_d T - b_u B$. In steady state where $\dot{T} = \dot{B} = 0$ it follows that $\frac{B}{T} = \frac{t_d}{b_u}$. Hence, a given relative size of the groups can be consistent with both low and high transition probabilities. If the transition probabilities change, the relative size of the two groups changes.

**Figure 3.19   Upward and downward movements in the middle-income
   quintile after four years**
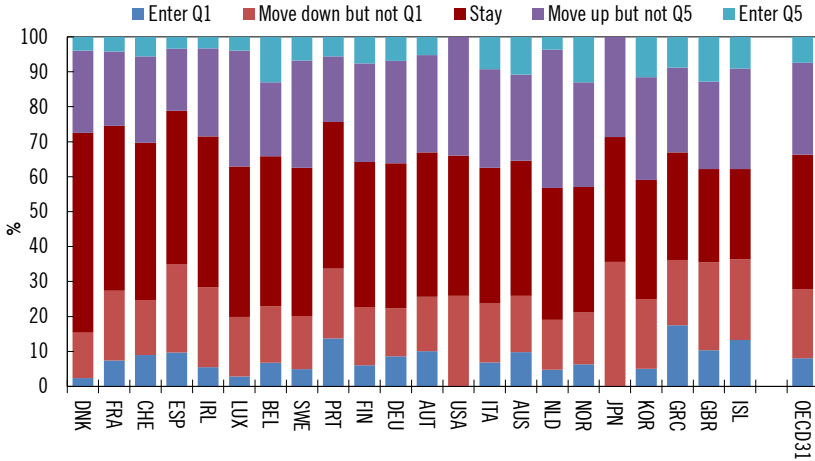
Note: Data refer to the working-age population (18-65), early 2010 or latest available. Income is
equivalized disposable income. Countries are sorted from highest to lowest downward movements. The
OECD average is a population-weighted average of the country measures.
Data source: OECD, 2018a, A Broken Social Elevator? How to Promote Social Mobility.

A closer look shows different mobility patterns across the income
distribution. For the middle-income quintile, about 40% remains in
that quintile after four years, about 1/3 has moved up, and a little
less has moved down; see Figure 3.19. Mobility in Sweden is close to
the OECD average for this group. For the lowest income quintile
(Figure 3.20), persistence is rather high with about 55% staying in
this quintile after four years, and for the lowest quintile persistence
is even stronger with about 65% staying in the quintile. Persistence
for the low-income group is stronger in Sweden than the OECD
average, while persistence for the high-income groups is about the
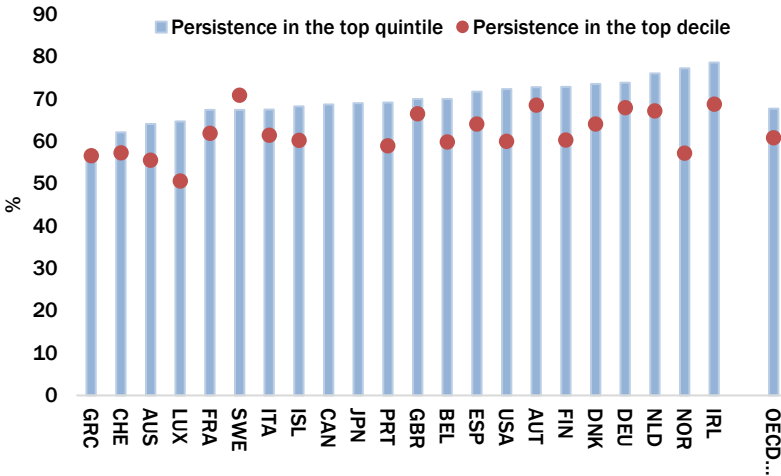OECD average (Figure 3.21).

Figure 3.20   Persistence in the bottom quintile
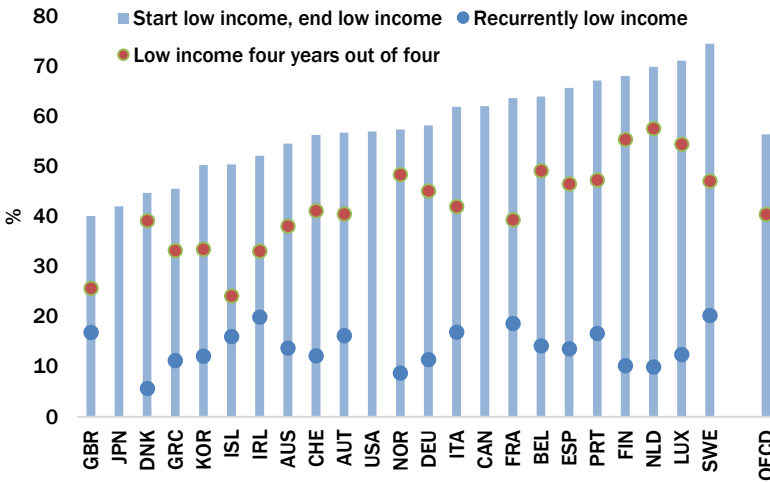
Note: Data refer to working-age population (18-65), early 2010 or latest available.
Data source: OECD, 2018a, A Broken Social Elevator? How to Promote Social Mobility.

In an analysis for the period 2000 to 2016, Statistics Sweden (2018b) finds considerable tail rigidity in the income distribution. Assessed over a six-year period, more than twice the share remains in the top and bottom deciles compared to the middle of the income distribution. Young have a higher propensity to upward mobility, and the older a higher propensity to downward mobility, as should be expected for life-cycle reasons. Upward (downward) mobility is higher (lower) for men than women, but the differences are decreasing over the sample period. About 1/3 of income mobility over the period was caused by capital gains, playing a significant role for income mobility among the elderly, and hardly any for the young. It may contribute to higher mobility for men compared to women due to a possible gender bias in the registration of e.g. housing capital. Upward mobility for the young is largely driven by education, and people with upper secondary education as their highest level of education had higher mobility than people with lower levels of education, as should be expected.

Figure 3.21   Persistence in the top quintile

Note: Data refer to working-age population (18-65), early 2010 or latest available.
Data source: OECD, 2018a, A Broken Social Elevator? How to Promote Social Mobility.

OECD (2018a) finds a trend towards more persistence than in the 1990s; both upward mobility for those at the bottom and downward mobility for those at the top have become smaller. The increase in income inequality can thus not be attributed to an increase in income mobility. This suggests a divide for the middle-class in the sense that the lower middle-class faces a higher risk of downward mobility, while the upper middle-class has a higher chance of upward mobility.

3.6   Equality of opportunity

Traditional approaches measuring e.g. income inequality by the Gini-coefficient have an implicit egalitarian bias and focus entirely on end-results. Deviations from an egalitarian income distribution produce a positive Gini-coefficient and increases (decreases) are interpreted as deteriorations (improvements). However, is inequality as measured by the Gini-coefficient necessarily a problem?

A take on this question is offered by *opportunity egalitarianism* discussed in Section 2. The essence of this view is to decompose inequality into the part caused by circumstances over which the individual has no control, and which leads to ethically unjustifiable

inequality (the compensation principle), and the ethically justifiable part caused by different effort choices (the reward principle).

A number of empirical studies assess (in)equality in opportunities considering income, education and health as outcome measures; for surveys see e.g. Ramos and van der Gear (2016), and Brunori et al. (2013). Separating the roles of circumstances and efforts is far from trivial, and the empirical approaches rely on a number of identifying assumptions. In addition, there are obvious data and measurement problems for circumstances as well as efforts, both having non-observable components.

The logic of the empirical approach is to compare some metric of the actual inequality[20] in e.g. income $I(y)$ to the counterfactual income distribution if there is equality of opportunity $I(y^{E0})$. This makes it possible to decompose inequality in a part attributed to inequality of opportunity $(I(y)- I(y^{E0}))$ and a part attributed to effort $(I(y^{E0}))$, or to compute the share of inequality due to inequality of opportunities $(1- I(y^{E0})/I(y))$. Different methods have been applied in the literature to construct the counterfactual distribution with equality of opportunity $(I(y^{E0}))$.

Empirical work takes outset in a relation linking outcome or achievements to circumstances and effort[21]. Individuals can thus be distinguished by their circumstances and effort. Individuals with the same circumstances belong to a given *type*, and individuals exerting the same effort belong to the same *tranche*[22]. This produces a two-dimensional division of the population, which can be mapped to the outcome variable of interest. One approach – known as the ex-ante approach – seeks to evaluate the income distribution when all differences in circumstances have been eliminated. The different options (output given effort) across types are thus crucial, and the income distribution for a given type is interpreted as the oppor-

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[20] Various metrics of inequality are used in this literature, but the mean logarithmic deviation (MLD) is widely used. It is defined as $MLD = \frac{1}{N}\sum_i^N ln\frac{\bar{y}}{y_i}$ where N is the population size, y_i is income and $\bar{y}$ is the mean income.
[21] Most empirical work applies a so-called indirect method, since circumstances are not perfectly observed.
[22] In a simple case where circumstances are of dimension N and effort levels of dimension M, the matrix (dimension NxM) of outcomes y has elements y_{nm} giving the outcome for type *n* choosing effort level *m*. The matrix of outcomes thus has circumstances along the rows (types) and effort along columns (tranches).

tunity set for this particular type. In one interpretation – direct unfairness – all differences across types are eliminated if their mean income is the same. The distribution is taken to reflect different effort choice by members of the type, and it is thus justified if the mean income is the same across types. Another approach - the ex post approach - views equality of opportunity as being violated if agents exerting the same effort (tranches) obtain different outcomes. The difficulty with this approach is that effort is not directly observed. One method to identify (relative) effort[23] – known as the Roemer identification – maps outcome into an (relative) effort level by assuming that individuals at a given percentile in the outcome distribution have exerted the same (relative) effort level. Equality of opportunity requires that the return to a given effort level is the same across all circumstances.

Note that the ex post and ex ante measures in general differ. Ex post equality of opportunity implies ex ante equality of opportunities, but not vice versa. In general, ex post measures of inequality of opportunity are thus higher than the ex ante measures. Most empirical work is of the ex ante type. For a detailed account of various empirical methods to analyse equality of opportunity (ex ante vs. ex post, parametric vs. non-parametric), see e.g. Ramos and van der Gaer (2016, 2017).

In interpreting the empirical measures, it should be noted that the characterization of circumstances in general is incomplete. It is implied that the effect of all background variables/factors not included among circumstance variables are attributed to effort. There is thus a risk that ability, talent, and luck may be attributed to effort, although they may be considered circumstance variables. This may imply an upward bias in the measure of the ethically acceptable inequality and thus underestimation of inequality of opportunity.

Summaries of empirical assessments of inequality of opportunity in relation to income across countries are reported for disposable income in Brunori et al. (2013), Ferreira and Peragine (2015), and Romer and Trannoy (2016). These assessments are difficult to compare directly due to different methods and data. The following summarises some key findings.

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[23] The absolute effort level is not observable and may also be affected by circumstances. Differences in absolute effort levels may thus be attributed to circumstances, and this gives an argument for using this relative measure; see also Romer and Trannoy (2016).

Inequality of opportunity accounts for widely different shares of total income inequality across countries. Sweden – and the other Nordic countries – are among the countries where income inequality due to inequality of opportunity matters the least (both absolutely and relatively) for total income inequality; see Brunori et al. (2013) and Checchi et al. (2010). For disposable income, inequality of opportunity accounts for up to 1/3 of total income inequality in many countries, but only 1/10 in Sweden. In interpreting these findings, it should be recalled that the measures only give a lower bound assessment of the contribution of inequality of opportunity to income inequality.

Björklund et al. (2012) analyse Swedish men born 1955-1967 and consider inequality in permanent income (average of income over the years 32-38). They find that about 70% of income inequality can be attributed to effort. Parental income and IQ are particularly important circumstance variables.

Measures of the relative importance of inequality of opportunity are positively correlated with the level of income inequality measured by the Gini-coefficient[24] (correlation about 0.52, cf. Brunori et al. (2013)). This can be interpreted as showing either that the Gini-coefficient captures inequalities of opportunities or that measures of income inequality are imperfect measures of "unfair" inequality caused by lack of equality of opportunities. The metric of equality of opportunity is also positively correlated with measures of intergenerational income and education mobility (IGE) discussed below.

Most studies consider inequality of opportunity in a particular year (or a short sequence of years), but a few studies shed light on developments over time. Hufe et al. (2018) consider inequality in disposable income in a setting with four circumstance variables (gender, migration, educational status of parents and occupational status of parents), implying 36 potential circumstance types. They report both a metric for inequality of opportunity and a poverty index based on EU (survey data from SILC) and US data. This study also finds that there is less unfair inequality in the Nordic countries than most other countries. Considering the trend increase in

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[24] Ramos and van der Gaer (2017) analyse whether inequality of opportunity affects growth, but only find an effect (negative) for parametric ex ante measures of inequality of opportunities.

inequality in the US, they find that it was not driven by inequality of opportunity or poverty up to the mid-1990s, but the development since is mainly driven by inequality of opportunity and poverty. In contrast, Pistolesi (2009) finds for the US that inequality of opportunity represents between 20% and 43% of earnings inequality over the period 1968 to 2001, but it decreases slightly in importance over the period.

One important finding in these studies is the role of parental background for education, which suggests a role for public education as a means to compensate for inequality in circumstances. This conclusion is in accordance with studies considering educational opportunities in more detail. Balcázar et al. (2015) analyse education based on the human opportunity index[25] using PISA data. They find large inequalities in learning outcomes as measured by test scores in math, reading and science. Differences in parental wealth and education as well as area of residence explain the bulk of this inequality in most countries. They find a negative correlation between inequality of opportunity in education and public spending (as a share of GDP) on schooling. Interestingly, this holds for public spending on both primary and secondary schooling but not for spending on tertiary educations; see Balcázar et al. (2015). Del Boca et al. (2018) also find that child cognitive outcomes are related to government education expenditures; especially early childhood education and the quality of the programmes are associated with improved later school performance. The importance of initial conditions determined in childhood is also supported by the finding in Huggett et al. (2011) that initial conditions at the age of 23 account for about 2/3 of lifetime earnings. This fits into a large literature considering childhood learning and education, and the importance of early interventions to counteract differences in circumstances; see Cunha et al. (2010).

Inequality of opportunity suggests that inequality can be harmful to economic performance, while inequalities due to effort can have a positive effect; see discussion in Bradbury and Triest (2016). Marrero and Rodriguez (2013) analyse US data over the period 1970-1990 and find a negative relationship between inequality of

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[25] Defined as HOI=C(1-D) where C is the average opportunity (e.g. probability of reaching a given level of proficiency) and D is a measure of differences or segregation in circumstances. In Balcázar et al. (2015), the criterion is to reach a proficiency level of at least 2.

opportunity and growth, and a positive relationship between inequality of effort and growth. The source of such a relationship is discussed in Section 5.

Summing up, across the population there is not equality of opportunity. This also holds in Sweden, but to a lesser extent than in many other countries. This evidence also shows that measures of income inequality like the Gini-coefficient at best are imperfect indicators of unfair outcomes. Attempts to assess (in)equality of opportunities are informative but also have shortcomings. The empirical split between circumstances and effort is associated with various problems. Moreover, it is not quite clear how to interpret changes in market prices (wages) in this framework. If e.g. wages change after effort (education) has been chosen, income will fall. Should this be interpreted as a lower return and thus a fair change or an exogenous change out of individual control and thus unfair? There is thus a huge leap from the theoretical concepts and measurement to making an empirical split between "fair" and "unfair" inequality. Moreover, identified inequalities of opportunity are not explicitly related to institutions, policies etc., making it hard to interpret cross-country findings and to draw policy implications. The fact that only lower bounds can be identified also makes interpretation problematic.

3.7   Social mobility – intergenerational links

Closely related to the equality of opportunity approach is work on social or intergenerational mobility considering the association between the socioeconomic position of parents and adult children. A high association is an indication of low social mobility and therefore possibly inequality of opportunities, and vice versa. A large empirical literature – both in sociology and economics – has considered this issue for various socioeconomic variables including income, education, occupations, health and social class; for surveys see e.g. Björklund and Jäntti (2009), Corak (2012, 2013) and Torche (2015). Brandén and Nybom (2018) provides an extensive discussion of international and Swedish evidence.

The empirical question is whether there is a relation between parent and child socioeconomic status. This raises methodological

issues on how to measure both parent and child socioeconomic position (for data reasons typically father-son relations), the appropriate age at which to compare, control variables etc.; see Corak (2013) and Torche (2015) for discussions.

Studies using income as a metric focus on the elasticity of child income (relative to the mean) to parent income (relative to mean) - the intergenerational income elasticity[26]. This compares the child's position in the income distribution in terms of relative income to the position of the parent. A high elasticity is an indication of low social mobility, and vice versa. The elasticity is usually found to be in the order of 0.15 to 0.50, with wide country differences; see Corak (2013). The aggregate elasticity is an average measure which may not fully capture intergenerational mobility as it may be different e.g. for low- and high-income groups; see Torche (2015). Based on income deciles, a mobility matrix can be constructed to study upward (children with low income parents moving up in the income distribution) and downward mobility (children with high income parents moving down in the income distribution). Transition probabilities generally differ across the income distribution, and persistence tends to be higher at the low and the high end of the income distribution. Developments since the 1990s go in the direction of more persistence at both the bottom and top of the income distribution; see OECD (2018a). Bratsberg et al. (2007) find a clear non-linear relation for Denmark, Finland and Norway, where the intergenerational income elasticity is flat at low to medium income levels but increases at higher income levels. For Sweden, Björklund et al. (2012) analyse intergenerational mobility at the top of the income and earnings distribution. They find very strong intergenerational persistence, and for the very top (top 0.1%) the intergenerational income elasticity is approximately 0.9. IQ, non-cognitive skills and education of the sons are all unlikely channels in explaining the strong transmission, but wealth is very important.

For education there is also strong social persistence; see OECD (2018a). This applies both in the bottom and at the top; that is, the children of low skilled parents are more likely to become unskilled compared to other groups, and children of highly educated are more

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[26] Vosters and Nybom (2017) combine multiple indicators, and also consider the dynamics across three generations for Sweden and the US. The findings are in line with those reported in the text. Björklund and Jäntti (2012) analyse the intergenerational link in labour outcomes.

likely to become highly educated than other groups. Figure 3.22
shows the odds ratio that children get a tertiary education depending
on the parents' education. Across all OECD countries, social
background matters for educational achievements, but the effect is
smaller in the Nordic countries. The barrier is not only economic,
cultural and social capital also matter critically (Holm and Jæger
(2007)). It is also noteworthy that even evaluated for the same per-
formance (grades), there is a social gradient in educational perfor-
mance and achievements; see OECD (2018a). The advantage of
having highly educated parents is smaller in countries – like Sweden
- with high education levels, high overall quality of overall schooling,
and large public involvement in education (smaller private costs); see
OECD (2012b)[27]. Landersø and Heckman (2017) argue, based on a
comparison of Denmark and the US, that the more child-/educa-
tion-generous Danish welfare state, on the one hand, contributes to
improve the educational options for disadvantaged children, but the
social safety net, on the other hand, discourages education.
Consequently, the family influence/child education relationship is
very similar to that found for the US.

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[27] Previous schooling has a substantially larger impact on preparing students from less-
educated families to enter higher education. There is a link between inequalities in early
schooling and the share of students from families with low levels of education enrolling in
higher education; see Heckman and Mosso (2014).

Figure 3.22   Odds ratio to access tertiary education by parents' educational attainment, 2012
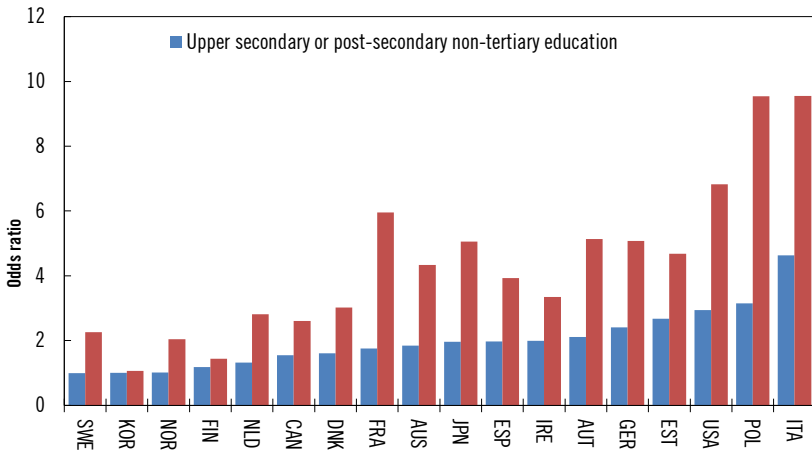
Note: The "odds ratio" gives the relative likelihood of participating in tertiary education for individuals whose parents have upper secondary or are participating in upper secondary education compared to individuals whose parents do not have this level of education; i.e. the latter is the reference group.
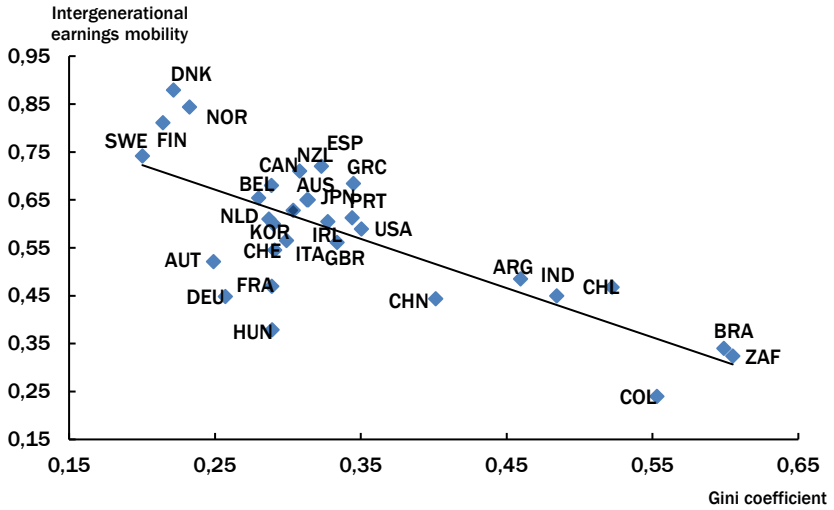Data source: OECD (2014).

It is a contested issue how much of the intergenerational linkage in social positions is due to inherent abilities (nature vs. nurture). Evidence suggests that both play a role, as should be expected, but that nurture has a non-trivial importance; see Björklund and Jäntti (2009). Holmlund et al. (2011) provide an overview and discussion of various methods. Among other things, the authors conclude that "...we think that all these twin, adoption, and IV findings suggest that schooling is in part responsible for the intergenerational schooling link: more educated parents get more educated children because of more education" (page 626). However, Grönqvist et al. (2017) find on Swedish data that abilities to a large extent are handed down from parents to children. Their conclusion supports that families are important for the formation of both cognitive and non-cognitive abilities.

Social mobility is often associated with the US as the land of opportunities with prospects of upward mobility ("The American Dream"). Based on this, one would expect to find intergenerational mobility to be high in the US. However, in a comparison of the US and Sweden, Björklund and Jäntti (1997) found that Sweden had lower income inequality, but not lower (possibly higher) social

mobility than the US. This finding holds more widely when including other countries (see e.g. Corak (2013)), and this observation – known as the Gatsby curve – is illustrated in Figure 3.23 for OECD countries. The figure shows a cross plot of a measure of intergenerational earnings mobility and income inequality. Countries with low income inequality tend to have high intergenerational earnings mobility, and vice versa. Notably, the Nordic countries cluster to the North-West having low income inequality and a high intergenerational earnings mobility. In a comparison of Germany, Norway, Sweden and the US, Bratberg et al. (2017) also find that upward mobility at the bottom is much lower in the US than in the three other countries. Hotler (2015) documents a strong negative cross-country correlation between intergenerational earnings persistence and measures of tax progressivity and public expenditures on tertiary education. Herrington (2015) finds that a large part of the difference between Norway and the US in the "Gatsby-plot" largely can be explained by public education (having taken into account distortionary financing hereof). Most of this effect on mobility is explained by education, while the larger part of the inequality difference is explained by taxes/transfers. Early childhood education explains most of the difference in mobility. Havnes and Mogstad (2015) find that a large-scale expansion of subsidized childcare in Norway had positive effects in the lower and middle parts of the earnings distribution of exposed children as adults, and negative in the uppermost part. Moreover, it contributed to increase intergenerational income mobility. Hassler et al. (2007) develop a model where inequality and mobility are jointly determined. A key insight is that the relation between the two may be positive or negative depending on the shocks affecting the economy. Public education and subsidies to education produce a negative relationship, while differences in labour markets like skill-biased technological changes or a compressed wage structure generate a positive relationship.

Figure 3.23   Intergenerational income elasticity and income inequality

Note: Earnings mobility is proxied by 1 minus the intergenerational earnings elasticity of fathers with sons. Gini-coefficients refer to the mid-1980s/early 1990s.
Data source: OECD (2018a).

The evidence reported in Figure 3.23 gives rise to the hypothesis that inequality reduces intergenerational mobility. A possible explanation is that increasing inequality reduces equality of opportunities, leading to lower intergenerational mobility, or that increasing inequality "can stifle upward social mobility, making it harder for talented and hard-working people to get the rewards they deserve", OECD (2011a, p. 40). If so, the trend increase in inequality may be expected to lead to declining social mobility. These aspects are further discussed in the theory part, Section 5.

While income inequality has increased for the US in recent decades, the evidence is inconclusive as to whether intergenerational mobility has decreased; for a discussion see Torche (2015). The absence of a trend in the standard measure of intergenerational mobility in the US may reflect that it is not sensitive to persistence at the bottom and top of the income distribution; see Davis and Mazumdar (2017) and Kearney and Levine (2015). Aaronson and Mazumdar (2008) consider the 90/10 income ratio and find it positively related to the intergenerational earnings elasticity. They also find a relation to the skill premium.

Intergenerational mobility estimates consider only one outcome variable, e.g. income, and do not capture the full influence of family background. Therefore, inequalities in opportunities are potentially underestimated. The interaction between families, markets and social structures frames a child's opportunities and influences the intergenerational link between parents and children. Hence, it is difficult from intergenerational mobility measures to infer precise policy implications. Many reasons could explain intergenerational linkages which are not reason for policy intervention. A pertinent question is whether persistence is explained by inherited abilities. In a study for the US, Bowles and Norris (2002) conclude that the genetic transmission of IQ appears to be relatively unimportant for intergenerational transmission of economic status, see also evidence for Sweden reported above.

In summary, the empirical work reported above documents that social (parent) background plays a strong role for the opportunities of children. The persistence in income, educational and social positions is strong in most OECD countries, and there is some indication that this persistence has increased in recent years, which has reduced social mobility. This may be a contributory factor why recent developments are considered unfair and not yielding opportunities for all. While there is also intergenerational persistence in Sweden, it is at a lower level than most other OECD countries, and it does not display an increasing trend.

4   Empirical evidence – inequality and growth

Turning to the aggregate or macro-relation between inequality and economic performance (here: economic growth) there are two distinct channels: the growth-to-inequality link - how does growth affect income inequality, and the inequality-to-growth link - how does income inequality affect growth?

Theoretical explanations for either of these linkages are discussed in Section 5, while this section discusses the empirical evidence. Empirical studies tend to be based on reduced form models to establish how inequality affects measures of economic performance without necessarily clarifying the specific route through which such a relation arises. One problem with this approach is that both growth and inequality are endogenous variables[28] affected by various factors, including new technologies and globalization. This shortcoming is particularly important when considering medium- and long-run aspects. Since inequality and economic performance are mutually interrelated, it is hard, if not impossible, to draw any policy conclusions from empirical relations between the two. Most

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[28] Let g denote growth in per capita income and I be some measure of income inequality. The inequality-to-growth link can thus be formulated $g_t = g(I_t, z_t)$, where z is (a vector of) an exogenous variable affecting growth, and similarly the growth-to-inequality link is $I_t = I(g_t, z_t)$, where the exogenous variables may differ between the growth and the inequality relation. This simple setting makes clear that the two variables are interrelated in equilibrium, since $g_t = g(I(g_t, z_t), z_t)$, and hence in equilibrium $g_t = g^*(z_t)$ and $I_t = I(g(I_t, z_t), z_t)$ and in equilibrium $I_t = I^*(z_t)$. It follows that $\frac{\partial g}{\partial z} = \frac{g_z + g_I I_z}{1 - g_I I_g}$ and $\frac{\partial I}{\partial z} = \frac{I_z + I_g g_z}{1 - g_I I_g}$. This illustrates how changes in different types of exogenous variables, z, may make growth and inequality move in the same and opposite directions, and that knowledge of g_I (the direct effect of inequality on growth) or I_g (the directed effect of growth on inequality) are only part of the answers to how the general responses will be.

empirical studies focus on the link between inequality (typically measured by the Gini-coefficient) and economic growth or (per capita) income, and such studies are discussed in this section.

4.1   The growth-to-inequality link

The possible links from growth, or more generally economic development, to inequality are associated with the idea of a so-called Kuznets curve (see Kuznets (1955)), giving a bell-shaped relation between growth and inequality[29]. Kuznets (1955) derived this non-linear relation as a consequence of a structural transition from an agricultural to an industrialized society and the associated flow of workers from rural (low income) to urban areas (high income). Initially, in the agricultural society, all would have the same low income, during early phases of industrialization some would get a higher income by moving to towns and working in the manufacturing sector, but that would create income inequality. Eventually, when the transition from an agricultural to an industrial society has reached a certain level, most are working in manufacturing with a high income, and further transition reduces income inequality.

Empirical work based on cross-country studies found support for the bell-shaped relation between the income level and income inequality; see Fields (2001) for discussion and references. However, more detailed studies subsequently failed to identify such a relation for the time series path of single countries; if anything, inequality was generally declining with economic development. In a recent panel study using data for 80 countries over the period 1960 and 2007, Brueckner et al. (2015) find evidence that a higher per capita income level is associated with less inequality.

The observed trend increase in inequality (see Section 3.2) observed in many countries questions whether higher per capita income is associated with declining inequality. This has prompted a discussion of why economic progress in recent years has been

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[29] As an example, assume that working in the traditional sector yields an income y^t, in the "new" sector income is y^n and that a share s $(1-s)$ works in the traditional (new) sector. Average income is $y = s\ y^t + (1-s)y^n$ and its variance $V = (s(1-s)^2 + (1-s)s^2)(y^t - y^n)^2$ and hence $dV/ds = (1-2s)(y^t - y^n)^2$ and $V = 0$ for $s = 0$ and increasing in s up to $s = 1/2$ and then decreasing in s, and $V = 0$ for $s = 1$.

associated with increasing inequality. The two main drivers are technological changes and globalization.

Technology and globalization

The two generic growth drivers are technological changes and globalization. Often, it is hard to disentangle the effects of the two. Political decisions to integrate have been motivated and driven by technological changes, but this has also facilitated technology transfers and development. There is wide agreement that new production technologies as well as economic integration (exploiting comparative advantages) have driven growth and thus improvements in living standards. However, inherent in these developments are also factors which may increase inequality in market incomes, especially via the effects on labour markets, but also via policy responses (see Section 6). These mechanisms have been extensively discussed and will briefly be discussed here.

The two growth drivers – technology and globalization - affect the labour market from the demand side. How this translates into wage and employment changes depends in the short run critically on labour market structures, and the longer-run effects also depend on education (supply side effects). Therefore, the same drivers can have very different effects across sectors and countries.

A prime effect is the skill-bias resulting from both new technologies and economic integration. They both have a tendency to shift labour demand away from low- towards high-skilled groups. Technological developments tend to reduce the need for manual workers, and the economic integration (trade and production relocation via e.g. outsourcing) does so by shifting production intensive in low-skilled to areas with a large supply of and low wages for unskilled workers. In high income countries, these changes are largely to the benefit of skilled groups and a disadvantage to less skilled groups. How this affects the wage distribution in the medium to long run depends critically on the education achievements of the work force. There is a race between education and technology. If education changes the educational composition of the workforce alongside the changes unfolding on the demand side, the net effect on relative wages and unemployment is small. A number of empirical

studies (see below) show that the educational expansion during the 1950s and 1970s had an important effect on wage distributions. Alongside the skill-biased changes in labour demand, there was general up-skilling of the work force, avoiding large skill imbalances developing between the demand and supply side. Following Tinbergen (1972), this may be interpreted in the way that the distribution of qualifications kept up with changes in the distribution of demanded qualifications, implying that the wage distribution was not much affected.

As to the more recently observed widening of wage inequality, Goldin and Katz (2009, p. 291) conclude that the "lion's share of rising wage inequality can be traced to an increasing educational wage differential". Technology and globalization are winning the race against education. OECD (2011b) also presents some empirical evidence showing that widening earnings inequality is driven by technological changes, but also deregulation and less generous social transfers (see also Jaumotte et al. (2013)).

There has been some discussion of the relative role of technological changes and globalization for the labour market. As noted above, the two drivers are intertwined, and attempting to separate the two is difficult, if not impossible. The consensus is that technological changes are more important than globalization, but other factors like reforms of tax and unemployment insurance systems also contribute to explain the observed increase in wage dispersion in a number of countries; see e.g. Helpman (2016), Jaumotte et al. (2013) and OECD (2011a, 2017b). An analysis for Sweden by Korpi and Tåhlin (2009) suggests that the rise in skill demand has been met by an increase in skill supply, and possibly that the latter has dominated the former. Lindquist (2005) argues that the skill-premium in Sweden increased in the 1980s and 1990s, because changes on the demand side outpaced the growth in the number of educated. Domeij and Ljungqvist (2019) present other data showing a smaller increase in the skill-premium and attribute this to an expansion of the demand for unskilled labour by the public sector. As discussed in Section 4, it is noteworthy that the wage distribution has remained rather steady in Sweden in recent years. Thus, the effects discussed above have not had major effects on the Swedish labour market compared to many other countries.

This debate on skill-bias is still ongoing, and a recent amendment is the discussion of tasks and their implications for labour demand; see e.g. Autor and Acemoglu (2010). Lower transaction and information costs, seen most clearly for services deliverable electronically, lead to foreign competition in areas earlier considered as "non-tradeables" and which often have a high intensity of "medium" educated workers. Thus, the importance of globalization in terms of winners and losers is not necessarily monotonously related to the position in the qualification distribution, and polarization may result. A counteracting effect is that an ageing population tends to increase labour demand in the medium educational segment via demand for care and services. In any case, these discussions stress the importance of labour market flexibility and the human capital of the work force, also in a forward-looking perspective.

4.2   The inequality-to-growth link

Recent discussions on the nexus between inequality and growth have been motivated by evidence indicating that more unequal societies tend to have lower growth; see e.g. the widely cited book "The Spirit Level" by Wilkinson and Pickett (2009). Major institutions like the OECD, IMF and the World Bank recently published studies with similar findings; see e.g. Cingano (2014), Ostry et al. (2014) and Brueckner and Lederman (2015, 2018).

A relatively large empirical literature considers the relation between inequality and growth. The outset is the so-called growth equation, relating growth over some period to initial income as well as various control variables. Initial income is included to capture convergence or catching-up; that is, countries with initial low income can have higher growth rates as they catch up to the leading countries. Initial inequality is included among the control variables to test whether subsequent growth depends on inequality. This lag-structure addresses some, but does not remove all, endogeneity issues in the inequality-growth relation.

A first wave of cross-country studies tended to find that inequality had a negative effect on growth; see e.g. Bénabou (1996a) and De Dominicis et al. (2008) for surveys. Since Forbes (2000), dynamic panel models have been the standard in the literature; for surveys see

e.g. Neves and Silva (2014) and Cingano (2014). Forbes (2000) found inequality to have a positive effect on growth, but later studies have found a negative effect; see e.g. Cingano (2014) and Ostry et al. (2014). However, results differ across studies, and this may be attributed to differences in sample period, country selection and precise estimation methods[30]; for a discussion see e.g. Neves and Silva (2014)[31].

Figure 4.1 shows the change in inequality and economic growth over the period 1990-2014 for 22 OECD countries, and there is no systematic correlation (there are some clear outliers: Poland and Ireland). Countries having experienced the largest increases in inequality have not had higher economic growth, or vice versa.

Figure 4.1   Changes in inequality and economic growth, OECD countries 1990–2014
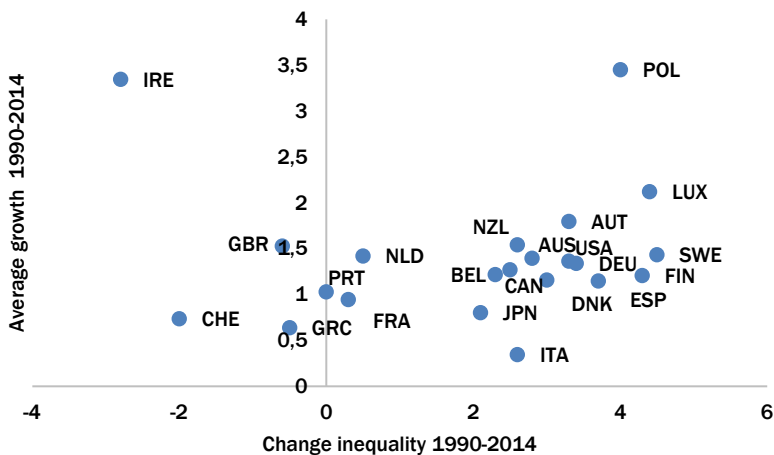
Note: Inequality is measured by the Gini-coefficient over equivalized disposable income, and GDP is the average growth rate for GDP in fixed prices. The correlation between the two plotted variables is -0.06. Data source: Andersen and Maibom (2019).

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[30] See discussion in e.g. Kolev and Niehues (2016).
[31] Chambers and Krause (2010) consider how the link between inequality and growth is affected by human and physical capital accumulation. Inequality is found to be more harmful to economic growth in countries with low levels of human capital relative to real capital, but this pattern does not hold in nations with a more educated work force. Cingano (2014) also includes human capital as a control variable, but it is insignificant, contrary to most other growth equations, when inequality is included. This suggests that human capital and inequality are correlated. See also Neves and Silva (2014) for a discussion of the role of various control variables.

Figure 4.2 considers whether initial income inequality in 1990 is related to subsequent growth over the period, and also in this case there is no correlation between the two measures. These simple cross plots are, of course, only illustrative, but they point out that there are no obvious correlations in the data. The empirical work referenced takes a more detailed approach.

Figure 4.2   Inequality 1990 and economic growth 1990–2014, OECD countries
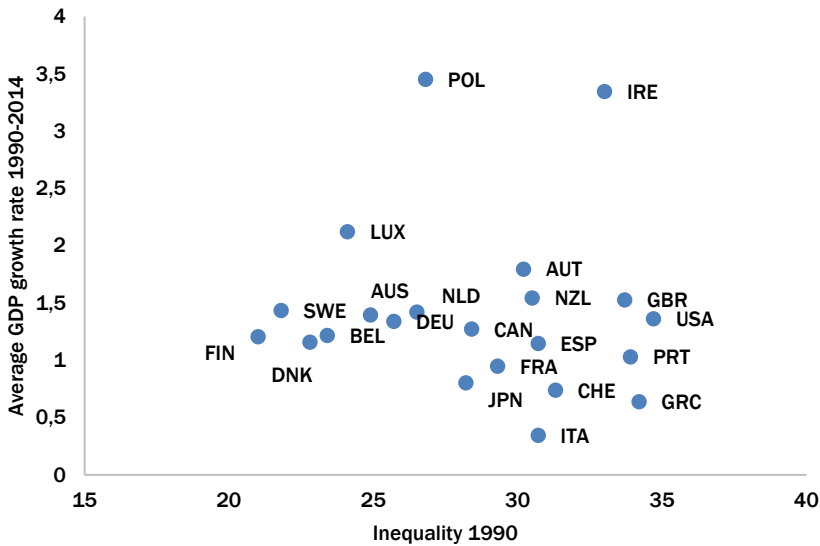
Note: See figure 4.1.

In their survey Neves and Silva (2014) conclude:

"To sum up, from all the studies reviewed we reach the conclusion that inequality is most likely to affect growth negatively in some cases, and positively in others, depending on the specification for the growth regression, the initial level of inequality, the whole shape of the income distribution and the development level. The development level is particularly relevant, as most studies have shown that the inequality-growth effect is negative in developing economies and insignificant or even positive in developed countries." (Neves and Silva (2014), p. 13).

An important question is whether inequality affects growth differently in low- and high-income countries; see Barro (2000) and Castelló-Climent (2010). Brueckner et al. (2015, 2018) present a

non-linear model (including the cross product between initial income and initial inequality) to reconcile different results in the literature across low- and high-income countries. They find support for a non-linear relation where inequality tends to increase transitional growth in low-income countries and to reduce growth in high-income countries.

Another interesting question is whether inequality at the top or the bottom of the income distribution have different effects on growth. Cingano (2014) finds that inequality at the bottom (especially 3rd and 4th deciles) has a significant negative effect on growth, while inequality at the top has a negative, but insignificant, effect on growth. Dabla-Norris et al. (2015) find that more income to top 20%- incomes decreases growth, while more income to lowest income deciles increases growth.

The approach adopted in the studies reviewed above raises several questions. Equations of the form estimated may identify short-run or transitional growth effects[32]. But the key question concerning the long-run effects of inequality on economic performance is not settled by such estimations[33]. A proper identification of the inequality-to-growth link requires that all relevant control variables of

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[32] In standard growth models (exogenous growth), long-run growth in per capita income is determined by productivity increases. The growth rate is policy dependent (endogenous growth) under some conditions if it affects real or human capital formation or productivity growth; see Barro and Sala-i-Martin (1995).

[33] The standard equation estimated has the following form:

$$lny_t - lny_{t-1} = \alpha_0 + \alpha_1 I_{t-1} + \alpha_2 lny_{t-1} + \alpha_3 z_t$$

where y is per capita income, I a measure of income inequality and z all possible exogenous variables. The parameter of interest is α_1s saying how inequality affects the instantaneous growth rate. The above equation implies the following long-run relation between income and inequality, where a * refers to steady state values.

$$lny^* = -\frac{1}{\alpha_2}[\alpha_0 + \alpha_1 I^* + \alpha_3 z^*]$$

Only if the set of control variables is completely specified does this identify the link from inequality to income. Even if this is the case, the above expression is not a closed form solution, since inequality is also an endogenous variable; i.e. a change in z would not only have a direct effect on y, but also in general affect I; see footnote 25. This problem is even more clearly seen in the model estimated in Brueckner et al. (2018), which has the following form:

$$lny_t - lny_{t-1} = \alpha_0 + \alpha_1 I_{t-1} + \alpha_2 lny_{t-1} + \alpha_4 I_{t-1} lny_{t-1} + \alpha_3 z_t$$

implying a long-run relation

$$lny^* = -\frac{1}{\alpha_2}[\alpha_0 + \alpha_1 I^* + \alpha_4 I^* lny^* + \alpha_3 z^*]$$

It follows that the partial effect on income of a change in inequality is

$$\frac{\partial lny^*}{\partial I^*} = -\frac{\alpha_1}{\alpha_2} - \frac{\alpha_4}{\alpha_2} lny^* - \frac{\alpha_4}{\alpha_2} I^* \frac{\partial lny^*}{\partial I^*}$$

and hence the effect of inequality on income cannot be assessed solely from α_1, α_2 and α_4.

importance for growth are included alongside inequality, and this is a huge challenge. Causal inferences are generally problematic for this type of empirical work. A fundamental problem is that growth and inequality are two endogenous variables, and it is not generally possible to make unconditional statements on the relation between these two variables.

It is not quite clear which question is being pursued when asking how inequality is affecting growth. Is it a question of country comparisons, or a question on the marginal effect of a change in inequality in a given country? These two questions are often mixed up. The marginal effect can take country differences (endowments, specialization, political systems and preferences and institutions) as given, but in a country perspective they may play an important role. The policy implications of these studies are thus unclear.

There is a huge leap from such empirical evidence to specific policy recommendations for several reasons. The effect of a given policy on economic performance cannot solely be identified by its effect on inequality, since economic performance may be affected through other routes as well. A change in inequality is not related to any policy instruments, e.g. taxes and transfers. It is implausible that e.g. a change in the design of the tax and benefit system would have an effect on growth only running via the inequality channel[34]. Interpreted at face value, the approach implies that any policy change reducing inequality would affect growth in the same way. As discussed below, both theory and empirical evidence contradict this assumption.

4.3   Trade-off between efficiency and equity – frontier approach

In interpreting data on inequality and economic performance, it is useful to repeat basic insights from economic theory on the relation between efficiency and equity. While there are numerous measurement issues, the standard approach is to use per capita income as a measure of efficiency, and the Gini-coefficient (defined over disposable income) as the metric of equity.

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[34] Ostry et al. (2014) also consider the potential separate effect of inequality and redistribution simultaneously, and find that redistribution has a negative, but insignificant, effect.

Standard economic theory predicts a trade-off between efficiency and equity as illustrated in Figure 4.3 (left panel). The basic argument is that if the market distribution of incomes is not found acceptable, and taxes and transfers are used to achieve a more equal distribution of income, it comes at the costs of distorted incentives and thus lower efficiency. Hence, if there is a preference for redistribution to reduce inequality, this implies a less efficient economy (lower income level). Political preferences determine how to trade-off efficiency for equity. It is important that the trade-off drawn in Figure 4.3 gives the upper bound or frontier to the choice set; i.e. all combinations below are also possible.

Figure 4.3　　Trade off between efficiency and equity
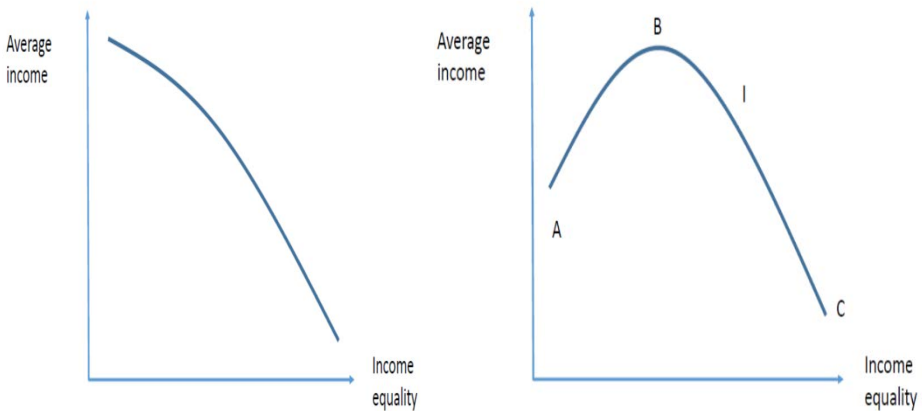
There are many reasons – political, institutional and historical – why the frontier is not reached. Redistribution policies may be designed in a bad way or rent seeking activities of various sorts may be some of the reasons why a particular country is positioned inside the frontier. Hence, when considering cross-country observations, it is important to take into account that countries may either be at or below the frontier. The policy set is clearly different in the two cases. Countries at the frontier are "efficient" in the sense of having reached the highest level of efficiency for a given level of equity, or oppositely the highest level of equity for a given level of efficiency. Further policy changes involve a trade-off between efficiency and equity. However, for countries inside the frontier, a movement

towards the frontier is possible if various impediments or inefficiencies are overcome (structural reforms), and this makes improvements in both the efficiency and equity possible as the country moves closer to the frontier and in that sense catches up to best practice countries.

One question is whether this classical reasoning overlooks that public intervention may overcome various market imperfections. Market-failures may arise due to information problems, transactions costs, market power and externalities, and therefore the market mechanism may suffer both from lack of competition (market power) and missing markets. A properly designed public intervention may mitigate some of these failures, and therefore lead to simultaneous improvements in average income and income inequality. This is illustrated in Figure 4.3 - right panel, and theoretical arguments are given in Section 5. Starting from the laissez-faire situation in A, intervention may both increase income and lower income inequality (along the A-B segment). However, by continued intervention, a point like B is reached, and further intervention strikes a trade-off where less inequality comes at the costs of less average income (the B-C segment). The reason is that the marginal gains from further inventions are declining while the marginal costs are increasing. It is important that the path illustrated in Figure 4.3 does not apply to any policy intervention. It assumes an intervention properly targeted to prevailing market imperfections. However, under mild conditions it would never be optimal to be at a position on the segment between A and B. Further, intervention would be associated with more income and less income inequality – a win-win situation. If the social welfare function is increasing in both average income and equality, the optimal policy is somewhere on the segment between B and C. The optimal policy thus encounters a trade-off between efficiency and equity. The point made above on the importance of distinguishing between countries inside or at (or close to) the frontier thus remains intact when taking into account how public intervention may address market failures.

This line of reasoning is pursued in Andersen and Maibom (2019), making an attempt at estimating the best practice frontier observed in the data for OECD countries over the period 1980-2014. A so-called stochastic frontier estimation allows an estimation of the best practice frontier. Panel methods can be used to estimate

the frontier (33 countries over the period 1970-2014) including various controls; for details see Andersen and Maibom (2019).

The outcome of this approach is shown in Figure 4.4, displaying the estimated frontier as well as country observations for per capita income and equality measured as one minus the Gini-coefficient (here defined to be between 0 and 1)[35]. In accordance with economic theory, the best-practice frontier has a negative slope. Whether the slope is high or small is up for discussion (the elasticity of per capita income to equality is about -0.35). From a Nordic perspective this finding may be interpreted as showing that the design of the Nordic welfare model ensures a small cost in terms of average income of achieving low income inequality.

Importantly, while some countries are at or close to the frontier, a number of countries are positioned well inside the frontier. A fact which is not taken into account when taking a simple cross-country perspective on the data. This also underlines the point that it is unlikely to find support for unconditional statements that inequality harm (benefits) economic performance, since the policy options are clearly different for countries at (or close to the) frontier compared to countries well inside the frontier.

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[35] The findings are similar when other inequality measures (P90/P10, poverty rates) or income concepts (GNI, GDP) are used.

Figure 4.4   Efficiency and equity – OECD countries 2014
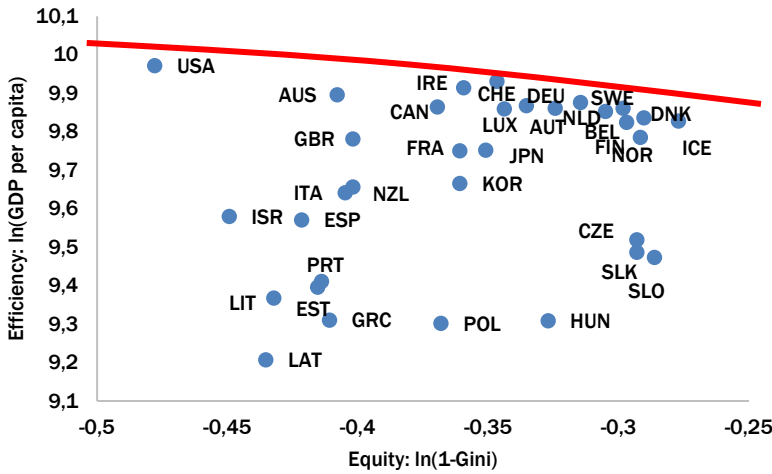
Note: Efficiency is here measured by log Gross Domestic Product per capita, PPP US $, and Equity is log 1-Gini-coefficient defined over equivalized disposable income. Country observations are corrected by time-dummies and noise terms. See Andersen and Maibom (2019) for details.

Interestingly, there are no statistically significant changes in the slope of the frontier over the sample period 1970–2014. This is stunning in the perspective of new technologies and globalization etc. ongoing over the sample period, but the evidence does not support the common perception that the trade-off has become steeper over time. Economic growth over the period has implied a parallel upward shift of the frontier, leaving its slope unchanged.

Some countries – Denmark, The Netherlands, Sweden, Switzerland and the US - are consistently at or close to the best practice frontier, while others are inside. Ireland is an example of a country which over the years has moved closer to the frontier. Italy and Spain are examples of countries having increased the distance to the frontier.

It is interesting to consider the development in the US and Sweden, since these countries have experienced increasing inequality and are often highlighted in policy debates. As noted above, both countries are consistently close to the estimated best practice frontier. The developments over time are illustrated in Figure 4.5, showing that the countries have been moving up along the frontier, gaining higher average income at the cost of more inequality. This suggests that the larger part of the development must be assigned to

policy choices to shift position along the frontier, accepting less equity but gaining in terms of efficiency (per capita income).

Figure 4.5   Efficiency and equity - US and Sweden, 1980–2010
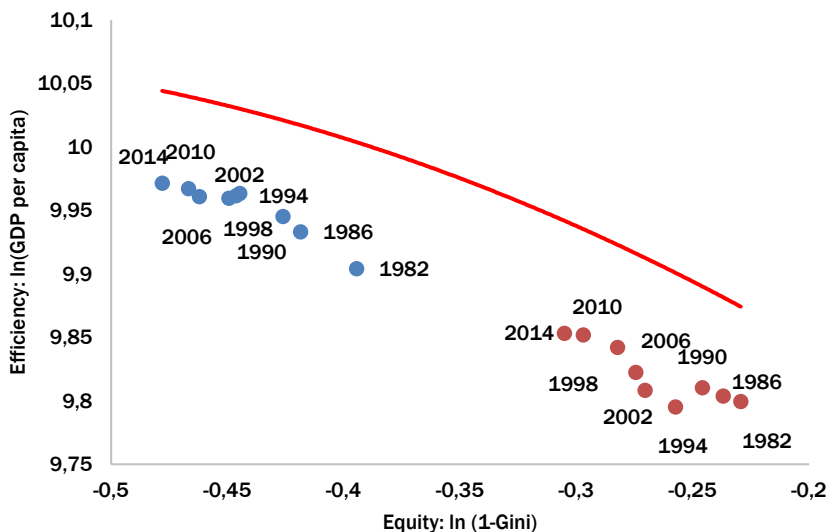
Note: Note different scale compared to Figure 4.4.
Source: Andersen and Maibom (2019).

The trade-off between efficiency and equity is caused by the distortionary effects of taxation. These distortions are related to microeconomic mechanisms and thus hard to summarize in a single macro-metric. A crude measure is the tax share (overall tax revenue relative to GDP), and using this, the estimation shows that for frontier countries a higher tax share does reduce per capita income, but also inequality. This captures the trade-off between efficiency and equity as exposed in textbooks

A shortcoming of this approach is that the frontier is identified by using country variations, and thus implicitly the same slope of the frontier is estimated for all countries. There are good reasons why different countries (or clusters of countries) may face different frontiers, and there is need for more work to clarify this. Related, the approach is parsimonious in terms of controls. The results are thus of interest in relation to showing the importance of making the

frontier explicit when approaching the data to consider possible relationships between economic performance and inequality.

Empirical evidence does not point to simple links between income inequality and economic performance. It is possible to find periods where inequality and economic performance have moved both in the same and in opposite direction. This is to be expected, since both variables are endogenous variables affected by numerous factors. This does not deny that there can be mechanisms driving inequality, which also have implications for economic performance, but it stresses the need to be specific on these mechanisms. Also, it does not deny that there are trade-offs between economic performance (efficiency) and inequality (equity) in policy choices, and empirical evidence shows this for "best practice" countries. Other countries may underperform relative to best-practice countries due to various institutional, political impediments, and structural reforms addressing them may make improvements in both economic performance and equality possible. But these effects depend on reforms specifically targeting the imperfections rather than simple unconditional relations between inequality and economic performance.

5   Mechanisms linking inequality and economic performance

What are the links through which inequality may have causal effects on growth? It is important to be precise on the possible mechanisms to infer policy implications. As already pointed out, the relation between inequality and economic performance is complex, and there are no unconditional arguments that inequality has positive or negative effects on economic performance. Different types or forms of inequality may have different effects on economic performance. Similarly, difference types of shocks and changes in society may have different effects on inequality and economic performance.

While the recent discussion has focused mostly on how inequality may have detrimental effects for economic performance, it is important to stress that there are also mechanisms running in the opposite direction, implying that inequality is associated with improved aggregate performance. This is the standard argument in that redistributive policies aiming at reducing income inequality release detrimental effects on incentives to work, save, innovate etc., causing a trade-off between equality and economic performance, as discussed in Section 4.3. There are other arguments why some inequality may support economic performance. A classical argument is that income/wealth inequality increases aggregate savings. If savings rates are increasing in income, it follows that income inequality may boost aggregate savings and thus capital accumulation; see Lewis (1954) and Kaldor (1957). In standard growth models, the steady state per capita income level is increasing in the savings rate; see Barro and Sala-I-Martin (1995). It follows that steady state per-capita income may be higher with some income/wealth inequality if it raises the savings rate. Related is the question whether higher wealth and capital accumulation trickle down, leading to increases in

income for low-income groups; i.e. some inequality may increase the level of income for low-income groups. Aghion and Bolton (1997) consider this issue in a setting with imperfect capital markets making it difficult for people with low wealth to finance their investment plans. As more capital is accumulated by the rich, funds become available to the less wealthy on more favourable terms, making it easier for some of them to realize their investment plans. There is thus a trickle-down mechanism affecting the overall level of investments and thus growth. Importantly, this mechanism does not necessarily imply that an efficient level of investments is achieved, and it does not remove arguments for redistribution. Related is the question whether inequality supports entrepreneurship and innovation. Aghion et al. (2019) find a correlation between innovation and top incomes, but causality is an open question - evidence suggests that it runs from innovation to top incomes.

The remainder of this section will look into mechanisms through which inequality may have detrimental effects on economic performance. Recent debates have focused on the possibility that inequality is being harmful for economic performances, and it is accordingly important to clarify under which conditions this is the case. From a policy perspective, it also provides insights on the possible routes to reduce inequality without impairing economic performance. A possible link where inequality harms economic performance leads to a consideration of various forms of imperfections; see Aghion et al. (1999). A prime channel through which such a relation may arise is via initial conditions or stocks. That is, accumulation of various forms of capital constitutes the initial conditions, which may differ across individuals and have implications for economic performance. Human capital is a main channel through which inequality may have a negative effect on economic performance (income/employment levels, growth).

There are two main arguments why human capital creates a link between inequality and economic performance. The first is the strong educational gradient in employment and wages. Inequality in outcome is thus strongly related to inequality in education; see Section 3. The micro-evidence supporting that there is a link between education and labour market outcomes is vast. There is a strong education gradient in wages, employment rates, retirement ages etc.; see e.g. OECD (2018a). The macro-evidence comes in

different forms. Empirical work typically includes measures of education as an important control variable in models explaining income levels or growth rates (applies to most studies referred in Section 4 on the inequality growth nexus). There has been some discussion on the quantitative importance of education, although it is always found to be positive. While earlier work found more moderate effects of human capital on growth, recent work finds a clearer role[36]; see e.g. de la Fuente (2011), Hanushek and Woessmann (2011) and Rossi (2018). One reason is that more recent studies not only measure education by e.g. years of education but also include qualitative measures of education. Education along the qualitative dimension (measured by various proficiency tests) is at least as important as along the quantitative dimension (years of education/level of education). Moreover, the quality of education for broad groups in the labour market is at least as important as it is for education of the elite; see Hanushek and Woessmann (2011). Lee and Lee (2018) provide cross-country evidence showing that a more equal distribution of human capital contributes to a more equal distribution of income.

The second reason why human capital links equality and economic performance is a fundamental difference between accumulation of real and human capital. While there may be diminishing returns to both forms of capital accumulation, it applies for real capital at both the firm or aggregate level, but for human capital only at the individual level since human capital is embodied in humans. Even though abilities matter and differ across individuals, diminishing returns to education imply that the distribution of human capital /education matters for the overall level of human capital. The social gains from human capital investments are larger if these investments are distributed across individuals[37]. The same does not apply to real

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[36] More recent work also points to issues with the specification of the empirical model and finds more clearly evidence for the effect of human capital on growth; see e.g. Sunde and Vischer (2015).

[37] Let human capital be given as $h_i = h(a_i, e_i)$, where a_i is ability, and e_i educational input. Total human capital is thus $h = \Sigma_i h_i$. Assume that $h_a(.) > 0$ and he $h_e(.) > 0$, $h_{ee}(.) < 0$ and $h_e \to \infty$ for $e \to 0$. If a given total educational input $e = \Sigma_i e_i$ is to be allocated to maximize total human capital, the optimum would have $h_e(a_i, e_i) = h_e(a_j, e_j)$ for all i,j. Hence, $e_i > 0$ for all i. If abilities and education are complements, $h_{ea}(.) > 0$, it follows that $e_i > e_j$ if $a_i > a_j$, i.e. there is a regressive bias, cf. Arrow (1971). For a general discussion of human capital formation, see Burgess (2016).

capital, and therefore the social gains from investments in real capital do not directly depend on the ownership distribution across individuals (although the ownership distribution matters for other issues).

The key question is how inequality may affect human capital accumulation and thus create a link between inequality and economic performance. There is a rather large theoretical literature exploring how inequality may influence educational choices and outcomes, and thus human capital accumulation. This work focuses on how initial circumstances or endowments in terms of parents' income, education, norms/values and neighbourhood may affect the educational achievements of their children; see Figure 5.1. The essence of the theories reviewed below is that education early in life determines labour market outcome/income later in life; i.e. a causal link runs from childhood conditions to labour market prospects (and more generally living conditions) and thus conditions in parenthood. The perspective is thus intergenerational with outset in the opportunities offered children. This work reviewed is thus closely related to the empirical evidence reported in Section 3 and brings a theoretical perspective on these findings and their implications for the relation between inequality and economic performance.

Figure 5.1   Intergenerational transmission mechanisms
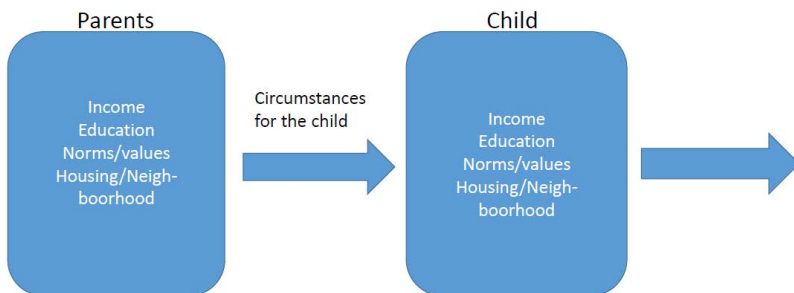
5.1   Family investment models

Altruism is a basic reason for intergenerational linkages between parents and children. Altruistic parents make monetary or non-

monetary transfers to their children, and this affects the choice set of children, not least for education. Hence, if parents are resource rich, it is more likely that the child will also become resource rich due to such transfers.

An early analysis of this linkage is Becker and Tomes (1989), considering an overlapping generations setting with altruistic parents where intergenerational transfers run via endogenously determined monetary transfers and exogenously given family "endowments" and thus non-monetary transfers (ability, norms etc.); see also Loury (1991). Parents' income depends on both endowments and market conditions (shocks). These shocks are transmitted across generations via the intergenerational linkages, implying that shocks to the parents affect their children, grandchildren etc.

The basic mechanism can be formulated as (more complicated lag structures may arise, but are neglected here to simplify):

$$y^{child} = f(y^{parent}, z)$$

where y is e.g. income, education, and z all other factors of importance for the income of the child (endowments and shocks), see also Solon (2004, 2013). Income mobility between parents and children depends on altruism and persistence in family endowments. Stronger altruism leads to stronger intergenerational linkages (persistence) in income, and thus lower income mobility. An empirical example of the relationship above is the intergenerational earnings elasticity considered in Section 4.

The interesting question is how strongly the position of the parents (y^{parent}) affects the position of the child (y^{child}). Figure 5.2 illustrates this relationship; for simplicity it is drawn as a straight line. In case (a), the parents' income exerts only a small influence on the child's income, while the influence is strong in case (b).

An important property is so-called mean-reversion. Income differences tend to even out over time. The arrows in Figure 5.2 illustrate this. Families with a low income tend to move up in the income distribution over time, and vice versa for families starting with a high income. Note that this disregards all other factors and is not saying that all families eventually end up with the same income. The point is that the effect of the intergenerational link tends to fade out over time (the past means less and less). There is mean-reversion

under plausible assumptions; that is, in the long run income converges to a stationary level independent of initial shocks (importantly, this presumes mean-reversion in family endowments).

Secondly, the speed of this process depends on the slope or strength of the intergenerational link as seen by comparing Figures 5.2(a) and 5.2(b). While there is mean-reversion, the adjustment process may span across several generations. There has been some controversy over this speed. Becker and Tomes (1986) argued that advantages or disadvantages of ancestors tend to disappear over three generations, implying a rather fast adjustment. However, there is evidence (also discussed in Section 3) supporting that the process is more slow; see the discussion in Solon (2018). However, as already discussed, it may be misleading to focus on one uniform process of intergenerational linkage across the entire income distribution, and more relevant to focus on the linkages arising in the top and the bottom of the income distribution, see also the empirical evidence in Section3.

Figure 5.2   Intergenerational linkages in income
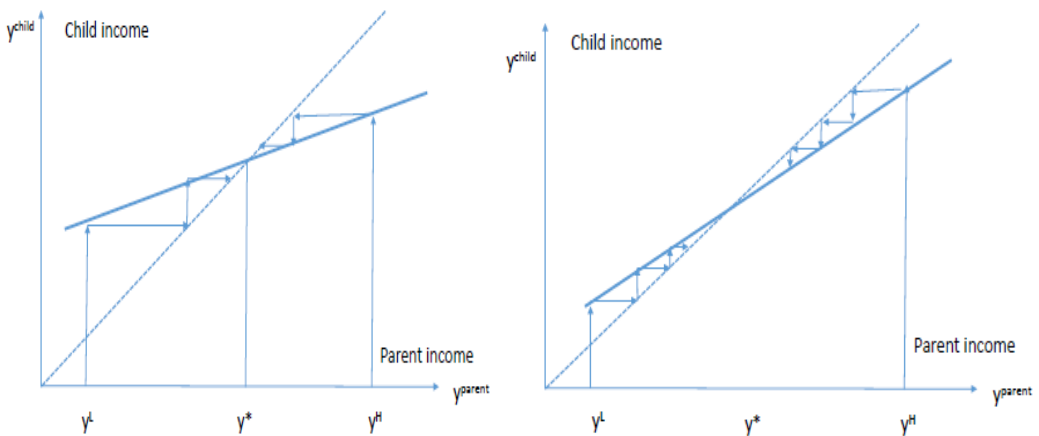
Becker et al. (2018) present a modified version of the basic family investment model to explain the observed strong intergenerational persistence for high income groups (the top). The model introduces complementarity in human capital accumulation such that higher human capital possessed by the parents' spill-over directly into higher human capital for the child, but also leads to more investment

in child education (can be afforded). The wage/income is assumed to be increasing in education at an increasing rate (convex earnings function), which generates particularly high returns at the top. In this setting high persistence at the top is possible, even if children have the same abilities. This is illustrated in Figure 5.3 by the non-linear relationship, implying that there are two attractors or stable steady state equilibria. For low/medium incomes (up to income $\underline{y}$), income converges to y^{*L}, while it for high incomes (income above $\underline{y}$) converges to $y^{*H} > y^{*L}$. Income differences persist across generations, since there are two different attractors for low- and high-income groups, respectively. We return to such multiplicities below.

Figure 5.3   Persistence at the top and bottom of the income distribution
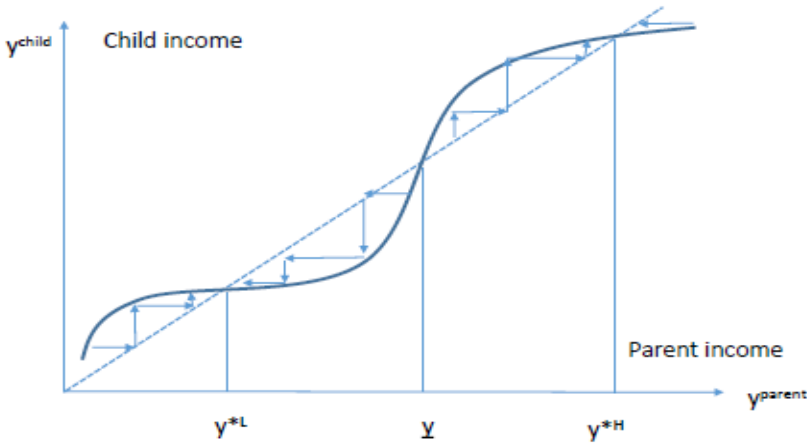
In this setting, rising inequality may or may not reduce intergenerational mobility. There is no effect if there is a general increase in the return to human capital, but if the return to high levels of human capital increases (more convexity), the result is an even stronger relation between parent-child income or human capital.

It is important to stress that the family investment model as presented so far is not associated with any imperfections as such; the intergenerational link is a consequence of altruism. Under altruism, unequal starting points (income or education) tend to be passed on across generations, but they may eventually fade out. These differences arising solely from the position of parents violate equality of

opportunity. This raises a difficult ethical dilemma: on the one hand, altruism is associated with non-egoistic behaviour, but, on the other hand, it is a source of unequal opportunities[38]. If the latter implies a locking-in of talent, it is also associated with efficiency losses; see below.

5.2 Capital market imperfections

Capital market imperfections may cause families to be caught with persistent low income (poverty trap). In the presence of capital market imperfections, the initial distribution of wealth may have a critical importance for accumulation of human capital and cause both inequality and persistence across generations (Lochner and Monge-Naranjo (2012)). If families are not able to self-finance education for their children, the chosen level of education will in general be reduced. This implies a locking-in of talent in the sense that the level of education chosen for given abilities etc. is reduced, compared to a situation with a perfect capital market.

The implications of capital market imperfections for the interaction between income/wealth inequality and human capital accumulation are analysed in a seminal contribution by Galor and Zeira (1993). All have the same abilities, but education has a fixed investment cost[39]. Parents are altruistic and bequeath their children. The capital market is imperfect in the sense that the borrowing rate exceeds the lending rate, which in turn implies that the opportunity costs of education depend on the ability to self-finance education. The wealth/income distribution across parents thus affects the educational opportunities for the children. Borrowing is too expensive to make education worthwhile for young receiving small bequests. Since the size of the bequest is related to the income of the parents, it follows that the children of rich people receive larger bequests and thus have better scope to self-finance education, while children with poor parents may receive so low bequests that they abstain from investing in education. This environment implies a stationary equilibrium with non-educated low-income families and

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[38] This raises a question of wealth/inheritance taxation and the role it plays for intergenerational interdependencies; see Kopczuk (2013).
[39] Models discussed in the previous section assumed education to be a continuous variable/input and may thus be interpreted as choice along the intensive margin.

educated high-income families; see Galor and Zeira (1993). This corresponds to the outcome illustrated in Figure 5.1. For families with low income (below y̲), bequests are so low that the children do not get education, and income converges to y^{*L}. For high-income families (above y̲), bequests are so high that the children can self-finance education, and their income converges to y^{*H}. The end-result is thus complete persistence (hysteresis) in the family position in the income distribution, and low-income families are caught in a poverty (low income) trap. The stationary equilibrium depends on the initial distribution of wealth. If initially, a large share of families has low wealth, the steady state equilibrium will also have a large share of non-educated and therefore low income/wealth families, and vice versa. An unequal distribution of income/wealth leads to a permanent lower level of human capital and thus per capita income. Inequality is associated with lower average income. Importantly, inequality may arise even when all children have the same abilities. Note that this is socially inefficient, all have the same abilities, and in the absence of the capital market imperfection, all children would acquire education.

Galor and Moav (2004) develop an explanation why inequality in early phases of development may be conducive to growth, and oppositely at later stages of development. The analysis combines the savings (real capital) and the imperfect capital market (human capital) arguments. At low income levels, capital accumulation is more important than human capital, and inequality induces a higher level of capital accumulation when savings rates are increasing in income/wealth. At later stages, human capital becomes more important, and capital market imperfections imply that inequality lowers human capital accumulation and thus growth. As a result, the relation between inequality and growth is non-linear, depending on the level of economic development.

Although the model is stylized, it brings out why the distribution of income/wealth matters for educational choices, and thus the total human capital stock. Inequality impedes education, human capital and thus potentially growth. A more equal distribution of income/wealth may thus be associated with more education and thus higher human capital and growth. Although this setting shows a case where inequality hampers human capital accumulation and thus economic performance, it is worth stressing that it does not imply

that incentives do not matter. The wage differences in the labour market are important for individual incentives to educate. The importance of the capital market imperfection should thus be seen relative to individual incentives to educate. Capital market imperfections are important in the intermediate case where there is an individual incentive to educate (wage gain from education), but it is not sufficient to overcome the larger costs of borrowing for education.

Consider a traditional redistributive policy where the skilled are taxed and the proceeds are redistributed to the unskilled (a transfer or lower tax); see Maoz and Moav (1999). The effect of this policy is in general ambiguous. The higher transfer makes it possible for low-income families to give higher bequests to their children and thus improve their education options. However, the taxes needed to finance these transfers reduce the gain to education. Only if the former effect dominates, does this policy contribute to reduce inequality and increase the human capital level in the economy. Notice that this result relies critically on the assumed altruism, implying that the unskilled parents pass on part of the gain from the transfer to their children.

Moreover, public provision of education financed under balanced budget may be able to overcome capital market imperfections, even under the Pareto condition that no cohorts are worse off; see Boldrin and Montes (2005). This requires an intergenerational package including both public education and pensions. By an appropriately designed package, the allocation under a complete capital market can be replicated. Importantly, in a dynamically efficient economy, the implicit return in the PAYG scheme is below the market rate of return. Hence, the implicit borrowing cost of education provided in a PAYG scheme (education to the young and taxes on the old = educated) is lower than the market return. This difference can be used to implement an education-pension programme which moves the economy beyond the competitive market allocation by internalizing human capital externalities, and it may even be implemented under an intergenerational Pareto criterion; see Andersen and Bhattacharya (2017).

Capital market imperfections are a reason why inequality may imply a locking-in of talent and thus cause less human capital accumulation, hampering economic performance. Equality of opportuni-

ties are breached due to capital market imperfections, and this gives an argument for public intervention. Broadly interpreted, it may be said that Sweden and the other Nordic countries have adopted policies along these lines, since public support of education has reduced the importance of the capital market imperfection for educational choices. This policy is an important step in the direction of creating equal opportunities for all to acquire education depending solely on abilities and motivation. However, since education has an opportunity cost in terms of lost labour income while studying, financial considerations remain important. This also applies to access to housing for students, where parental income/wealth may be important, and thus affect the possibilities of education.

5.3   Social background – non economic channels

Social factors may impede education, absent any economic constraints, e.g. for financing education. All are inevitably born with a social background, and this may influence educational choices and outcomes. The role of social gradients in educational options and choices is of a particular policy concern, since it questions equality of opportunity in pursuing abilities and developing interests and motivations. This channel may be more relevant in a Nordic context, where education is largely publicly financed, but there are still strong social gradients in education; see Section 3.

When social and cultural background factors matter, a removal of economic and formal barriers to entry into the educational system is not sufficient to create equal opportunities for given talent and abilities. From an efficiency point of view, the human capital potential in the population is not fully exploited, or as phrased by Halsey (1961), there is an unused "pool of ability".

To consider the effects of social background factors, the following considers a setting where financial factors do not influence the educational choice of youth, and altruism is disregarded; see Andersen (2018, 2019a). To focus on social factors, all are identical (same preferences, abilities etc.), except for their social background. Consider a basic overlapping generations setting where individuals live for two periods. As young, educational efforts are made to acquire education and become skilled as old. Individuals succeed and

become skilled with a probability depending on both their educational input and their social background. Children with skilled parents have a higher chance of becoming skilled for a given educational input than children with unskilled parents. This captures the role played by social factors outlined above. As young, agents can spend time either studying or working as unskilled, and as old they work as skilled if succeeding education and unskilled if non-educated. Education thus has an opportunity cost in terms of foregone income as young[40] [41]. Since children with skilled parents, other things being equal, have a better chance of succeeding in education, they invest more in education, and this tends to reinforce their higher chance of succeeding in the educational system and becoming skilled. Similarly, children with unskilled parents are less inclined to pursue and less likely to succeed education.

In equilibrium there is social mobility, but social stratification is reproduced in the sense that children with skilled parents are more likely to become skilled than children with unskilled parents, and vice versa. A change in the share of skilled releases a social multiplier effect. If more individuals become skilled, the educational background of future parents will change and induce better education opportunities for future children. In this sense education produces education by changing the social background for the children. A policy change which affects education will therefore have a larger long-run than short-run effect; improvements in social background make improvements for future generations.

This raises questions on the rationale and form of public intervention; either transfers to those who did not get education (compensating for the consequences of differences in opportunities) or providing public education (trying to level the playing field). In order not to bias the argument in favour of public education, assume that private and public educational inputs are perfect substitutes; i.e. the public sector does not have any options unavailable in the market; see Andersen (2019a). In the same spirit, it is assumed that public education is general and accessible to all at the same terms (i.e. it is not targeted specific groups). To a first approximation, this

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[40] Hence, there is no up-front financing requirement to start education, and hence the capital market plays no role.

[41] Note that the educational decision is entirely driven by economic conditions, the choice sets are the same for all youth, but the "productivity" of their educational effort differs due to social factors.

modelling of public education may be said to characterize general public schooling. Public education crowds-out private education but crowding out is less than complete. The reason for less than complete crowding out is that more public education releases an income effect for the young, which in turn lowers their marginal utility of consumption and thus the opportunity costs of private education. Total educational inputs will therefore in net terms increase when public education is introduced.

Compare now a passive policy providing transfers to the unskilled old to an active policy offering public education to the young, in both cases financed by a tax on the skilled (old). The two policies affect education differently. The active scheme increases total education, while the passive scheme reduces the incentive to educate and thus the level of education. On impact, the passive scheme benefits the unskilled old, but over time it implies that the number of unskilled increases. The passive scheme distorts educational choices by lowering the gain from education. Oppositely, the active scheme does not, on impact, benefit the unskilled, but it reduces the share of unskilled over time. Supporting education releases a tail wind by increasing the share of skilled and thus the social background of children, which further over time increases the number of skilled and reduces taxes, while the passive policy with transfers works in the opposite direction.

In this setting inequality in social background is reproduced and affects educational choices. Any suboptimal educational choices are caused by social barriers. There are neither differences in abilities nor capital market imperfections or the like impeding education. This suggests that the pool of abilities in the population is inefficiently used. Is it possible that public intervention can be Pareto-improving if starting from a laissez-faire situation without public education (and thus taxes)? The answer is affirmative if introduction of public education increases total consumption possibilities, which holds under relatively mild assumptions; see Andersen (2019a). On pure efficiency grounds, there may thus be an argument for public intervention. Social barriers are a market failure on par with capital market imperfections.

Figure 5.4   Public education and the trade-off between efficiency and equity
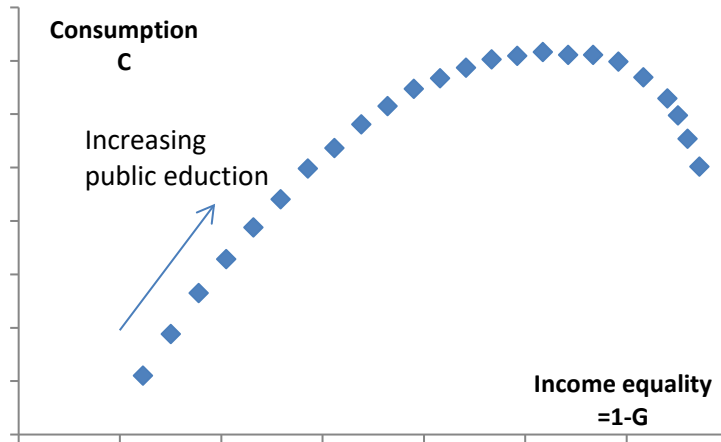
Source: Andersen (2019a).

Public intervention in the form of education has another important implication in this environment. Figure 5.4 shows how public education may affect the level of living standards (here measured by consumption) and the distribution of income. Starting from the laissez-faire situation (to the left on the curve), an increase in public consumption at first increases aggregate living standards and increases equality, but at some point, living standards start declining while equality keeps increasing; see Andersen (2019a). The hump shape is interesting, since it shows that public intervention over some interval does not produce a conflict between efficiency and equity; see also Section 4.2. Eventually further increases in public education encounter a turning point beyond which a conflict or trade-off between income and inequality arises. Note also that if social preferences are increasing in living standards and equality, it is optimal to be on the segment of the locus which displays a trade-off. This also shows that the correlation between income inequality and economic performance can be positive or negative, depending on the degree of policy intervention.

Finally, if market forces increase wage dispersion, there is both a stronger incentive to educate and a potentially greater need for passive redistribution. How should optimal policies respond to such a change? Clearly, this depends on the social welfare function. To

work out the response, the following assumes a utilitarian social welfare function and considers welfare in steady state. Both active and passive redistribution expand when wage dispersion widens, and in this sense the public sector takes on a more active role. Several effects are at play. First, private incentives to educate increase, since the wage gains become larger. Second, for the same reason, the social gain to public education increases, and since private choices are suboptimal, it is optimal to increase public education. Finally, the widening wage dispersion increases the gain from passive redistribution. Specifically, the marginal utility for the skilled declines (they get a higher wage and thus consumption) relative to the marginal utility for the unskilled, and this increases the gains from passive redistribution. However, although the planner engages both in more passive and active redistribution, the net effect is an increase in inequality. Hence, the optimal policy response does not fully neutralize the effect on inequality from widening wage dispersion. This points to several general observations. First, neither education nor transfers are costless forms of redistribution; hence the larger need has to be weighted against the costs. The effect of the exogenous shift in wage dispersion on inequality is mitigated but not neutralized. Secondly, it is not possible to conclude from more inequality that there is less redistribution or that policy preferences have shifted. The changes are conditional on the changes affecting the economy. Thirdly, even if there are mechanisms through which inequality may have harmful effects on economic performance, inequality in income may increase even if there is more policy intervention.

In discussing the role of social background factors, it is important that the role of such factors may depend on the rate of changes in society; see Hassler and Mora (2000). Rapid technological progress increases the relative return to (intellectual) ability and diminishes the relative return to family background, and vice versa in a more static environment. In an endogenous growth setting, this may create multiple equilibria. One with low growth and low social mobility, since family background is important for children's possibilities, and a high growth equilibrium with high social mobility, since family background is less important.

To sum up, the preceding discussion of social background factors shows that removal of financial barriers for education may not be

sufficient to create equality of opportunity due to the role social background factors play for education. In this sense, inequality in education and income may have a detrimental effect on economic performance. However, policies aiming at reducing inequality have very different effects depending on whether they tend to level the playing field (via public education) or compensate for different income (traditional redistribution policies). Therefore, over time the two types of policies have very different effects, the former tending to strengthen education and the latter tending to weaken education.

5.4 Neighbourhood and segregation effects – socioeconomic stratification

The family investment model explains why there is intergenerational persistence in income, education etc. The mechanism is family based, and the income distribution as such does not play any role per se. Hence, changes in inequality would have no direct effects on intergenerational persistence, although they do affect how individuals are distributed across income levels. There may also be persistence in the position in the income distribution, but the inequality does not as such affect the intergenerational mechanism causing persistence, it depends on altruism.

Neighbourhood effects may influence educational choices and outcome and thus the accumulation of human capital in society, and this creates a mechanism through which the income distribution may affect intergenerational linkages and thus persistence. These effects arise neither at the level of individual families nor that of the whole economy, but at the intermediate level of communities, neighbourhoods, firms or social networks through peer effects, role models, job contacts, norms of behaviour, crime etc.; see Bénabou (1996). Socioeconomic stratification is at the root of possible social effects on education. If families stratify on the basis of particular characteristics like income, education, values, race etc., the children come to experience very different environments. This in turn may have important effects on educational achievements. Neighbourhoods are a potential source of intergenerational transmission mechanisms, the so-called "membership theory", see Durlauf and Seshadri (2018).

The source of the segregation-education link may either be an economic link or run via other mechanisms. An economic link arises if provision of education is a local public good (club good). If the population segregates according to income, it follows that high-income neighbourhoods have better scope to finance high quality education than low-income neighbourhoods do (reinforced by teacher quality - if good teachers self-select into these schools because the learning environment is better). Hence, the human capital and future labour market prospects of children differ across neighbourhoods, and a source of intergenerational persistence in status arises. Such persistence may also arise via social mechanisms including peer effects, role models, values, norms etc. prevailing in given neighbourhoods. These mechanisms create strategic complementarity in behaviour; a given individual tends to behave like the others in a given neighbourhood. This dependence creates self-reinforcing behavioural forces, explaining why neighbourhoods may significantly differ and why intergenerational persistence arises. Importantly, individual actions are rational given the environment, but from a social perspective the outcome is not necessarily desirable.

Allowing for such neighbourhood effects creates a two-way linkage. Inequality may affect intergenerational mobility via the role of neighbourhood quality for education, and neighbourhoods or segregation are driven by income inequalities. The theoretical challenge is to explain jointly the endogenous formation of neighbourhoods and education provision.

A number of authors have analysed the endogenous determination of neighbourhoods and education in settings with local provision of education (club goods) and where social interaction is a source of segregation according to income; see e.g. Bénabou (1993, 1996b), Durlauf (1996a, b), Fernandez and Rogerson (1997). Durlauf and Seshadri (2018) provide a discussion and overview of this approach. Specifically, schooling is locally provided and financed by an income tax. The tax rate is determined in a political equilibrium among the inhabitants in a given neighbourhood. There is thus a fiscal spill-over; higher incomes in a given neighbourhood will, other thing being equal, imply more revenue and hence education expenditure per pupil. This is a reason why parents may want to segregate by choice of neighbourhood. However, fixed costs

of education give larger communities an advantage, which works against segregation. The balance between these forces explains the extent of segregation and thus the formation of neighbourhoods according to income. High-income neighbourhoods have better educational options for their children than low-income neighbourhoods, and this is a source of intergenerational persistence in education and income. The mechanisms can be illustrated by Figure 5.1. There is complementarity in the neighbourhood allocation, creating socioeconomic stratification due to the social mechanism (strategic complementarity) and thus intergenerational persistence. Multiple equilibria with poverty traps may arise where low-income families permanently stay in the low-income neighbourhoods with low schooling quality, and vice versa for high-income families.

Importantly, such segregation is not necessarily socially/Pareto efficient; see Bénabou (1993) and Durlauf and Seshadri (2003). There is clearly a spill-over effect in the choice of neighbourhood that individuals do not internalize. Social interactions may thus lead to individually rational but collectively undesirable outcomes. This gives a rationale for government intervention either in the form of taxes and transfers or more directly in the formation of neighbourhoods (zoning regulations); see e.g. Fernandez and Rogerson (1997).

Social stratification is thus a further mechanism through which inequality can infer with equality of opportunity and have negative effects on economic performance. Historically, stratification and segregation have been low in Sweden and the other Nordic countries, and this may have contributed to social cohesion and support for universal welfare arrangements. However, as discussed in Section 3, there are some tendencies towards stratification and segregation across neighbourhoods, and this may challenge the homogeneity of society.

The preceding theoretical review of mechanisms through which inequality affects economic performance shows that the interactions are complex, and there are no simple or general statements on how the two are interrelated. There are theoretical arguments that inequality may have both negative and positive effects on economic performance, and they run through different mechanisms. Negative effects of inequality on economic performance arise in cases where equality of opportunity is breached, resulting in locking-in of human

capital potential. However, even in this case policy responses are not trivial. Passive redistribution compensating for differences in income via taxes and transfer may reduce inequality in the short run but increase it over time via weakened educational incentives. Oppositely, active policies directly supporting education may over time contribute to improve economic performance and at the same time reduce inequality. This also stresses that it is in general impossible to conclude from a given policy's effects on inequality that its implications for economic performance will go in a particular direction.

6 Political economy responses to inequality

Despite the general upward trend in income inequality, policy responses have not been towards more redistribution; in some countries redistribution has even been reduced; see Section 3 and 4.2. These developments raise a number of questions on the political economy responses to increasing inequality and the possible feedbacks to economic performances. Thinking of policy choices in the space of efficiency and equity (see Section 4.3), improvements in the opportunity set – driven by technological changes or globalization – should be taken out as gains in both efficiency (higher incomes/economic growth) and equity (less income inequality)[42]. Since this has not generally been the case, the reason must be either that such policies in broad terms have become more costly (a steeper trade-off between efficiency and equity) or that political preferences have changed, or some combination of the two.

A voluminous political economy literature analyses the determination of social safety nets (redistribution) and the size and structure of the public sector; see e.g. Persson and Tabellini (2000) and Drazen (2000) surveys. The seminal contribution to the political economy of redistribution is Meltzer and Richard (1981), showing how the extent of redistribution depends on inequality (measured by the difference between the average and median income) and tax distortions. A proportional income tax finances lump sum transfers in a population with an exogenous distribution of productivities (wages), and the political outcome is determined in a direct democracy (one person – one vote), making the median voter decisive. More inequality leads to more redistribution, since the median voter

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[42] Assuming a social welfare function implying that both efficiency and equity are normal goods.

has more to gain when the difference between average and median income widens. The more a tax increase reduces labour supply, the higher the costs of redistribution, and the less the extent of redistribution. Hence, the political outcome depends on how the median voter weighs the marginal benefits and costs of redistribution.

A large empirical literature takes outset in the Meltzer-Richard (1981) model, but its empirical support is mixed; see e.g. Lindert (1996)[43]. This is illustrated in Figure 6.1, showing that across OECD countries one does not find that countries with more inequality in market incomes tend to redistribute more. This is not to deny the basic insights of the Meltzer-Richard model, but rather points out that it in its simple form is much too stylized to be brought to the data; for a discussion see e.g. Milanovic (2010). Hence, a large literature has incorporated a number of additional factors to better capture empirical observations. It is beyond the scope of this report to provide a detailed account of recent developments in political economy models; for surveys see e.g. Alesina and Giuliani (2011) and Acemoglu et al. (2015). Here it suffices to highlight some key aspects building on the basic insight that the political economy responses depend both on the gains/costs from policies and how political power is allocated across the income distribution.

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[43] Related is the question whether a democratization process leads to more redistribution; see Acemoglu et al. (2015) for an overview.

Figure 6.1　　Inequality and redistribution across OECD countries, 2016
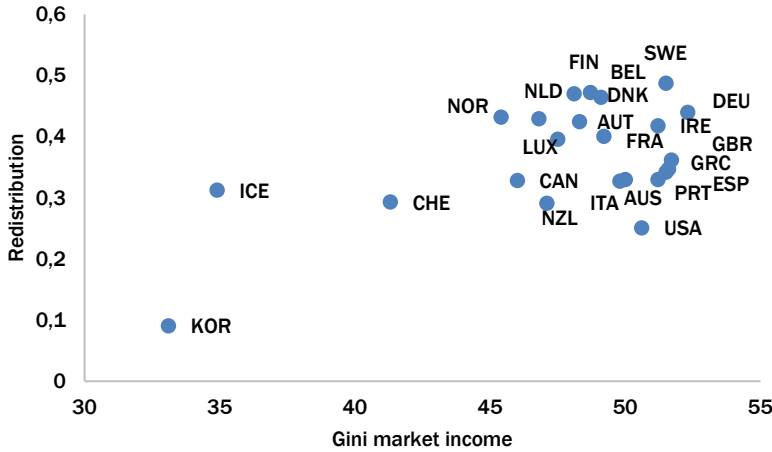
Note: Redistribution is defined as how much lower the Gini defined over disposable income is compared to the Gini defined over market income (equalized incomes), in percent.
Data source: SWIID database, see Solt (2017).

The Meltzer-Richard model assumes an active direct democracy; that is, all can and do vote, and therefore the decisive median voter also has the median income[44]. Moreover, it is a one-dimensional setting, with no other issues being decided simultaneously. There are many reasons why this is an idealized view of the political process; in particular, it disregards that political power can be positively correlated with economic power. Political power and voice depend on many factors[45], and more resource rich individuals and groups may have a higher say than other groups; see discussion in e.g. Alesina and Giuliano (2011). The political outcome depends among others on the influence of interest groups through lobbying activities, which may give economic powerful groups a disproportionate political influence. The immediate implication is that political responses depend on how the "politically decisive" groups are affected. This highlights the importance of country-specific factors

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[44] Technically, it is important that the preferences over tax rates are monotone in? income (single cross property).
[45] See e.g. Bourguignon and Verdier (2000), where political participation is endogenous and determined by education. Education is decided in political equilibrium, and the question becomes whether the elite will support education, which both affects the political equilibrium and economic growth. Scheve and Stasavage (2017) discuss how wealth inequality can affect political outcomes.

(history, institutions etc.) for the policy response to given economic changes.

Second, there are numerous measures and dimensions of inequality, and not all forms of inequality are considered a problem for voters; see discussion in Section 2. Empirical work usually disregards this, leaving an unclear link between the metric of inequality included in empirical studies and the notion of inequality to which voters/policy makers respond. Recent developments in inequality include elements which are both considered fair and unfair (and views over this may also differ and change), and the political responses to the two would generally differ, leaving unclear implications for the relationship between e.g. the Gini-coefficient and the extent of redistribution.

Thirdly, the political response may display path dependence since multiple equilibria are possible; that is, for given underlying fundamentals multiple political economy equilibria are possible. In the literature several mechanisms have been proposed as causes of multiple equilibria, including beliefs on the role of effort and risk for income (Alesina and Angeletos (2005)), learning and political beliefs (Piketty (1995)), incomplete capital markets (Bènabou (2000)) and irreversible investments and political expectations (Hassler et al. (2003)). In those settings small perturbations would lead to dynamic adjustments around a given steady state equilibrium, but sufficiently large perturbations cause a shift in steady state equilibrium. Specifically, there may be a transition from e.g. an equilibrium with support for extended redistribution and hence low income inequality to another equilibrium in which support for redistribution is small and income inequality thus high. Whether recent developments are triggering such "regime" changes is an open question.

Finally, the original Meltzer-Richard model considers a very stylized form of redistribution from the rich to the poor, and it is deterministically known who gains and loses from the scheme. This is a poor characterization of social safety nets and welfare arrangements more generally, and hence not capturing how actual designs affect both incentive and insurance/redistributions; see Andersen (2015). More complicated, but also realistic, designs of the social safety net and public sector activities make the issue more complex. This is seen from the fact that otherwise similar countries have chosen rather different welfare models. Importantly, many welfare

arrangements serve an insurance role (often complementing missing or incomplete private markets), thereby cushioning the consequences of economic changes for the individual. Such insurance arrangements may have efficiency effects on top of the direct welfare effects for risk averse agents. The insurance value of welfare arrangements clearly affects their political support; see Moene and Wallerstein (2001a, b). The possibility that they in the future may be affected by events covered by the social insurance mechanism is sufficient for voters to support such arrangements. The design of the social safety net is thus not solely confined to a question of support to the least well off, but more widely as a way to reduce economic uncertainties. The crucial question thus becomes whether recent developments increase risks, and how such effects are distributed across the power distribution.

6.1   The scope for redistribution

Has redistribution become more costly such that more efficiency has to be given up to attain a given level of equity? If so, the political equilibrium will shift in the direction of less redistribution for unchanged political preferences. The traditional perspective to this question is how taxes, social transfers and various forms of public expenditures distort behaviour. Technological developments and globalization have made it much easier and cheaper to relocate economic activities across boards. This applies to the trade of goods and services, but also the factors of production like financial capital, real capital and labour. A corollary is the possibility to relocate activities and factors of production depending on cost conditions including taxes etc.; see Andersen and Sørensen (2012) for an analysis and references. To the extent this happens, it implies that tax bases become more elastic to tax rates, and thus the distortionary cost of tax-financed activities tend to go up. This elasticity effect thus works to make redistribution and other tax-financed activities more costly. Hence, for unchanged political preferences, policies would shift in the direction of less redistribution, and public intervention more generally.

However, the need for public activities may also change as society changes. In particular, it is widely perceived that risk has increased,

which in turn increases the demand for social insurance; see Rodrik (1996). Risk in the labour market is particularly important, and the crucial question is not whether risk has increased for some groups, but how politically decisive groups have been affected. These developments may lead to more segregated labour markets, where the negative consequences are largely falling on low-income groups, and the positive consequences on high-income groups. If so, it is not clear that risk has increased for the politically decisive groups. The political economy literature points to the importance of whether risk and social insurance are relevant to large groups or only specific groups with modest political power; see Rehm (2011) and Alt and Iversen (2017). In short, societal developments may produce both winners and losers, but nothing ensures that the political power is distributed so as to ensure that the losers are compensated by the winners, and hence inequality may increase. Similar effects arise if segregation is driven by migration and more heterogeneity in the population. If migrants are marginalized in the labour market and mainly competing for jobs with low-skilled, it is implied that there may not be political support to rectify the consequences for inequality.

The above discussion is related to the debate on how globalization affects the public sector. In short, there are three views in the literature: the systems competition view, the compensation view and the persistence view. The *systems competition* view stresses race-to-the-bottom mechanisms causing a convergence to a more lean public sector and welfare arrangements[46]; see e.g. Zodrow and Mieszkowski (1986) and Sinn (2003). If the public sector is ridden by rent-seeking activities, the pressures coming from intensifying competition due to economic integration may be welfare enhancing. But if policies are driven by the desire to maximize welfare – through the provision of social insurance, repair of market failures or to ensure redistribution – competition between countries constrains desirable policies. This is an undesirable side effect of economic integration. The opposite view – *the compensation view* – holds that economic integration increases the need for welfare arrangements. Integration is taken to lead to more risk and volatility in economic variables. The

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[46] It is not generally the case that non-cooperative policies lead to more lean public sectors (compared to cooperative outcome). Terms of trade-effects can cause non-cooperative policies to have a larger public sector; see e.g. Andersen and Sørensen (2012).

compensation view stresses that welfare arrangements provide insurance either via the social safety net or via a large public sector not directly influenced by market forces (Cameron (1978)). Increased integration enhancing risk therefore increases the demand for implicit insurance via welfare arrangements; see Rodrik (1997, 1998). Empirical evidence indicating that more open economies also tend to have larger public sectors is given in support of this view. Finally, *the persistence view* holds that welfare regimes are very persistent, and thus neither expanding nor retrenching. Changing the status quo is difficult due to the power of various interest groups, and therefore most policy reforms are incremental (parametric rather than structural); see e.g. Pierson (1998).

While there are areas where race-to-the-bottom mechanisms are clearly visible, as in e.g. corporate taxation, the evidence is largely in support of persistence in welfare arrangements; see Andersen (2019b) for a discussion. This is illustrated in Figure 6.2, which shows total tax revenue (or expenses) relative to GDP as a measure of the overall size of the public sector. Over a period of about two decades, there are only small changes in the size of the public sector, and no convergence neither to the bottom nor the top. This is notable given significant technological changes and globalization over this period.

Figure 6.2   Tax burden, EU28 countries 1995–99 and 2013-2017
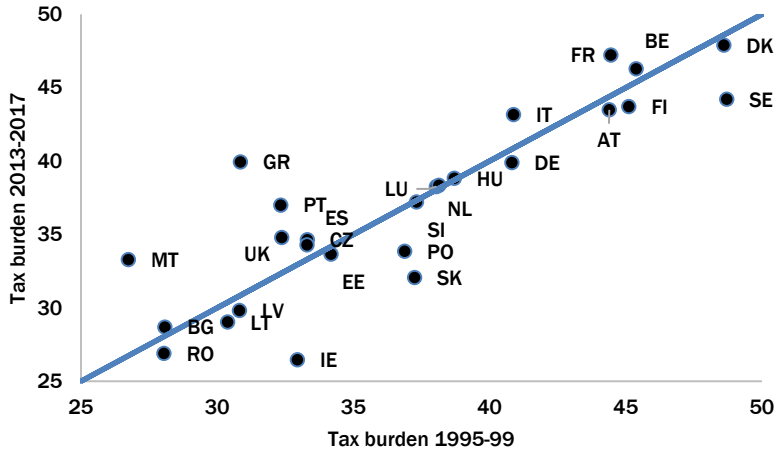
Note: Total tax revenue as a share of GDP. Simple average over the stipulated periods is used to filter out cyclical variations.
Source: Own calculations based on AMECO data.

6.2   Changing political preferences

Is the political power structure changing? Changes in incomes and its distribution may have effects on the political power structure and increasing inequality does not necessarily increase political support for redistribution. If welfare spending is a normal good within income classes, a majority of voters move rightward when inequality increases; see Barth et al. (2015). For a given mean income, more income dispersion makes the rich prefer more spending on say health, and the poor prefer less spending. As a consequence, redistribution declines, and a large share of public revenues goes to e.g. health. Hence, the political response may reinforce increases in inequality, rather than muting them. The possibility of relocating e.g. factors of production also affects political power structures. Those resources - or resource owners - that more easily can relocate, effectively get more political power via the exit threat. It is a general result that improved outside opportunities improve the bargaining position. This argument is most relevant for highly educated and firms who can readily move, and they may use this threat to shift economic policy to their favour. This is most readily seen in the case

of corporate taxation (see Devereux and Loretz (2013)), but the argument has also been of importance for making income taxation less progressive. Likewise, the consequences of globalization can in part be mitigated by shifting taxes towards less mobile tax bases, like property. However, this has not been a general trend, neither in Sweden, which suggests that political power structures are blocking for adapting the tax structure to a more globalized environment.

Political views are not static and may change depending on economic developments. The perception of fairness and social mobility/equality of opportunity frame political views; see Section 2 and Alesina and Angeletos (2005), Piketty (1995), Rotemberg (2002), Bénabou and Ok (2001). Beliefs on the role of control over own fate are major determinants toward inequality and redistribution and dominate the role of income /wealth; see Fong (2001). Based on survey data from the US, France, Italy, the UK and Sweden, Alesina et al. (2018) find that Americans are more optimistic than Europeans on the scope for social mobility. There is a political gradient in the views, since individuals with left-wing views are more pessimistic about the scope for mobility than individuals holding right-wing views. Individuals with pessimistic views on the scope for social mobility support redistribution of the equality of opportunity type. If recent developments are considered to produce less fair outcomes and lower social mobility, it may thus affect political views and thus eventually political outcomes.

Homogeneity in the population may be a precondition for support for collective solutions; cf. also the discussion above on support for social insurance, which is stronger if insurance applies to events affecting most in the population. By implication, segregation and heterogeneity due to e.g. immigration may weaken the support for collective solutions. Cross-country evidence points to heterogeneity in the population as detrimental to redistribution; see e.g. Alesina et al. (2003) and Alesina and Guliani (2011). In a cross-country study (including Sweden) of survey data, Alesina et al. (2018) find that native respondents' support for redistribution is decreasing when the share of immigrants in their resident regions increases. There is some heterogeneity in the views of the respondents. Along the ideological dimension, the reduced support for redistribution is strongest among respondents placing themselves at the centre or the right wing of the political spectrum, the effect is

more prevalent among less educated. The effect also depends on the type of migration; thus, the effect is stronger when the share of immigrants from the middle-east or north-Africa is high, and less strong when the share of skilled immigrants is high. The negative effect is also strongest in countries with more generous welfare arrangements.

Dahlberg et al. (2012, 2016) find for Sweden that increased immigration has a negative effect on the support for redistribution, and that this effect is particularly pronounced among high-income earners. This conclusion is contested by Nekby and Petterson-Lidbom (2016), who raise some methodological issues and find no evidence of any relationship between ethnic diversity and preferences for redistribution. While the precise effect is open for discussion, migration issues are stronger on political agendas, and in e.g. Denmark immigration rules have been tightened and social rights differentiated (reduced universalism). Dal Bó et al. (2018) find that widening income differences between "insiders" and "outsiders" in the labour market as well as job losses among "vulnerable" groups during the financial crisis have been the reason for the rise of the Sweden Democrats. Both among its representatives and its voters, there is an overrepresentation of the "outsider" group, possibly driven by these groups losing trust in established parties and institutions.

Finally, the standard political economy model may leave a too simple view of policy responses as being more or less continuous responses to changes in economic fundamentals, political support etc. However, extensive experience shows that policy responses may be delayed; see e.g. EEAG (2019) and Khemani (2017). This also applies to structural reforms in the wake of major changes in society or crises building up. Can high inequality be a crisis releasing reform, and if so in what direction – extension of social safety nets or major political changes? The concern in the EU about a social deficit and the need to strengthen social aspects of the European integration is a clear illustration of both the concern for these problems and that recent development may reverse the integration process.

6.3   Wider consequences

The Meltzer-Richard model is really about where to position society on the efficiency-equity trade-off. The actual outcome is thus determined by a political process rather than by some social welfare function. This is all fine, but the interesting question is whether more realistic modelling of the political process implies that the political decision leads to an inferior position inside the frontier. Nothing is guaranteeing that the outcome of the political process leaves possibilities for Pareto improvements unexploited or that sufficient weight is put on the long-run consequences of policy choices. Policy setting can suffer from short-termism or capture by specific interest groups, delay of reforms etc. The question here is whether policy responses either causing more inequality or as responses to increasing inequality have long-run consequences harming economic performance. Even when Pareto improvements are possible, there is no guarantee that necessary changes or reforms are undertaken[47].

The Meltzer-Richard model implies that political concern for inequality leads to redistribution having costs in terms of tax distortions reducing average income (economic performance). But such standard reasoning may take a too narrow approach[48] confining the discussion of inequality to distortions of labour supply disregarding wider implications for institutions, democracy etc. Aspects that are either disregarded or at best implicitly assumed in standard models. Alesina and Perotti (1996) present empirical evidence for a sample of 71 countries over the period 1960-85 that inequality, by fueling social discontent, increases socio-political instability. This is associated with uncertainty in the politico-economic environment, which reduces investment and thus has a negative effect on growth. Historically, the consequences of globalization have led to support for de-globalization; see O'Rourke (2018). Ravazzini and Chávez-

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[47] Belloc and Bowles (2017) show how strategic complementarity between contracts and social norms can produce multiple cultural-institutional equilibria. The specific setting is labour market contracts and the interaction between incentives, monitoring and effort. In the setting there are multiple equilibria (a superior and inferior outcome). If in the inferior equilibrium there is not automatically a move to the superior equilibrium, a coordinated action is required, and single actors cannot enact such a change. Interestingly, more international integration makes a shift from the inferior to the superior equilibrium more difficult.

[48] As an example, Antrás et al. (2017) consider welfare implications of trade opening in a setting where concerns for inequality lead to use of distortionary redistribution and find that this reduces the gains from trade significantly.

Juárez (2015) use the European Social Survey to analyse the relationship between life satisfaction and both income inequality and inequality of opportunity. They find a negative correlation between both income inequality and inequality of opportunity and people's life satisfaction. Among low socioeconomic groups, there is more concern about inequality of opportunity. The concern about inequality may depend both on normative arguments and the risk of either downward or upward social mobility.

One concern is that causes of inequality related to segregation and marginalization may lead to a polarisation, which in turn breeds political unrest or support for populism. A core aspect is a divide between "the people" and the ruling "elite" and the perception that the political system has been captured by the latter group at the cost of the former. Loss of status and the notion of "outsider" are important here. Populism is associated with anti-establishment views, nationalism and traditional values and often a strong leader (popular will). According to a definition given in EEAG (2017, p 53), "The populist economic agenda is characterised by short termism, the denial of intertemporal budget constraints, the failure to evaluate the pros and cons of different policy options as well as trade-offs between them. It often focuses on single and salient political issues, overemphasises negative aspects of international economic exchange and immigration, and blames foreigners or international institutions for economic difficulties. The populist economic agenda rejects compromise as well as checks and balances and favours simplistic solutions". Difficulty in cooperating on migration policies among EU countries and shifts towards anti-immigration policies are the most visible signs of such a process but also more wide support to populist policy makers.

6.4   Social cohesion

One of the potential long-run consequences of inequality is its effects on social cohesion. There is widespread concern that social cohesion is deteriorating as a consequence of increasing inequality. A clear sign of this is that major international organizations, including the World Bank, IMF and the OECD, have brought these

issues to the fore. The EU has made social cohesion part of the Treaty.

Both the academic literature and policy-oriented reports have featured various definitions of social cohesion, but no universal definition exists, see Andersen and Keuschnigg (2016). The OECD (2012b), for example, defines a cohesive society as one which "works towards the well-being of all its members, fights exclusion and marginalization, creates a sense of belonging, promotes trust, and offers its members the opportunity of upward social mobility." This definition, and the discussion and literature more broadly, also show that concepts like social cohesion, social capital, trust, social inclusion/exclusion, social mobility are related and often used interchangeably.

The concept of social cohesion has its roots in sociology and applies both at the "micro" level to specific groups and at the "macro" level in relation to societies/nations. At an individual level, cohesion relates to friends, neighbourhoods, colleagues, job opportunities etc. important for individual options, choice possibilities and ultimately well-being. At the national level, the same issues matter but in broader terms of the opportunities and possibilities for all inhabitants. Nationwide cohesion thus affects how society performs in general and whether it embraces and creates an identity and sense of "belonging". At the level of society, cohesion is often discussed with respect to threats arising from changes or transformations in societal or economic structures. The notion of social cohesion thus explicitly builds on the recognition that individuals are interdependent in a way going beyond the (non-personal) interaction in economic markets. At the core of the concept is thus a two-way interaction: social cohesion affects individuals, and individual behaviour and attitudes determine social cohesion.

Social cohesion is not readily measurable or quantifiable. To assess the extent of social cohesion - or perhaps more importantly possible trends - it is necessary to resort to various indicators either in the form of hard data or survey results. Examples of such material and non-material indicators are measures of poverty, marginalization in the labour market, the role of social background factors in education, civic participation in election and social activities, surveys on material deprivation, living conditions, trust etc. No definitive list is possible, and a wide variety of indicators are used in the debate.

The difficulty of measurement opens for discussions and leaves ambiguities. Such difficulties, however, should not be an argument against attempts to assess aspects of social cohesion, but is a reminder that such indicators should be interpreted cautiously. They may be correlated with aspects of social cohesion but may not tell much about causality.

Generalized trust is an element of social cohesion which has attracted attention, and where there is some empirical work. Trust may overcome market failures, reduce transactions costs and facilitate collective decision-making. Inequality may affect trust through various channels; see e.g. Barone and Mocetti (2016). Economic inequality is creating heterogeneities, increasing socio-economic distance and social barriers, which may reduce trust. Developments which are not considered fair – like widening income inequality - may erode trust and give rise to perceptions that increasing inequality arises from unfair advantages accruing to particular groups. Finally, inequality reinforces resource conflicts, which may affect trust negatively.

Empirical work tends to find a negative correlation between inequality and trust. Earlier work was based on cross-country studies, and more recent studies use panel methods; see Barone and Mocetti (2016) for discussions and references. Likewise, trust has a positive effect on economic performance, see Serritzlew et al. (2014).

In a panel study based on data from the World Values Survey from 1980 to the mid-2000s, Barone and Mocetti (2016) find a significant negative relation between inequality and trust for developed countries. There is evidence that this is primarily driven by concentration of income at the top of the distribution. Considering the role of both income inequality and intergenerational income mobility, both affect trust negatively, and the two reinforce each other. Gould and Hijzen (2016) analyse the relationship between inequality and trust separately for the US and European countries, and also find a negative relation between inequality and trust. For European countries inequality at both the bottom and top of the income distribution matters for trust.

Gustavsson and Jordahl (2007) use variation across regions in a panel study for Sweden, using data for the period 1994-1998. Income inequality, especially at the bottom, is associated with reduced trust.

This effect is stronger in terms of inequality in disposable compared to market incomes. Moreover, the relationship between income inequality and trust is stronger for people having a strong aversion against income differentials. The proportion of people born in a foreign country is negatively associated with trust.

7   Conclusion

Inequality has been increasing in many countries. At the same time, the recovery from the financial crisis has been slow, and medium-run growth forecasts are dim. In the wake of these developments, the viewpoint that inequality is bad for economic performance has gained ground. However, others argue that inequality is good for economic performance, and these different viewpoints are often aligned with political views.

Neither theory nor empirical evidence support simple statements saying that inequality is generally good or bad for economic performance. Multiple factors with weights differing over time and across countries affect both economic performance and inequality. Theoretically and empirically, it is thus possible that economic performance and inequality under some circumstances can move in the same direction, and in opposite directions under other circumstances.

The simple answer to the question of how inequality and economic performance are interrelated is thus "it depends". This answer may seem vague and little helpful for the ongoing discussion. But hasty inferences are not helpful and basing policies on oversimplified views of complicated mechanisms may lead to wrong policy responses. The interesting point is what the interrelation between inequality and economic performance "depends on". Importantly, there is a clear link from concepts on fairness and equity over theoretical insights on the role of incentives and insurance to empirical work on developments in inequality and economic performance.

Inequality is about differences, and some differences may be fair while others are unfair. Differences arising as a result of choices and efforts made by individuals are widely considered fair, if all have the same opportunities. Oppositely, differences arising from lack of opportunities or factors out of individual control are considered

unfair. This reasoning is very closely aligned with the discussion of incentives and insurance. The incentive part relates primarily to aspects under individual control, while insurance concerns events outside control. This suggests that differences arising from different choices and efforts in response to incentives (to work, save, educate etc.) may improve economic performance but result in inequality. Economic performance and inequality are positively correlated in this case, without inequality necessarily being a problem. However, if constrained opportunities due to a disadvantaged background or other factors restrict choices for e.g. education, it may both hamper economic performance and increase inequality. If so, the two are negatively correlated, and inequality is a problem. This brings forth an important policy point – the implications of policies for economic performance cannot be judged from their effects on inequality – some policies reducing inequality may cause a deterioration in economic performance, while others may improve economic performance. Likewise changes in society may make inequality and economic performance move in the same or opposite way.

This also stresses an important point in relation to the interpretation of empirical evidence. Various changes can affect inequality and economic performance in the same or opposite direction. The relation between the two across countries and time is thus likely to vary, as is also empirically the case. The cross-country movements depend on country-specific positions and changes. Hence, evidence of how economic performance and inequality move over a particular period is a poor guide on how specific policy interventions affect inequality and economic performance.

Comparative evidence on co-movements between inequality and economic growth as a measure of economic performance has attracted much attention recently and has been taken as evidence in support of the widespread view that inequality is harmful for economic performance (growth). While this is certainly possible in some instances, the statement does not hold generally or unconditionally. A closer look at the empirical evidence shows that the co-movements between inequality and economic growth vary over time and countries compared. More importantly, it is not clear what can be learned from such correlations. Countries may be affected by different shocks (having country-specific effects on inequality and economic performance move in the same or opposite directions),

and countries may be in different positions depending on institutional, political and historical factors. When it comes to the influence of policies, a basic insight from economic theory is that there is a trade-off between efficiency (economic growth) and equity (an equal distribution of income). The trade-off arises because a quest to ensure a more equitable outcome requires intervention in the form of e.g. taxes and transfers, which in turn distorts economic incentives and reduces efficiency. It is important to be clear on important premises underlying this result. It presumes that policies are optimally designed given the political objectives to ensure maximum efficiency for given equity, or maximum equity for given efficiency along the possibility frontier in the efficiency-equity space. It is far from obvious that this premise is satisfied in practice, since political institutions, rent seeking or many other factors can be at the root of policy failures, implying that the best practice frontier is not reached. Importantly, the trade-off view holds even if public intervention also repairs on market failures and thus may be motivated on efficiency grounds, and potentially allowing gains in both the efficiency and equity dimension. Also, here the optimal policy would bring the economy to a position where a trade-off arises, otherwise possibilities to increase either efficiency or equity are missed. Political barriers may keep a country below this best-practice frontier, making improvements in both efficiency and equity possible; however, such improvements would not be gained by "any" policies, but require that the political barriers in a broad sense are targeted. Empirical evidence attempting to estimate the best practice frontier shows that the above reasoning is important in interpreting cross-country evidence. The best practice countries do display a trade-off between efficiency and equity, while many countries are systematically "underperforming", being positioned well inside the best practice frontier. Sweden – together with Switzerland, USA, the Netherlands and Denmark – has consistently been among the best practice countries. This is not implying that all policies are "optimal" and that there is no room for improvements, but it emphasises that there are no easy solutions, and further improvements would have to be carefully designed given possible imperfections or market failures.

The consequences of rising inequality are not only economic, but also depend on the political responses, which in turn depend on

whether the changes are considered fair or not. Since inequality has been rising without any clear policy initiatives to counteract it, and policy changes have even in some cases contributed to increasing inequality, it may be concluded that it follows from revealed preferences that inequality is not a political problem. This conclusion is too hasty for several reasons.

Firstly, redistributive policies may have become more costly, not least due to globalization making it easier to relocate production and factors of production across countries. If this is the case, more inequality will have to be accepted, even for unchanged political preferences. However, the empirical support for this view is not strong. Welfare arrangements are rather persistent across countries, and there is no general trend in the direction of a race-to-the-bottom with retrenchment of welfare arrangements. While country inter-dependencies have surely grown, country influence on the design of social safety nets, taxation systems etc. remains large. It is a too simple view that "competitiveness" only depends on taxes or other simple aggregate measures; what the taxes are financing must also be taken into account. Notably, the Nordic countries have been among the best economic performers among OECD countries.

Secondly, those facing the negative consequences of increasing inequality may not have a sufficiently strong political voice, either because the costs of inequality fall on a small subset of the population, or because the winners have captured the political process. Political unrest and populist tendencies in some countries may be taken as evidence of this.

Thirdly, and related, the costs of rising inequality may evolve gradually and thus be given insufficient weight in the political process until it has reached some critical level or even reached a point of no return. The costs of inequality may go beyond the narrow economic consequences to effects on social cohesion, trust in institutions etc.

What can be done to make growth more inclusive, understood as reducing the unfair sources of inequality? The answer basically falls in two parts.

First, breach of equality of opportunity is a key channel through which inequality can have negative effects for economic performance. In this context education plays a particularly important role. Equal access to education is not only a matter of formal access as

well as financing possibilities (e.g. tax-financed education) but involves also social barriers for education. Measures to reduce such barriers include early schooling, but also more broad family-oriented policies. Access to housing as well as preventing segregation of the population in neighbourhoods may also be important elements. Ensuring adequate education policies involves both a supply and demand side. The supply side involves the financing of education and living costs, and in the Nordic context education is tax-financed and study grants/loans ease the financial constraint of undertaking education. The demand side includes the motivation and support to undertake education, but also the economic incentive to educate. The latter refers not only to the level of education but also the specialization, including whether educational choices are guided by the "consumption" value of education or the "investment" value in relation to labour market options. In a Nordic context these aspects are challenging, since tax financing of education also implies high tax rates, which in combination with a compressed wage structure may reduce educational incentives or induce distortions between the "consumption" and "investment" value of education.

Second, insurance via the social safety net is important. Education is about setting the initial conditions right, but various events can influence later options and outcomes for the individual. Structural changes may have large effects on the realized return to human capital and may even in some cases make education and experience obsolete. Structural changes create winners and losers, and while the winners in principle can compensate the losers, it does not necessarily happen. Potential compensation of losers takes place via the income support to those without a job and the ability to adjust in the labour market. For the latter, labour market policies (including life-long learning) matter, but also the design of the educational system. Recent research suggests that for professional training more broad-based education compared to more specialized education is conducive to maintaining high employment rates over the life-cycle, see Hanushek et al. (2018). The difficult issue is not to provide income support but to prevent it from developing into permanent support. This raises a number of issues in relation to the design of the social safety net, but it is beyond the scope of this report to address these issues.

Sweden is among the countries having experienced the largest increase in income inequality among OECD countries over the last couple of decades. The increase in inequality holds whether the Gini-coefficient or decile ratios are considered. However, considering this increase in inequality in more detail, there are some notable differences to other countries.

Across the entire income distribution, real incomes have grown, but not at the same rate; hence the increase in income inequality. In contrast to many other countries, developments in the labour market are not the prime reason for increasing income inequality. Wage dispersion has remained unchanged since 2000, and employment rates are generally high, although there are challenges for low skilled and immigrants. The Swedish labour market has thus not in recent years been challenged by technological developments, globalization or other factors to the same extent as many other countries. It is also noteworthy that the labour share (total wage income as a share of GDP) has remained roughly constant over the last couple of decades.

That being said, equality of opportunity remains a challenge in relation to e.g. education and health, and social background plays a role despite an extended welfare state. While social background factors play a smaller role than in many other countries, it is striking that they still play a large role in a mature welfare state. This is a problematic part of inequality having negative effects on both economic performance and social cohesion.

The increase in inequality can be attributed to demographic factors, capital income and redistributive policies. An ageing population and more one-person households have contributed to increased income inequality. Capital income has increased and has contributed to widening income differences, since capital income primarily goes to high-income households. Finally, the social safety net has become less redistributive as a consequence of political decisions to adjust benefits less than wage increases and to tighten eligibility for benefits. A policy motivated by improved incentives to work. The effects of such policies depend critically on whether non-employment arises from the demand side due to inadequate qualifications given prevailing wage levels or from the supply side due to too weak economic incentives to be in work. For the former group lower benefits may result in marginalization, while the latter group is

attaining a labour market attachment with possible future higher wages.

The increasing role of capital income is due to wealth accumulation and the return to capital (including capital gains on private housing). In the perspective of the Nordic welfare model, it is important to note that direct and indirect taxation of labour income (income taxes, social contributions and consumption taxes) constitute the predominant financing base, and taxation of capital income contributes 5-6% of total tax revenue. Capital income is taxed more leniently than earned income due to the dual income tax system having lower tax rates for capital than labour income. On the one hand, this makes the tax system more robust in a globalized world with free capital mobility, but on the other hand it contributes to widening income inequality (this can also create incentives to "income shifting" where income is taken out as capital rather than labour income, a possibility which is further contributing to income inequality). However, the mobility argument does not apply to property (housing), which is a so-called immobile tax base. Housing is leniently taxed in Sweden, although there are both efficiency and distributional arguments for a higher level of taxation[49]. Is the low taxation of housing, wealth, bequest etc. revealed preferences that these sources of income/wealth are not a source of unfair inequality?

In the perspective of the Nordic welfare model, Sweden still stands out having achieved high per capita income (ranked 8 in 2017 among OECD countries) and low income inequality. In comparative perspective, Sweden is among the best practice countries in the efficiency-equity space. The employment rate is high, and there are few working poor. Although the model is challenged by low employment rates for low skilled and immigrants, it still stands as an example of "inclusive growth". Developments in recent years are primarily driven by policy choices rather than race-to-the-bottom mechanisms. While society is continuously changed and policies have to be adapted to such changes, recent developments show that policy choices are possible, and that the welfare state can be maintained, if it has political support.

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[49] In 2017 revenue from property taxation in Sweden accounted to 1.2% of GDP, while the EU28 average was 2.6% of GDP, see European Commission (2018).

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Systematisk förteckning