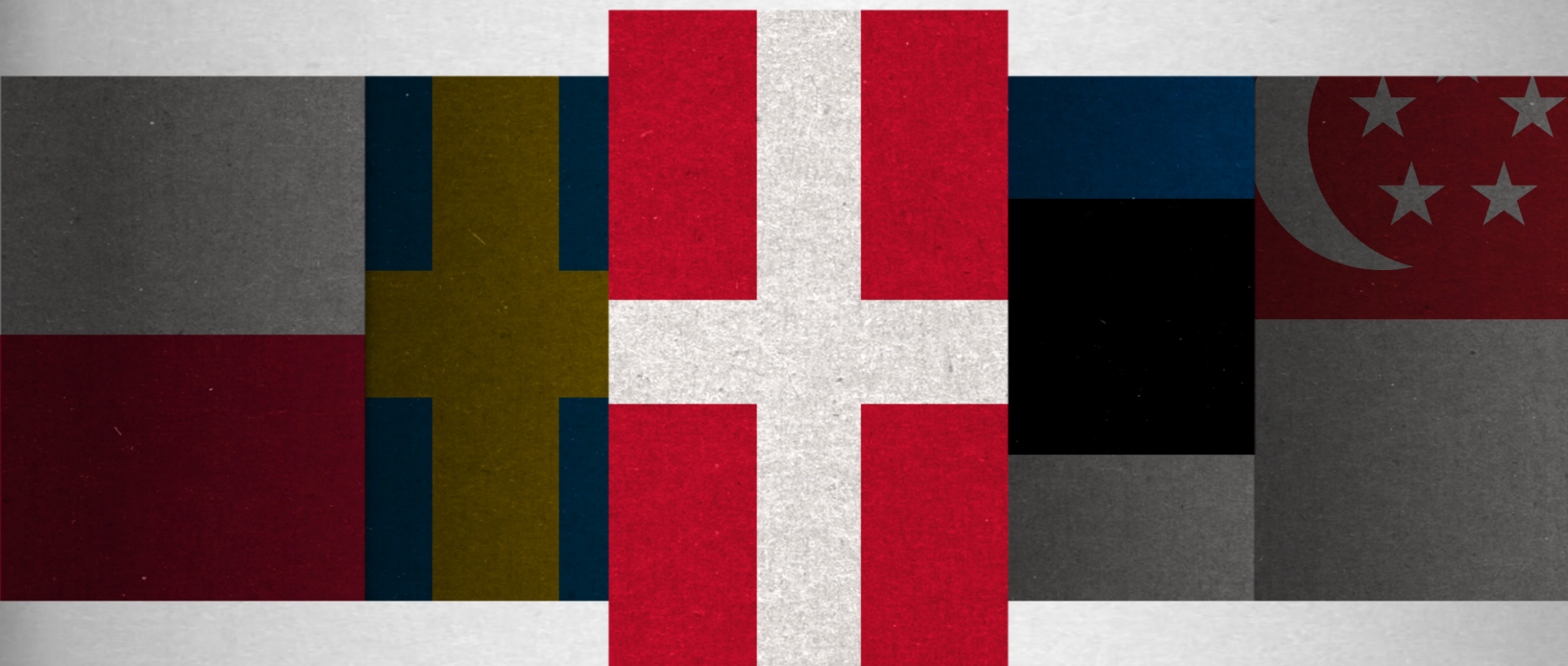


# THE FREE ENTERPRISE WELFARE STATE

A History of Denmark's Unique Economic Model

Lars Christensen, Matthew D. Mitchell, Bacchus Barua,  
Jake Fuss, Paige MacPherson, and Mackenzie Moir

Contributing Editor: Steven Globerman



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**THE FREE ENTERPRISE WELFARE STATE**

A History of Denmark's Unique Economic Model

**Collected Essays by**

Lars Christensen, Matthew D. Mitchell, Bacchus Barua,  
Jake Fuss, Paige MacPherson, and Mackenzie Moir

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## INTRODUCTION

Denmark is a highly regarded country for good reasons. Danes are healthy, wealthy, and happy. And they've been so for quite a long time. Foreign admirers—both left and right—often point to Denmark as a policy model, but few seem to appreciate the country's unusual combination of free enterprise and welfare state. In this short book, we examine the Danish economic model, including its origins, and draw some important lessons from the experience.

For more than a century and a half, Danes have been among the most economically free people on earth, and they remain so to this day. They can start and run businesses with little government interference. They can exchange with whomever they want—domestically or internationally—on whatever terms they want, and again the state does not interfere. They can accumulate savings knowing that the government will not inflate away their nest eggs. They can acquire and use property, confident that the state will protect their property rights. And they can contract with others, knowing that the state will enforce these contracts. So, the first lesson we can draw from the Danish experience is that the economic freedom Danes historically have enjoyed underlies Denmark's high standard of living.

The second lesson, and the one exception to their economic freedom, is that Danes pay for their welfare state with some of the highest taxes in the world. Denmark's two largest sources of state revenue are its value-added tax (VAT) and its personal income tax. Middle-class Danes largely bear the burden of these two taxes. All Danes pay the VAT when they buy goods and services. And at 25 percent, the VAT is one of the highest in the world. Denmark's top personal income tax rate is also among the highest in the world. But it's not just the wealthy who pay it—the top rate kicks in at a comparatively low level of income. So, while Danes have a large and expensive welfare state, they don't foist the bill onto corporations or the wealthy. Instead, they all pay for it.

Although this model works reasonably well for Denmark, it does have its economic limits. And that brings us to the third lesson: when Denmark experimented with an unsustainably large government, it did not go well. For most of its history, Denmark had a relatively small government. Even as late as 1970, the Danish government accounted for a smaller share of the economy than did the governments of the United States, the United Kingdom, Canada, and Australia. But from 1970 through the early 1990s, the Danish government grew dramatically, accounting for nearly 60 percent of gross domestic product by 1995. Government revenue did not keep pace with spending, so the government ran huge deficits. Debt piled up and inflation spiralled out of control. But something that can't go on

forever, won't. And by the 1990s, nearly all Danish policy makers understood that they had to make a change. They began reducing spending, bringing it in line with government revenue. They also committed to sustainable budgeting practices, limiting both deficits and the growth of debt. As the government moved toward a more balanced budget, both inflation and interest rates declined. Danes found out the hard way that there are limits to big government.

## **DENMARK—GETTING RICH BEFORE BECOMING A WELFARE STATE**

***Lars Christensen, Matthew Mitchell, and Steven Globerman***

This chapter examines the growth of the Danish economy during the last 150 years, with a particular emphasis on the period following WWII. During this period, the Danish economy transitioned from an agrarian economy in which government played a very limited role to industrialization and the gradual expansion of the government's role, particularly in the provision of social services including health care and education, as well as in income redistribution.

Since the adoption of Denmark's first democratic constitution in 1849, the country's political and judicial institutions have remained largely unchanged, though there have been a few exceptions such as the growth in the number of political parties. However, the role of government in the economy has changed significantly over that time, although some features of government economic policy have remained largely unchanged, most notably broad-based public and political support for free trade, a rule-based monetary policy, and strong protection of private property rights. For the most part, various Danish governments have been committed to relatively sound public finances, though here again there have been exceptions, particularly the period from the mid-1960s to the mid-1980s when an explosive growth of government spending contributed to rapidly growing government fiscal deficits accompanied by high interest rates and inflation.

Denmark's preceding 150 years of economic expansion have taken place in one of the world's most stable democracies, with strong institutions in place to defend the rule of law and private property rights. The only significant exception was during World War II when Nazi Germany occupied the country from 1940 to 1945.

It is important to remember that as a small country that has been historically very open to international trade and mostly operating on a pegged exchange rate system, Denmark's economic growth has followed global business cycle trends to a large extent. Denmark has particularly followed the cycles of business development in Western Europe, where first Great Britain and then West Germany have been Denmark's prominent trading partners. As a result, all of Denmark's big recessions have coincided with global shocks—the Great Depression, both World Wars, the oil price shocks of the 1970s, the Great Recession of 2008-09, and, more recently, the great COVID lockdown crisis of 2020-21.



Furthermore, as an exporting country, shocks to import and export prices (i.e., terms of trade) frequently have had a significant impact on Danish economic growth. Given these considerations, it is difficult to precisely distinguish between the effects of global shocks to growth on the one hand, from the impacts on the economy of specific Danish policies and institutions on the other. Nonetheless, we will attempt to do so in this chapter.

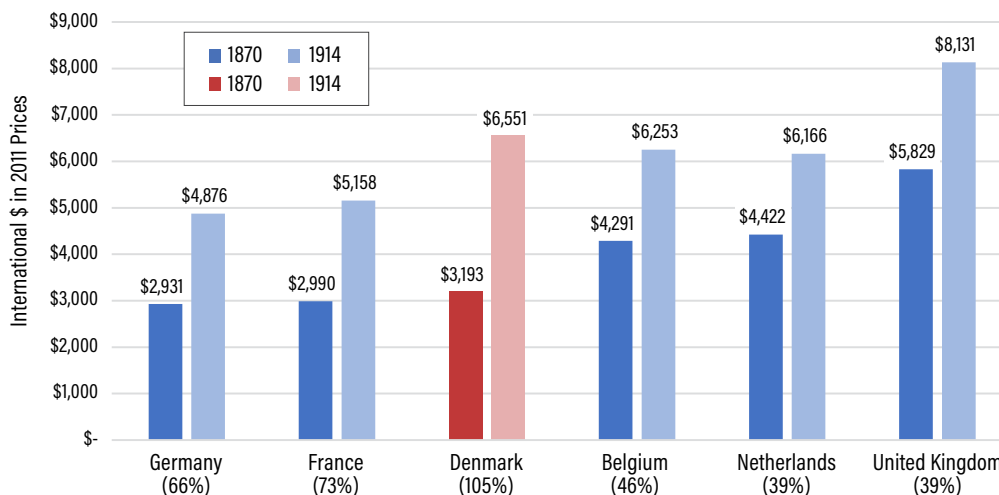
### From stagnation to free markets and growth

Compared to many other European countries, Denmark's economy expanded greatly between 1870 and 1914. Figure 1.1 shows inflation-adjusted GDP per capita in 1870 and in 1914 in six Western European nations. In 1870 Denmark's per capita GDP was among the lowest in the group; by 1914 it was the second highest. The inflation-adjusted growth rates are shown in parentheses below each country name. Denmark's real GDP per capita more than doubled over this period, increasing 105 percent.<sup>1</sup>

During this period, and indeed up until WWII, the Danish economy was based mainly on agricultural production. In this regard, *Olgaard (1980)* notes that as recently as just before 1930, agricultural exports accounted for 75 percent of total Danish exports and well over 20 percent of the country's gross domestic product. As late as 1950, agricultural products still accounted for around 63 percent of Danish exports. The agricultural labour force accounted for fully 51 percent of the total labour force in 1875 and was still a relatively substantial 34 percent of the total labour force in 1929 (*Olgaard, 1980: 46*).

Significant advances in agriculture and manufacturing efficiency enabled Denmark to grow its exports and enjoy a relatively high standard of living. Beyond improved efficiency, the Danish dedication to free trade and to trade agreements that encouraged free trade were critical to the country's strong economic progress throughout this period. Openness

Figure 1.1: Per Capita GDP in Several European Countries in 1870 and 1914



Note: Inflation-adjusted growth rates are shown in parentheses beside each country name.

Source: Maddison Project Database 2020 (Bolt and van Zanden, 2020).

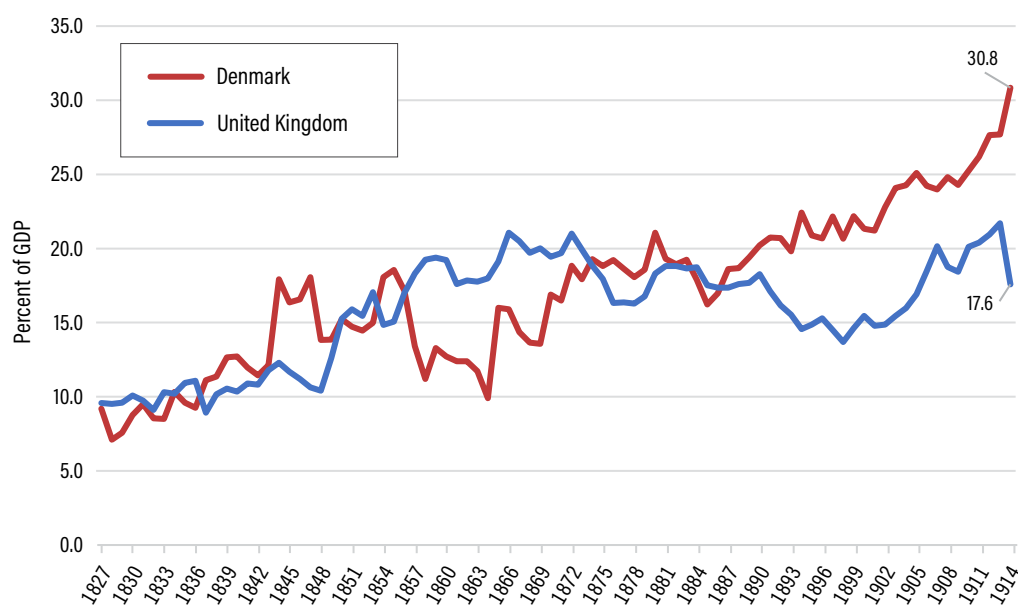
to international trade also enabled Danish agriculture and manufacturing businesses to expand their geographical markets and establish trade relations with countries worldwide, but particularly in Western Europe. Figure 1.2 shows the value of exported goods as a share of GDP for Denmark and the UK from 1827 through 1914. From the late 1880s onward, Denmark's exports soared, far exceeding those of the famously free trade-oriented United Kingdom.

Agriculture, Denmark's most important economic sector at the time, grew tremendously during this period. The concurrent decline in the relative share of the labour force working in the agricultural sector reflects the sector's productivity growth. The emergence of so-called cooperative movements in Denmark also contributed greatly to the agriculture sector's prosperity (Henrik, Lampe, and Sharp, 2011). Farmers increased their production and profitability by joining cooperatives, which allowed them to pool their resources and deploy capital more efficiently. Larger farm sizes also enabled farmers to realize economies of scale.

During this time Britain became an important trading partner for Denmark, particularly for Denmark's agricultural export sector. Indeed, for the past 150 years, Denmark's relationship with the United Kingdom has been centrally important, and the UK remains a very important trading partner for Denmark, even though it is no longer the primary market for Danish exports.

Industrialization was another important driver of Denmark's economic growth. By the 1890s Denmark had begun to industrialize, with approximately 30 percent of the population employed in crafts and industry. During the twentieth century Denmark

Figure 1.2: Value of Exported Goods in Denmark and the UK as a Share of GDP (1827-1914)



Source: Fouquin and Hugot, 2016.

also saw technological development and significant growth in industrial productivity (Hansen, 1976).<sup>2</sup>

A strong commitment to classical liberal economic policies aimed at enhancing the rule of law and minimizing the role of government in the economy was at the heart of Denmark's economic development. The late 1800s and early 1900s marked a period of primarily laissez faire economic policies for the country.

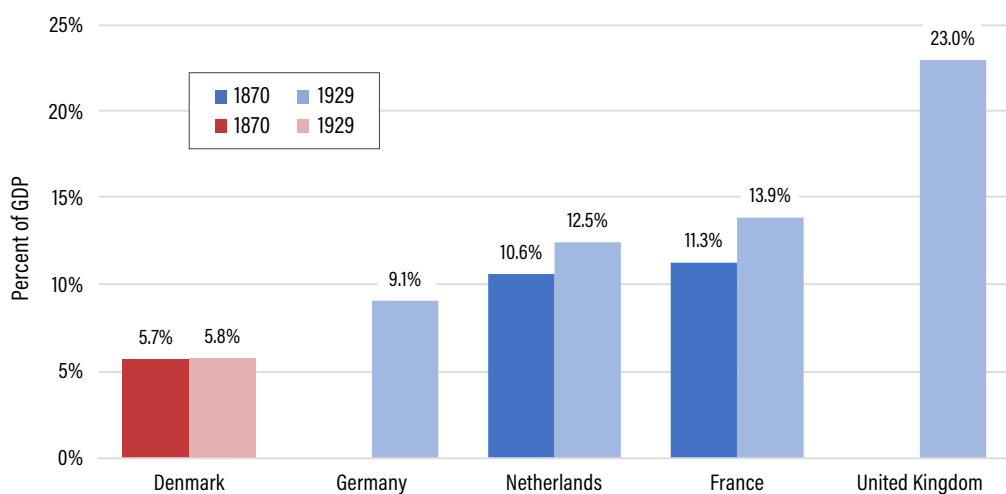
Prior to the passage of the so-called *Næringsfrihedslov* (the Freedom of Trade and Business Act) in 1856, the Danish economy was controlled by privileges held by market towns and monopolies held by the craft guilds (Sløk-Madsen, 2022). Ever since the Middle Ages, royal and state power had heavily interfered in the economy and controlled corporate life. This was accomplished by, among other things, granting the market towns the exclusive right to trade in commodities originating in the catchment area. According to the legislation, the farmers could sell their commodities in the town square only on market days. The trades were likewise controlled, granting local trade unions a monopoly on the practice of their craft.

With the passage of the *Næringsfrihedslov*, these competition restrictions were lifted. As a result, the economy became guided by a philosophy of free and minimally controlled commercial activity. The era's classical liberal ideology was also critical to Denmark's economic prosperity. The *Næringsloven* Act of 1857 fostered free trade, prevented the creation of trade barriers, and made it straightforward for Danish firms to conduct business abroad. This classical liberalism encouraged entrepreneurship, competition, and innovation, which fuelled the country's economic growth. In September 1899 the main Danish labour union and the main employers' association agreed to recognize each other as equal partners in the Danish labour market. Since then collective bargaining agreements have to a large extent governed Danish labour market conditions; consequently the labour market partners rather than government determine labour market conditions such as work time and minimum wages.

Similarly, in 1933 the Social Democrats—the main centre-left party in Denmark—and the liberal party (Venstre) made a historical compromise (the “Kanslergade Compromise”) that laid the foundation for the Danish welfare state model. This agreement was essentially the beginning of a long-standing compromise in Danish politics: the government would ensure certain welfare benefits for citizens as the Social Democrats wanted, and, in return, would stay out of business activities as Venstre wanted.

Details about government spending provide one indication of the government's limited role in the economy. Figure 1.3 shows central government spending as a share of GDP in the 1870s (when available) and in 1929 for five European nations. Not only did Denmark spend significantly less than others as a share of GDP, but its spending as a share of GDP changed very little over this 60-year period.<sup>3</sup>

With institutions conducive to growth in place, developments in trade, manufacturing, agriculture, and technology aided the expansion and innovation that marked Denmark's economic boom between 1870 and 1914.

**Figure 1.3: Central Government Spending as a Percent of GDP (1870s and 1929)**

Source: Flora et al. (1983).

### Between the wars: From inflation to deflation

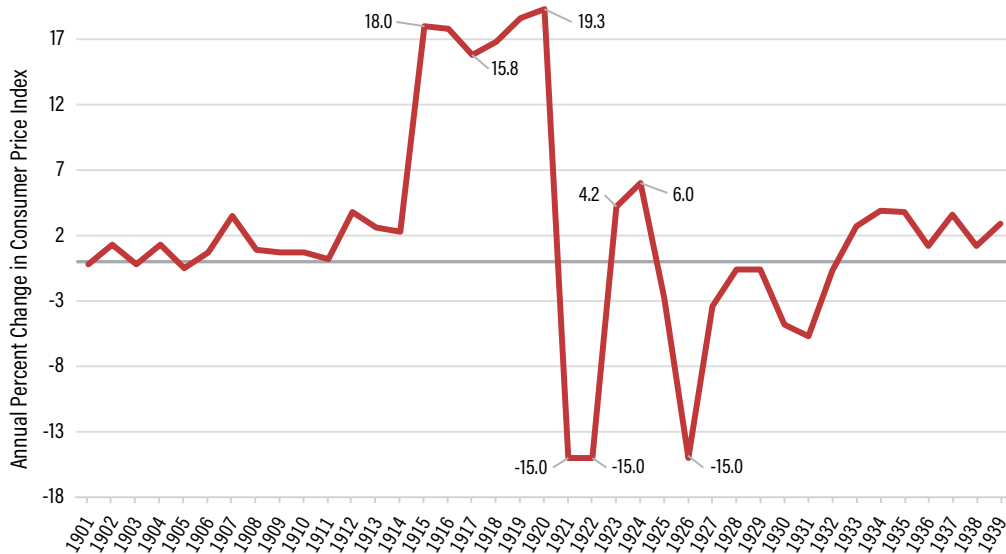
During World War I, Denmark remained neutral and did not take part in the fighting. However, the war had a significant economic impact on the country and with the de facto suspension of the gold standard inflation in Denmark skyrocketed, as it did in the rest of Europe. Danish exports, on the other hand, increased during the war, and Denmark exported to both sides of the conflict. However, despite rising exports, soaring inflation reduced real incomes during the conflict.

Following the war, Denmark endured a difficult economic situation as it was dealing with an impoverished Germany to the south and after 1920 also faced significant challenges reintegrating Southern Jutland.<sup>4</sup> After the war virtually every European country had currency problems and Denmark was not immune. Figure 1.4 shows Denmark's inflation and deflation rates, as measured by the annual percent change in the consumer price index from 1901 through 1939. From 1915 through 1920, inflation averaged nearly 18 percent. Then, starting in 1921, the nation experienced 15 percent deflation for two years in a row. The inflation rate stabilized again for two years before once again swinging to 15 percent deflation in 1926.

By 1919-20 the Danish krone's value had plummeted by around 50 percent as measured against the value of gold, and even though it regained a lot of ground in 1922, the krone's value remained unstable. The currency problem was a key political issue in Denmark in the early 1920s and the main political parties on both the left and the right generally concurred that a stable monetary order had to be re-established (Svendsen, Hansen, Olsen, and Hoffmeyer, 1968).

Politicians and policymakers shared a widespread concern that the ongoing German financial and economic crisis might extend to Denmark, so the government determined

Figure 1.4: Inflation and Deflation in Denmark (1901-1939)



Source: Statistics Denmark, (undated).

that the Danish krone would be returned to a value (against the gold price) closer to that seen prior to the war, a move that enjoyed broad political support. The government accomplished this by establishing the “ærlige krone” or “honest crown,” which meant that the Danish krone could be redeemed for gold, as was the case before the war.

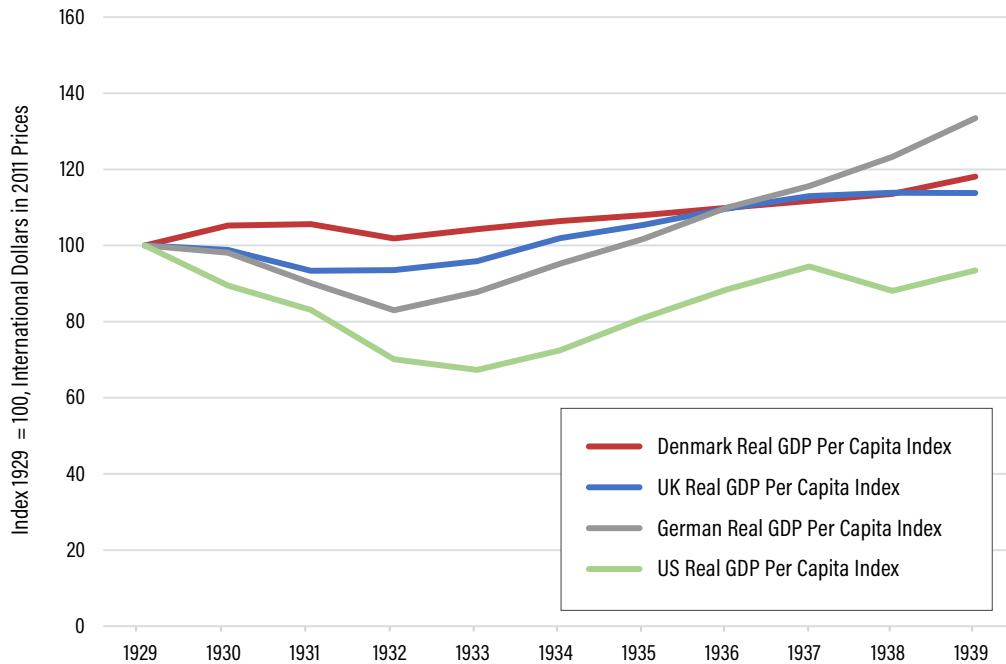
The Social Democrats were the ruling party at the time, and the party was eager to demonstrate that it could be trusted on economic issues and that it was serious about ensuring price and financial stability. As a result, when Denmark’s largest trading partner, the United Kingdom, restored gold redeemability in 1924, Denmark decided to follow suit.

In fact, the decision to establish the honest crown proved to be a huge policy error; the Danish krone rose sharply when it was instituted and the economy was hit by its second major deflationary shock in six years, as shown in figure 1.4, causing unemployment to skyrocket to nearly 22 percent. The deflationary shock triggered turbulence in the Danish labour market, and the mid-1920s saw significant labour unrest in Denmark with militancy increasing among both unions and employers.

The deflationary shock along with labour market discontent slowed Danish economic growth in the mid-1920s and in many ways Denmark appeared to have entered the Great Depression before the shock affected the rest of the world economy in 1929. That did not mean that Denmark avoided the Great Depression, but it did fare relatively well in the late 1920s and early 1930s when compared to, say, the United States or Germany.

Indeed, in the first half of the 1930s, the Danish economy outperformed that of the United States, the United Kingdom, and Germany, as shown in figure 1.5, which reports index values (relative to 1929 as a base year) for the four countries from 1929 to 1939.<sup>5</sup>

Figure 1.5: Inflation-Adjusted GDP Per Capita as a Percent of 1929 Levels



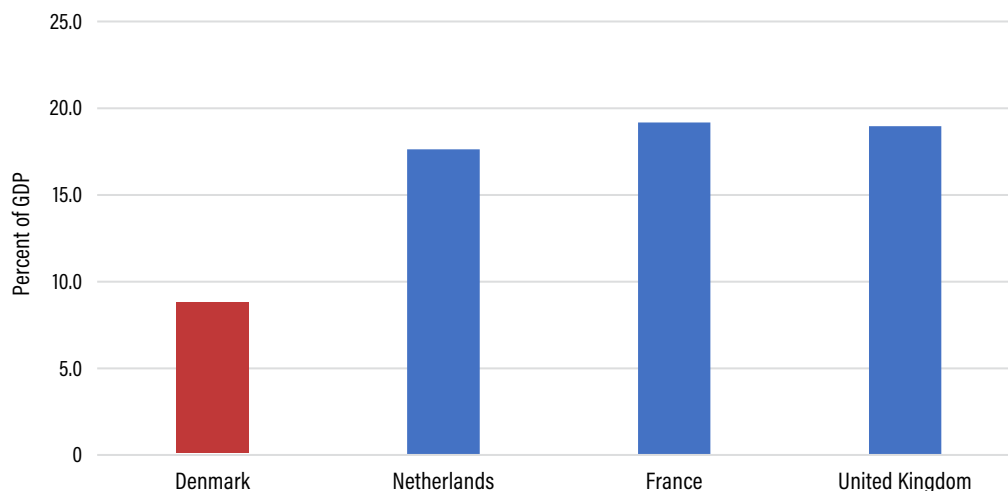
Source: Bolt and van Zanden (2020).

Denmark's relatively favourable economic growth rate was due in large part to the fact that while the US allowed the deflationary shock to worsen, Denmark did not. The UK and the Nordic countries, including Denmark, abandoned the gold standard in 1931, sharply devaluing their currencies and thereby ending the deflationary shock.

The Danish krone depreciated further in 1933 as part of the so-called *Kanslergade-forlig*<sup>6</sup> (Kanslergade Agreement) between the ruling Social Democratic government, the coalition partner Radicals (the social-liberal party), and the opposition party Liberals (Krake, 2023). The agreement, which is sometimes referred to as the establishment of the Danish welfare state (and which is clearly an exaggeration), increased government welfare spending, initiated public works programs, and, most importantly, devalued the Danish krone, which was a key demand of the opposition Liberal party that at the time had strong political ties to the export-oriented agricultural sector.

Following the Kanslergade Agreement the Danish economy grew steadily and unemployment gradually decreased until the outbreak of World War II. The main point to emphasize here is that monetary and exchange policy strongly influenced Danish economic growth, both positively and negatively, during the interwar period.

Notwithstanding increased government spending on social and public works programs, the size of government in Denmark was still limited at the end of the 1930s (see figure 1.6) and there remained a broad political consensus that the Danish economy should be

**Figure 1.6: Central Government Spending as a Percent of GDP, 1938**

Source: Flora et al. (1983).

based on free market principles and free trade. Even though there had been a gradual shift towards more income redistribution, the role of government in the economy remained limited.

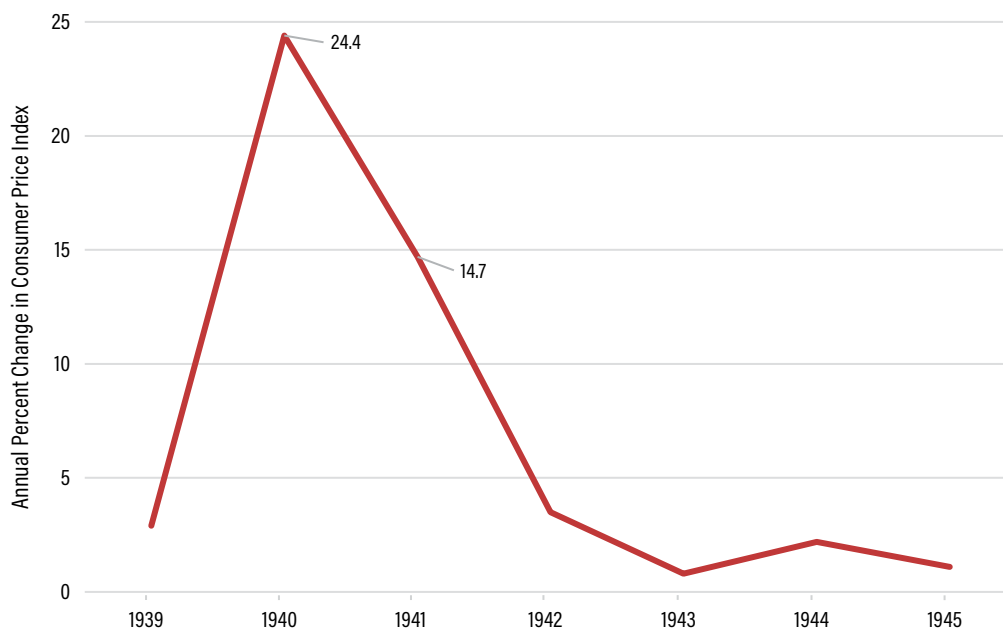
The Danish experience of the 1930s contrasts to that of the United States where the Roosevelt administration's policies significantly increased the role of government in the economy and where government policies encouraged the cartelization of industries. The structure of the Danish economy contrasted even more sharply to the economies of Nazi Germany and Fascist Italy, which both pursued corporatist economic policies. At that time Denmark maintained a mostly non-interventionist public policy regime when it came to economic activity, but World War II changed that.

### **German occupation, regulation, and inflation**

On April 9, 1940, Nazi Germany attacked Denmark (and Norway), and Denmark was quickly overrun. Unlike in Norway, the Danish government surrendered almost immediately. The German occupiers and the Danish government quickly established a so-called collaboration agreement, which marked the beginning of a fairly calm occupation of Denmark.

Denmark was allowed to keep its own government and political institutions, but Germany had final say in matters of foreign policy, defence, and economic policy. The Danish military was disbanded and the country was occupied by the German army, the Wehrmacht. The Danish government also agreed to supply agricultural and industrial products to Germany almost exclusively. Exports to Germany increased from around 25 percent to roughly 80 percent of total exports, while trade with the United Kingdom (Denmark's largest trading partner until then) declined.

Figure 1.7: Inflation in Denmark (1939–1945)



Source: Statistics Denmark, (undated).

Furthermore, and perhaps most importantly from an economic standpoint, the cost of the German occupation was largely covered by having the Danish central bank print money for the occupiers. As a result, while Denmark was occupied from 1940 to 1945, the Danish central bank subsidized the German occupiers' use of services. This resulted in a dramatic increase in the Danish money supply, which, predictably, resulted in significant inflation throughout the occupation years, as shown in figure 1.7.

Because of the dramatic spike in inflation, the Danish government implemented tight price restrictions and rationing and also imposed rent control (Hansen, 2022). In many ways, these measures placed the Danish economy in a “deep freeze” and this, combined with the collapse of Danish agricultural exports to Britain, caused the economy to plummet and remain frozen until May 4, 1945, when the allied forces freed Denmark.

### 1945-65: Deregulation, re-globalisation, and catching up

At the end of World War II, per capita GDP in Denmark was nearly 50 percent lower than in the United States, and it was obvious that Denmark's economic development was falling behind.<sup>7</sup>

Even though Denmark was not one of the countries that participated in the conflict during the war, and despite the fact that there had been relatively limited harm in Denmark to productive assets such as factories as a result of the conflict, the Danish economy lagged behind the US economy in economic growth during the war.



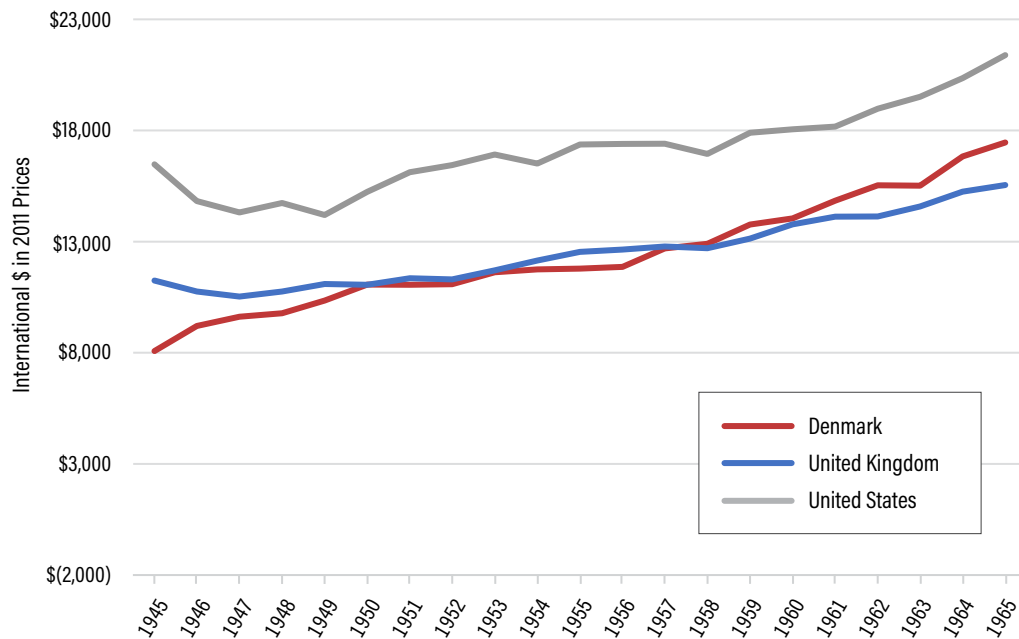
Given the significance of price controls and product rationing that occurred during and in the years immediately following the war, it is highly likely that economists underestimated Denmark's real economic growth, perhaps to a significant extent, due to statistical problems with the measurement of economic activity.

That said, there is no doubt that the Danish economy had suffered a major negative economic shock due to wartime protectionism and to the fact that the UK market had effectively evaporated during the war. The trade restrictions Nazi Germany imposed on Denmark had a particularly harsh effect because the country is tiny and has a fairly open economy that is highly dependent on trade for its prosperity (Hansen, 1983).

Immediately after the war there was significant public pressure to eliminate price controls and rationing, and a similar amount of pressure to do away with currency and capital controls. It was increasingly obvious that these rules and laws were the primary reason for the huge surge in black market crime that occurred in Denmark in the years immediately following the war. It was also increasingly clear that in those years the amount of corruption in the Danish police force had reached an all-time high. As a result, most of the regulations that had been imposed during the conflict were nullified in the years following. However, certain regulations proved politically more difficult to eliminate, and some of them are still in effect today. The most notable example is rent control, which is still in effect, albeit in a modified form, to this day.<sup>8</sup>

As figure 1.8 demonstrates, the removal of post-war economic regulations and the subsequent re-opening of the global economy and the restoration of trade with the British market

Figure 1.8: GDP Per Capita in Denmark, the UK, and the US (1945-65)



Source: Bolt and van Zanden (2020).

all helped pave the way for a 15-year post-war economic growth boom in Denmark. As the Danish economy improved, the gap in inflation-adjusted per capita GDP between Denmark and the US narrowed. While Danish per capita GDP was just 49 percent of US per capita GDP in 1945, it was 82 percent by 1965. Over the same period, Danish per capita GDP surpassed that of the UK, going from 72 percent to 112 percent over this period.

It is also important to note that Denmark was not the only country that rapidly expanded during the early post-war period. Sweden also went through a period of rapid economic expansion and closed some of its pre-war, per capita GDP gap with the US. The dedication of both Nordic countries to free trade, as well as their access to global markets, was a significant factor in their ability to catch up economically.

Denmark, like other Western European countries, received financial aid from the US Marshall Plan. This initiative helped Western European countries rebuild their physical capital and import critical inputs from the United States. The aid was given on condition that the receiving countries liberalize their restrictions on imports of manufactured products. As a consequence, by the beginning of the 1950s, manufacturing industries in Western Europe, including Denmark, were able to significantly expand their exports of a wide range of products. By 1960, Denmark's exports of manufactured goods exceeded its exports of agricultural goods.<sup>9</sup>

While many North American politicians characterize Denmark as a "socialist democracy," it is relevant to note that the size of the government, measured as a percentage of GDP, was actually lower in Denmark and Sweden than it was in the United States and the United Kingdom throughout the 1950s, '60s, and '70s, as shown in figure 1.9. At that time, neither Denmark nor Sweden had the kind of universal welfare states that we are familiar with today. In fact, both countries stayed relatively faithful to the traditional liberal economic values that had fuelled their economic expansions nearly a century before.

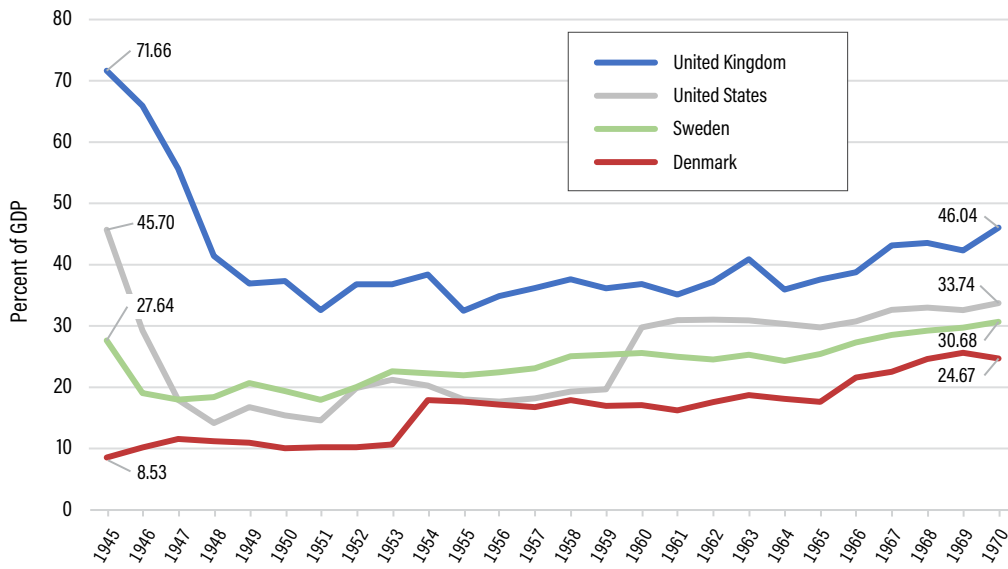
As a result, Denmark became wealthy before substantially increasing government spending and taxes to support the large welfare state we associate with the country today.

Figure 1.9 also shows that it was during the late 1960s that things began to change. Olgaard (1980) remarks that if the 1950s can be properly labelled as Denmark's second industrial revolution, the 1960s might be called the years of uncontrolled revolution in the size of government. To illustrate, from 1965 to 1980, total taxes as a share of Denmark's Gross Domestic Product increased from 29 percent to over 40 percent (see figure 1.10). The two most important categories of central government spending financed by the increased tax revenues were social services and education.

Nevertheless, it is important to keep in mind that the post-war growth boom in Denmark was driven to a considerable extent by the global wave of trade liberalization and re-opening of markets, as well as by domestic deregulation in Denmark.

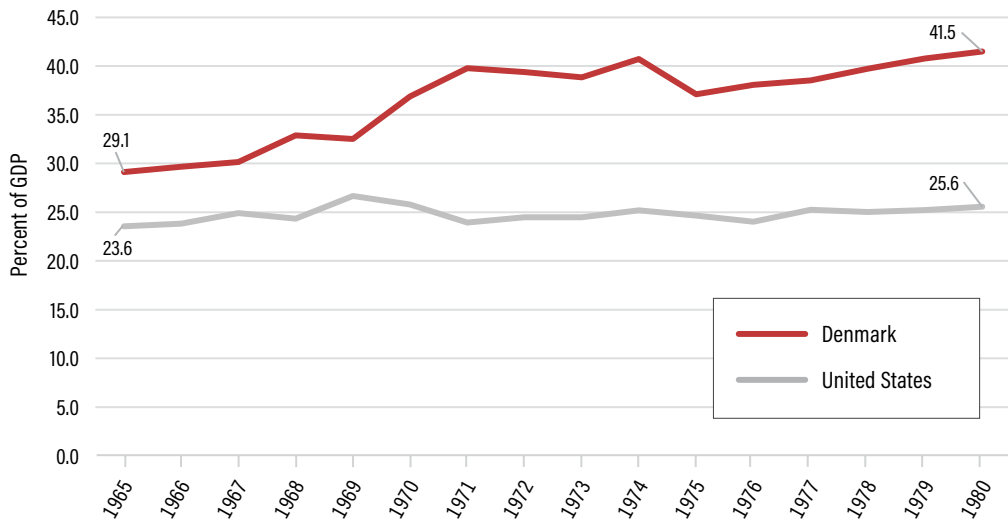
Clearly, there was a significant political shift in Denmark commencing in the early 1960s that coincided with the beginning of a movement toward allowing government to have a

Figure 1.9: Total Government Spending as a Share of GDP (1945-1970)



Source: Mauro, Romeu, Binder, and Zaman (2015).

Figure 1.10: Total Government Taxation as a Share of GDP (1965-1980)



Source: OECD Revenue Statistics, (undated).

larger role in the economy, including a larger role in the process of income redistribution. The following section takes a more in-depth look at these patterns.

### Shifting political winds

In the years immediately following WWII political sentiment in Denmark clearly shifted to the left, and the Danish Communist party in particular enjoyed widespread public support. This was primarily due to the role that the Communists had played in the

Danish resistance movement against the German occupation during the war, as well as widespread public sympathy for the Soviet Union for the role that it had played in the liberation of Europe. This sentiment caused the ruling Social Democratic party to be forced to the left, and as a result, their rhetoric regarding economic policy became more socialist than ever.

However, as the end of the cold war drew closer, public support for the Communist Party in Denmark declined rapidly, which resulted in the Social Democrats once again shifting their position, this time to one that was more pragmatically aligned with the centre-left. In light of this, it is worth noting that the Danish Social Democratic Party has never, during its time in power, advocated in Parliamentary proceedings for socialism in the sense that the government should take over the means of production. To the contrary, the Danish Social Democratic Party has, historically speaking, favoured private ownership of the means of production and has supported private property rights and relatively free markets (Fonsmark, 1990).

Moreover, in contrast to the policies of the Labour Party in Britain, the Social Democrats in Denmark did not nationalize privately held businesses. Nor has there ever been any substantial backing for this idea among Denmark's general population. The philosophy of the Social Democrats, which is consistently aligned with a broad consensus of the Danish public, has been pragmatic support for a free market system, especially for regulatory and judicial institutions that protect private property rights, but a system in which the government plays a prominent role in the provision of social services and reducing income inequality. Because Denmark has a parliamentary system with many political parties and democratic competition for the support of the median voter, there has been a distinct tendency for economic and political decisions to be made pragmatically and by consensus. As a result, it has been very difficult to fundamentally differentiate between governments that are centrist or lean to the centre-left.

In addition, whenever the Social Democrats have drifted too far to the left, the public has shown its disapproval by punishing the party with lower support at the polls. It is also noteworthy that the most influential Social Democratic politicians of the 1950s and 1960s were almost all economists (with the majority of them having been educated at the University of Copenhagen). These politicians realized that economic growth was a prerequisite for being able to finance public services and income redistribution.

In a similar vein, the two main "old" parties on the centre-right of Danish politics, the Conservative Party and the Liberals, maintained their support for a free market system despite moving toward the centre or even the left on income redistribution and the provision of public services such as education and health care.

This meant that during the 1950s and 1960s Denmark gradually began to coalesce around a political consensus: that Denmark is fundamentally a democratic country with significant respect for the individual and the protection of private property, that it understands that the free market system is the foundation for economic growth, and that it sees

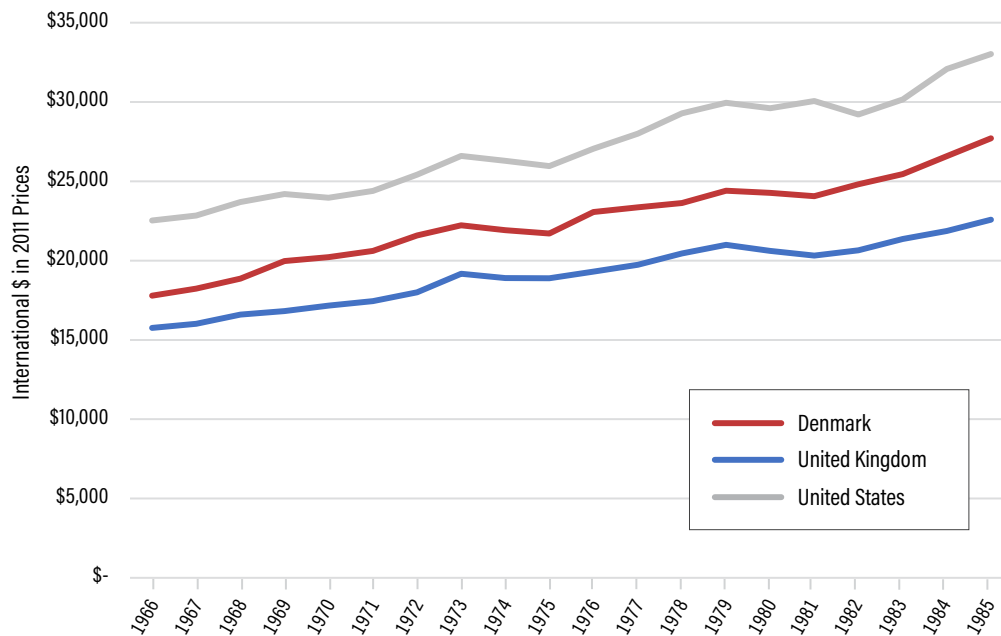
government's role as reducing income inequality by providing social benefits and free access to education and health care, which are funded by a broad-based tax system.

Nevertheless, the sharp increase in public spending, particularly during the second half of the 1960s, suggests that during this period Danish politicians had largely forgotten the source of Danish growth, i.e., a relatively large and unregulated private sector. Still, it is useful to point out that government revenues were primarily raised through sales and personal income taxes. Indeed, the share of total taxes raised from the personal income tax increased from 30 percent in 1938/39 to 46 percent in 1973/74. Income taxes on companies accounted for a very small share of the total tax revenue government collected. The emphasis on taxing individuals relative to businesses is an enduring feature of the Danish tax system that will be discussed in more detail in a later chapter of this volume. Suffice to say here that relatively low corporate and property taxes do not fit the stereotype of the Socialist Democracy as propagated by US politicians such as Bernie Sanders and Elizabeth Warren.

### From growth to stagflation

The second half of the 1960s marked the start of what would become regarded as the “golden period” of economic growth following World War II. Total real GDP increased by almost 35 percent over the 7 years from 1966 to 1973. Over the same time, Denmark's unemployment rate averaged a very low 2.4 percent. Figure 1.11 shows real GDP per capita in Denmark, the US, and the UK from 1965 through 1985. While real GDP per capita increased by 54 percent in the US and by 45 percent in the UK, it grew by 59 percent in Denmark.

1.11: GDP Per Capita in the US, the UK, and Denmark (1965-1985)



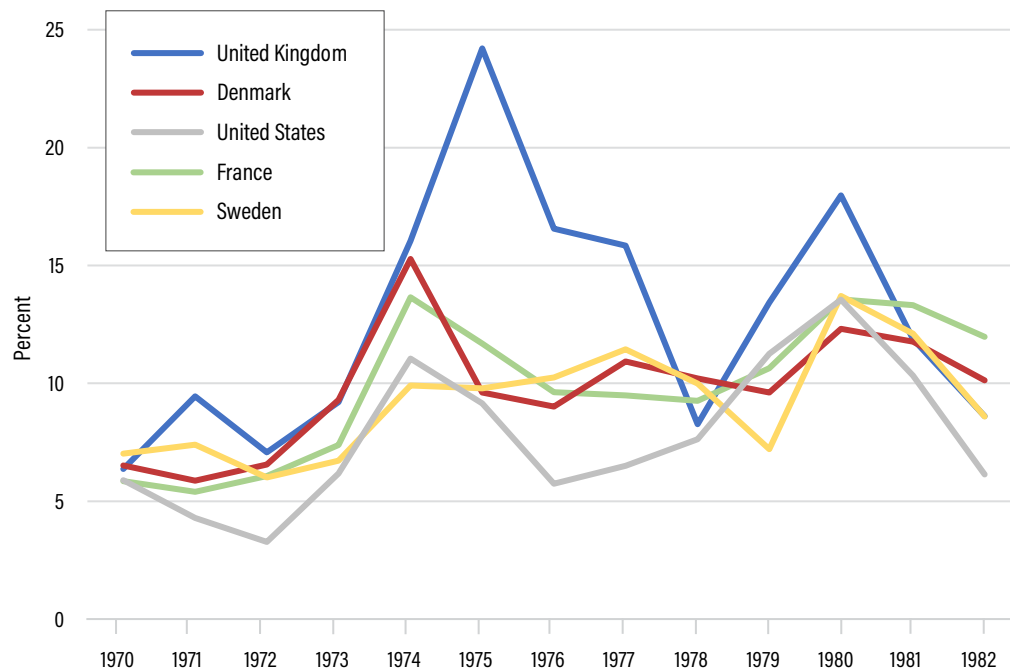
Source: Bolt and van Zanden (2020).

This strong economic performance occurred at the same time as there were growing concerns about the economic situation in Denmark's then primary trading partner, the United Kingdom, where growth had slowed significantly and the economy was suffering from a large current account deficit and growing public finance problems. These issues prompted the United Kingdom's government to announce a 14 percent devaluation of the British pound within the Bretton Woods framework of 1967, which allowed for countries to devalue their currencies against the US dollar if they were experiencing serious balance of payments problems.

As a result of the pound's devaluation, the Danish central bank was forced to allow the krone to be devalued as well; nevertheless, the central bank was concerned about the inflationary consequences of this decision and allowed the krone to be devalued by "only" 7 percent. The United Kingdom's devaluation of the pound sterling was effectively the beginning of the end of the Bretton Woods fixed exchange rate arrangement. The Bretton Woods system finally came to an end in 1971 when US President Richard Nixon declared that the US would no longer redeem dollars for gold (Garten, 2021). The "Nixon Shock" essentially removed Denmark's monetary policy anchor.

Despite efforts to establish a new anchor for European monetary and exchange rate policy, the 1970s were marked by considerable uncertainty about the monetary regime, and inflation in Denmark, as in most other European countries, rose significantly during that period.<sup>10</sup> Figure 1.12 shows the annual inflation rate for Denmark and four other nations

Figure 1.12: Annual Inflation Rate in Selected Countries (1970-1982)



Note: Data are for headline annual consumer price inflation.

Source: Ha, Kose, and Ohnsorge (2021).

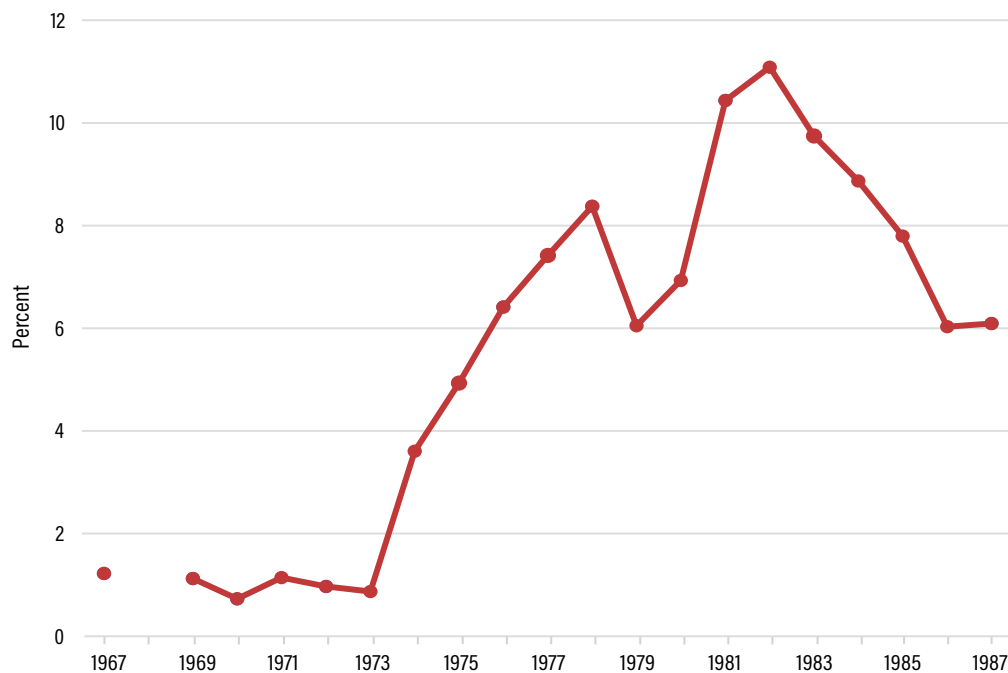
from 1970 through 1982. While Denmark's 15.28 percent inflation rate in 1974 is high by historical standards, the figure makes it clear that many western nations struggled with this problem in the 1970s.

The two major oil shocks that occurred in 1973 and 1979 worsened Denmark's inflation problem. By the mid-1970s, Denmark's economy was experiencing both inflation *and* rising unemployment (see figure 1.13)—what became known as *stagflation*.

These issues were exacerbated by the fact that Danish policymakers misdiagnosed the economic shocks and failed to recognize that the expansion of social welfare benefits during the late 1960s and 1970s had significantly contributed to increased inflation and structural unemployment during the 1970s. In particular, the extension of old age pension benefits to every Dane over the qualifying age starting in 1970 encouraged earlier retirements thereby exacerbating structural unemployment.

Furthermore, the stop-and-go macroeconomic policies implemented in Denmark during this period combined with the negative growth consequences of the two oil shocks resulted in a significant deterioration in Denmark's public finances throughout the 1970s and early 1980s. At the same time, export prices were declining relative to import prices, with the increase in import prices due mainly to increased energy prices. This deterioration in Denmark's terms of trade, along with a structural decline in Danish household savings and worsening state finances, resulted in a considerable increase in the country's current

**Figure 1.13: Seasonally Adjusted Annual Unemployment Rate in Denmark, All Persons Aged 15–74 (1967–1987)**



Source: OECD (2023).

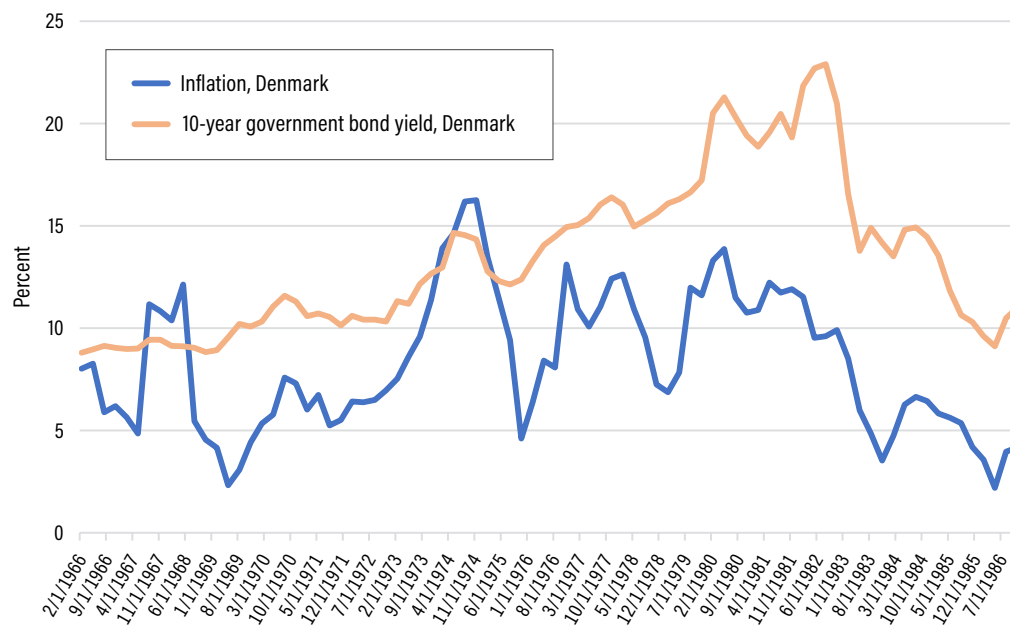
account deficit. As a result, the Danish government was forced to devalue the Danish krone several times during the late 1970s and early 1980s.

This was an era in which Danish economic policy was in upheaval in many ways, particularly with regard to the country's monetary and exchange rate policies. Essentially since the establishment of the Scandinavian currency union in 1875 when the Scandinavian currencies were pegged to each other within the gold standard framework and until the breakdown of the Bretton Woods system in 1971, Denmark had pursued a pegged exchange policy in one form or another to ensure price stability. This system was only interrupted by the two World Wars.

Following World War I Denmark gradually established a peg to the British pound, which was largely maintained within the Bretton Woods framework after World War II as both Denmark and the United Kingdom maintained a peg to the US dollar during this period. In essence, going back to 1875 and until this day, Denmark has adhered to a policy of relative price stability by implementing a pegged exchange rate regime in one form or another.<sup>11</sup> However, this policy was challenged during the 1970s as there was basically no anchor to which to peg the krone as high inflation and monetary instability were the international norm at the time.

The combination of high inflation, negative terms-of-trade shocks, deteriorating public finances, and a lack of a clearly defined rules-based economic policy framework weakened the credibility of the government's economic policies, which in turn caused interest rates and bond yields—both in real and nominal terms—to increase dramatically though the 1970s and early 1980s in Denmark (see Figure 1.14).<sup>12</sup>

Figure 1.14: Inflation and Interest Rates (1966–1986)



Source: The Danish Central bank (Danmarks Nationalbank)



However, unlike the Great Depression and the economic situation during the two World Wars when the crises were perceived to have their origins abroad, the situation in Denmark during the late 1970s and early 1980s was markedly different. Specifically, there was a general feeling among both the general population and those responsible for policymaking that Denmark had failed and that its economic policies had failed.

The Social Democratic party, in particular, became associated with these failed economic policies, and the failures of economic policy during the 1970s had a considerable impact on the political and economic consensus in Denmark at the start of the 1980s (Olesen, 2019). The new economic consensus was largely a return to what had been essentially the economic consensus prior to the dominance of Keynesian thinking in the 1960s and 1970s. More on that below.

Even as Danish fiscal and monetary policies seemed lost in the wilderness in the 1970s, the political commitment to free trade remained constant despite enormous current account deficits. For example, Denmark joined the European Economic Community (EEC) (later the European Union) following a referendum in 1973. The “yes” vote in the referendum was likely influenced by the fact that the United Kingdom had entered the EEC in 1973, and it was thus critical for Denmark to join so it could maintain its exports to the UK.

In this regard, it is worth noting that after Denmark joined the EEC it held a number of referendums on establishing closer political and economic integration with other European countries, and that while Danes in general have become more sceptical about European political integration, they have remained very positive about free trade within the European Union (Sørensen et al., 2022).

### **1982: Starting to undo the mistakes of the 1970s**

To understand economic policymaking in Denmark and how politicians, economists, and civil servants perceived it, it is hard to avoid mentioning 1982. That year marked a watershed in the country's economic policy. The disastrous economic developments of the 1970s and early 1980s undoubtedly caused Danish politicians, central bankers, economists, commentators, and the general public to question the Keynesian economic ideas that had begun to take shape in the 1960s and dominated economic policymaking in Denmark in the 1970s. By the early 1980s, inflation had risen above 10 percent a year, Danish government bonds were yielding more than 20 percent, and fiscal deficits were ballooning. This situation prompted Finance Minister Knud Heinesen, on handing in his resignation in 1979, to famously remark that Denmark's economy was on the “brink of the abyss” (Heinesen, 2008). The comment was seen as symbolic of the Danish economy's state in the late 1970s and early 1980s and of the failures of activist Keynesian macroeconomic policies.

In 1982, the Social Democratic cabinet of Prime Minister Anker Jørgensen collapsed and a new centre-right coalition government was formed under Conservative Party leader Poul Schlüter. Unlike his Conservative counterparts in the US and UK, Ronald Reagan

and Margaret Thatcher, Schlüter did not have an ideological agenda and his government's approach to economic policy can be seen as highly pragmatic. It was a policy of necessity and in many ways it can be seen as a return to "normal" Danish economic policies aimed at balancing public finances and ensuring price stability through stable monetary and exchange rate anchors. Even so, the new government's course amounted to a major break with the previous decade. Schlüter's macroeconomic approach rested on three pillars (Arzrouni et al., 2007):

1. Significant fiscal consolidation through a combination of tax increases and public expenditure cuts.
2. A "hard" fixed exchange rate peg against the German mark as opposed to the previous government's numerous devaluations.<sup>13</sup> The krone's peg to the mark was seen as appropriate considering Germany's role as Denmark's main trading partner at the time, as well as the Bundesbank's steadfast commitment to price stability.
3. De-indexation of public expenditures and wages, so they would no longer be automatically increased to keep up with inflation.

At the time, the government's austerity measures were strongly criticized, and mainstream economists were skeptical that they would prove successful. While the underlying reasons for the skepticism can certainly be debated, what is undisputed is that the Danish economy rebounded strongly, budget finances improved dramatically, inflation came down, and bond yields dropped. These developments were seen as vindicating the economic policies of the Schlüter government, while the success of fiscal consolidation—which ran counter to the Keynesian thinking prevalent at the time—caused a major shift in the economic and political discourse in Denmark. That shift has to a large extent lasted to this day, but it was particularly important in the 1990s when a centre-left coalition led by Social Democrat Poul Nyrup Rasmussen came to power.

The Nyrup Rasmussen government maintained its predecessor's commitment to fiscal consolidation and expanded supply-side reforms, further improving the condition of Danish public finances. Many of its structural reforms—notably a comprehensive overhaul of labour market and social welfare legislation introduced from 1993 to 2001—have continued to ease fiscal pressures to this day. Thus, the post-1982 period has been marked by continuous and gradual economic reforms aimed at reining in public spending and curbing public debt. At least until recently fiscal consolidation has enjoyed the broad support of both the left and right of Danish politics, instilling a fiscally conservative approach at the centre of economic policy making.

A key reason for this relatively strong political consensus is the Schlüter reforms' obvious success—particularly that the significant fiscal tightening did not, contrary to Keynesian thinking, produce an economic slump. In fact, quite the reverse was true: Denmark's economy boomed from 1982 to 1986. The unexpected success (at least unexpected by most Danish economists) of the Schlüter initiatives gave rise to what became known as "Schlüter optimism." In the economics literature, this boom came to be attributed to "non-Keynesian

effects of fiscal contractions,” of which Denmark’s experience in the 1980s is often highlighted as a prime example (see, for example, Giavazzi and Pagano, 1990).

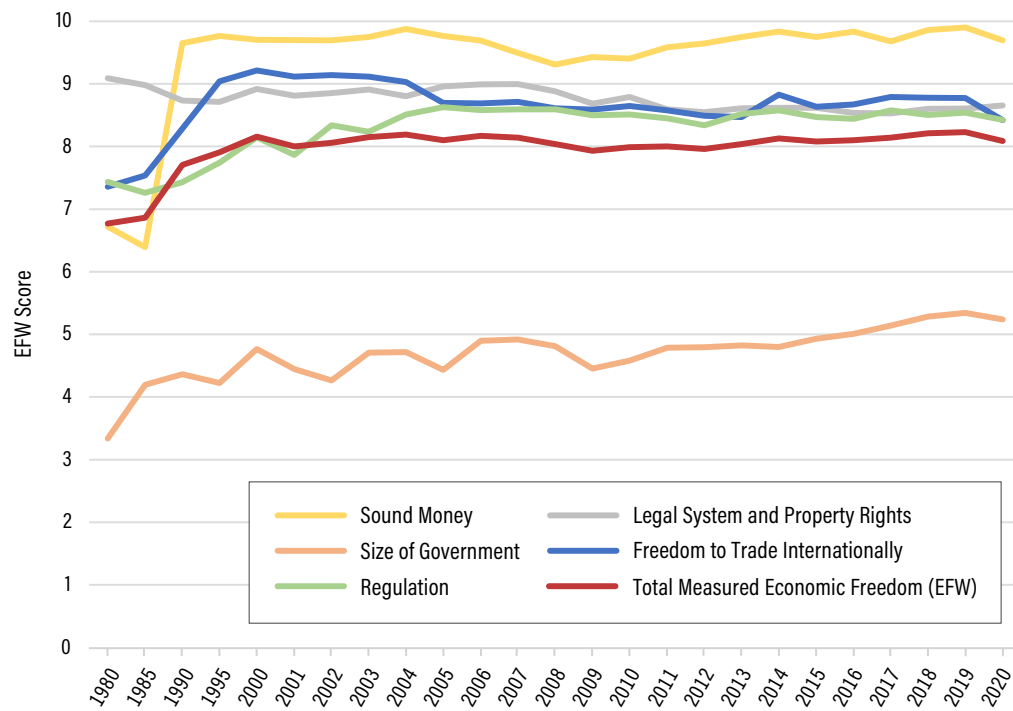
It became part of the accepted consensus among Danish politicians and the wider public that the failures of Anker Jørgensen’s government in the early 1980s resulted from a combination of fiscal chaos and krone devaluations, and that the correct economic policy for Denmark was fiscal consolidation combined with structural reforms.

However, it should be noted that certain key issues in the Danish economy went unaddressed from 1982 to 1993 while Poul Schlüter was prime minister. In particular, the very high level of structural unemployment at the time remained mostly unaddressed. When Schlüter stepped down in 1993, the unemployment rate was 13 percent, and at the time it was the assessment of the government’s own economists that structural unemployment likely was above 10 percent (Denmark, Ministry of Economics, 1993). That is, most unemployment was the result of structural features of the economy, including generous government social payments, rather than the result of business cycle conditions.

The reforms did, however, inoculate Danish policymakers and politicians from both the centre-left and centre-right against an over-reliance on expansionary fiscal policy as a short-term policy instrument.

One way to assess the long-term change is to look at measured economic freedom. Figure 1.15 shows Danish economic freedom, as measured by the Fraser Institute’s Economic

Figure 1.15: Denmark’s Measured Economic Freedom (1980–2020)



Source: Gwartney, Lawson, Hall, and Murphy (2022).

Freedom of the World index, from 1980 through 2020. To assess economic freedom, the authors collect data on 42 variables to create economic freedom scores in five broad categories of government policy: sound money, legal systems and property rights, freedom to trade internationally, regulation, and size of government.<sup>14</sup> They also create a summary score of total measured economic freedom, where higher scores indicate that citizens enjoy greater freedom to engage in economic activity. Figure 1.15 shows Denmark's scores in each of the components as well as in total measured economic freedom. Denmark's scores improved in all categories but legal system and property rights, which fell only slightly. The biggest improvements were in size of government and monetary policy. Figure 1.15 also clearly shows that Denmark's size of government score is significantly lower than its scores in all the other components of economic freedom.

### **From collective bargaining to a mostly free labour market**

The Danish labour market has a long history of collective bargaining dating back to the 1870s and the establishment in 1898 of the Danish Confederation of Trade Unions. The September Agreement of 1899, signed by the Danish Employers' Association and the Danish Trade Union Confederation, had as its goal to provide a framework for collective bargaining between companies and employees in Denmark. It recognized the right of workers to organize trade unions and engage in collective bargaining while simultaneously emphasizing the need for industrial peace and stability. Employers committed to recognize and negotiate with trade unions under the conditions of the agreement, while workers agreed to refrain from engaging in strikes and other types of industrial action. The agreement also established an arbitration system to handle complaints between companies and employees. If agreement could not be reached through arbitration, the Danish Parliament could mandate an agreement.

The September Agreement constituted a watershed moment in Danish labour relations and ushered in a new era of cooperation. Prior to the agreement, labour conflicts in Denmark frequently culminated in violent clashes between workers and police, with minimal cooperation between companies and employees.

The agreement helped create a more collaborative and peaceful approach to industrial relations in Denmark and helped establish a strong history of collective bargaining that continues to this day. This is referred to as the "Danish model." The Danish model also recognizes that labour concerns are best resolved through labour market discussions between labour unions and employers rather than through legal avenues. As a result, there is no national mandated minimum wage law in Denmark, for example. Rather, wages are negotiated between unions and employers.<sup>15</sup>

The collective bargaining arrangement has resulted in a particularly Danish model in which labour unions have always been very strong but actual labour regulation is rather light compared to, for instance, some continental European countries such as Germany or France. For example, Denmark has historically had and continues to have relatively liberal firing and hiring rules, and labour unions have historically accepted that the decision to

fire or hire is the right and responsibility of employers. While there have been conflicts between unions and employers in the past, the labour market has generally been relatively free of major strikes and lockouts.

On the other hand, an opinion widely held among Danish politicians is that this essentially liberal system of labour market regulation must be accompanied by a relatively high level of social welfare payments. While this so-called “flexicurity model” is frequently highlighted as a success story, it is also important to note that it has not always been successful. For example, the “flexi” element of the concept was largely missing during the 1970s when trade unions became very militant and were typically unwilling to assume responsibility for securing a high level of employment. At the same time, most Danish economists feel that the “security” part had become overly generous in that period.

The combination of rigid and militant labour unions with unduly generous unemployment and social benefits was a major reason why structural unemployment surged significantly throughout the 1970s and stayed extremely high until the mid-1990s.

The Schlüter government of the 1980s mostly failed to address these issues though its commitment to price stability (the pegged exchange policy) and to fiscal consolidation likely forced labour unions to take on more responsibilities for maintaining the general level of employment and likely gradually reduced labour union bargaining power. Nevertheless, structural unemployment remained high during Poul Schlüter's tenure as prime minister.

In 1993 when Poul Nyrup Rasmussen became prime minister and formed a coalition government with three smaller centre-right parties tax and labour market reforms were conditioned by the coalition's minor parties. During the 1990s, several key reforms were passed that simplified the tax system, decreased marginal tax rates, and reduced some social benefits.

The Social Democrats have historically opposed reducing social benefits, but the Nyrup Rasmussen government made major reforms. In circumstances where it was politically difficult to reduce absolute benefit levels the government made other adjustments, such as making it mandatory for unemployed people to participate in education or workfare schemes if they wanted to receive unemployment or social benefits.

This meant that, beginning in 1993, working-age unemployment and social benefits were gradually reduced. This development, combined with the fact that Denmark's unionization rate has steadily declined since the 1980s as Denmark transitioned from a manufacturing to a service economy, has led to significantly increased wage flexibility; structural unemployment in Denmark today is likely around 3 percent of the labour force (Denmark, Ministry of Finance 2022).

## Conclusion

Over the past 150 years, Denmark has largely been an economic success story.<sup>16</sup> A steadfast dedication to free markets, free trade, and private property rights that dates to the 1850s has been at the heart of the country's success.<sup>17</sup> Except for the period during the World Wars and the late 1960s and 1970s there has also been a solid political consensus about ensuring sound public finances and price stability within the framework of an exchange rate anchor.

However, the country has had some major policy setbacks, most notably the major macroeconomic policy mistakes of the 1970s when an explosion of government spending contributed to rapidly increasing wages, serious structural unemployment, relatively rapid price increases, and a balance of payments crisis. Even though major fiscal, tax, and labour market reforms have been implemented over the last four decades, the reform agenda, particularly regarding the large size of government, remains unfinished.

Since the early 1990s Denmark's economy has been remarkably stable, with low inflation (until recently). However, while economic growth in recent decades has been moderate and mostly stable, it is still far below that of the booming 1950s and 1960s, and the trend over the past two decades has been toward slower productivity growth.

Denmark has fared relatively well in the aftermath of the Great Recession of 2008-09, the euro crisis of 2011-12, and the COVID pandemic of 2020-22, with unemployment remaining quite low—very low in international comparisons. This is arguably the effect of labour market reforms implemented in the early 1990s.

Denmark has evolved from an agrarian economy to an industrial economy and it is now predominantly a service-based economy. Although the service sector is now the largest component of the Danish economy, the most important drivers of income growth in Denmark continue to be Denmark's internationally successful industrial firms such as Novo, A.P. Moller – Maersk, LEGO, and Carlsberg, and the country's major agricultural exports. Denmark's relatively low corporate tax rates can be plausibly highlighted as contributing to the development of its home-grown and successful multinational companies. Denmark's excellent governance institutions, particularly its independent judicial system and transparent and relatively corruption-free regulatory system, have also been central to the country's economic development over the long run.

## Notes

- 1 These are simple, not compound, growth rates.
- 2 Some companies formed around that time are still among Denmark's largest. They include the shipping and logistics company Maersk, Denmark's second largest company by capitalization, and the brewer Carlsberg, Denmark's sixth largest company.
- 3 Though the data are less complete, general government expenditures (which include local governments) show a similar pattern; Denmark spent about half of what the UK and the Netherlands were spending in 1929.
- 4 The Danes had lost this region to Germany in the nineteenth century. But following Germany's defeat in World War I, Germany ceded it back to Denmark.

- 5 An international dollar is a hypothetical unit of currency that has the same purchasing power parity as the U.S. dollar had in a given period.
- 6 The agreement was named after the name of the street where then Prime Minister Thorvald Stauning lived at the time.
- 7 This comparison is imprecise because in both countries during this period the government largely controlled prices. Hence, measures of economic activity relying on current prices in specific countries will be affected by differences in the nature and degree of government price controls.
- 8 In fact, Sløk-Madsen (2022) makes a compelling case that it was the fundamental failure of the Danish state to uphold legitimacy in the face of German aggression rather than an “ideological push” or a shift in voter preferences that was the catalyst for expanded government involvement in the economy and higher public spending in Denmark.
- 9 Danish agricultural exports as a share of total exports declined from 63 percent in 1950 to 50 percent in 1958 and continued to decline throughout the 1960s (See Olgaard, 1980). Olgaard refers to the 1950s as Denmark’s second industrial revolution.
- 10 The rate of inflation in Denmark, as measured by the Gross Domestic Product price deflator, averaged 8.2 percent per year from 1971 to 1973, whereas it averaged 5.7 percent per year from 1967 to 1970. It increased further from 1974 to 1977, averaging 10.6 percent per year, although the rate did come down to 7.2 percent in 1977.
- 11 Denmark pegged its currency in the early 1980s to a basket of currencies in the European Monetary System and from 1999 to the euro. In 2000, the Danish electorate turned down the adoption of the euro.
- 12 By way of illustration, the yield on long-term Danish government bonds reached 16.6 percent in 1977.
- 13 Denmark maintained the krone peg to the European Monetary System’s basket of currencies, which effectively meant a peg to the German mark until Germany joined the euro area in 1999. Since then, as noted earlier, the krone has been pegged to the euro, but Denmark has not joined the euro area.
- 14 In the 2023 report, the number of variables will be expanded to 45.
- 15 During the 1960s Denmark had an incomes policy, as did some other industrialized countries, which set out guidelines for permissible money wage increases. The guidelines were abolished in 1968 (Olgaard, 1980).
- 16 Denmark, like Sweden, has maintained a position among the top 15 countries measured by Purchasing Power Adjusted levels of per capita GDP over the past two centuries (see Abildgren, 2016).
- 17 While Denmark has a long tradition of supporting free trade, there was a departure from this policy during the 1930s, the WWII period, and during the 1950s, when Denmark imposed import restrictions as did most other countries (see Olgaard, 1980).

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## THE EVOLUTION OF DENMARK'S DISTINCT FISCAL SYSTEM

**Lars Christensen**

In some ways, Denmark is a paradox. Like its Scandinavian neighbours, the country has a large public sector (as measured by government spending as a share of GDP) and significant economic redistribution, earning it a reputation in North America as a “socialist country” (Moody, 2016). At the same time, however, Denmark consistently ranks among the freest economies in the world, with relatively light regulation of business and labour markets, sound monetary practices, minimal barriers to international trade, and strong protections of persons and their property. Furthermore, for at least two decades, Denmark maintained one of the developed world’s lowest levels of public debt as a share of its economy. Its commitment to sustainable public finances suggests that it is well-prepared for future fiscal challenges related to its ageing population.

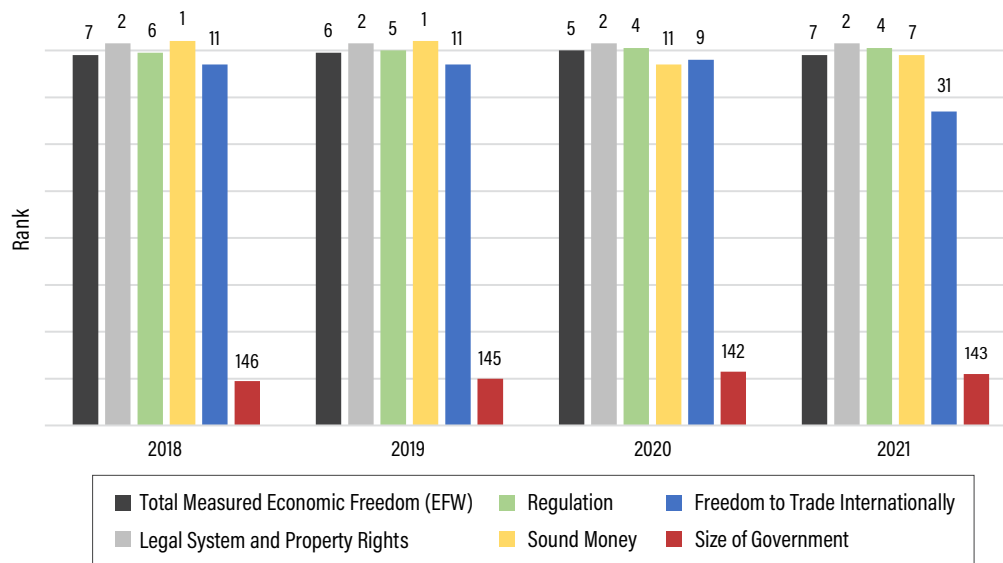
This chapter examines Denmark’s public finances and tax system, and identifies why the country has been able to spend and redistribute at high levels, while at the same time maintaining relatively sound public finances. The chapter also seeks to identify the reasons for Denmark’s long-standing fiscal conservatism.<sup>1</sup>

### **Economic freedom and sound public finances**

Denmark is a small, open economy with a history of high levels of dependence on trade with the outside world. Consequently, public support for free trade traditionally has been broad based. The most striking difference from other countries has been the overwhelming support for free trade within the Danish labour movement and farm sector.

Furthermore, although the public sector has played a significant role in providing “welfare” services and redistributing incomes since the 1970s, Denmark’s private sector has always been relatively lightly regulated—at least in comparison to other countries. In contrast to the norm in southern Europe or even in Germany, there is little tradition of state ownership or subsidies to private industry. The Fraser Institute’s annual “Economic Freedom of the World” report uses 42 data points to score and rank each of 165 jurisdictions worldwide according to the degree of economic freedom they permit their citizens. For years, Denmark has placed near the top, placing seventh in 2021, for example, according to the latest (forthcoming) report. This is ahead of supposed

Figure 2.1: Denmark's Measured Economic Freedom Rankings, 2018–2021



Source: Gwartney et al. (2023).

free market countries such as the United Kingdom (ninth) and Canada (tenth).<sup>2</sup> It is also notable that Denmark ranks significantly higher than the other Nordic countries: Iceland came in fourteenth, Finland and Sweden in a tie for seventeenth, and Norway twenty-ninth.

If one examines the sub-components of economic freedom, however, it is clear that Denmark's performance is not uniformly high. Figure 2.1 shows the country's rankings in total measured economic freedom (the black bars) and in each of five sub-components of economic freedom for the latest four years for which we have data.

The figure shows that Denmark is typically among the freest countries in the world in total economic freedom, ranking in the top ten in each year. It is also among the freest countries in four of the five sub-components of measured economic freedom. For example, in 2018 and 2019, it ranked first in "sound money" and in all four years ranked second in "legal system and property rights." The country's comparatively large government sector means, however, that it typically earns low scores in "size of government" (the red bars in figure 2.1). In each of the four years, Denmark's size of government score was among the bottom 25 countries, an exception that significantly lowers Denmark's overall ranking. In fact, if its score on this sub-component had matched the average of the other top 30 countries, Denmark would have had the freest economy in the world in 2021.<sup>3</sup>

The reason Denmark scores poorly on "size of government" is its relatively high level of government spending and taxation relative to the overall size of Denmark's economy. It is also notable that government expenditures are heavily weighted toward social services (education, health, culture, etc.) and income transfers, while public investment is relatively low, as is state ownership of assets (Fraser Institute, 2020: chap. 2).

Could it be that Denmark's high levels of economic freedom in every other area make up for its large government (and consequently low score in that area)? This is Andreas Burgh's (2015) conclusion in his insightful study of Scandinavian countries more generally. By permitting wide scope for free enterprise, these countries have prospered, and that prosperity, in turn, fuels their large welfare states. This perspective is also consistent with research finding that, when it comes to growth, the most important areas of economic freedom are those in which Denmark scores well: legal systems and property rights, sound money, and regulation (Carlsson and Lundström, 2002). Bolen and Sobel also suggest, however, that greater balance among the components of economic freedom would promote higher growth rates: "institutional weakness in one area cannot be compensated by improving other areas" (2020: 1440). They also find that, in countries such as Denmark that score exceptionally well in "legal systems and property rights," large government is not growth enhancing.<sup>4</sup> These findings suggest that, despite Denmark's high levels of economic freedom in almost every area, its large government sector likely retards economic growth.

Broadly speaking, the role of the government sector in the "Danish economic model" can be described as "welfarist" rather than "socialist," in the sense that socialism traditionally has been defined as an economic system in which the state owns and controls the means of production (see Otteson, 2023). But in modern Denmark the state neither owns nor controls much of the means of production, placing the country closer to the capitalist model than to the traditional socialist model.

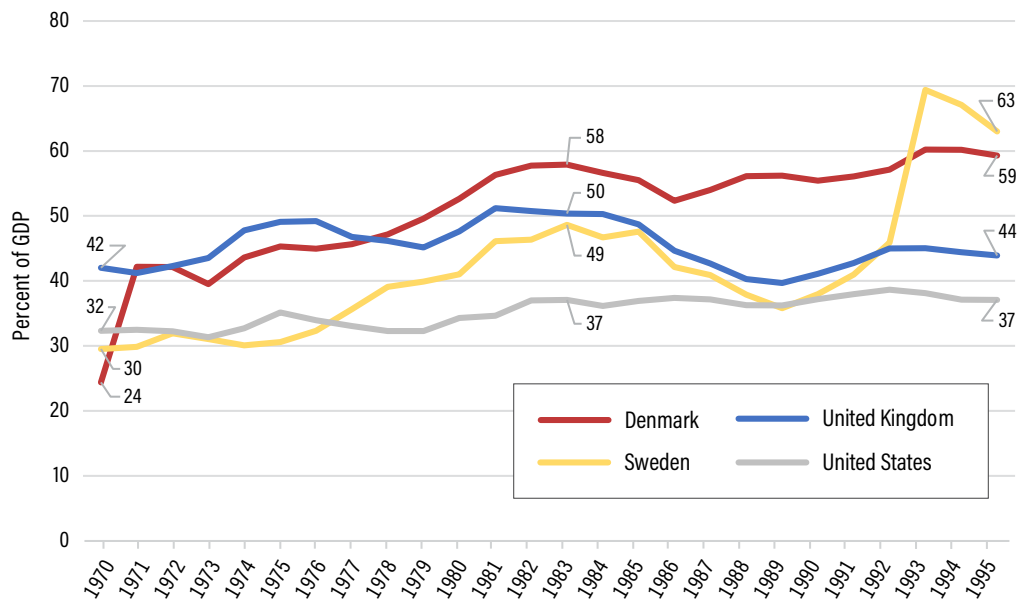
Below we take a deeper dive into the Danish government's economic role, the composition of public spending, and the structure of its tax system. We then consider why Denmark, despite high levels of government expenditure, is one of the most fiscally conservative countries in the world.

### **Public spending: From small to large**

There is a widespread perception that public spending in the Scandinavian countries has always been quite large relative to the size of their economies. During the quarter-century ending in 1975, however, Denmark's total government spending consumed a smaller share of GDP than was true for the United States, the United Kingdom, or Sweden. Then, as figure 2.2 shows, government spending as a share of GDP rose precipitously in the early 1970s, more than doubling from under 25 percent in 1970 to more than 52 percent in 1980. By 1983, Danish governments were consuming more than 58 percent of GDP, significantly more than governments in the United States, the United Kingdom, and Sweden.

The growth of government spending in Denmark during this period is closely linked to a drastic increase in the supply of social services provided by the government, most at no direct charge to citizens or at heavily discounted prices. Denmark's municipally operated kindergartens, for example, offer their services at well below cost, while most other education—even university studies—is "free." Health care is also mostly taxpayer funded.

Figure 2.2: General Government Spending as a Share of GDP, Selected Countries, 1960-1995



Source: IMF (2022).

Access to and provision of these services was significantly expanded throughout the 1960s and 1970s. Around 1982, however, as figure 2.2 also shows, growth in public spending began to level off and has been kept more or less constant as a (large) share of GDP.

Economic historian Sven Aage Hansen (1983) has argued that a key reason for the sharp surge in public expenditures during the 1960s and 1970s was very fast growth in tax revenue due to an unexpected acceleration in inflation. Known as *fiscal drag*, this occurs during inflationary periods if tax brackets are not indexed to inflation. Thus, when higher inflation and higher (nominal) wage growth push taxpayers into higher tax brackets, it produces a surge in government revenue. Although taxpayers' real (inflation-adjusted) earnings have not increased, they end up paying higher tax rates. Because there were no strong institutional constraints on public spending at the time, this development prompted Danish politicians to go on a spending spree.

What figure 2.2 does not show is the change, starting in the early 1990s, in the *way* these services were provided. More consumer choice was introduced in the form of voucher schemes for education and health services, permitting some degree of competition in these sectors. In health care, for instance, it encouraged the emergence of several private providers, allowing patients to choose whether to have an operation done in a public or private hospital.

The fiscal effect of this competition was to put downward pressure on government spending. This pressure was strengthened in 2009 when the central government implemented a tax limitation law aimed at municipalities, the main providers of child care and primary education. As I discuss below, the law aims to control municipal spending, and sanctions

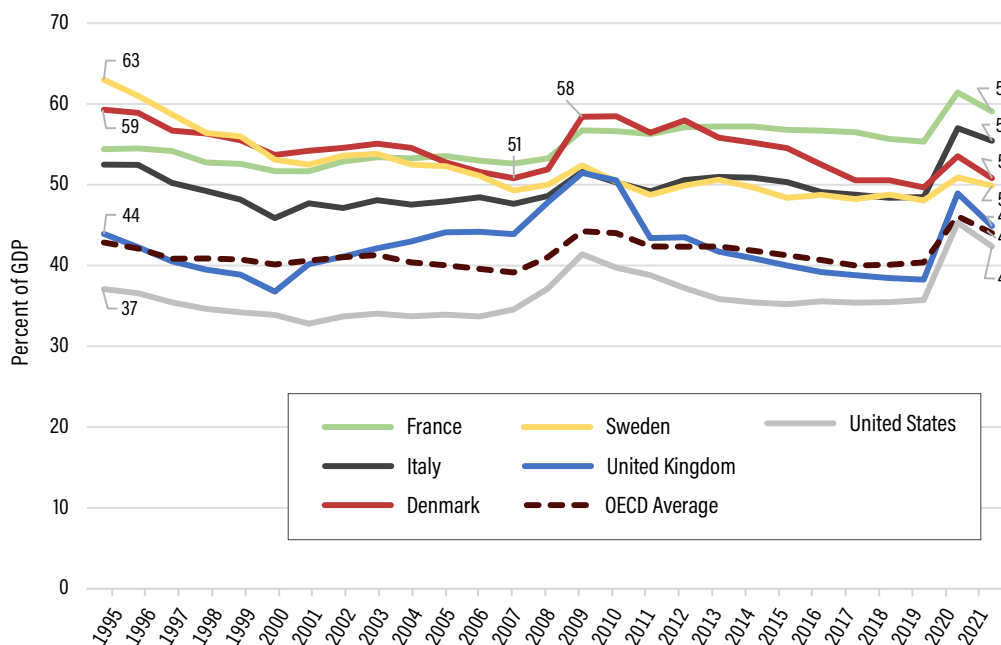
local governments for increasing local income or property taxes. In particular, it discourages local government tax increases by reducing central government grants to any tax-increasing municipality (Blom-Hansen et al., 2014).

Another point worth noting is that public spending trends in Denmark since 1960 have been largely independent of whichever political party happens to be in power. Public consumption grew steadily from 1960 to 1968, a period of centre-left governments. But when a centre-right majority governed from 1968 to 1971, there was no visible slowdown in public consumption growth; if anything, the range of available social services expanded. This trend continued under alternating centre-left and centre-right governments (mostly coalitions) throughout the 1970s. Since the early 1980s, however, Danish public spending as a share of GDP has remained fairly stable, with a moderate downward trend, as figure 2.3 illustrates.<sup>5</sup>

### The power to tax

In their seminal work *The Power to Tax: Analytical Foundations of a Fiscal Constitution*, Geoffrey Brennan and James M. Buchanan (1980) argue that there is a positive relationship between a tax system’s efficiency and the size of government. Simply put, if the government can make the burden of paying taxes less onerous, then the public will be willing to accept a larger tax payment. This implies that countries in which the tax system is less distortional will tend to have a larger public sector.

Figure 2.3: General Government Spending as a Share of GDP, Selected Countries, 1995–2021

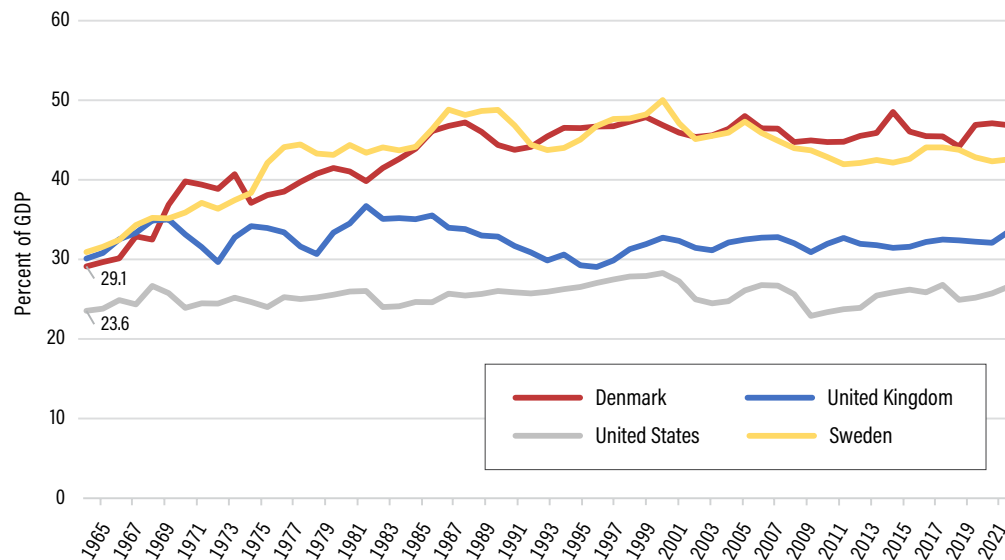


Note: OECD average does not include Latvia or Lithuania due to data limitations.  
Source: IMF (2022).

If one disregards the causality of Brennan and Buchanan's argument, Denmark in many ways is a prime example of their hypothesis. The Danish tax system is relatively close to what a textbook would call "optimally efficient" for a given level of public spending. That is, compared with other tax systems, it manages to raise revenue without discouraging as much economic activity. Relatively efficient tax systems do this because they make it difficult for taxpayers to avoid taxation by avoiding economic activity such as working, saving, and investing. Brennan and Buchanan note, however, that, if given the choice, citizens might not choose such an "optimally efficient" system because it would cause the government to take too much from them.<sup>6</sup>

Since the early 1980s, Denmark has tended to reduce its most distortionary taxes, which, as Bergh (2015) argues, is an important feature of the Scandinavian model. Specifically, it has reduced the progressivity of personal income tax rates and cut corporate taxes, while increasing reliance on consumption taxes. The process has not always been smooth: there have been a number of policy experiments along the way, such as a quickly abandoned "sin" tax on saturated fats, instituted in 2011 and abandoned in 2013. But the result is that Denmark's tax system is relatively simple and non-distortionary. For example, Denmark has a nearly uniform value-added tax (VAT) rate of 25 percent,<sup>7</sup> with very few exceptions, while taxes have been raised on goods with perceived negative externalities—taxes on beer, wine, and alcohol are the second-highest in the OECD; taxes on unleaded gasoline are the fourteenth-highest; taxes on cigarettes are the sixteenth-highest (OECD, 2022). Danish taxes have not always been high: as with public spending, they were on a level comparable with those in the Anglo-Saxon countries in the early 1960s, as shown in figure 2.4. Not until the late 1960s and 1970s did tax revenues (and rates) begin to

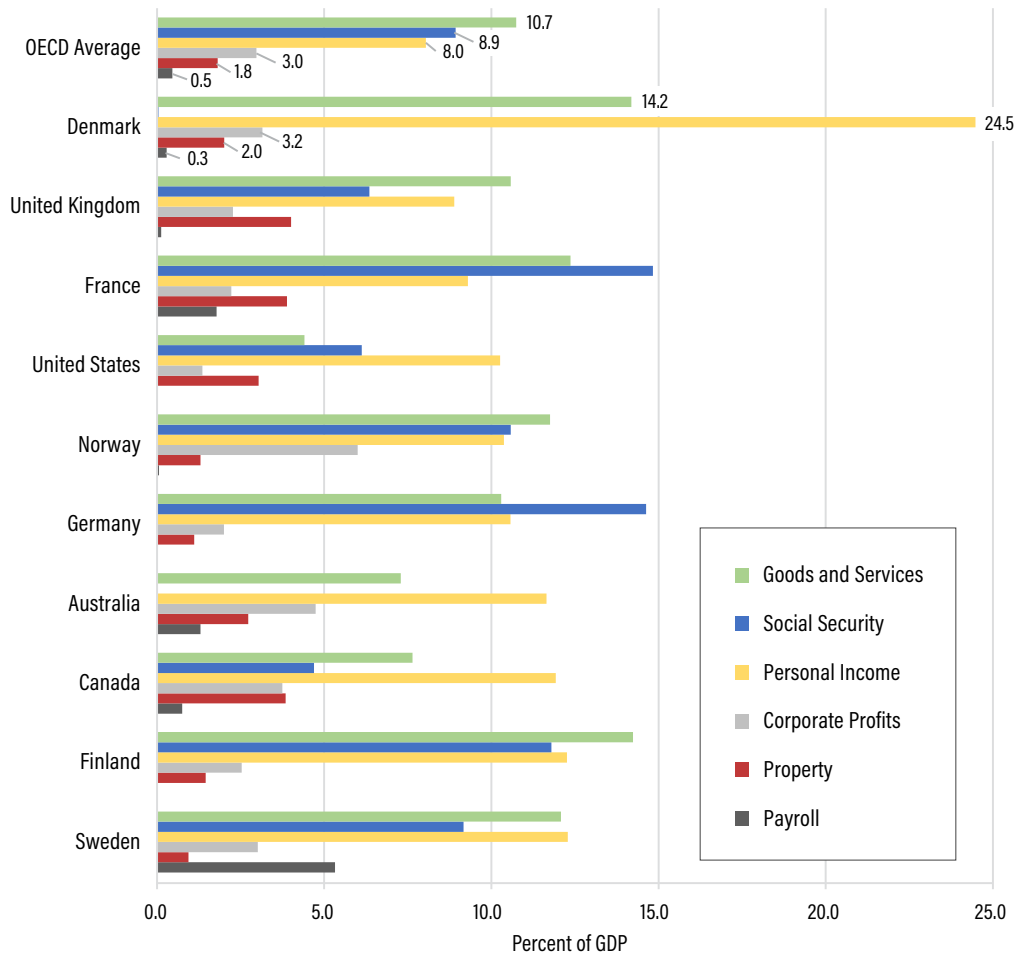
Figure 2.4: Total Government Taxation as a Share of GDP, Selected Countries, 1965–2021



Source: OECD Revenue Statistics, Total Tax Revenue,

[https://stats.oecd.org/OECDStat\\_Metadata/ShowMetadata.ashx?Dataset=REV&ShowOnWeb=true&Lang=en](https://stats.oecd.org/OECDStat_Metadata/ShowMetadata.ashx?Dataset=REV&ShowOnWeb=true&Lang=en)

Figure 2.5: Revenue Sources as a Share of GDP, Selected Countries, 2019



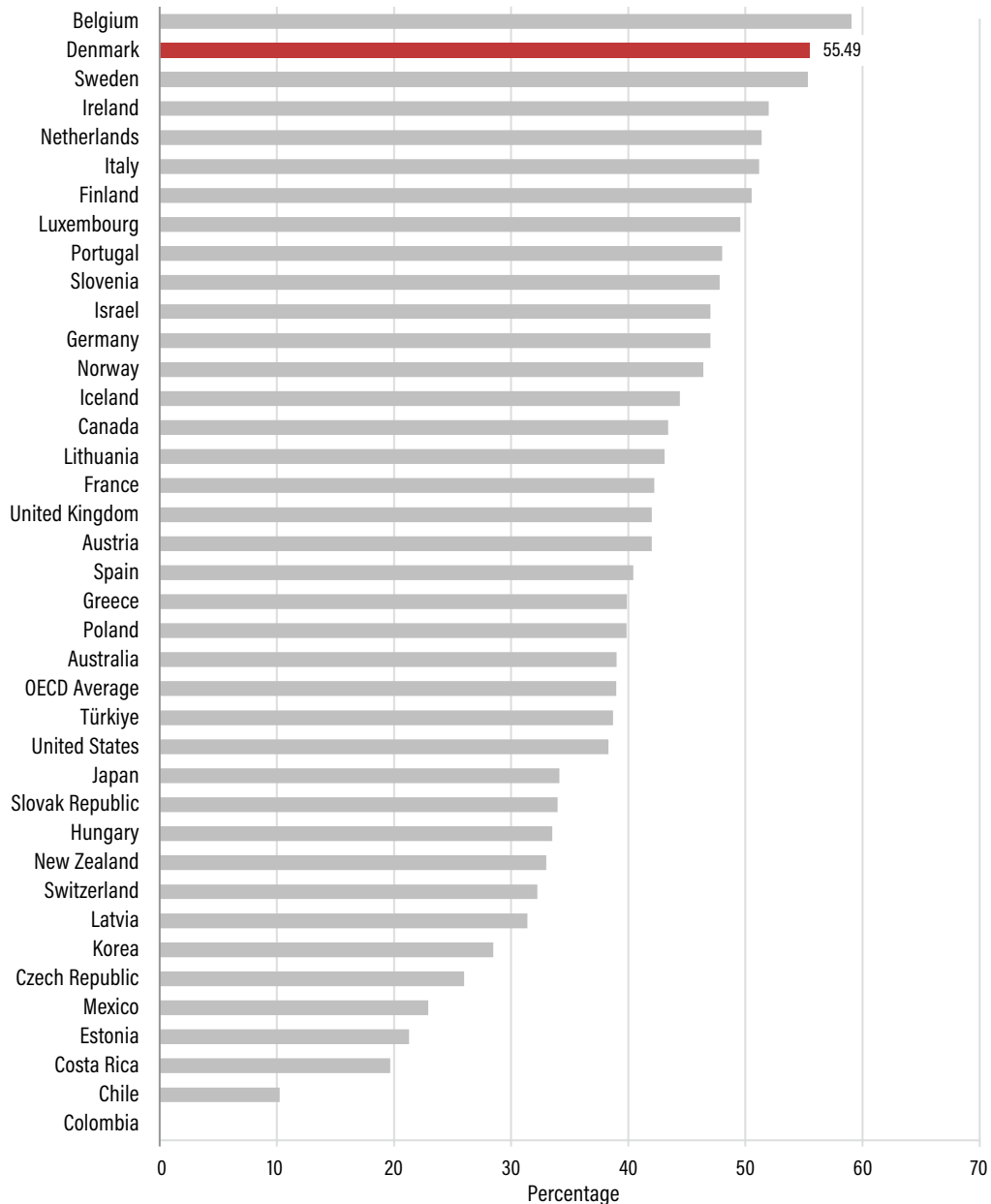
Sources: OECD (2023a, 2023b, 20–23c, 2023d, 2023e, 2023f, 2023g).

increase quickly. Since the late 1980s, tax revenues have been stable at a very high level close to 50 percent of GDP.

Looking at the structure of taxation in an international comparison (figure 2.5), it becomes clear that Denmark is unique in several ways. Denmark’s direct taxation of individuals is particularly high—personal income taxes account for about half of total Danish tax revenue, or nearly 25 percent of GDP, roughly double the share of tax revenue from that source in the other Nordic countries. Note, however, that Denmark receives no revenue from social security contributions (also known as payroll taxes). In contrast with those of other countries, its social security system is not funded through earmarked payroll taxes, but is instead funded through general taxation. This is part of the explanation for the country’s heavy reliance on income taxes.<sup>8</sup> The next largest source of Danish revenue is its VAT, which accounts for more than 14 percent of GDP. Finally, Denmark’s corporate tax revenue as a share of GDP is considerably higher than that in the United States, despite a minimal difference in the two countries’ statutory tax rate (22 percent in Denmark, 21 percent in the United States at the federal level, with state-level rates ranging from zero



**Figure 2.6: Net Personal Marginal Tax Rate as a Percent of Gross Wage Earnings, Principal Earner, Selected Countries, 2021**



Note: Household type is a single person at 167% of average earnings, without child.  
Source: OECD.Stat, Taxing Wages—Comparative tables.

to 9.99 percent). In short, personal income tax and the VAT account for a very large portion of Denmark's tax revenue, resulting in one of the developed world's simpler tax systems—according to the latest World Bank Doing Business report, Denmark has the eighth-lowest tax compliance costs in the world (World Bank, 2020). It also means that the average citizen bears a significant portion of the country's tax burden.

In terms of the personal income tax rate, Denmark's clearly is among the highest in the OECD—only Belgium has a higher rate (figure 2.6). Denmark's high top marginal tax

rate has caused many to characterize its tax system as highly progressive. And, indeed, it is relatively progressive. One way to see this is to compare the average tax burden of those who make 167 percent of the average wage with that of those who make 67 percent of the average wage. In Denmark, the tax burden of those in the higher income group is 43 percent higher than the tax burden of those in the lower group. By this measure, Denmark's personal income tax is the fifth-most progressive in the OECD, behind New Zealand, Mexico, Ireland, and Switzerland, and just ahead of Sweden, Israel, and the United States.<sup>9</sup>

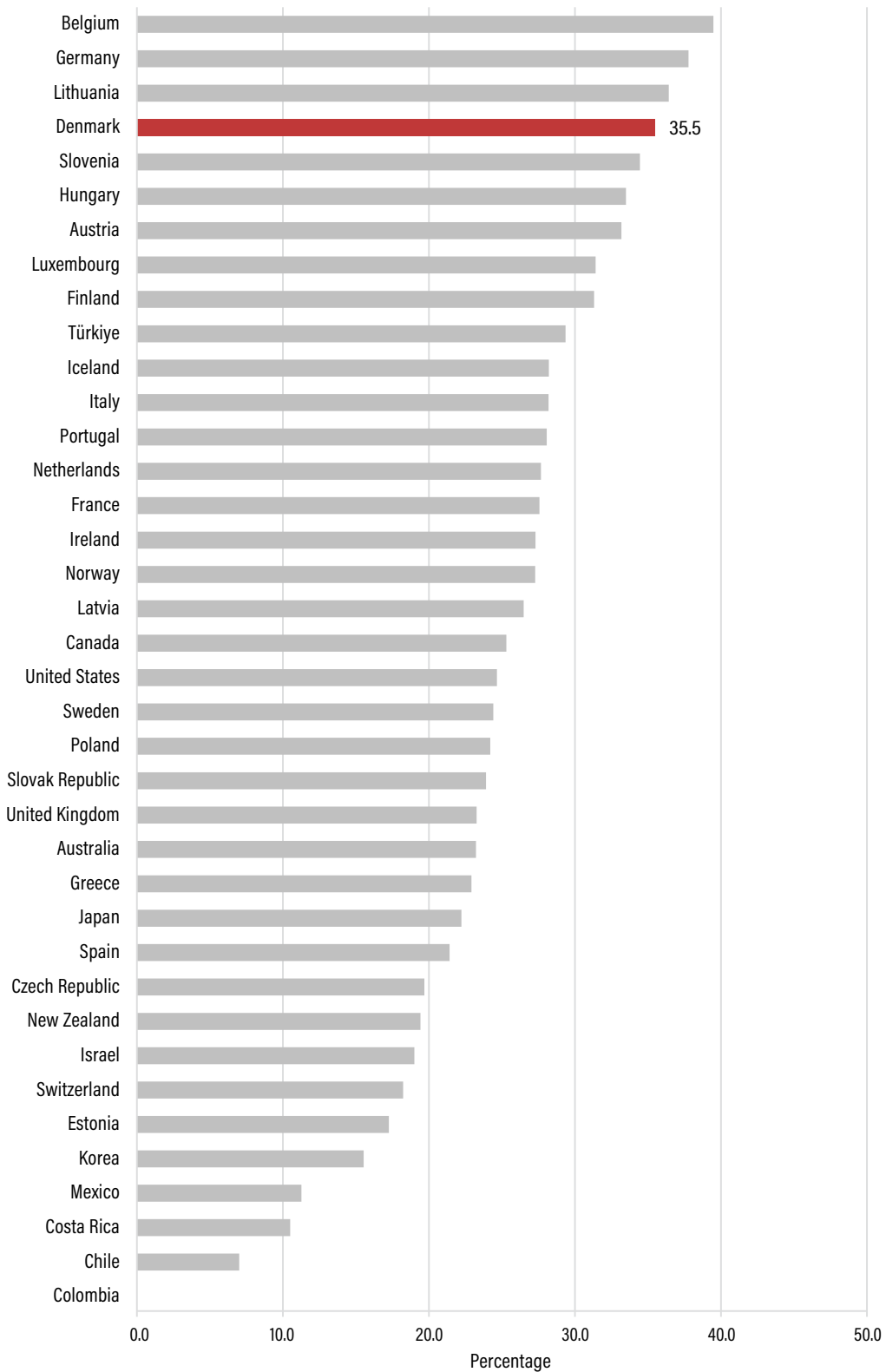
The system's most significant feature, however, is not its degree of progressivity, but its high *average* tax rate on personal income. As figure 2.7 shows, in Denmark in 2021, a single adult with no children and making the average income paid 35.5 percent of earnings in taxes, a rate exceeded in the OECD only by that in Belgium, Germany, and Lithuania. Denmark's average income tax rate is so high because the threshold at which this rate applies is comparatively low (figure 2.8). In Denmark, this threshold applies at just 30 percent above the average wage; only five other OECD countries have a lower threshold.

So, even though the Danish tax system is in many ways less distortionary (relative to the general high level of taxation) than that of many other OECD countries, its very high level of personal income tax—particularly the very high marginal tax rate—is a significant distortionary feature of the system. In fact, it is doubtful that the top tax rate effectively generates much revenue at all, as has been shown by numerous studies of the Danish tax system. For example, Jacob Lundberg (2017) shows that abolishing the “top tax” rate likely would *increase* total tax revenue.

Now consider the VAT, the second-largest source of Danish government revenue. As figure 2.9 shows, Denmark's VAT is the second-highest among OECD countries. When measured as a proportion of income, VATs generally are found to be regressive, although some research suggests that, when measured as a proportion of consumption rather than of income, they are either proportional or slightly progressive (Thomas, 2020). By either measure, a VAT is less progressive than income tax, and so Denmark's relatively heavy reliance on this source of revenue likely diminishes the progressivity of the country's overall tax structure.<sup>10</sup> One way to put Denmark's high VAT and high personal income tax in perspective is to consider the two in tandem. When a Dane in the top third of the income distribution makes a purchase, the income which finances it is taxed by about two-thirds.

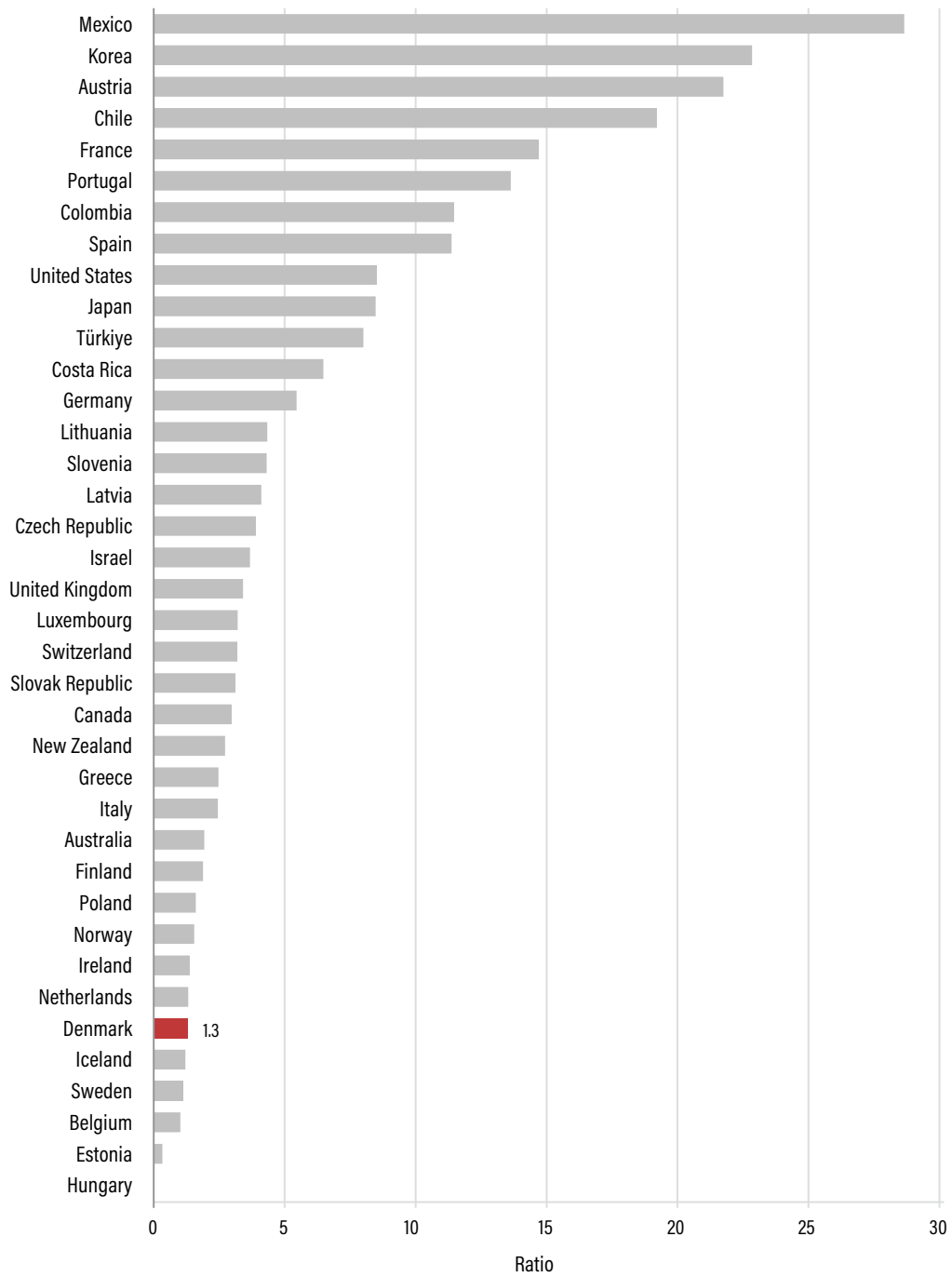
Now consider Denmark's corporate tax rate—recall from figure 3.5 that the revenue Denmark raises from this source is about 3.2 percent of GDP, comparable to the OECD average of 3.0 percent. As figure 2.10 shows, the average marginal effective corporate tax rate across 34 OECD countries is 18.3 percent, while Denmark's is 13.8 percent. Just eight other countries have a lower marginal effective corporate tax rate. Thus, compared with the OECD average, Denmark manages to raise a comparable amount of revenue with a corporate tax rate that is about 25 percent lower.

Figure 2.7: Average Personal Income Tax Rate, Single Person with No Children, Selected Countries, 2021



Source: OECD, Table I.6. All in average personal income tax rates at average wage by family type, April 27, 2023.

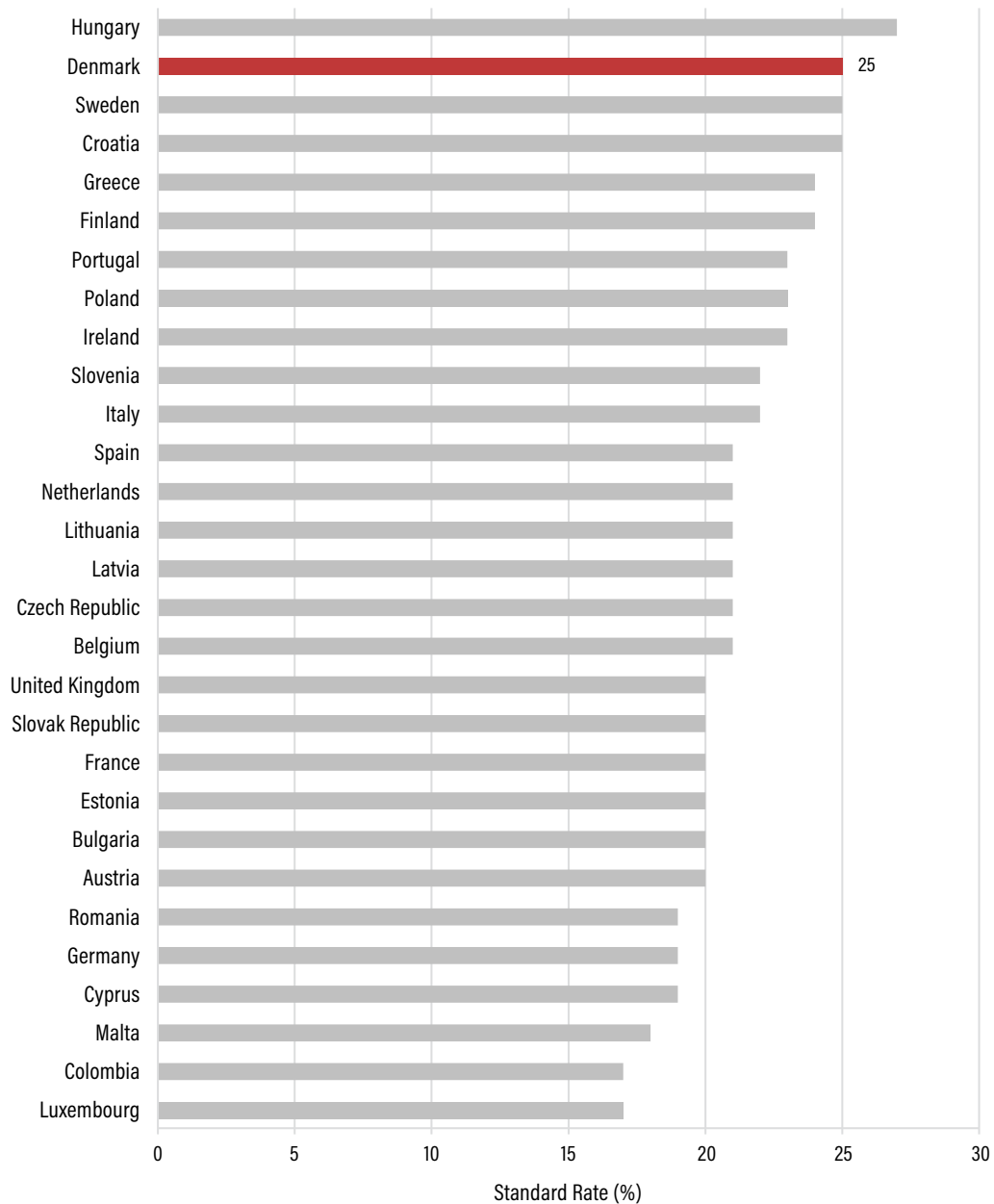
Figure 2.8: Ratio of Top Personal Income Tax Rate Threshold to Average Wage, Selected Countries, 2021



Source: OECD, Table 1.7, Top Statutory Personal Income Tax Rate (2022).

The fiscal restraint and structural reforms Denmark launched in 1982 still enjoy very strong support among Danish economists in both the private and government sectors. That said, there have been signs in recent years that the current generation of politicians has forgotten the lessons of the 1980s, as is visible in a noticeably weaker commitment

Figure 2.9: Standard Value Added Tax Rate, OECD Countries, 2022

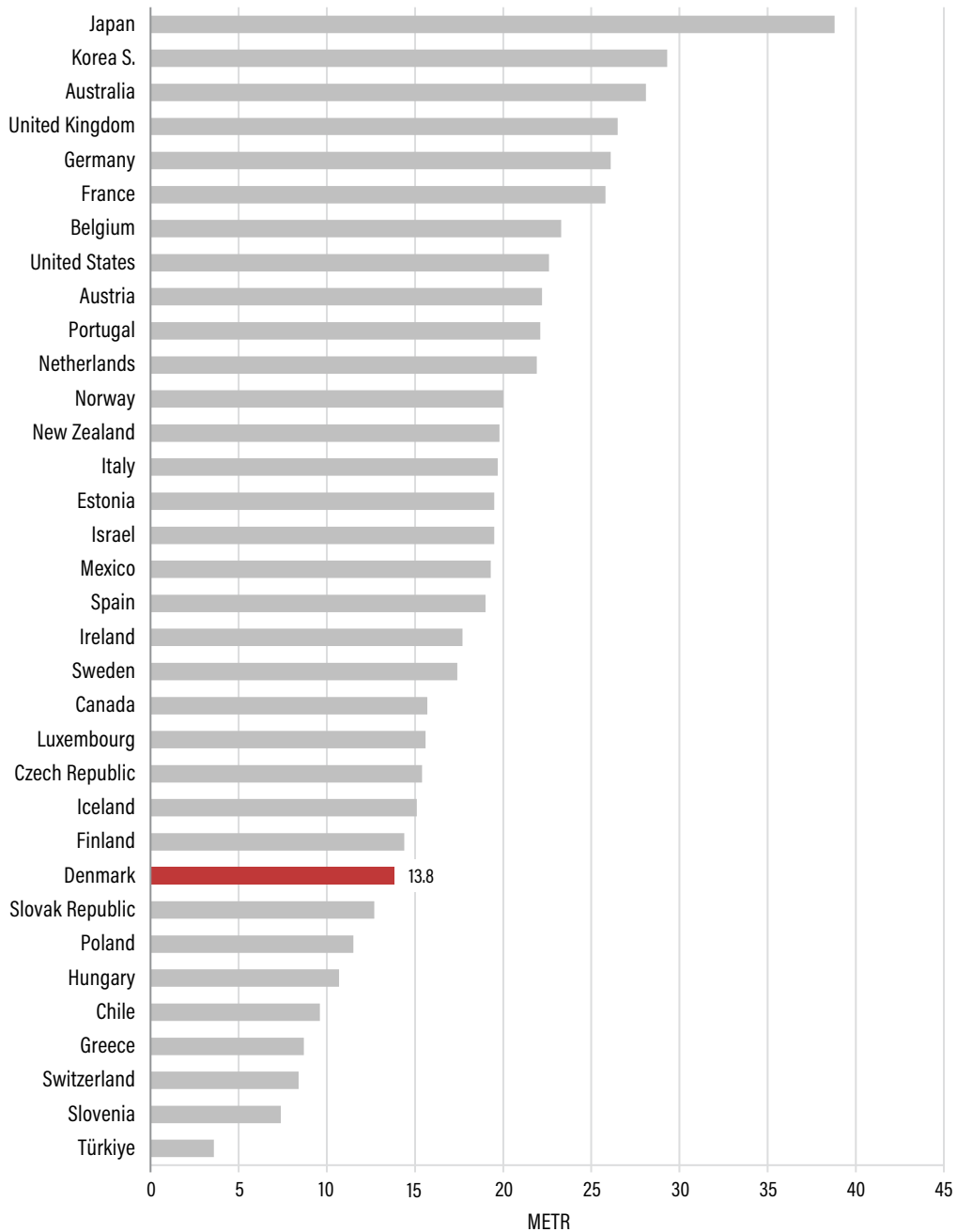


Source: Enache (2022).

to fiscal restraint over the past decade. That forgetfulness is less apparent among Danish economists, who continue to warn against fiscal excesses and still largely agree that policy should focus primarily on fiscal restraint, rather than on short-term Keynesian-style “demand management.”

This consensus might appear superficially to be “conservative” or even “libertarian,” but it is better viewed as born of necessity. Danish politicians of both the right and left retain a strong commitment to the core principles of income redistribution central to the Danish

Figure 2.10: Corporate Marginal Effective Tax Rates (METR), OECD Countries, 2022



Source: Bazel and Mintz (2022).

“welfare state,” as well as to the conservative fiscal approach to deficit spending that has dominated Danish economic policy making in recent decades. The two principles should not be seen as contradictory; in fact, it is widely accepted that fiscal responsibility is essential for Denmark to maintain the welfare state. Similarly, there has been a broad political consensus, particularly since the 1990s, that welfare programs should be reformed so as not to undermine the stability of public finances.

### From ideas to institutional constraints

As the discussion above indicates, Denmark's fiscally conservative approach originated from ideas and norms rather than from any formal constitutional or institutional constraints on fiscal policy. Over time, however, constraints nonetheless have been introduced further supporting fiscal responsibility and limiting the scope for the kind of fiscal activism that produced the ballooning public debt and significant macroeconomic imbalances of the 1970s and early 1980s. Several institutional reforms gradually implemented since the 1980s undoubtedly have been quite important in curbing escalating levels of public spending and government deficits.

Three sets of reforms should be highlighted:

1. centralization of the central government budget process;
2. the Maastricht Treaty's rules for the public deficit and public debt; and
3. the Budget Law of 2012.

The glaring need for fiscal consolidation in the 1980s engendered a clear political will to push through reforms aimed at significantly reducing Denmark's public debt. These reforms produced many changes in the budgetary process in the 1980s and 1990s. At the core of these reforms was a strengthening of the Ministry of Finance's role in the budgetary process. The practice of earlier Danish governments with respect to central government budgeting can be described as a tragedy of the commons, whereby individual ministries designed their budgets based on a political wish list and the Ministry of Finance basically acted as a "macro account." Because no one "owned" the budget, each ministry had an incentive to overspend, just as users of common-pool resources have an incentive to overuse them.<sup>11</sup>

With the shift to a focus on fiscal sustainability, a gradual centralization of the budget process took place over the years, whereby the general budget framework was determined by the Ministry of Finance and ministries were allocated funds based on the political preferences of the government in office. The guiding principle of these changes was to introduce a "zero budget growth" regime as measured against previous government expenditures. This target was then broken down to individual "ceilings" for spending by each ministry. As well, in the previous system a ministry was not allowed to carry over any unspent funds or savings it had achieved in the fiscal year; the reforms now made it possible for ministries to use a portion in subsequent years (Jensen and Fjord, 2010). This discouraged the spend-it-or-lose-it incentives so common in bureaucracies. Finally, reforms also strengthened the Ministry of Finance's monitoring of other ministries' budget performance.

Studies of the budget process in different developed markets have highlighted the uniqueness of Denmark's centralized approach and its important role in the fiscal consolidation of the 1980s and 1990s (see, for example, Poterba and von Hagen, 1999). There is little doubt that strengthening the Ministry of Finance's hand contributed to curbing public

sector spending growth and to the overall consolidation of public finances. These changes should be understood, however, as quite distinct from explicit legal constraints on spending, taxation, and issuance of public debt. In Denmark, such constraints were relatively limited until the 1990s, when the situation slowly began to change.

With the signing of the Maastricht Treaty in 1992, the EU countries agreed to establish a common currency: the euro. The Treaty laid out so-called convergence criteria—often also referred to as the Maastricht criteria—that countries should fulfil before being allowed to join the euro area. In a 1992 referendum, the Danish population rejected the Maastricht Treaty. Although Denmark later chose to join parts of the Treaty, the Danish government and its EU partners agreed that Denmark would opt out of the euro area and retain its own currency, the krone. Nonetheless, since 1992 Danish governments have committed to fulfilling the convergence criteria, which set important limits on the general government budget deficit and gross public debt:

*Government budget deficit:* The ratio of the annual general government deficit relative to GDP at market prices must not exceed 3 percent at the end of the preceding fiscal year (based on notified measured data) and/or any of the two subsequent years.

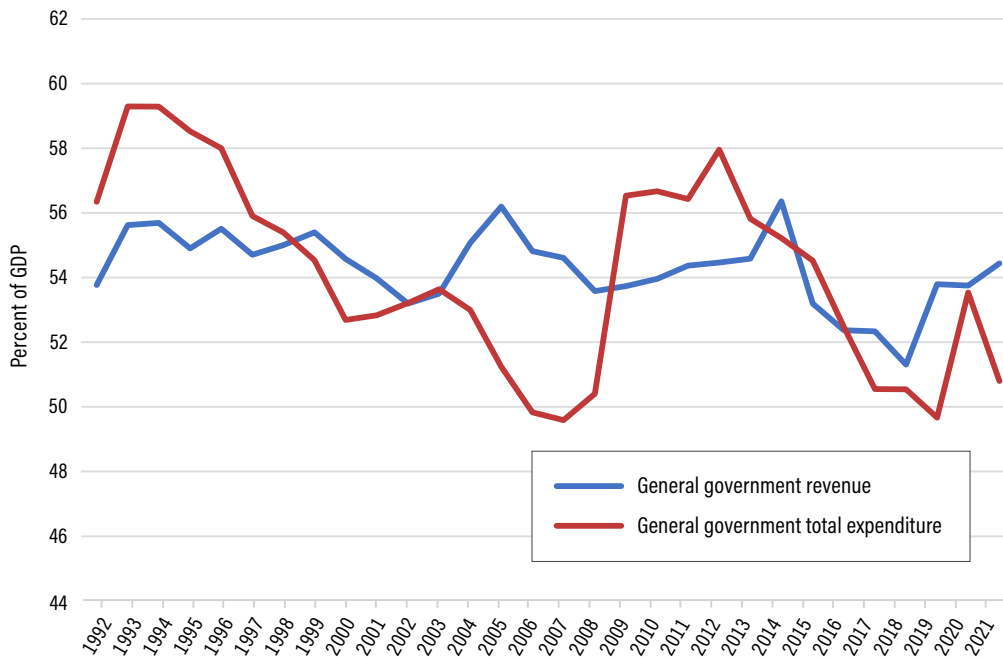
*Government-debt-to-GDP ratio:* The ratio of gross government debt—measured at its nominal value outstanding at the end of the year and “consolidated between and within the sectors of general government”—relative to GDP at market prices must not exceed 60 percent at the end of the preceding fiscal year (Maastricht Treaty on European Union, 1992: article 121(1)).

On paper, these are quite strict constraints on public finances. In practice, a number of EU countries have flouted the fiscal rules more or less since their introduction. Italy and Greece, for example, have consistently violated the criteria without any serious sanctions or fines from the EU. Paradoxically, Denmark treats the Maastricht criteria as much more binding than do many members of the euro area—precisely because it chose to opt out of the common currency but not the rules. This suggests that Denmark's fiscal prudence might owe as much to culture and norms as to formal constraints.<sup>12</sup> Figure 2.11 shows the country's general government revenue and expenditures as a percent of GDP from 1992 to 2021, while figure 2.12 shows general government surpluses and deficits over the same period.

As figure 2.12 shows, since 1992 Denmark largely has maintained surpluses, the only exceptions occurring in the early 1990s and post-2008, in the midst of the global financial and euro crises. Even during those periods, the government managed to keep deficits within the Maastricht limit of 3 percent of GDP. On a structural basis—that is, when adjusted for the business cycle—the deficits were even smaller. Denmark's success in keeping its budget structurally balanced, or nearly so, for almost three decades also means that gross government debt as a share of GDP shrank significantly during this period. As

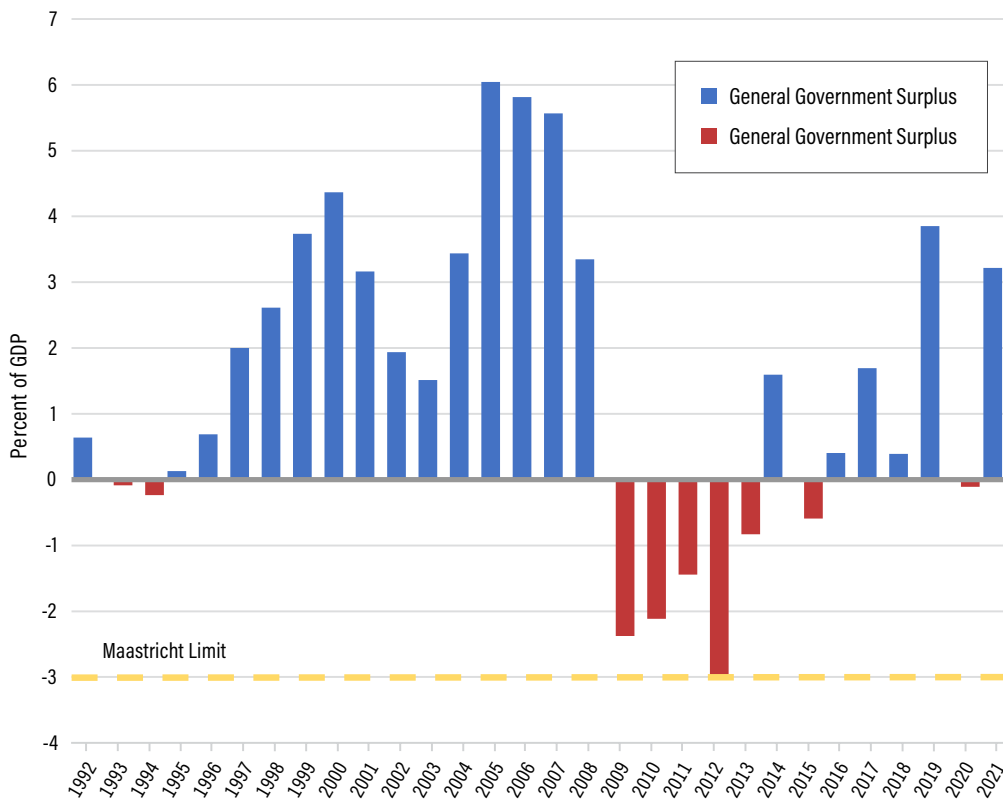


Figure 2.11: General Government Revenue and Expenditures as a Percent of GDP, Denmark, 1992–2021



Source: IMF (2023, April).

Figure 2.12: General Government Deficit/Surplus as a Percent of GDP, Denmark, 1992–2021



Source: IMF (2023, April).

illustrated in figure 2.13, since the late 1990s, gross government debt has stayed below the 60 percent limit set by the Maastricht criteria, while Denmark’s net debt—which accounts for offsetting financial assets—as a percent of GDP has been below the OECD average since the turn of the century (figure 2.14).

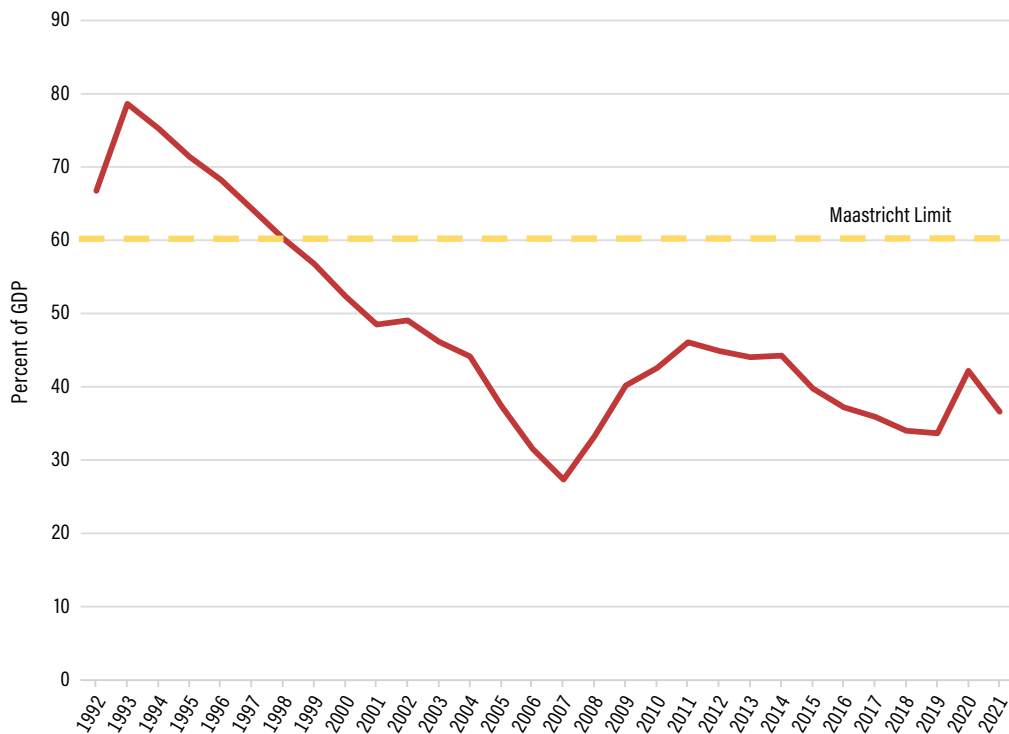
There is nevertheless some evidence that the country’s commitment to debt reduction has waned. Denmark has not been able to sustain the declining trend in public debt, despite a significant drop in debt-servicing costs over this period, when Danish government bond yields were among the world’s lowest. This slippage in the political commitment to debt reduction probably should not be surprising given the overall strength of Danish public finances.

### The Budget Law of 2012

In 2012, the centre-left government coalition under Social Democratic Prime Minister Helle Thorning-Schmidt passed the so-called Budget Law, which implemented the EU’s Fiscal Compact, core features of which include fiscal consolidation and strengthening the fiscally conservative elements in the Maastricht criteria.

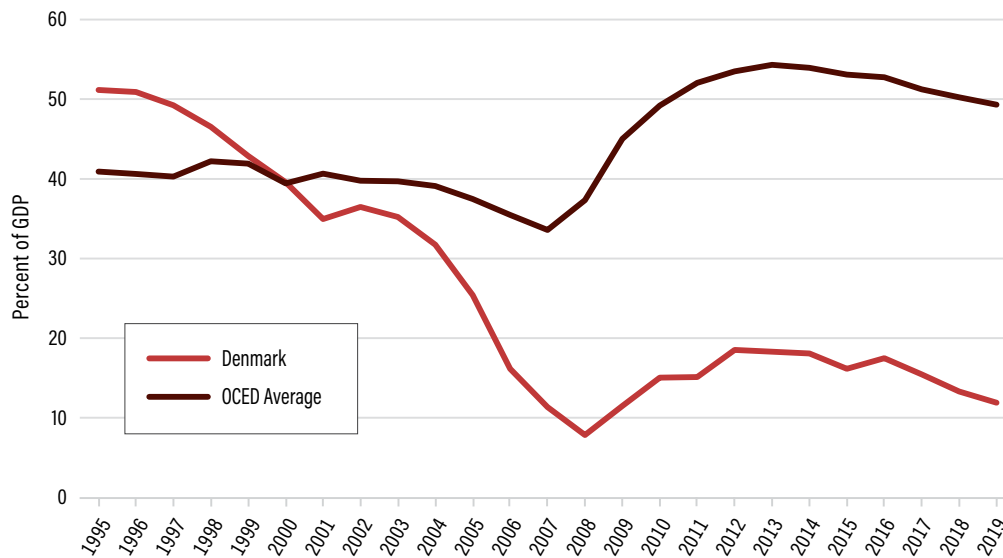
The Fiscal Compact contains, first, a *balanced budget rule* stating that general government budgets must be “balanced” or in surplus. The Compact defines a balanced budget as

Figure 2.13: General Government Gross Debt as a Percent of GDP, Denmark, 1992–2021



Source: IMF (2023, April).

Figure 2.14: General Government Net Debt as a Share of GDP, Denmark and OECD Average, 1995–2019



Note: Net debt is calculated as gross debt minus financial assets corresponding to debt instruments. These financial assets are: monetary gold and special drawing rights, currency and deposits, debt securities, loans, insurance, pension, and standardized guarantee schemes, and other accounts receivable.

Source: IMF (2021).

one in which the general budget deficit does not exceed 3 percent of GDP and the structural deficit meets a country-specific medium-term budgetary objective (MTO), which can be set at a maximum of 0.5 percent of GDP for EU member states with a debt-to-GDP ratio exceeding 60 percent or 1 percent for states under the 60 percent limit.

The Fiscal Compact also introduced a *debt brake rule* stating that member states whose government-debt-to-GDP ratio exceeds the 60 percent reference level in the latest recorded fiscal year must reduce the excess by at least 5 percent each year, where the calculated average period is either the three-year period covering the latest fiscal year and forecasts for the current and next year, or the latest three fiscal years. Rising debt levels for both of the rolling three-year periods are allowed as long as the member state's debt-to-GDP ratio does not exceed 60 percent in the latest recorded fiscal year.

Third, the Compact contains an *automatic correction mechanism*, which is triggered when fiscal reality does not comply with the balanced budget rule—for example, when a “significant deviation” is observed from the MTO or the adjustment path toward it. The mechanism's exact implementation is defined individually by each member state.

All these elements were incorporated into the Budget Law of 2012, which, equally important, continued the four-decade trend of centralizing Denmark's budget process. The law set legally binding limits on spending growth by municipal and regional governments,<sup>13</sup> and provided clear sanctions for those that do not comply. If, for example, a municipality overspends in a given year, it will see an automatic reduction in grants from the central government—a strong incentive to obey spending limits.

In that sense, the Law of 2012 marked the culmination of a process whereby fiscal conservatism and fiscal consolidation became integral to economic policymaking in Denmark. This occurred out of necessity in the early 1980s, when Denmark stood on the brink of a fiscal “abyss.” Over subsequent decades fiscal, conservatism has become more and more the norm due to the introduction of quasi-constitutional fiscal rules. Of course, one can question whether these rules are robust, but it should be noted that the policy framework has proved remarkably sturdy, weathering the “Lehman shock” of 2009–10, the euro crisis of 2011–12, and the COVID-19 pandemic of 2020–21.

## Conclusion

The Danish approach to economic and fiscal policy is distinctive. On the one hand, limited regulatory intervention, openness to trade, a commitment to sound money, and strong protection of persons and their property make Denmark one of the most economically free nations on Earth. This helps explain why the country has thrived in recent decades. On the other hand, Denmark has a very large government sector with a rather robust social welfare state. The burden of paying for this large welfare state is shared broadly through Denmark’s high VAT and its high personal income tax rates. Although the top marginal income tax rate is quite high, the threshold for paying this rate is comparatively low. Denmark also has a relatively low effective corporate income tax rate. Finally, for the past three decades, Denmark has maintained a strong commitment to fiscal sustainability. Deficits are rare and government debt has been declining—although at a slower rate in recent years. This political and cultural commitment to fiscal sustainability lately has been reinforced by institutional mechanisms.

## Notes

- 1 Here we take fiscally conservative to mean a general fiscal policy stance and framework that favours restraining the growth of public debt and that focuses on medium-to-long-term (rather than short-term) sustainability. This entails curbs on spending, as well tax policy designed to raise sufficient revenues consistent with the government’s spending and debt-reduction targets with minimal economic distortions.
- 2 Denmark also does well in similar rankings, such as the Heritage Foundation’s *Index of Economic Freedom* and the World Bank’s *Ease of Doing Business Rankings* (until it was discontinued in 2021).
- 3 With a summary score of 8.43, New Zealand was the freest economy in the world in that year. But if Denmark’s size of government score was 8.21 (the average of the top 30 nations on that score) instead of 5.18, then it’s overall Economic Freedom of the World score would have been 8.71.
- 4 This is in contrast with countries that score poorly on legal systems and property rights. In those places, it seems, more government can enhance growth, perhaps by improving the protection of property.
- 5 A similar pattern is seen in Sweden: in 1980, both Denmark and Sweden were at the top of world rankings of public sector spending as a percentage of GDP, but have been overtaken since by other OECD countries in continental Europe, such as France and Italy.
- 6 In their words, “the power to ‘tax’ is simply the power to ‘take’” (Brennan and Buchanan, 1980: section 1.5).

- 7 The Danish VAT was introduced in its present form in 1967 at a rate of 10 percent. The rate was increased gradually thereafter, but has remained at the present level of 25 percent since 1992.
- 8 If the bars for social security and personal income tax of the other countries are stacked, their combined revenue shares are comparable to Denmark's personal income tax revenue share.
- 9 OECD.Stat, table I.4, Marginal personal income tax and social security contribution rates on gross labour income, <[https://stats.oecd.org/index.aspx?DataSetCode=Table\\_I4](https://stats.oecd.org/index.aspx?DataSetCode=Table_I4)>.
- 10 On the relative progressivity of income taxes versus VATs, see O'Donohue et al. (2004).
- 11 For an overview of this problem, see Wagner (2012).
- 12 For a general discussion of fiscal norms vs. formal constraints see Calcagno and López (2017).
- 13 There are no explicit limits on central government spending, but rules on the limits of structural budget deficits effectively constrain spending growth.

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## THE DANISH HEALTH CARE SYSTEM Policy and Performance

***Bacchus Barua and Mackenzie Moir***

This chapter provides a brief overview of the key features and relative performance of Denmark's health care system. It begins with a general overview of the organization, funding, and delivery of health care. Then, it details and contrasts the core features of Denmark's health care system with those in nine high-income universal health care systems previously studied by Esmail and Barua (2018). This is followed by a comparison of the performance of Denmark's health care system among a broader set of 28 high-income member countries of the Organisation for Economic Co-operation and Development (OCED) with universal health care systems assessed annually by authors at the Fraser Institute on a value-for-money basis. A conclusion ends the chapter.

### Organization and financing

#### ***Organization***

Denmark traditionally has taken a decentralized approach to the provision of social services: “[t]he central state laid down the guiding principles but most welfare measures were carried out by the local authorities, as is still the case” (Olejaz et al., 2012: 12). This approach extends to Denmark's health care system, whose history stretches back to the early nineteenth century with the establishment of *Det kongelige Sundhedscollegium* (the Royal Board of Health) in 1803, considered the predecessor of the current National Health Board. Subsequently, from the mid-nineteenth century onward, there have been both the establishment of public health boards and increased state regulation.

The development of health insurance by artisans (through mutual aid funds) and other philanthropic groups also took place during the middle of the nineteenth century, toward the end of which these private insurance plans began to receive state subsidies as per the health insurance law of 1892. This law encouraged membership to these plans via “subsidies to those that accepted the advice, authorisation and auditing by the state” (Lokke, 2007: 1). These subsidies were limited, however, to 500,000 Dkr (Danish kroner), or a fifth of contributions by members (Vallgård et al., 2001). The plans covered the insured individual's children, (married women had to make their own contributions). Patients had to pay 50 percent of hospital fees up front and were subsequently reimbursed. These fees

covered only a small portion of hospital costs, which were financed primarily by taxes. These health insurance plans targeted the poor and labourers, accounting for about 20 percent of the population in 1900, with coverage expanding to 42 percent of the population by 1925 and to 90 percent by 1973 (Olejaz et al., 2012).

The 1970s saw considerable structural and administrative reform that resulted in responsibilities for almost all financing and provision of care being transferred to counties—merged into five regions in 2007—and, to a lesser extent, municipalities. Traditional insurance plans were abolished in 1973 and replaced with the National Health Security System (NHSS), which effectively established Denmark's current system (Vallgård et al., 2001).

Today, Denmark's statutory health care system can be described as a compulsory universal health care scheme primarily funded through taxation. Health care governance is split between three levels:

1. *The State*: responsible for governing (and partially funding) regions and municipalities, and involved in administrative functions related to the organization of hospitals, community psychiatry, and self-employed health professionals (Olejaz et al., 2012). The Danish State (via the Ministry of Health) is also responsible for preparing legislation and guidelines for the health sector<sup>1</sup> and, with the Ministry of Finance and regional/municipal councils, sets “targets for health care expenditure” during budget negotiations (Olejaz et al., 2012: 27). The state does not act directly as a purchaser or direct financier of care (Vrangbæk, 2020).
2. *The Five Regions*: responsible for primary and secondary care<sup>2</sup> with funding from the state (80 percent) through the use of block transfers and activity-related subsidies, as well as a municipal contribution (20 percent) through activity-based payments related to hospital usage (Forde et al., 2016). The regions finance and run hospitals, prenatal care centres, and psychiatric units. They also finance “private general practitioners (GPs), office-based specialists, physiotherapists, dentists, and pharmacists, as well as specialized rehabilitation” (Vrangbæk, 2020: 47). An interest organization, Danske Regioner (Danish regions),<sup>3</sup> serves as “the regions’ central employer and bargaining organization” (Olejaz et al., 2012: 32). The regions do not govern or regulate municipal health care activities.
3. *The 98 Municipalities*: responsible for disease prevention, health promotion, rehabilitation outside of hospitals, and long-term care. In terms of services, municipalities are responsible for “providing services such as nursing homes, home nurses, health visitors, school health care, dental care for some groups, municipal dentists, prevention and health promotion, and institutions for people with special needs” (Olejaz et al., 2012: 28). Funds for these services are generated via taxation and are distributed on a global budget basis.

### **Insurance: Coverage and financing**

Denmark's health care system is financed primarily through taxation. Before 2007, financing was “through progressive general income taxes at the national level and through proportional income and property taxes at the regional and local levels”

(Strandberg-Larsen et al., 2007: xvi), which was then redistributed via block grants to municipalities and erstwhile counties. Strandberg-Larsen et al. (2007) suggest that this system subsequently has been replaced by a national earmarked tax,<sup>4</sup> but Olejaz et al. (2012: 60) argue that the national health contribution (8 percent of taxable income) is not actually earmarked.

Regions, responsible for the majority of medical care, have funds transferred from the top down via the national government and from the bottom up from municipalities. They receive about 80 percent of their funding from the state through a combination<sup>5</sup> of block grants and an activity-related subsidy and the rest from municipalities (Olejaz et al., 2012).<sup>6</sup> Municipalities, in turn, are financed via proportional income taxes, set locally<sup>7</sup> but collected centrally, and from block grants from the state. Funds transferred to the regions<sup>8</sup> and municipalities for health care are “adjusted for demographic and social differences” (Vrangbæk, 2020: 49; see also Olejaz et al., 2012: 66–7).

Coverage for Danish residents is defined statutorily via the 2007 Health Act. Coverage is universal, compulsory, and independent of individual contributions (Olejaz et al., 2012). Accordingly, the OECD reports that 100 percent of Danes were covered for core health care services<sup>9</sup> in 2017 (OECD 2019b). It is not possible to opt out of the system or from related tax contributions to the statutory schemes.<sup>10</sup>

Danes may choose between two health insurance groups within the public plan. In Group 1, individuals are automatically registered with a local GP,<sup>11</sup> and are able to access specialist care (including those in private practice) only via a referral.<sup>12</sup> Neither of these is subject to co-payments (Healthcare Denmark and Ministry of Health, 2017). Family doctors treating patients in this group are unable to charge above the fee schedule (Vrangbæk, 2020). Individuals in Group 2 can access any GP and, unlike individuals in Group 1, can access a specialist (in private practice) without prior referral (subject to co-payments which supplement payments made to physicians by the region). An estimated 99.7 percent of patients are covered by Group 1 (Rotenberg et al., 2022). Individuals can change groups once in their lifetime without delay, after which they are required to remain in either group for one year before changing (Olejaz et al., 2012). Patients in either group can seek treatment from private for-profit clinics and hospitals using their own funds or with voluntary health insurance (discussed below).

The 2007 Health Act describes the scope of coverage for the statutory scheme in broad terms—that is, there is no positive list of covered services. The Health Act delegates responsibility for medical (and preventative) care for individual patients to regions. In practice, regions are responsible for covering primary, specialist, preventative, hospital, emergency, mental health, long-term, and dental care (for children) as well as in-patient pharmaceutical costs. The Act also delegates responsibility for preventative services for the population more generally to municipalities, along with rehabilitation and home care for individual patients. Again, in practice, this extends to maternity care, infant home visits, and durable medical equipment (Olejaz et al., 2012; Vrangbæk, 2020).

Although regional variations in the scope of coverage were considered acceptable before the 1990s, this attitude has changed in subsequent years with increased national oversight. Specifically, although there is no requirement to maintain a consistent benefit package among regions, a region's refusal to cover service would both draw criticism from the national government and be ineffectual, as patients can access treatment in a different region while still billing their home region (Olejaz et al., 2012).<sup>13</sup>

Patients are generally free to receive care in the public (and some private) hospital of their choice. Regions must initiate treatment for mental and physical illnesses “within one month from the date of referral.” If the region is unable to provide an assessment “with a view to diagnosis” within this period due to capacity issues,<sup>14</sup> patients have the right to an “extended free choice of hospital.” This extended choice includes private hospitals as well as diagnosis in hospitals abroad (Healthcare Denmark and Ministry of Health, 2017: 7). If treatment occurs domestically and in a hospital outside the patient's own region, expenses are covered by the region where the patient lives (OECD, 2019a: 17). Patients who choose to seek treatment in another country must follow specific guidelines: it must be a reimbursable treatment, and patients are expected to pay for these services themselves before receiving full or partial reimbursement<sup>15</sup> from their municipal or regional authority (Danish Patient Safety Authority, n.d.)

### **Cost sharing**

Patient cost sharing is not generally required for core services such as GP visits, referred specialist consultations, hospital care, mental health care, home care,<sup>16</sup> dental care for children, and in-patient pharmaceuticals. Patients are usually subject only to out-of-pocket charges for some portion of the costs of dental care (for adults), prescription lenses, and pharmaceuticals purchased outside the hospital. Charges may apply for other out-of-hospital services such as physiotherapy, psychological treatment, home care, and long-term care (Olejaz et al., 2012; Vrangbæk, 2020)

As mentioned previously, individuals with Group 2 coverage may be subject to co-payments for specialist care to supplement payments made to physicians by the region. The size of the co-payment can vary based on the difference between the fee set by specialists and the rate of public reimbursement (for similar treatment in Group 1).<sup>17</sup>

Co-payments are usually required for out-patients' pharmaceuticals. Medicines eligible for reimbursement are decided upon by the Danish Medicines Agency based on recommendations from the Danish Reimbursement Committee (Healthcare Denmark and Ministry of Health, 2017). The main mechanism for this, referred to as “General Reimbursement,” applies automatically to most<sup>18</sup> medications for Danish citizens (Danish Medicines Agency, 2019). The reimbursement rate works on a sliding scale in that the more patients spend on pharmaceuticals over the course of a year, thereby crossing specifically set thresholds, the more they are reimbursed at the point of purchase (table 3.1). The amount reimbursed is calculated at the pharmacy on the basis of the price of the lowest-cost generic substitute. Patients can, however, opt for a more expensive

Table 3.1: Reimbursement Thresholds for Pharmaceuticals, Denmark, 2021

Annual personal expenditure on reimbursable medicine before deduction of reimbursement	Reimbursement for persons over age 18 (%)	Reimbursement for persons under age 18 (%)
Dkr 0–1,010 (US\$0–153.2 PPP)	0%	60%
Dkr 1,010–1,685 (US\$153.2–225.6 PPP)	50%	60%
Dkr 1,685–3,660 (US\$225.6–555.1 PPP)	75%	75%
>Dkr 3,660 (US\$ 555.1 PPP)	85%	85%
Adults: >Dkr 19,851 (US\$3,010.6 PPP) (patient's co-payment = Dkr 4,270 (US\$647.6 PPP)	100%	
Children and adolescents under age 18: >Dkr 24,341 (US\$3,691 PPP); patient's co-payment = Dkr 4,270 (US\$647.6 PPP)	-	100%

Source: Danish Medicines Agency (2021).

alternative or for the innovator brand option by paying the difference (Healthcare Denmark and Ministry of Health, 2017).

In addition, co-insurance rates for dental care (for adults) range from about 35 percent to 60 percent (Vrangbæk, 2020) while private physiotherapists are “granted federal subsidies whereby [individuals] pay half the cost and the state covers the rest” (Praelstegaard and Gard, 2011: 2).

Danish citizens can also apply for “Individual Reimbursement,” a needs-based scheme awarded on a personal basis. Individual reimbursement may include: i) reimbursement for medication not covered under the general plan; ii) increased reimbursement if a patient is unable to take a cheaper generic alternative for a valid reason; and iii) full conditional reimbursement when suffering from a terminal illness (Danish Medicines Agency, 2019). Since 2021, those under age 18 automatically start with a 60 percent reimbursement rate, whereas those over 18 without any special considerations are responsible for the full cost of their medication until they meet the first threshold—essentially acting as a deductible, after which graduated co-payments apply (Danish Medicines Agency, 2021).

Although home care<sup>19</sup> is provided by municipalities free of charge for patients in need, payments, which cannot exceed production costs, are required for food services at home, subject to a maximum co-payment set nationally. For long-term care in nursing homes staffed full-time by medical professionals, individuals must “pay for their residential fees, food and private expenses whereas nursing and health-care services are free of charge” (Healthcare Denmark and Ministry of Health, 2017: 22). Home nursing, including medical aids and appliances, does not require co-payments but is provided by municipalities for patients with a medical prescription.

### **Private insurance**

Private insurance in Denmark is of a complementary, supplementary, and to some extent duplicative nature. Complementary insurance covers co-payments and partially covered services. In 2019, approximately 2.6 million individuals (44 percent of the population) had this type of coverage through Sygeforsikringen, commonly known as Danmark (Denmark, 2019), a not-for-profit company that “grew out of the sickness fund system” that existed before 1973 (Pedersen, 2005: 547). Members of Danmark have a choice of four different groups that provide coverage for a range of medical products and treatments, including expanded dental coverage, glasses, physiotherapy, alternative medicine, psychologists, lab examinations, foot treatments, full coverage of subsidized and non-subsidized medicines, expenses for several operations after the first year of coverage, and treatments abroad. (Danmark, n.d.; Vrangbæk, 2016).<sup>20</sup>

Supplementary insurance covers about 30 percent of the population,<sup>21</sup> and is usually provided through the workplace and primarily paid for by the employer.<sup>22</sup> This type of coverage, sold by seven for-profit firms (Vrangbæk, 2020), can include: i) Treatment Plans, for treatment costs in private hospitals (except for cosmetic, preventative, dental, sexual, or pregnancy care); ii) Preventative Plans, for costs related to preventative chiropractic and physiotherapy care (for example, to avoid the risk of premature retirement); and iii) Health and Prevention Plans, which cover the costs of health check-ups (Vrangbæk, 2016, citing Olejaz et al., 2012).

Although this type of coverage is classified routinely as supplementary by sources such as Vrangbæk (2020) and Olejaz et al. (2012), the OECD (2019b) classifies private insurance in Denmark to be of a complementary and supplementary nature. Others, however, such as Alexandersen et al. (2016) classify this as duplicative insurance. This classification aligns more closely to the OECD characteristics survey (OECD 2016), which reports “significant” interventions of secondary private health insurance in terms of “covering health goods and services included in the basic benefit package (duplicate cover)—including when delivered by providers whose services are eligible for funding by basic primary health coverage.”

In our view, secondary insurance in Denmark can be of a complementary, supplementary and (depending on the policy) duplicative nature.

### **Denmark's health care system in international context**

A 2018 report by Esmail & Barua documents and contrasts the core features of Canada's health care system with those of eight high-income, high-performing universal health care systems: Australia, France, Germany, the Netherlands, New Zealand, Sweden, Switzerland, and the United Kingdom. The report categorizes the approach each country takes to the primary insurance scheme, the breadth of coverage offered by private insurance, the mixture of hospital ownership and financing, the presence of patient cost sharing, and the nature of physician employment and payment (Esmail and Barua, 2018). This

Table 3.2: Overview of Public and Private Insurance Systems and Benefits, Denmark and Comparator Countries

Country	Primary Insurance	Primary Private Insurance	Secondary Private Insurance				
			Can cover core services	Expanded coverage (non-medical)	Expanded choice of provider	Quicker access	Choice of doctor
Denmark	National tax-funded	No	Yes		Yes*	Yes	Yes*
Australia	National tax-funded	No	Yes**	Yes*	Yes	Yes	Yes
Canada	National tax-funded	No	No				
France	National tax-funded	No	Yes	Yes	No	No	Yes
Germany	Multiple insurers, with choice of insurer	Yes		Yes	Yes	Yes	Yes
Netherlands	Multiple insurers, with choice of insurer	Yes					
New Zealand	National tax-funded	No	Yes	Yes	Yes	Yes	Yes
Sweden	National tax-funded	No	Yes		Yes	Yes	
Switzerland	Multiple insurers, with choice of insurer	Yes		Yes	Yes	Yes	Yes
United Kingdom	National tax-funded	No	Yes	Yes		Yes	
Source:	OECD (2016a, Q2)	Barua and Esmail (2015).	Q22bItem3b	Q23Item1	Q23Item2	Q23Item3	Q23Item4

Note: \* For Danes with Group 2 coverage. \*\*Australians are able to purchase private insurance for different types of core services (such as hospital care and general treatment) as per Glover (2020). Data presented have been simplified for the purposes of presentation based on the authors' interpretation. Summary characteristics for Denmark have been supplemented based on information presented in this chapter. Data for New Zealand are from the OECD's 2012.

framework can be used to compare the authors' findings<sup>23</sup> with the characteristics of Denmark's health care system. Where possible, additional data from the Fraser Institute's series Understanding Universal Health Care Reform Options (2020–22) are used to update the report's findings (see table 3.2).

### **Universal insurance coverage of core medical services**

The health care systems examined by Esmail and Barua (2018) generally fit into two categories (as shown in table 3.2):

- universal health care systems where government is the primary insurer and benefits are financed through the use of a tax-funded health care system; this group includes Australia, Canada, France, New Zealand, Sweden, and the United Kingdom; and



- universal health care systems that rely on multiple funds/insurers competing with one another within a regulated environment; this approach, sometimes referred to as a social health insurance scheme, is used by Germany, the Netherlands, and Switzerland.

Denmark's universal health-care scheme, which is primarily funded through taxation,<sup>24</sup> fits into the first category, as there are clear similarities between Denmark and other tax-funded systems, such as those in Australia, Canada, France, New Zealand, Sweden, and the United Kingdom. The most obvious is the use of a public (or government) entity for primary universal health insurance coverage.<sup>25</sup> As mentioned previously the Danish State is responsible for governing (and partially funding) regions and municipalities, preparing legislation and guidelines for the health sector, budgeting health-care expenditures (in coordination with the Ministry of Finance and regional/municipal councils), as well as for some administrative functions required for organizing hospitals, community psychiatry and self-employed health professionals.

The Danish system is primarily financed through progressive taxes at the national level, which are in turn redistributed by the state through the use of block grants and activity-based payments. Regions, responsible for the majority of medical care, are funded through the transfer of funds from the top down via the state (80 percent) and bottom up from the municipalities (20 percent). Funds transferred to the regions and municipalities are adjusted for demographic and social differences.

Coverage is compulsory and universal. However, unlike some tax-funded systems (like Canada), Danes have the choice of two coverage options within the public plan. The default is Group 1 coverage, in which an estimated 99.7 percent of patients are enrolled (Rotenberg et al. 2022). However, 0.3 percent of the population is enrolled in Group 2 which enables patients to see any GP of their choice and specialists without referral (subject to copayment). Regardless of group, the Danish public system generally covers primary and preventative care, specialist care, hospital care, pharmaceutical costs, mental health care, home care, health-care services in nursing homes, and dental care (fully for children, and partially for adults).

### **Secondary private insurance coverage and benefits**

Eight of the nine high-income universal health care countries examined by Esmail and Barua (2018) allow private insurers to cover health care goods and services included in the basic benefit package—Canada is the sole exception. Private insurers serve as the primary source of coverage in the Netherlands, Switzerland, and Germany, or a secondary source in Australia, France, New Zealand, Sweden, and the United Kingdom.

Denmark falls into the second category as a national tax-funded system with a secondary private insurance market. Secondary private insurance in Denmark can be of a complementary, supplementary, or (to some extent) duplicative nature. Like most countries in table 3.2, Denmark allows private insurers to cover core services that are also covered by the public system. Specifically, secondary insurance can cover examinations and

medical treatments at private hospitals. It can also cover increased choice of provider (usually within the insurers' network) (Alexandersen et al., 2016). Private insurance can also be used to gain faster access to treatment—typically, elective surgery in private hospitals. Although individuals in Group 2 of the public plan can avail themselves of greater choice of doctor, private insurance can help cover costs that might be associated with this choice.

More generally, supplementary insurance can cover costs for preventative chiropractic and physiotherapy, as well the costs of health check-ups under “Health and Prevention Plans.” In addition, complementary insurance covers co-payments as well as partially covered services. According to Vrangbæk (2020), 30 percent of the population has supplementary coverage, while 42 percent has complementary coverage.

### **Hospital ownership**

Core medical services may be delivered in public, private not-for-profit, or private for-profit hospitals within a universal health care framework.<sup>26</sup> Private hospitals are found in every country examined in table 3.3, although their status regarding the distribution of surpluses (profits) varies. For example, private for-profit hospitals represent 43 percent of all hospitals in Germany, but only 4 percent of hospitals in Sweden.<sup>27</sup>

Prior to 1970, almost all Danish hospitals were owned by municipalities and counties, the latter subsequently becoming exclusive owners.<sup>28</sup> In 2007, hospital infrastructure began undergoing significant structural reforms, with the number of public hospitals reduced from 40 to 21 between 2007 and 2016 (Christiansen and Vrangbæk, 2018).<sup>29</sup> In addition, Olejaz et al. (2012) reported that, in 2010, there were 249 private “clinics and hospitals” with registered activity (more recent data are unavailable). Notably, some of these private for-profit clinics are paid by the regions for attending to patients via contracts or

**Table 3.3: Hospitals by Ownership Category, Comparator Countries**

Country	Total	Public	Private Not-for-Profit	Private for Profit
Australia (2014)	1,322	698	107	517
Canada (2015)	719	712	0	7
France (2015)	3,089	1,389	691	1,009
Germany (2015)	3,108	806	979	1,323
Netherlands (2014)	505	0	181	324
New Zealand (2015)	165	85	28	52
Sweden	83	77	3	3
Switzerland (2013)	293	61	82	150

Source: Esmail and Barua (2018).

Note: Data for the Netherlands include for-profit hospitals that “do not have a license for health insurance coverage” as well as “the number of independent treatments.”

**Table 3.4: Hospital Beds by Ownership Category, Denmark and Comparator Countries, 2020**

Country	Public	Not-for-Profit	For-Profit	Total
Denmark	14,119 (94%)	632 (4%)	338 (2%)	15,089
Australia (2016)	61,797 (67%)	13,552 (15%)	17,477 (19%)	92,826
Canada	96,220 (99%)		629 (1%)	96,849
France	237,952 (62%)	55,480 (14%)	93,290 (24%)	386,772
Germany	261,027 (40%)	184,177 (28%)	204,963 (32%)	650,167
New Zealand	10,784 (85%)	440 (3%)	1,460 (12%)	12,684

Sources: OECD (2021); authors' calculations.

according to public wait-time guarantees. Although the relationship between hospitals and regions can be dynamic, they are expected to enter into agreements with private clinics and hospitals in order to enable additional choice for patients seeking shorter wait times.

Although Esmail and Barua (2018) examine the number of hospitals by ownership in their study, comparable data are lacking for Denmark. It is possible, however, to compare the number of beds in hospitals by ownership for a smaller set of countries (table 3.4). In 2020, there were an estimated total of 15,089 hospital beds in Denmark, 94 percent of which were in public hospitals, 4 percent in not-for-profit institutions, and 2 percent in for-profit institutions (OECD, 2021a).

### **Hospital funding**

Hospitals in high-income OECD countries with universal health care today are primarily remunerated through prospective global budgets, activity-based funding, or a combination of the two. According to the Canadian Institute for Health Information (CIHI), global budgeting sees the “system funding total and its allocation across hospitals ... set at the beginning of the fiscal year. The funding levels and allocations may be adjusted over time—using socio-demographic, political and economic factors to determine future payments—but mainly follow historic patterns” (CIHI, 2010: 3). In contrast, the CIHI defines activity-based-funding according to “two features: first, a case mix system is used to describe hospital activity and to define its products or outputs; second, a payment price is set for each case mix group in advance of the funding period and payments to the hospital are made on a per case basis ... Other funding models that share principles of activity-based funding include case mix funding, diagnosis-related group (DRG)-based funding, patient-focused funding, pay for performance ..., payment by results ..., prospective payment system ... and service-based funding” (CIHI, 2010: 3). The OECD Health Systems Characteristics (OECD, 2016a) survey classifies these payments as “DRG-like.”<sup>30</sup>

DRG-like (or per procedure/service) payments are the predominant method used to remunerate hospitals in most of the countries examined by Esmail and Barua (2018) (table 3.5). Further, an expanded analysis by Esmail (2021) also has found that 23 of the 28 countries

examined with universal health care have adopted activity-based funding.<sup>31</sup> Some countries—Australia, France, the Netherlands, and the United Kingdom—use a combination of the two; specifically, while they use DRG-like payments for public hospitals, these payments are situated within an overall global budget.<sup>32</sup>

In Denmark, public hospitals<sup>33</sup> are financed using a mix of global budgets (30–50 percent) and activity-based (or case-based) funding (50–70 percent) by most accounts.<sup>34</sup> A DRG system is used for activity-based funding, with rates reviewed and determined by the Ministry of Health on an annual basis. In 1999, only about 10 percent of hospital funding was distributed on the basis of activity, increasing to 50 percent in 2007. By 2010, two regions distributed 70 percent of their funds via activity-based funding to hospitals. More recent estimates<sup>35</sup> suggest that the split might be as high as 80 percent, based on activity, and 20 percent negotiated budgets as a “baseline.” Patients with highly complex<sup>36</sup> requirements—about 10 percent of acute in-patient cases—are excluded from the DRG payment system if they are treated at designated hospitals or departments (Quentin et al., 2022).<sup>37</sup> There is, however, “a limit as to how much the extra income can exceed the income associated with the baseline” (Olejaz, 2012: 79). This, combined with the slow rollout of the DRG system in Denmark led Socha (2014: 3) to conclude that “the mixed reimbursement is simply a veiled version of the usual block budget system.” Private hospitals are funded by activity according to the OECD (2016b). Some private for-profit clinics

**Table 3.5: Method of Hospital Funding, Denmark and Comparator Countries**

Country	Public Hospitals	Private Not-for-Profit	Private for Profit
Denmark	Prospective global budget	Per case, DRG-like	Per case, DRG-like
Australia	Per case, DRG-like	By procedure, service	By procedure, service
Canada	Prospective global budget	Prospective global budget	Prospective global budget
France	Per case, DRG-like	Per case, DRG-like	Per case, DRG-like
Germany	Per case, DRG-like	Per case, DRG-like	Per case, DRG-like
Netherlands	Per case, DRG-like	Per case, DRG-like	
New Zealand	Prospective global budget		
Sweden	Prospective global budget, per case, DRG-like*	Prospective global budget, per case, DRG-like*	Per case, DRG-like
Switzerland	Per case, DRG-like	Per case, DRG-like	Per case, DRG-like
United Kingdom	Per case, DRG-like	By procedure, service	Retrospective

Sources: OECD (2016a); \*Anell et al. (2012).

and hospitals are “paid by the regions for attending to patients according to contracts or waiting time guarantees”(Olejaz et al. 2012, 38). Regions pay private hospitals for treating public patients through set DRG payments or negotiated tariffs (Socha, 2014) through procurement auctions (Munk-Nielsen and Waldinger, 2021).

In general, Denmark has shifted slowly away from the sort of prospective global budgeting used by countries such as Canada for funding public hospitals, and increasingly has incorporated a mixture of activity-based distribution of public funds, albeit within limits as explained above. This approach is similar in some ways to that of Australia and the United Kingdom. Like most other countries examined here, activity-based funding is the predominant approach used by private hospitals.

### ***Physician employment, remuneration, and dual practice***

There are three methods by which physicians are generally remunerated: salary, capitation payments, and fee-for-service. Countries also employ a combination of these approaches in order to balance the practical trade-offs between the benefits and drawbacks of each method (discussion of which is beyond the scope of this chapter).

As table 3.6 shows, primary care physicians in the group of countries examined by Esmail and Barua (2018) are predominantly self-employed, and remunerated using a mixture of approaches, the predominant form of which is fee-for-service (in Australia, Germany, and Switzerland; primary care physicians in Sweden are usually publicly employed and salaried). Across the countries examined, most out-patient specialists operate as self-employed practitioners, and are remunerated through fee-for-service, while the predominant employment and remuneration for in-patients is mixed.

In Denmark, GPs are almost entirely self-employed professionals who work on contract for regional authorities. They are paid by the regions via a mix of mostly fee-for-service payments (70 percent) and capitation (30 percent) (Forde et al., 2016). Fees are negotiated between the Board for Wages and Tariffs of the Regions and the Organization of General Practitioners. GPs cannot charge above the fee schedule when seeing “publicly funded patients in Group 1” (Vrangbæk, 2020: 51).

Although the OECD (2016a) reports that out-patient specialists in Denmark are publicly employed and paid by salary, Olejaz et al. (2012) and Vrangbæk (2020) suggest that out-patient specialists can also deliver care in privately owned practices. When seeing public patients, these specialists are paid on a fee-for-service basis, the rate for which is negotiated between the Board for Wages and Tariffs of the Regions and the Danish Association of Medical Specialists. Once a certain number of agreed-upon services have been delivered, fees per service are reduced (Olejaz et al., 2012). However, fees for private patients and those under Group 2 coverage are set by the specialist (and may be above the regular fee schedule), with any non-publicly funded portion for Group 2 patients and private fees paid for by private insurers and direct out-of-pocket payments (Vrangbæk, 2020).

Table 3.6: Physician Remuneration, Denmark and Comparator Countries

Country	Ownership and Payment			Dual Practice	
	Primary	Outpatient	Inpatient	Outpatient	Inpatient
Denmark	Self-employed, mixed	Self-employed, FFS*	Publicly employed, salary	Yes (always)	Yes (always)
Australia	Privately employed, FFS		Self-employed, mixed	Yes (always)	Yes (always)
Canada	Self-employed, mixed	Self-employed, FFS	Self-employed, FFS	No	No
France	Self-employed, mixed	Self-employed, fee for service	Publicly employed, salary	Yes (always)	Yes (sometimes)
Germany	Self-employed, FFS	Self-employed, fee for service		Yes (always)	
Netherlands	Self-employed, mixed	Self-employed, fee for service	Self-employed, mixed	Yes (always)	Yes (always)
New Zealand	Self-employed, mixed			Yes	Yes
Sweden	Publicly employed, salary	Publicly employed, salary	Publicly employed, salary	Yes (sometimes)	Yes (sometimes)
Switzerland	Self-employed, FFS	Self-employed, fee for service	Private mixed	Yes (always)	Yes (always)
United Kingdom	Self-employed, mixed	Publicly employed, salary	Publicly employed, salary	Yes (always)	Yes (always)

Sources: Gauld (2013); OECD (2016a); \*Olejaj et al. (2012); \*Vrangbæk (2020).

Note: FFS = Fee-for-service. Mix implies a mixture of fee-for-service, salary, and capitation for primary physicians, but only fee-for-service and salary for in-patient physicians. Data for New Zealand is from the OECD's 2012 survey.

Physicians working in hospitals in Denmark are salaried. Although specialists employed by public hospitals are required to meet certain minimum levels of activity, there are no limitations on how much private activity they can engage in on a wholly private basis—in a private setting during spare time (Olejaj et al., 2012). They are barred, however, from seeing private patients within the public hospital (Vrangbæk, 2020: 51). For a comparison of how physicians are remunerated, including their role in the health care system, see table 3.6.

### Cost sharing

Almost every country examined by Esmail and Barua (2018) expect patients to share in the cost of treatment. For example, patients must pay a deductible in the Netherlands, co-insurance in France, and co-payments in France, Germany, New Zealand, and Sweden.<sup>38</sup> In Switzerland, all three cost-sharing mechanisms are routinely employed. Further, a recent report found that the vast majority of universal health care systems around the world (22 of 28) expect patients to share in either the cost of out-patient primary care, out-patient specialist care, or acute in-patient care (although the latter is relatively less common) via deductibles (rarely), co-insurance charges, and co-pays (Barua and Moir, 2022)

**Table 3.7: Methods of Cost Sharing, Denmark and Comparator Countries**

Country List	Deductible	Primary	Specialist	Inpatient
Denmark	No	No	Sometimes**	No
Australia	No	Sometimes	Yes	Sometimes
Canada	No	No	No	No
France	No	Yes	Yes	Yes
Germany	Sometimes	No	No	Yes
Netherlands	Yes	No	No	No
New Zealand*	No	Yes	No	No
Sweden	No	Yes*	Yes*	Yes*
Switzerland	Yes	Yes	Yes	Yes
United Kingdom	No	No	No	No

Sources: Barua and Moir (2022); OECD (2016a)

\*Data are based on the OECD 2012 health system characteristics survey. \*\*Co-payments for non-referred visits by individuals in "Group 2"—about 2 percent of the population.

Of the countries shown in table 3.7, Denmark joins Canada and the United Kingdom in not generally requiring patients to share directly in the cost of core medical services. However, patients with Group 2 insurance as well as those without a referral may be subject to co-payments for specialist care. In addition, deductibles and co-payments generally are required for pharmaceuticals purchased on an out-patient basis, as well as for physiotherapy, psychological treatment, home care, long-term care, and dental care (excluding children).

### **Performance of Denmark's health care system in international comparison**

In comparing the performance of Denmark's health care system relative to 27 high-income OECD countries with universal health care coverage, the data and methodology are derived from Moir and Barua (2021), who use a value-for-money approach to compare countries that i) are a member of the OECD; ii) have achieved universal (or near-universal) coverage for core medical services; and iii) are classified as "high-income" countries by the World Bank.

Like Moir and Barua (2021), this chapter examines health care spending as a percentage of GDP and on a per capita basis. To provide additional background information, however, also included are two indicators measuring domestic private health expenditure (including private insurance and out-of-pocket payments) as a percentage of current expenditure on health, and out-of-pocket health expenditures as a percentage of household consumption.

Performance<sup>39</sup> is measured using 32 indicators in 3 areas:

- availability of resources (9 indicators);
- use of resources (11 indicators); and
- quality and clinical performance (12 indicators).

In addition, although indicators of health status (such as life expectancy) can be heavily influenced by several factors outside the purview of the health care system, five health status indicators are included for additional context.

Data are for 2019 or the most recent year available, and countries are ranked on an age-adjusted basis.<sup>40</sup> A rank of 1 indicates superior performance on all performance indicators, including those where lower rates are preferable, such as for several indicators of timeliness, quality, and clinical performance and health status.

### ***Spending***

Denmark ranks in the middle of the pack for health care spending among the 28 countries with universal health care (table 3.8): the twelfth-highest spender as a percentage of GDP and seventh-highest spender per capita. After adjusting for age, Denmark ranks as the fourteenth-highest spender as a percentage of GDP and twelfth-highest per capita. Private spending in Denmark accounts for a smaller portion (16.7 percent) of current health expenditure than in most other OECD countries, ranking twenty-fourth, but Denmark again features in the middle of the pack for out-of-pocket health expenditures as a percentage of household consumption (3.1 percent), ranking thirteenth.

### ***Availability of resources***

Out of 28 countries, Denmark ranks tenth for physician availability, seventeenth for nursing availability, twenty-first (out of 26) for acute-care beds, eighteenth for psychiatric beds (out of 26), and nineteenth (out of 24) for long-term care beds in facilities and hospitals. Adjusting for age, Denmark ranks eleventh for physicians and seventeenth for nurses (both out of 28). Rankings for the three types of beds were unchanged. As can be seen from these rankings, Denmark has slightly more physicians per capita than the average OECD country, but fewer nurses and notably fewer beds (see also table 3.9).

By contrast, where data are available, Denmark reports relatively more health technology resources than the average OECD country on an age-adjusted basis (table 3.10). Although data are unavailable for MRI units, a key indicator, Denmark ranks fifth (out of 26) for CT scanner availability (per million population), first for PET scanners (out of 24), and fourth for Gamma cameras (out of 23). It did, however, report fewer mammographs than the OECD average, ranking seventeenth (out of 21). The rankings are unchanged when adjusting for age. Overall, although Denmark has fewer beds than most other OECD countries with universal health care, it ranks in the middle of the pack for physicians and ranks notably high on most indicators of health technology availability.



Table 3.8: Spending on Health Care, OECD Countries, 2019 (age-adjusted and non age-adjusted)

Country List	Percentage of GDP	Rank	Per Capita	Rank	Out-of-pocket expenditure % of household consumption	Domestic private health expenditure (PVT-D) as percentage of current health expenditure (CHE) (%)
Australia	10.3	9	5,366.8	11	2.9%	28.3
Austria	10.4	8	5,697.0	6	3.6%	27.0
Belgium	10.6	6	5,450.7	9	3.8%	23.2
Canada	11.3	2	5,579.8	8	2.8%	29.8
Czech Republic	7.6	24	3,330.4	22	2.4%	18.5
Denmark	9.7	14	5,354.2	12	3.1%	16.7
Finland	8.3	19	4,156.6	17	3.0%	19.8
France	10.7	5	5,077.4	14	1.9%	24.7
Germany	10.8	4	5,994.0	4	2.8%	22.3
Greece	7.1	25	2,100.3	27	4.0%	51.7
Iceland	9.9	13	5,233.6	13	2.7%	17.1
Ireland	7.7	22	5,876.7	5	2.7%	25.4
Israel	9.2	15	3,578.7	19	2.9%	33.1
Italy	7.6	23	3,219.2	23	3.4%	26.1
Japan	8.2	21	3,495.2	21	2.5%	16.1
Latvia	6.4	27	1,978.4	28	4.0%	39.2
Lithuania	6.8	26	2,641.5	26	3.7%	34.6
Luxembourg	6.2	28	6,221.6	3	1.6%	12.8
Netherlands	10.1	12	5,678.9	7	2.5%	34.1
New Zealand	10.1	11	4,679.9	15	2.0%	24.4
Norway	11.0	3	7,072.1	2	3.3%	14.2
Portugal	8.7	18	3,050.3	25	4.5%	39.0
Slovenia	8.3	20	3,199.7	24	1.9%	27.6
South Korea	9.2	16	3,831.3	18	5.1%	40.5
Spain	9.0	17	3,540.7	20	3.5%	29.4
Sweden	10.6	7	5,377.5	10	3.4%	15.1
Switzerland	11.4	1	7,215.5	1	5.5%	67.9
United Kingdom	10.2	10	4,535.1	16	2.5%	20.5
<b>OECD Average</b>	<b>9.2</b>		<b>4,590.5</b>		<b>3.1%</b>	<b>9.2</b>

Sources: OECD (2021); author's calculations.

Table 3.9: Availability of Human and Capital Resources, OECD Countries, 2019 (age-adjusted per 1,000 population over age 65)

Country List	Physicians	Rank	Nurses	Rank	Acute Beds	Rank	Psychiatric Beds	Rank	Long-Term Care Beds*	Rank
Australia	4.2	10	13.3	6		4	0.46	20	49.1	13
Austria	5.3	2	10.4	15	5.3	6	0.69	13	69.2	3
Belgium	3.2	21	11.1	10	5.0	25	1.41	2	54.3	8
Canada	2.8	26	10.4	14	2.0	8	0.37	24	45.6	16
Czech Republic	4.0	14	8.3	20	3.9	22	0.90	10	37.9	19
Denmark	4.1	11	9.9	17	2.4	23	0.51	18	57.2	6
Finland	2.9	25	13.0	7	2.4	16	0.54	17	51.4	12
France	3.1	23	10.7	11	2.9	3	0.79	12	54.2	9
Germany	4.0	13	12.8	8	5.5	11	1.20	4	4.1	24
Greece	5.6	1	3.1	28	3.3	19	0.64	14	55.5	7
Iceland	4.5	5	17.7	3	2.6	13	0.41	21	47.5	14
Ireland	3.8	15	14.9	4	3.1	18	0.38	23	20.2	21
Israel	4.1	12	6.2	24	2.7	24	0.47	19	19.4	22
Italy	3.6	18	5.4	26	2.3	2	0.07	28	35.1	20
Japan	1.9	28	8.8	19	5.8	1	1.93	1	60.4	5
Latvia	3.1	22	4.2	27	2.9	5	1.14	5	41.3	18
Lithuania	4.4	6	7.5	22	5.0	9	0.94	8	81.6	1
Luxembourg	3.4	19	13.5	5	3.8	20	0.93	9	74.0	2
Netherlands	3.7	17	10.6	12	2.6	17	0.79	11	52.3	11
New Zealand	3.8	16	11.4	9	2.8	12	0.36	25	43.5	17
Norway	5.2	3	18.7	1	3.3	14	1.09	6		
Portugal	4.8	4	6.5	23	3.0	7	0.57	16	52.7	10
Slovenia	3.2	20	10.0	16	4.0	21	0.63	15	46.1	15
South Korea	2.8	27	8.9	18	8.0	15	1.39	3	17.0	23
Spain	4.3	8	5.8	25	2.4	26	0.35	26		
Sweden	4.2	9	10.5	13	1.8	10	0.40	22	64.4	4
Switzerland	4.4	7	18.2	2	3.6		0.94	7		
United Kingdom	3.0	24	8.3	21			0.35	27	47.2	
<b>OECD Average</b>	<b>3.8</b>		<b>10.3</b>		<b>3.6</b>		<b>0.7</b>			

Sources: OECD (2021); author's calculations.

Note: Countries may have different ranks even if they appear to have same values in the table, since the table shows rounded-off values.

**Table 3.10: Availability of Technological and Diagnostic Imaging Resources, OECD Countries, 2019 (age-adjusted per million population)**

Country List	MRI		CT		PET		Gamma		Mammo-	
	Units	Rank	Scanners	Rank	Scanners	Rank	Cameras	Rank	graphs	Rank
Australia	16.1	14	76.1	2	4.1	4	20.3	2	25.4	9
Austria	25.0	7	28.7	11	2.7	11	10.2	9	21.7	10
Belgium	11.5	20	24.1	15	2.9	10	25.6	1	36.5	3
Canada	10.5	21	15.2	22	1.6	17	15.9	3	18.6	14
Czech Republic	10.1	22	16.0	21	1.5	18	11.1	8	11.2	21
Denmark			39.7	5	8.1	1	14.3	4	14.8	17
Finland	26.2	6	14.9	23	3.0	9	6.9	14	26.1	7
France	14.8	15	17.5	19	2.4	12	6.6	17		
Germany	31.7	3	32.5	9						
Greece	28.9	4	38.5	7	1.2	21	11.4	6	60.5	2
Iceland	22.4	8	54.3	3	3.2	7	9.6	10	19.2	13
Ireland	18.5	9	24.6	14	2.1	13	6.8	16	19.5	12
Israel	6.3	24	12.0	25	1.9	14	11.3	7		
Italy	26.6	5	32.1	10	3.1	8	6.9	15	30.4	4
Japan	41.1	1	83.1	1	3.4	6	8.6	11	25.6	8
Latvia	14.5	16	35.4	8	1.5	19	3.5	22	26.4	6
Lithuania	13.5	18	25.6	13	0.7	24	2.8	23	15.3	16
Luxembourg	16.7	13	18.5	17	1.8	15	13.0	5	13.0	19
Netherlands	13.7	17	14.7	24	4.5	2	7.4	13		
New Zealand	17.0	12	17.0	20	1.1	23	4.0	20	21.6	11
Norway	18.2	10	27.7	12	1.2	22	3.7	21	12.9	20
Portugal										
Slovenia	12.1	19	17.6	18	1.4	20	7.9	12	14.4	18
South Korea	36.0	2	44.6	4	4.2	3	6.6	18	71.3	1
Spain	17.3	11	18.9	16	1.7	16	6.6	19	16.2	15
Sweden										
Switzerland			39.1	6	3.9	5			29.6	5
United Kingdom	7.3	23	9.5	26						
<b>OECD Average</b>	<b>19.0</b>		<b>29.9</b>		<b>2.6</b>		<b>9.6</b>		<b>25.2</b>	

Sources: OECD (2021); author's calculations.

Table 3.11: Utilization of Resources, OECD Countries, 2019 (age-adjusted)

Country List	Doctor Consultations (per capita)		Curative Care Discharge Rates per 100,000		MRI Exams (per 1,000)		CT Exams (per 1,000)	
		Rank		Rank		Rank		Rank
Australia	8.0	9	18,890.5	4	56.0	21	8.0	9
Austria	6.6	15	22,393.6	1	147.8	1	6.6	15
Belgium	7.3	10	16,366.7	8	98.0	7	7.3	10
Canada	6.9	12	8,514.6	27	64.4	17	6.9	12
Czech Republic	8.0	8	17,203.1	7	58.6	19	8.0	8
Denmark	3.9	24			87.1	9	3.9	24
Finland	4.0	23	14,095.9	16	48.4	22	4.0	23
France	5.7	19	15,393.3	12	118.5	5	5.7	19
Germany	9.0	6	21,368.4	2	133.4	2	9.0	6
Greece	2.9	25	12,258.2	21	79.2	12	2.9	25
Iceland	6.8	13	12,283.7	19	124.8	3	6.8	13
Ireland	6.7	14	15,372.8	13			6.7	14
Israel	10.1	2	18,236.9	6	58.5	20	10.1	2
Italy	9.2	5	8,885.8	25	66.4	14	9.2	5
Japan	9.3	3	9,100.2	24	83.7	10	9.3	3
Latvia	5.8	18	13,369.6	17	66.0	15	5.8	18
Lithuania	9.2	4	20,992.6	3	64.9	16	9.2	4
Luxembourg	6.3	17	15,760.8	10	103.4	6	6.3	17
Netherlands	8.7	7	8,883.9	26	58.9	18	8.7	7
New Zealand	4.2	22	14,166.3	15			4.2	22
Norway	4.6	20	16,052.1	9	122.3	4	4.6	20
Portugal			9,705.2	23				
Slovenia	6.5	16	15,231.6	14	77.6	13	6.5	16
South Korea	19.3	1	18,322.2	5	83.1	11	19.3	1
Spain	7.2	11	11,183.3	22	97.5	8	7.2	11
Sweden	2.5	26	12,871.5	18			2.5	26
Switzerland	4.3	21	15,704.6	11			4.3	21
United Kingdom			12,258.7	20				
<b>OECD Average</b>	<b>7.0</b>		<b>14,624.7</b>		<b>86.3</b>		<b>7.0</b>	

Sources: OECD (2021); author's calculations.

### **Use of resources**

Because of limited data, only three of four indicators of general system utilization examined by Moir and Barua (2021) are employed.

As table 3.11 shows, Denmark reported one of the lowest rates of doctor consultations per capita, ranking twenty-third out of 28 countries. Although no data were available for hospital activity, Denmark reported slightly higher rates of MRI and CT exams (per 1,000 population) than the average OECD country, ranking tenth and eighth (out of 22), respectively. After adjusting for age, Denmark ranked twenty-fourth for doctor consultations (out of 28), and ninth and eighth (out of 22) for MRI and CT exams, respectively.

In individual procedures<sup>41</sup> on an age-adjusted basis, Denmark reported lower rates than the average OECD country for cataract surgery (seventeenth), transluminal coronary angioplasty (nineteenth), appendectomy (twentieth), cholecystectomy (twenty-fourth), and repair of inguinal hernia (nineteenth). However, it reported higher-than-average rates for coronary artery bypass graft (eighth), hip replacement (eleventh), and knee replacement (tenth).

### **Clinical performance and quality**

The performance of Denmark's health care system relative to 27 other OECD countries in the areas of primary care (one indicator), acute care (four indicators), mental health care (one indicator), cancer care (four indicators), and patient safety (two indicators) is shown in tables 3.12a and 3.12b. Where possible, the performance for each country is based on the upper and lower confidence intervals of that rate (calculated by the OECD) in relation to the calculated average range for the included countries for seven out of ten indicators. For a more detailed discussion on indicator selection, see Moir and Barua (2021).

*Primary care:* At eighteenth (out of 24), Denmark's performance on the indicator measuring diabetes-related lower extremity amputation is not statistically different than the average.

*Acute care:* Denmark ranks first (out of 22) for the rate of hip-fracture surgery initiated within 48 hours after admission to the hospital, eighth (out of 27) for mortality within 30 days after admission to hospital for acute myocardial infarction (AMI) (statistically better than average), eighteenth (out of 27) on the indicator measuring 30-day mortality after admission to hospital for a hemorrhagic stroke (not statistically different than the average), and fifth (out of 27) on the indicator measuring 30-day mortality after admission to hospital for an ischemic stroke (statistically better than average).

*Mental health care:* Denmark reported a rate of 0.08 in-patient suicides (per 1,000 population) among patients diagnosed with a mental disorder, a rate not statistically different from the average, and ranking Denmark fifteenth (out of 18).

*Cancer care:* Denmark's performance on all four indicators measuring cancer survival rates between 2010 and 2014 was not statistically different from the average. Specifically,

Table 3.12a: Quality and Clinical Performance, Primary Care, Acute Care, Mental Health Care, OECD Countries, 2019

Country List	Diabetes lower extremity amputation (Age-sex standardised rate per 100 000 population; 15 years old and over)		Hip-fracture surgery initiated within 48 hours after admission to the hospital (Crude rate per 100 patients; 65 years old and over)		Admission-based AMI 30 day in-hospital mortality (Age-sex standardised rate per 100 patients; 45 years old and over)	
		Rank		Rank		Rank
Australia	4 b	9			3.2 b	2
Austria	11.4 w	23	90.2	10	5.2 a	12
Belgium	3.4 b	7	87.0	14	6.4 a	16
Canada	6.9 w	19	93.1	6	4.6 b	9
Czech Republic			80.9	16	7 w	20
Denmark	6.6 a	18	97.6	1	4.5 b	8
Finland	5.3 a	12	86.8	15	6.8 a	19
France	4.3 b	11			5.6 a	15
Germany	7.9 w	21	92.1	7	8.3 w	22
Greece						
Iceland	1.2 b	1	95.2	4	2 b	1
Ireland	3.1 b	5	87.5	13	4.7 b	10
Israel	17.6 w	24	88.1	12	5.3 a	13
Italy	2.4 b	3	69.7	18	5.4 b	14
Japan					9.7 w	26
Latvia	5.5 a	14	35.0	22	14.4 w	27
Lithuania	6.3 a	17	64.9	19	9.3 w	25
Luxembourg	5.7 a	15			8.5 a	23
Netherlands	4.1 b	10	96.0	3	3.5 b	4
New Zealand	5.9 a	16	92.0	8	4.3 b	7
Norway	5.4 a	13	96.6	2	3.2 b	2
Portugal	11.2 w	22	41.5	21	7.3 w	21
Slovenia			70.9	17	4.2 b	6
South Korea	2.2 b	2			8.9 w	24
Spain	7 w	20	55.6	20	6.5 a	17
Sweden	3.7 b	8	93.7	5	3.5 b	4
Switzerland	3.1 b	5	90.8	9	5.1 b	11
United Kingdom	3 b	4	88.7	11	6.6 a	18
<b>OECD Average</b>	<b>5.7</b>		<b>81.5</b>		<b>6.1</b>	

Sources: OECD (2021); authors' calculations.

Table 3.12a: Quality and Clinical Performance, Primary Care, Acute Care, Mental Health Care, OECD Countries, 2019

Country List	Admission-based Hemorrhagic stroke 30 day in-hospital mortality (Age-sex standardised rate per 100 patients; 45 years old and over)	Rank	Admission-based Ischemic stroke 30 day in-hospital mortality (Age-sex standardised rate per 100 patients; 45 years old and over)	Rank	In-patient suicide among patients diagnosed with a mental disorder (Age-sex standardised rate per 100 patients; 15 years old and over)	Rank
Australia	19.9 a	10	5.4 b	7		
Austria	18.4 b	8	6.1 b	11		
Belgium	26.4 w	23	7.9 a	19	0.06 a	12
Canada	23.6 a	17	7.5 a	17	0.06 a	12
Czech Republic	25.8 w	22	10.3 w	24	0 b	1
Denmark	23.9 a	18	4.8 b	5	0.08 a	15
Finland	23.4 a	16	8.4 w	20	0.05 a	11
France	22.4 a	14	7.1 a	16		
Germany	22 a	13	6.2 b	12		
Greece						
Iceland	8.7 b	1	3.9 b	4	0.14 a	17
Ireland	23 a	15	6.7 a	15		
Israel	20.4 a	11	5.8 b	10	0.08 a	15
Italy	19.8 b	9	6.3 b	13		
Japan	11.9 b	2	3 b	1		
Latvia	40 w	27	19.6 w	27	0 b	1
Lithuania	32.3 w	26	12.4 w	26	0.01 b	4
Luxembourg	17.8 a	7	7.5 a	17		
Netherlands	24.6 a	19	5.3 b	6	0.03 a	9
New Zealand	20.9 a	12	6.5 a	14	0.03 a	9
Norway	15.8 b	6	3.8 b	3	0.02 b	7
Portugal	24.6 a	19	9.8 w	23	0.01 b	4
Slovenia	25.1 a	21	10.8 w	25	0.06 a	12
South Korea	15.4 b	4	3.5 b	2		
Spain	27.7 w	25	9.3 w	22	0.02 b	7
Sweden	15.3 b	3	5.4 b	7	0.36 w	18
Switzerland	15.4 b	4	5.4 b	7	0.01 b	4
United Kingdom	27.5 w	24	9 w	21	0 b	1
<b>OECD Average</b>	<b>21.9</b>		<b>7.3</b>		<b>0.06</b>	

Sources: OECD (2021); authors' calculations.

Table 3.12b: Quality and Clinical Performance, Cancer Care and Patient Care, OECD Countries, 2010-14; 2019

Country List	Breast cancer (five year net survival, 2010-2014, female, 15 years old and over, age-standardised survival %)		Cervical cancer (five year net survival, 2010-2014, female, 15 years old and over, age-standardised survival %)		Colon cancer (five year net survival, 2010-2014, 15 years old and over, age-standardised survival %)	
	Rank	Rank	Rank	Rank	Rank	Rank
Australia	89.5 b	1	66.4 a	14	70.7 b	3
Austria	84.8 a	21	63.9 a	21	63.7 a	15
Belgium	86.4 a	14	65.4 a	17	67.9 b	5
Canada	88.6 b	5	67.3 a	11	67 b	8
Czech Republic	81.4 w	24	61 w	24	56.1 w	25
Denmark	86.1 a	16	69.5 a	6	61.6 a	20
Finland	88.5 b	6	67.4 a	9	64.9 a	9
France	86.7 a	11	65 a	19	63.7 a	15
Germany	86 a	17	65.2 a	18	64.8 a	12
Greece						
Iceland	89.1 a	3	80.1 b	1	68.2 a	4
Ireland	82 w	23	63.6 a	23	60.5 w	22
Israel	88 b	7	66.6 a	13	71.7 b	2
Italy	86 a	17	66.8 a	12	64.2 a	13
Japan	89.4 b	2	71.4 b	4	67.8 b	6
Latvia	76.9 w	25	53.9 w	26	48.8 w	26
Lithuania	73.5 w	26	59.2 w	25	56.9 w	24
Luxembourg						
Netherlands	86.6 a	12	67.5 a	8	63.1 a	18
New Zealand	87.6 a	8	67.4 a	9	64 a	14
Norway	87.2 a	10	73.2 b	3	64.9 a	9
Portugal	87.6 a	8	66.2 a	15	60.9 w	21
Slovenia	83.5 a	22	65.5 a	16	61.9 a	19
South Korea	86.6 a	12	77.3 b	2	71.8 b	1
Spain	85.3 a	20	64.6 a	20	63.3 a	17
Sweden	88.8 b	4	68.3 a	7	64.9 a	9
Switzerland	86.2 a	15	71.4 a	4	67.3 b	7
United Kingdom	85.6 a	19	63.8 a	22	60 w	23
<b>OECD Average</b>	<b>85.7</b>		<b>66.8</b>		<b>63.9</b>	

Sources: OECD (2021); authors' calculations.



Table 3.12b: Quality and Clinical Performance, Cancer Care and Patient Care, OECD Countries, 2010-14; 2019

Country List	Rectal cancer (five year net survival, 2010-2014, 15 years old and over, age-standardised survival %)		Obstetric trauma vaginal delivery with instrument, 2019 (Crude rate per 100 vaginal deliveries, female, 15 years old and over)		Obstetric trauma vaginal delivery without instrument, 2019 (Crude rate per 100 vaginal deliveries, female, 15 years old and over)	
		Rank		Rank		Rank
Australia	71 b	2	6.2	14	2.4	16
Austria	64.2 a	14				
Belgium	66.6 b	7	3.4	9	0.7	5
Canada	67.1 b	6	16.3	20	3.4	20
Czech Republic	52.3 w	25				
Denmark	64.8 a	10	12.7	19	2.9	19
Finland	64.4 a	13	2.9	6	1	9
France	60.9 a	20				
Germany	62.3 a	17	6.4	15	1.5	11
Greece						
Iceland	63 a	15				
Ireland	61.7 a	18	3.7	11	1.5	11
Israel	67.8 b	4	1.9	2	0.5	3
Italy	61.3 a	19	2.4	3	0.8	6
Japan	64.8 a	10				
Latvia	49.5 w	26	3.3	8	0.4	1
Lithuania	52.7 w	24	1	1	0.4	1
Luxembourg						
Netherlands	65.3 a	9	2.9	6	2.4	16
New Zealand	66 a	8	9.3	17	1.8	13
Norway	68.3 b	3	2.7	4	1.3	10
Portugal	59.6 a	22	2.7	4	0.5	3
Slovenia	60.3 a	21	3.4	9	0.8	6
South Korea	71.1 b	1				
Spain	59.5 a	23	4.6	12	0.9	8
Sweden	64.7 a	12	9.9	18	2.1	14
Switzerland	67.3 b	5	7.3	16	2.1	14
United Kingdom	62.5 a	16	5.8	13	2.4	16
<b>OECD Average</b>	<b>63.0</b>		<b>5.4</b>		<b>1.5</b>	

Sources: OECD (2021); authors' calculations.

on the rate of five-year survival after treatment, Denmark ranked sixteenth (out of 26) for breast cancer, sixth (out of 26) for cervical cancer, twentieth (out of 26) for colon cancer, and tenth (out of 26) for rectal cancer.

*Patient safety:* Denmark performs relatively poorly on both measures of patient safety, ranking nineteenth (out of 20) on obstetric trauma during a vaginal delivery with and without an instrument.

Overall, of the 12 clinical performance indicators available for comparison, Denmark performs well on three indicators (hip-fracture surgery initiated within 48 hours, AMI, and ischemic stroke mortality), and poorly on two (obstetric trauma with, and without, an instrument). Its performance on the remaining seven is not statistically different from that of other high-income OECD countries with universal health care for which data are available.

### **Health status**

The comparison of indicators of health status poses several challenges, as they can be affected to a great degree by non-medical determinants of health, including environmental and genetic factors, lifestyle choices, and rates of violence, for example. For the sake of completeness, however, data are presented on five indicators of health status used by Moir and Barua (2021).

Out of 28 countries, Denmark ranks twenty-third for life-expectancy (table 3.13). There is, however, very little variation around the mean for this indicator, and life expectancy in Denmark (81.5 years) is only six months less than the OECD average (82 years). Health-adjusted life expectancy in Denmark is the same as the OECD average at 71 years, ranking fifteenth. Denmark ranks fourteenth for its performance on infant mortality, ninth on perinatal mortality rates, and fourteenth on treatable mortality. The reader is reminded that, although lower rates are preferred on these three indicators, they are ranked according to performance, with the country with lowest mortality rates receiving a rank of 1.

### **Summary of performance**

Denmark's spending on health care is roughly similar to that of the average OECD country with universal health care. After adjusting for differences in age, Denmark ranks exactly in the middle of the pack for spending as a share of the economy (fourteenth of 28) and slightly higher on a per capita spending basis (twelfth out of 28).

Although Denmark ranks higher than average on the availability of physicians (eleventh of 28), the country has below-average availability of nurses and beds. Denmark has relatively more diagnostic imaging technologies than its peers (with the exception of mammographs).

For utilization, Denmark reports many fewer doctor consultations, but above-average performance for both MRI and CT examinations. On specific surgical procedures, Denmark has below-average access to five (of eight) procedures and above-average access to three.

Table 3.13: Health Status, OECD Countries, 2017; 2019

Country List	Life Expectancy at Birth (2019)		HALE (2019)		Infant Mortality Rate (2019)		Perinatal Mortality (2019)		Treatable Mortality (2017)	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Australia	83.0	8	70.9	18	3.3	17	7.8	25	48.0	5
Austria	82.0	19	70.9	18	2.9	13	5	14	57.0	16
Belgium	82.1	15	70.6	23	3.7	22	6.9	24	54.0	13
Canada	82.1	15	71.3	13	4.4	26	5.7	20	56.0	14
Czech Republic	79.3	26	68.8	26	2.6	8	3.6	8	95.0	26
Denmark	81.5	23	71.0	15	3.0	14	4.1	9	56.0	14
Finland	82.1	15	71.0	15	2.1	4	3.3	6	57.0	16
France	82.9	10	72.1	5	3.8	25	10.4	27	48.0	5
Germany	81.4	24	70.9	18	3.2	16	5.9	21	64.0	21
Greece	81.7	21	70.9	18	3.7	22	5.1	15	73.0	25
Iceland	83.2	6	72.0	7	1.1	1	2.9	4	44.0	2
Ireland	82.8	12	71.1	14	2.8	11	5.5	19	65.0	22
Israel	82.9	10	72.4	4	3.1	15	5.1	15	59.0	19
Italy	83.6	4	71.9	8	2.4	7	4.1	9	52.0	11
Japan	84.4	1	74.1	1	1.9	2	2.3	1	48.0	5
Latvia	75.5	28	66.2	28	3.4	20	4.1	9	151.0	28
Lithuania	76.4	27	66.7	27	3.3	17	5.4	18	141.0	27
Luxembourg	82.7	13	71.6	10	4.7	27	11.6	28	53.0	12
Netherlands	82.2	14	71.4	11	3.6	21	5.1	15	49.0	8
New Zealand	82.1	15	70.2	24	4.7	27	9.1	26	62.0	20
Norway	83.0	8	71.4	11	2.0	3	3	5	47.0	4
Portugal	81.8	20	71.0	15	2.8	11	3.5	7	66.0	23
Slovenia	81.6	22	70.7	22	2.1	4	2.7	2	57.0	16
South Korea	83.3	5	73.1	2	2.7	10	2.7	2	45.0	3
Spain	83.9	3	72.1	5	2.6	8	4.4	13	51.0	9
Sweden	83.2	6	71.9	8	2.1	4	4.2	12	51.0	9
Switzerland	84.0	2	72.5	3	3.3	17	6.3	23	39.0	1
United Kingdom	81.3	25	70.1	25	3.7	22	6.1	22	69.0	24
<b>OECD Average</b>	<b>82.0</b>		<b>71.0</b>		<b>3.0</b>		<b>5.2</b>		<b>62.8</b>	

Sources: OECD (2021); WHO (2021).

In terms of clinical performance and quality, Denmark's performance is mixed. The country performs above average on three (out of 12) indicators and poorly on two, while its performance on the remaining seven was not statistically different from the average high-income OECD country with universal health care.

Denmark's mediocre-to-mixed performance could be said to be roughly consistent with its relatively average level of spending. Out of 32 indicators discussed, Denmark performs above average on 14, while performing at or below average on the remaining 18.

## Conclusion

Denmark's approach to universal health care encompasses many of the attributes of a national (albeit decentralized) tax-funded system that, over time, has evolved to incorporate (to a modest extent) a blend of features found in health care systems with a permissive private market, such as those in Australia and Sweden.

Coverage for core medical services is universal, compulsory, and defined in broad terms. However, a distinctive feature of Denmark's health care system is the freedom of individuals to choose between two plans within the universal scheme. The 0.3 percent of the population voluntarily enrolled in a "Group 2" plan can access any GP of their choice and, unlike individuals in Group 1, can access a specialist (in private practice) without prior referral. Further, while private insurance plays a secondary role in Denmark's health care system, it can offer coverage for core services that are also covered by the public system, examinations and medical treatments at private hospitals, increased choice of provider, and faster access to elective surgery in private hospitals. Between 30 and 42 percent of the population has secondary insurance coverage of this nature.

Public hospitals are financed using a mix of global and activity-based funding—the latter being increasingly adopted as the norm. Although there are relatively few data on the number of private hospitals in Denmark, an estimated 4.2 percent of beds are in private not-for-profit institutions, while 2.2 percent of beds are in for-profit institutions. Although these shares are far less than in countries such as Australia and Germany, estimates suggest there were about 249 private clinics and hospitals in Denmark in 2010. Further, physicians are allowed to practice in both public and private hospitals as long as they meet a certain minimum level of activity (and do not treat private patients) in public hospitals.

Regardless of which group they are enrolled in, patients can obtain treatment from private for-profit clinics and hospitals using their own funds or secondary private health insurance. Notably, if regions are unable to initiate treatment within a reasonable time (one month from referral), patients have the right to publicly funded treatment in a private hospital of their choice in their region. Patients may also be partially reimbursed for treatment received in another country.

The one area in which Denmark's departs significantly from the vast majority of universal health care systems around the world, is that, like Canada and the United Kingdom, it does not generally expect patients to share directly in the cost of core medical services. That being

said, co-payments are generally required for pharmaceuticals purchased on an out-patient basis, as well as for physiotherapy, psychological treatment, home care, long-term care, and dental care (excluding children).

In summary, Denmark ensures universal coverage for its population regardless of ability to pay, primarily through a national tax-funded system. However, it permits the functioning of a robust private insurance market, does not force health care practitioners to choose between public and private service by restricting dual practice, and has moved increasingly toward funding services on the basis of activity. The associated performance of the system relative to 27 other members of the OECD with universal health care is that of an average spender with mediocre or mixed results.

## Notes

- 1 The ministry is also responsible for legislation covering regional and municipal tasks (Healthcare Denmark and Ministry of Health, 2017)
- 2 The primary care sector is generally considered the first point of care for patients within the health care system. In Denmark, this encompasses services provided by “private (self-employed) practitioners (GPs, specialists, physiotherapists, dentists, chiropractors and pharmacists) and municipal health services, such as nursing homes, home nurses, health visitors and municipal dentists” (Olejaz et al., 2012: xix). Secondary care generally refers to services provided subsequently, such as those provided by specialists or in-hospital.
- 3 An autonomous public body, Danske Regioner is tasked with safeguarding “the interests of the regions nationally as well as internationally” (Danske Regioner, 2021), and is run by a board of “elected regional politicians” from the five regions, which serves a four-year term (Olejaz et al., 2012: 29).
- 4 Revenues from an earmarked or dedicated health care contribution, for example, would be used exclusively for the health care system.
- 5 Financing from the national government accounted for 82 percent of the regions’ income (79 percent through a block grant and 3 percent through activity-based funding), while municipalities financed the remaining 18 percent (7 percent based on the size of the municipality’s population and 11 percent through activity-based payments (Olejaz et al., 2012).
- 6 There was a combined marginal tax ceiling of 52.07 percent in 2022 (OECD, 2020).
- 7 Municipalities can set the income tax rate and land tax, within limitations set by the Ministry of Finance (OECD and United Cities and Local Governments, 2016). The average rate in 2011 was 25 percent of personal income (Olejaz et al., 2012).
- 8 In 2010, the size of the state health care block grant transferred to a region was calculated by several socio-demographic criteria, such as number of elderly living alone, single parentage, lost living years compared with life expectancies in the top-performing region, mental health needs, and geographic isolation of inhabitants (Olejaz et al., 2012: 67). Activity-based funding transferred to the regions from the state depends on whether “the region produces a specified amount of health care services” subject to an upper limit. Municipal activity-based transfers to the regions depend on “the number and kind of health care services provided to citizens in the municipality” (Olejaz et al., 2012: 67).
- 9 The OECD (2019b: 104) includes “consultations with doctors, tests and examinations, and hospital care” in its definition of core services.
- 10 This contrasts with Germany, for example, where the OECD (2019b) also reports that 100 percent of the population is covered for core services, but individuals can opt out of the public system (related tax contributions are still required).
- 11 Of their own choosing within 5 to 15 kilometres of their residence. Individuals in this group can change their GP after notifying the relevant local authority (Olejaz et al.,

- 2012); a fee may apply. In Copenhagen, for example, a Dkr 215 fee was required in 2022 (Copenhagen, n.d.)
- 12 No referral is required for certain specialists, including ophthalmologists, ear, nose, and throat specialists, and dentists, among others.
  - 13 Clinicians can introduce new technologies but may be subject to hospital and political intervention if they are more costly than existing techniques, thereby resulting in budget overruns (Olejaz et al., 2012).
  - 14 If the delay is due to medical reasons, the patient must be provided a detailed plan including, potentially, diagnosis at a different hospital (Healthcare Denmark and Ministry of Health, 2017).
  - 15 The government pays the “the Danish DRG [Diagnosis Related Group] rate for the surgery in question” (Pedersen, 2005: 545).
  - 16 Payments (which cannot exceed production costs) are required for food services at home, but subject to a maximum co-payment (set nationally). Municipalities must offer a choice between at least two providers, one of which can be public.
  - 17 Specialists can set fees for Group 2, as well as private, patients (Tikkanen et al., 2020).
  - 18 Patients might need to meet certain criteria or suffer from a particular disease for some medications to be reimbursed (Healthcare Denmark and Ministry of Health, 2017).
  - 19 Such as help with household tasks as well as personal hygiene.
  - 20 For a full list of benefits see Denmark (n.d.).
  - 21 There is likely significant overlap between those who hold complementary and supplementary insurance. Pedersen (2005: 547) estimates that “almost 40 percent of the population carry a voluntary supplementary health insurance, and about 20 percent have an insurance plan that allows them to ‘jump’ waiting lists for elective surgery at public hospitals.”
  - 22 Until 2011, premiums were tax exempt if the employer covered all employees. This exemption was removed in 2012 for the most part, but retained for “policies covering preventive services and employment-related health needs” (Vrangbæk, 2016).
  - 23 The countries all share the goal of ensuring universal access to health care regardless of the patient’s ability to pay, and generally perform on par with or better than Canada, the primary focus of Esmail and Barua (2018) on most indicators of performance (Moir and Barua, 2021).
  - 24 Denmark imposes a federal health contribution of 8 percent), but this is not a dedicated tax, and health care expenditures are funded through general revenues. Municipalities also fund regions for health care through local proportional taxes (25 percent of income, on average, in 2011), which are set locally but collected centrally (Olejaz et al., 2012).
  - 25 It is worth noting that some tax-funded countries and sub-national regions also use health-focused levies/taxes that, ostensibly, are used to generate additional revenue for health care. The United Kingdom, for example, has a Health and Social Care Levy (United Kingdom, 2022); Australia has a Medicare Levy (Australian Taxation Office, 2021). Whereas Canadian provinces, like British Columbia used health insurance premiums, but these were eliminated on January 1, 2020 (British Columbia Ministry of Health, 2020). It should be noted that, in Canada, these levies contributed to general revenues.
  - 26 It should be noted that the question of who pays for the services—an individual, a public insurer, or a private insurer—is independent of the ownership of the institution where the service is delivered.
  - 27 The lower house of the Dutch parliament passed legislation in 2014 that would allow hospitals to operate on a for-profit basis and to distribute profits to investors (Tweede Kamer der Staten-Generaal, 2015). This bill was still pending approval by the senate as of October 2018 (Meersma, 2018). Further, although Canadian hospitals technically are classified as private not-for-profit institutions, this definition has been challenged, as they “are governed largely by a political process, given wage schedules for staff, are told when investment can be undertaken, denied the ability to borrow privately for investment, told which investments will be funded for operation, and forcibly merged or closed by provincial governments” (Esmail and Walker, 2008). The OECD seems to agree, classifying no hospitals in Canada as private not-for-profit, “as they are controlled by government units” (Esmail and Barua, 2018; OECD, 2021b: 1–2).

- Again, it should be noted that the presence of private hospital ownership does not necessarily imply that access to them is restricted only to those who are wealthy or those with private insurance. For example, private hospitals in Australia have an integrated role to play with the public system, with “governments often contract[ing] with private hospitals for the provision of universally accessible services” (Esmail and Barua, 2018: 8).
- 28 The few private non-profit Catholic hospitals that existed (along with a small number owned by the state) were also eventually taken over by the counties (Olejaz et al., 2012).
  - 29 According to Christiansen and Vrangbæk (2018: 323), “[s]ome hospitals were closed, others were transformed into health centres run by the local municipalities.”
  - 30 This classification “refers to a payment linked to the type and severity of hospital cases. Each patient is classified in a specific ‘diagnostic’ group according to his/her principal diagnosis and a fixed reimbursement is given to the hospital for treating the patient” (OECD, 2016b: 3).
  - 31 Global budgets disconnect funding levels from service provision, resulting in fewer incentives for “higher or superior quality care,” fewer services, quicker discharges, avoiding costly patients, and “shifting patients to outside institutions” (Esmail and Barua, 2018: 12). In exchange for this, government bureaucracies and hospitals enjoy a simpler, more direct, and predictable form of administration and budgeting.
  - 32 This kind of hospital-level budgeting method is most pronounced in Australia and the United Kingdom, which, Esmail and Barua (2018) note, quoting from Kumar and Schoenstein (2013: 19), “could be argued to have DRG based budgeting rather than DRG based reimbursement.” The authors also note that the budget in the Netherlands is “set across the entire hospitals sector,” while countries such as France deploy “a mix of both setting budgets at the hospital level and at the national level, and links this to a broader macroeconomic spending target across the health sector” (Kumar and Schoenstein, 2013: 19). These budgeting constraints are not present in Germany or Switzerland.
  - 33 For mental health care hospitals, global budgets from counties are primarily used (Street et al., 2007).
  - 34 The OECD (2016a) reports that public hospitals are funded primarily using global budgets. Olejaz et al. (2012) and Vrangbæk, (2020), however, have documented the increasing use of activity-based funding.
  - 35 There is now also some movement, however, in the form of pilot projects in the Danish Capital Region, away from activity-based funding toward value-based care (Edwards et al., 2018) as others, been subject of discussions of how it should be managed and rewarded payment. In its most basic description, value-based health care is a funding model in which providers and hospitals are paid based on “patient health outcomes” instead of the volume of services provided (NEJM Catalyst, 2017). Since these are still pilot projects for specific procedures in individual hospitals, it is not yet possible to provide a general description of the value-based approach Denmark follows.
  - 36 Such as pancreatic cancer, severe burns, and peritoneal dialysis (Quentin et al., 2022).
  - 37 To be eligible to provide these services, hospitals must apply to the Danish Health Authority. Once so designated, “each specialized department which undertakes these services receives a pre-payment by the region, which accounts for 25 percent of last years’ total payment for complex patients. Payment for each patient is settled later, e.g., at the end of the year, based on retrospective reimbursement of costs as calculated by the individual hospital” (Quentin et al., 2022: 5).
  - 38 Depending on the insurance plan chosen by residents, patients also may voluntarily opt for additional cost-sharing requirements (usually in exchange for lower premiums).
  - 39 Moir and Barua (2021) also examine several indicators of access to care, including wait times for a specialist appointment and elective surgery. Unfortunately, available data do not allow for meaningful comparisons of Denmark’s health care system in this area of care.
  - 40 It is important to adjust for age profiles when evaluating international comparisons of spending and health care system performance, as older populations require higher levels of health care spending; for more detail, see Esmail and Walker (2008); Moir and Barua (2021).
  - 41 Moir and Barua (2021) also include rates for stem cell transplantation; such data, however, are unavailable for Denmark.



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## **DENMARK'S PRIMARY AND LOWER SECONDARY EDUCATION SYSTEM**

### **Organization, Funding, Performance, and the Motivating Effect of School Choice**

***Paige MacPherson***

#### **Introduction**

Denmark, a Nordic country home to nearly six million people, is known alongside the other Scandinavian nations for its high quality of life, well-educated population, and expansive welfare state funded by relatively high taxes. This might lead one to believe that Denmark's education system involves heavy central planning and control, but instead it is characterized by autonomy and diversity among schools. Although schools are heavily financed by government, local communities and individuals maintain pedagogical and organizational control of much of the country's primary and local secondary schooling. Denmark's independent school sector has played an important and significant role in this schooling, both historically and at present. Danish schools are characterized by diversity, autonomy, and a uniquely long-standing historical commitment to government-funded independent schools and parental choice in education, rather than a specific model of schooling. This chapter provides an overview of Denmark's primary and lower secondary education system, its organization, administration, and relative school performance, with additional focus on Denmark's diverse independent (privately operated) schools.

Denmark provides fully government-funded primary and lower secondary education and "free" (government-funded) post-secondary schooling. Primary and lower secondary independent schools—which account for about 45 percent of the schools in Denmark, according to the Danish Ministry of Education (Denmark, n.d.a)—are supported financially by the government via a school choice system, at about 75 percent of the rate of fully funded government schools. The Danish government acknowledges that government funding for independent schools receives broad support from all political parties because government public schools, too, benefit from the competition and experiences offered by independent schools (Denmark, n.d.a). Yet existing research and analysis of school performance data suggest that, in fact, it is independent schools that might be the most motivated by this competitive effect. Government funding is sent directly to schools rather than to parents, on a per-student basis. Independent schools are required to be non-profit;

many of them are called *Friskole* (free schools) and exercise greater autonomy than do government schools over pedagogy, curricula, hiring teachers, enrolling students, and controlling school finances.

Danish parents can choose the school to which they send their child. Today, about 16 percent of students attend an independent school and that share is growing. As was the explicit aim of Denmark's historical funding and encouragement of independent schools, the country offers a diverse range of independent schools, affording students a wide range of pedagogical and organizational options. Independent schools attract students from all socio-economic backgrounds and academic abilities. The school choice system, paired with independent schools' high level of autonomy, has resulted in more innovation in Danish classrooms than almost anywhere else, according to the Organisation for Economic Co-operation and Development (OECD). Alongside the Netherlands, Denmark topped the OECD's composite innovation index between 2000 and 2011 (OECD, 2017).

The expansion of school choice policies in Denmark in the 1990s and early 2000s coincided chronologically with a 45 percent increase in independent school enrolment and a corresponding decrease in government public school enrolment from 1998 to 2018. Over the same period, secondary graduation rates and student achievement in mathematics and reading improved, particularly in independent schools. And while there is still room for improvement on science assessments, from 2000 to 2018 both government public schools and independent schools in Denmark closed or narrowed the gaps between the respective averages of wealthier OECD countries and neighbouring Nordic countries<sup>1</sup> in math and reading scores under the OECD's Programme for International Student Assessment (PISA). This improvement, following the expansion of the country's school choice policies, was achieved without increasing education spending as a share of gross domestic product (GDP) or as a share of total government spending.

### Long-standing Decentralization and School Choice Reforms

Since the late nineteenth century, Denmark has valued the decentralization of education through the promotion and funding of non-government *Friskole*, introduced to create diversity in education alongside government schools, which were predominantly Christian at the time. This tradition of independent community schooling, heavily involving parents, has been upheld.

In the 1980s and early 1990s, in keeping with neoliberal trends across the Western world at the time, the conservative Danish government emphasized academic standards and educational choice for parents. It proposed school financing for primary and lower secondary schools, introduced broader school choice policies, and encouraged the opening of several independent schools (Wiborg, 2012). Left-wing opposition parties and teachers' unions stridently opposed these policies, and through political compromise were able to weaken many of them. A true voucher system of school financing was never introduced for primary and lower secondary schools, contrary to the intentions of the right-leaning government. But, as noted by Hepburn (1999), ultimately every political party in

Denmark supported educational choice to some extent. In particular, decentralization policies allocated more authority to municipalities and school boards, several of which introduced school choice policies of their own, including school-financing policies more responsive to student enrolment and teaching hours (Larsen and Wiborg, 2017).

Denmark's tradition of community schooling meant that schools had long been closely connected to their local populations, but prior to the early 2000s there was little educational choice for parents outside of independent *Friskole*, which were limited in availability. In the early 2000s, the Danish government moved toward standardizing the public education system by, for example, imposing mandatory curriculum standards and limiting teachers' freedom to tailor their teaching methods, while still allowing for curricular flexibility. In 2003, schools were required to publish their educational profiles and exam results online, with the intention of promoting informed school choice among parents. In 2005, the School Choice Act was passed, receiving, as Larsen and Wiborg (2017) note, broader political support than the previous government's initiatives. The Act, which allowed parents to choose any government school for their children outside their local municipal district, coincided with the soft introduction of national student testing, formally introduced in 2010. In 2007, the Ministry of Education, in evaluating the Act, found only a slight increase in families choosing alternative government schools at that time (Wiborg, 2012)—although the effects of the policy could not reasonably be assessed after just two years. Rather, the new degree of competition might have had larger impact on the independent schools, which then might have been motivated to work harder to attract students.

Neighbouring Sweden increased educational choice in the 1990s, similarly to Denmark, and the two countries provide an interesting contrast. While Danish independent schools are government-funded at about 75 percent of the per student funding for government schools, they must be non-profit but also must charge some level of tuition. Swedish independent schools are funded by the government but are for-profit schools, yet most independent schools in Sweden cannot charge tuition (Sweden, n.d.). Denmark offers independent and government schools more curricular flexibility than does Sweden, and both countries saw an expansion in independent school enrolment following their increases in educational choice.

### Danish Schools Today

Today, Denmark's school system consists of three levels: primary, lower secondary—the government version of which is called *Folkeskole*—and upper secondary, including vocational schools, which prepare students for post-secondary education or work. After those levels are completed, students are free to choose which stream of upper secondary school they attend, whether academic or vocational. School is compulsory from ages 6 to 16, with one additional optional year. Parents can choose their child's school, be it an independent school or a government public school, provided the school has space to admit them. This means parents can choose a government public school outside their local area, space permitting. Indeed, Larsen and Wiborg (2017) found that capacity limits in schools



might be the strongest impediment to school choice for Danish families, and it is possible for politically motivated municipalities to limit space deliberately to curb school choice.

Likewise, the ability to homeschool is considered a fundamental freedom in Denmark, although the number of homeschoolers is low—the Home School Legal Defense Association (2019) estimates the number at about 350 students. Parents are permitted to homeschool their children, but must inform their municipality, which might require testing to ensure the student is meeting national requirements (Eurydice Network, 2019).

### ***School Financing and Choice: Government Schools and Independent Schools***

Government public schools are 100 percent funded by the government in Denmark, and all primary and lower secondary schools are subsidized by the government on a per student basis. When a parent chooses to move their child from one government school to another, the per student funding is taken from the former school and moved to the latter school, along with the child.

Danish municipalities fund government public schools primarily using local taxes, but also grants from the central government, which municipalities distribute to schools. Municipalities decide how to allocate these funds, whether based on enrolment, need, or otherwise. Spending on schools averages about one-quarter of total municipal spending in Denmark (OECD, 2020d).

If parents choose an independent school, money follows the student to the school of choice, as with government schools, through grants delivered directly to the school. To be clear, this school funding is not delivered directly to parents, but rather flows from the government to independent schools.<sup>2</sup> The subsidized portion of independent school tuition is funded by both the municipality and the national government. Independent schools cover the remainder of their costs by charging tuition. The Danish government allocates this per student funding to independent schools using various grants, with the explicit goal of funding schools based on demand (enrolment). A variety of other grants are also available to help schools in need or facing demographic shifts (Denmark, n.d.b). These include operational grants, special grants—to assist learning-disabled children, for example—building grants, and additional block grants (Denmark, n.d.a). Funding comes through Denmark's *Taximeter* system of government financing.

One key financial difference is that, although government public schools receive their funding primarily from the municipal level of government, independent schools receive a larger portion of funding from the central government.

Government funding for Denmark's primary and lower secondary independent schools is offered regardless of ideological, religious, political, or ethnic approach. Independent schools charge parents tuition fees to supplement costs not covered by government funding. In fact, Danish independent schools must charge parents tuition by law—although it might be a small amount, especially in cases of lower-income families—to give parents an active stake in the school.

To receive government funding, independent schools must educate at least 28 students between first and seventh grades, but can work up to that number as a new school, requiring 12 students in the school's first year and 20 in its second year. Independent schools must be able to finance their own operations to a certain degree (a few thousand dollars per student), and must also be self-governing with their own boards, responsible to the Ministry of Education, following certain rules around the use and sale of net assets. As noted, independent schools must be non-profit: they cannot be owned by a private individual, and school funds must be spent only on the school (Denmark, n.d.a).

Government funding for independent schools can cover teachers' salaries as well as operating and building costs. Independent schools are regulated by the government but have autonomy over their curriculum delivery, teaching styles, and which students they admit. The government requires independent schools to provide an education that "measures up" to that offered by government public schools, based on national examinations. The government makes clear, however, that the onus is on parents to determine if the educational standards are up to par, and some schools are allowed not to participate in national exams (Denmark, n.d.a). Danish independent schools have a high level of autonomy relative to those in other OECD countries, but not relative to other Nordic countries. Autonomy, in this case, is measured by principals' reports of how much responsibility the school staff, principals, or governing board have over hiring and firing teachers, establishing teachers' starting salaries and salary increases, formulating the school budget and decisions on budget allocation, student admissions, establishing student disciplinary and assessment protocols, and choosing textbooks, courses, and course content. These reports are based on the PISA principal questionnaires. Although data are limited to the 2009–15 period, Danish independent schools exceed the OECD average and an average of wealthier OECD countries in principals' autonomy over resource allocation in the aforementioned areas, but they fall below the average of the Nordic countries in this measure (OECD, 2019b). Similarly, Danish independent schools exceed the OECD average in teacher participation in decision making every year for which data were available between 2000 and 2018 that specifically measure teachers' involvement in the aforementioned school decisions (OECD, 2019b).

### ***Governance, Curriculum, and Testing***

In addition to funding government schools, municipalities also maintain professional responsibility for such schools and operate boards that communicate directly with these schools annually. Municipal boards consist of between 9 and 31 councillors, elected for fixed, four-year terms through a proportional voting system. The mayor is then elected by the councillors. Each government school also has its own individual school board comprised heavily of parents but also teachers, students, and the school's headmaster. These school boards do not allocate funding, but do have a say over schools' budgetary decisions (Andersen et al., 2016).

Primary and lower secondary schools are regulated by the government and must meet national requirements, but have a high degree of autonomy over their curriculum and

educational approach. Government schools are regulated under the *Folkeskole* Act (within the Education Act), while independent schools are regulated under the Independent Private Schools Act. There are three levels of governance of *Folkeskole*: the national government, municipalities, and schools themselves. Municipalities are responsible for determining local goals and providing funding, and are held responsible for meeting national requirements. Although more restricted than independent schools, government schools determine their pedagogical or philosophical approach, and school management deals with school-level administration and goals. The Ministry of Children and Education provides the framework and objectives for education via regulation and legislation, and monitors for educational quality and compliance with central rules. These rules direct schools to follow overall educational goals—deemed “common objectives”—such as preparing every student for future studies and for their role as citizens, as well as specific objectives, including guiding curricular outcomes, academic expectations, and graduation requirements for each grade level. Following reforms to the *Folkeskole* in 2014, these common objectives focus on outcomes, rather than process, leaving room for curricular flexibility (Denmark, 2022). Municipal officials (in addition to individual schools) may choose unique pedagogical approaches and school subjects outside the central government’s common objectives for schools, and may implement alternative programming, such as the use of themed learning. These reforms have established national goals of significantly stronger academic achievement and student well-being (OECD, 2016).

A national school council advises the education ministry on academic performance and pedagogical development. An independent agency called the Danish Evaluation Institute, established in the 1990s, helps evaluate and assess education in Denmark. Nationwide online adaptive tests, introduced in 2010, make student achievement transparent to parents, schools, and the national government (Denmark, n.d.c). These national tests are administered annually beginning in grade two, intermittently testing reading, math, and other subjects in the later grades, with a final test in grade nine. The tests are administered and scored online, and are adaptive in that the difficulty of the questions matches the student’s proficiency level based on previous answers.

Independent schools are required to be self-governing and to produce and make public their own sets of values. Independent school students are required to take the same exams as government school students, unless they are exempt for a reason related to their values or unique makeup (Fougt et al., 2021).

## **The Effects of School Choice on Innovation, Enrolment, and Student Achievement**

### ***Diversity and Innovation***

In principle, because Danish parents have the right to send their children to the school of their choice, they can find the best educational fit without facing financial hardship. This includes a variety of both government schools and independent schools. Perhaps

the most notable feature of Denmark's independent school landscape is its diversity, affording students a wide range of pedagogical and organizational options. Independent schools attract students from all socio-economic backgrounds and academic abilities, with government funding historically carrying the explicit aim of increasing diversity in the Danish school system. The introduction of *Friskole* in the nineteenth century and government funding for these schools at that time aimed to allow parents to establish their own schools outside the country's heavily Christian government public schools. Today, among other independent schools, Danish students can choose alternative schools called *Efterskole* (continuation schools) for students ages 14 to 18, which require tuition and boarding, or basic international schools that teach in a variety of languages.

Independent schools, which tend to be smaller than public schools, offer a range of programming, including special education, religious, cultural and political focuses, and specific pedagogical approaches such as Waldorf education. Two separate analyses of Danish schools (Rangvid, 2008; Wiborg, 2012) found that Denmark's independent school sector is quite diverse, offering a broader range of options than in most other OECD countries. The Danish government divides independent schools broadly into the following categories: small independent schools in rural areas; large independent schools in urban areas; religious schools, progressive *Friskole*; schools with a specific educational focus, such as Waldorf schools (called Rudolf Steiner schools in Denmark and much of Europe); German minority schools; and immigrant schools (Denmark, n.d.a).

The school choice system, paired with schools' high level of autonomy, has resulted in a higher level of innovation in Danish classrooms than almost anywhere else, according to the OECD. The OECD's attempt to measure innovation within education systems—that is, teachers innovating in classrooms, schools employing varying pedagogical approaches, and changing practices in classrooms and education systems overall—has found that countries with a high degree of autonomy and decentralization, in which parents are free to choose schools emphasizing pedagogical innovation or a more traditional approach, had the highest levels of innovation, with Denmark topping the index (OECD, 2017).

### ***Increasing Independent School Enrolment***

In 2018, Danish schools enrolled a total of 993,248 students: 830,370 of them in government public schools and 162,878 in independent schools. This represents a gradual shift from previous years. The expansion of school choice policies in the 1990s and early 2000s coincides chronologically with an increase in independent school enrolment and a decrease in government public school enrolment. Total enrolment in government public schools and in independent schools in Denmark is illustrated in table 4.1.

Shown differently, figure 4.1 shows that, although the majority of students are educated in government public schools, the share of government public school enrolment as a percentage of total student enrolment is decreasing, while the share of students educated in independent schools is increasing.

**Table 4.1: Enrolment in Government Public and Independent Schools, Denmark, 1998–2018**

YEAR	PUBLIC	INDEPENDENT
1998	697000	88000
1999	704000	90000
2000	720000	90000
2001	758000	79000
2002	756000	94000
2003	752000	107000
2004	801000	108000
2005	800000	111000
2006	797000	114000
2007	806000	115000
2008	797000	123000
2009	799000	125000
2010	810000	125000
2011	880000	140000
2012	881000	144000
2013	872000	142000
2014	866000	145000
2015	863000	149000
2016	849000	156000
2017	840000	159000
2018	830000	163000

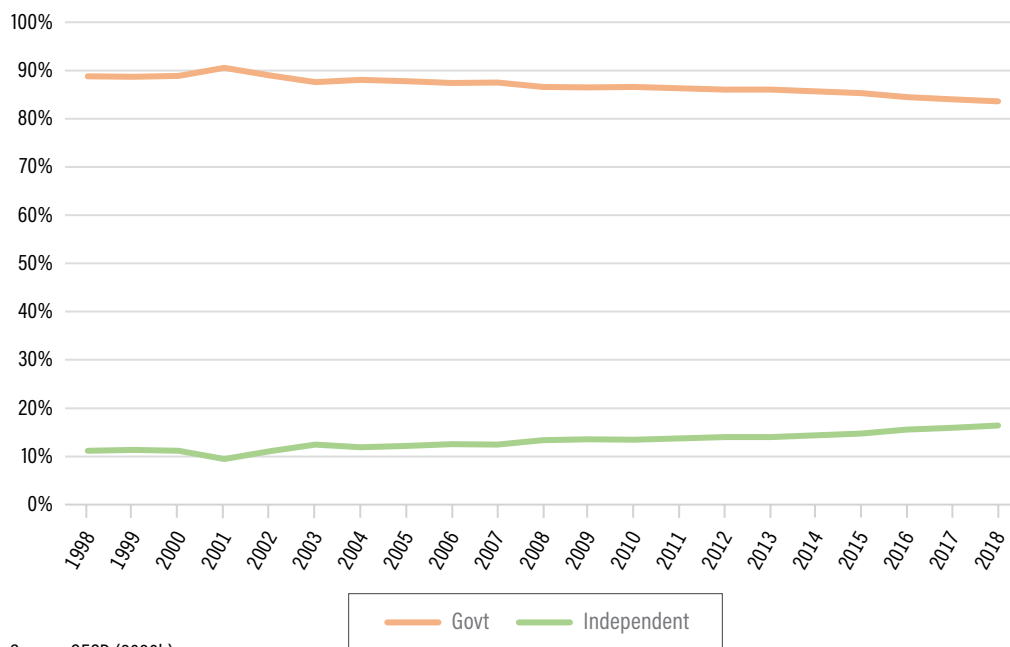
Source: OECD (2020b).

\*Rounded to the nearest 1000

From 1998 to 2018, enrolment in independent schools increased from 11 percent of students in 1998 to 16 percent of students in 2018—a 45 percent increase. Enrolment in government public schools decreased over the same period from 89 percent to 84 percent (OECD, 2020b). Wiborg (2012) notes that, in the 1970s, only 6 percent of students attended independent schools.

Danish schools tend to be smaller in enrolment size than the OECD average: in 2018, government schools were 30 percent smaller, while independent schools were 55 percent smaller, than the respective OECD averages (OECD, 2019c). Within Denmark, a comparison of average school size can be estimated based on 2008/09 school year data cited by the Danish government. From voluntary preschool to tenth grade, roughly 91,000

**Figure 4.1: Share of Students Enrolled in Government Public and Independent Schools, Denmark, 1998–2018**



Source: OECD (2020b).

children (about 14 percent of Danish children) attended 510 independent schools, for an average of 178 students per school, while 690,000 children attended approximately 1,600 government public schools, for an average of 369 students per school (Denmark, n.d.a). Independent schools, then, tend to be about half the size of government public schools.

### ***Strengthened Student Achievement and Graduation Rates***

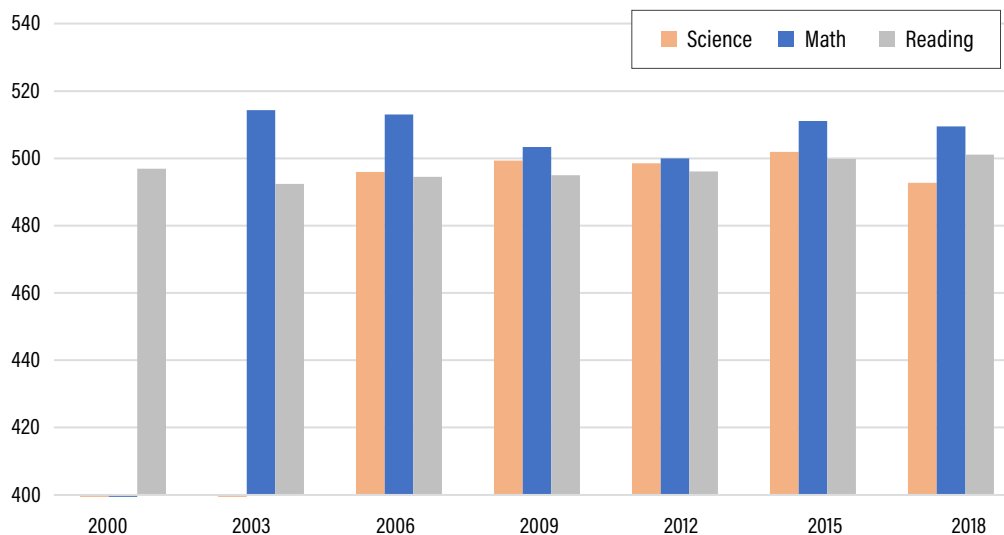
Danish students perform well on international student tests relative to students in most other developed countries and have shown some academic improvement. In 2018, Danish students outperformed even the averages of wealthier OECD countries and Nordic countries in reading and math. Likewise, Denmark's secondary graduation rate improved significantly from 74 percent in 2005 to 82 percent in 2018 (OECD, 2020c). It is worth noting that the diversity among Danish independent schools means that not every independent school emphasizes academic rigour. But following the strengthening of the country's school choice system, alongside other reforms including the introduction of nationwide student testing and a policy focus on curriculum outcomes and literacy, student achievement in math and reading has improved relative to scores in comparable countries and improved significantly in the country's independent schools.

Student scores from the PISA tests give the best available international measure of student achievement. By these measures, Danish students perform relatively well. For international comparison, in 2018 Danish students scored above the OECD average in reading, math,

and science: eighteenth out of 79 countries/economies, in reading, thirteenth in math, and twenty-fifth in science (OECD, 2019a).

From 2000 to 2018, Danish schools overall (including both government and independent schools) experienced little change, with steady, modest improvement in PISA reading scores, modest declines in science scores, and math scores declining then recovering (figure 4.2).

**Figure 4.2: PISA Math, Science, and Reading Scores, Denmark, All Students, 2000-2018**



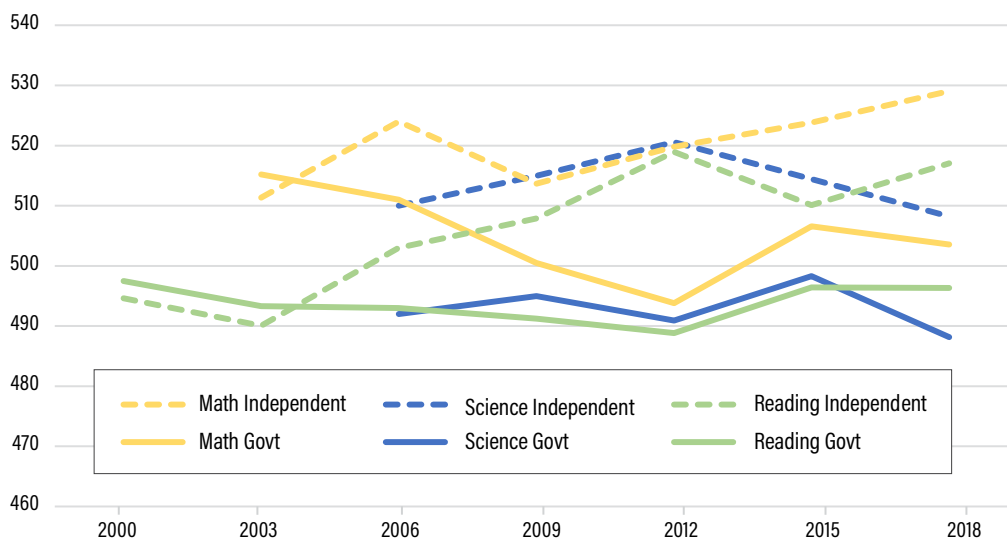
Source: OECD (2019b).

A closer look shows improvement among independent schools. In 2003, independent schools scored below government public schools in math and in 2000 below government public schools in reading. By 2018, however, independent schools surpassed the performance of government public schools significantly, by 25 points in math and 21 points in reading. In both types of schools, PISA science scores declined over the period (figure 4.3).

In addition to comparing Denmark to OECD averages in student academic performance, it might be useful to compare Denmark to similarly developed countries and those with regional similarities (figure 4.4). So, for example, prior to 2018, Denmark's PISA reading scores consistently exceeded the OECD average but closely trailed those of the Nordic countries and the wealthier OECD countries. In 2018, for the first time, Denmark's scores surpassed the averages of both groups of countries.

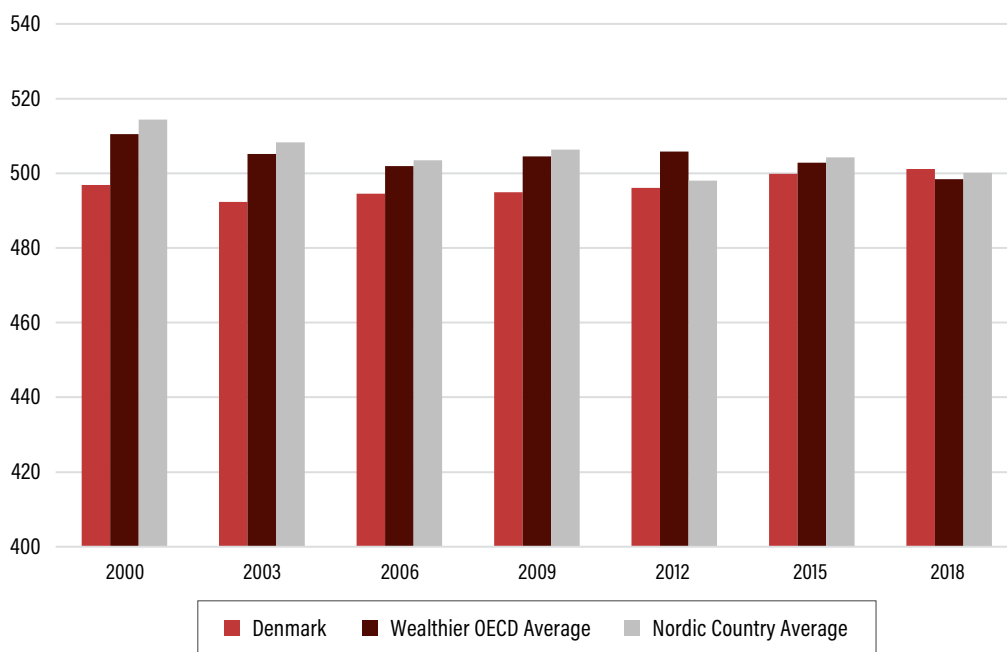
Beginning in 2014, Denmark strongly prioritized improvement in student reading performance, following its disappointing results in the International Association for the Evaluation of Educational Achievement's Reading Literacy Study. Government funding was dedicated at the national and local levels to improving student literacy and

**Figure 4.3: PISA Math, Science, and Reading Scores, Denmark, Government Public and Independent Schools, 2000–2018**



Source: OECD (2019b).

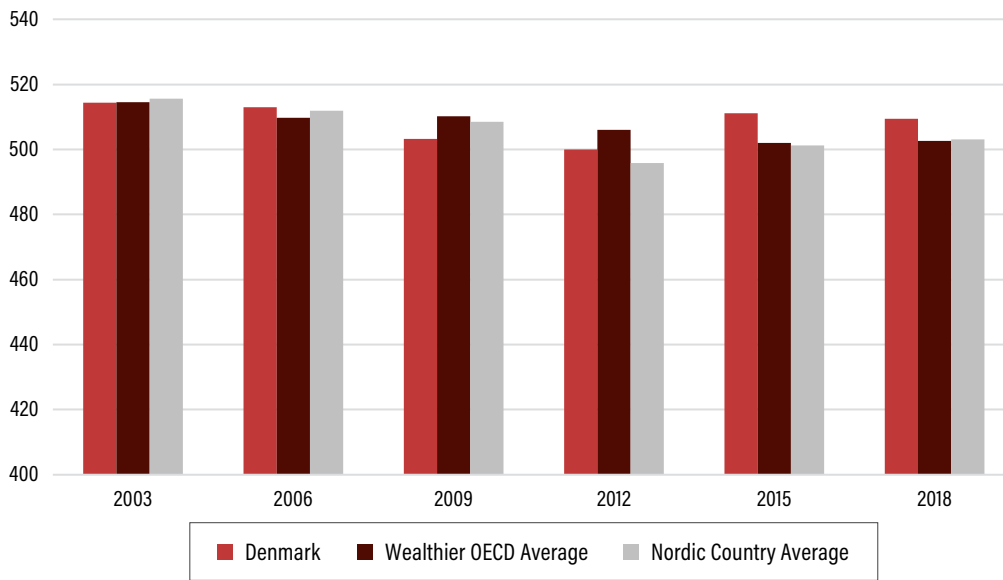
**Figure 4.4: PISA Reading Scores, Denmark and Comparable Countries, 2000–2018**



Source: OECD (2019b).

reading comprehension, and the Danish government introduced mandatory student testing and increased school-level testing in reading. Additionally, a greater emphasis on subject-specific literacy was added to the curricula in compulsory schools (Foug et al., 2021: 3).



**Figure 4.5: PISA Math Scores, Denmark vs Comparable Countries, 2003–2018**

Source: OECD (2019b).

In mathematics, Denmark's average score exceeded those of the OECD wealthier countries and the Nordic countries in 2006 and again in 2015 and 2018, indicating both relative improvement and strong performance by comparison (figure 4.5).

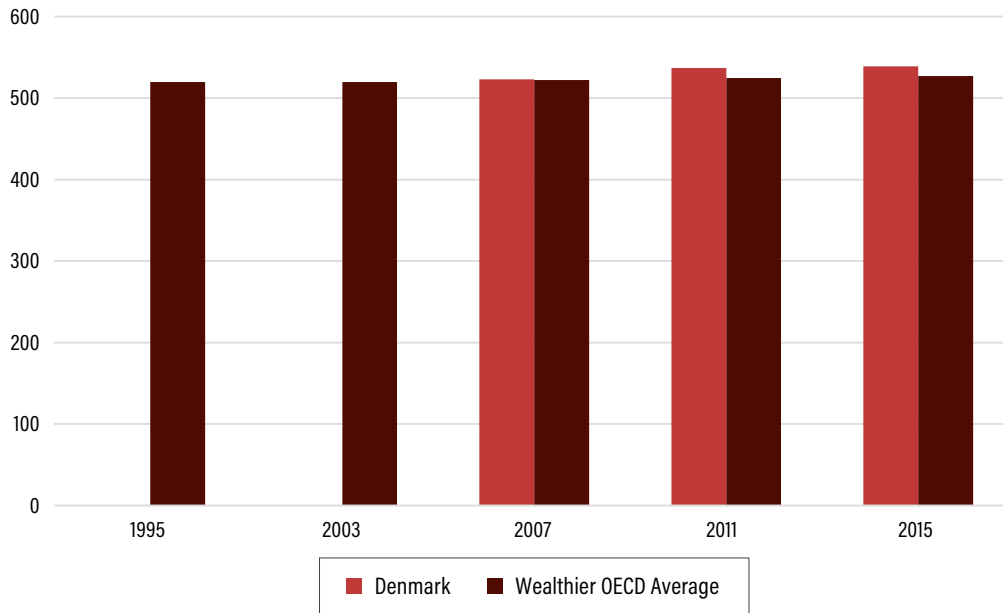
Another international test, the Trends in International Mathematics and Science Study (TIMSS), provides further insight into students' aptitude in math and science. Denmark's grade 4 student scores on the TIMSS improved steadily from 2007 to 2015, exceeding the OECD wealthier countries average (figure 4.6).

Denmark's PISA science scores were not as comparatively strong as the country's scores in math and reading. From 2006 to 2018, Danish students scored below the averages for the wealthier OECD countries and the Nordic countries; 2015 was an exception when the Nordic countries' average dipped modestly below Denmark's (figure 4.7). Denmark's PISA science score was highest in 2015, but declined significantly in 2018.

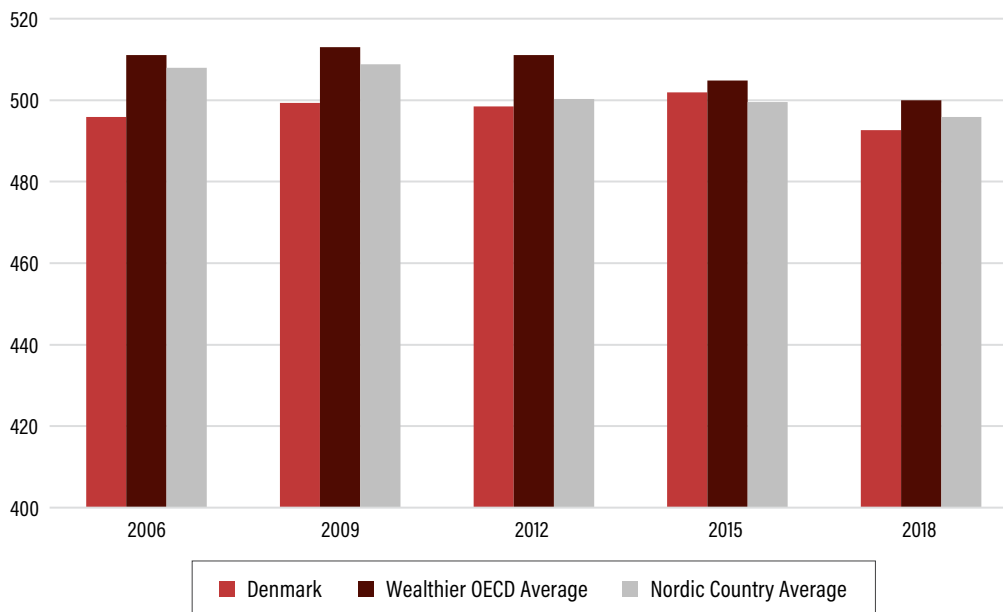
It is worth noting that the Nordic countries' average in PISA science scores was driven up by Finland's high scores over this period; Denmark's science scores were not significantly different from those of Sweden and Norway.

### Government Spending on Education in Denmark

Denmark has a relatively high level of government spending on schools, although below those of its Nordic neighbours. Yet despite the improvement in student achievement and graduation rates, government spending on education as a share of both GDP and total government spending declined from 2012 to 2019 (table 4.2). Even so, in 2019, government

**Figure 4.6: TIMSS Math and Science Scores, Denmark and Wealthier OECD Countries, 1995–2015**

Source: TIMSS (2015).

**Figure 4.7: PISA Science Scores, Denmark and Comparable Countries, 2006–2018**

Source: OECD (2019b).

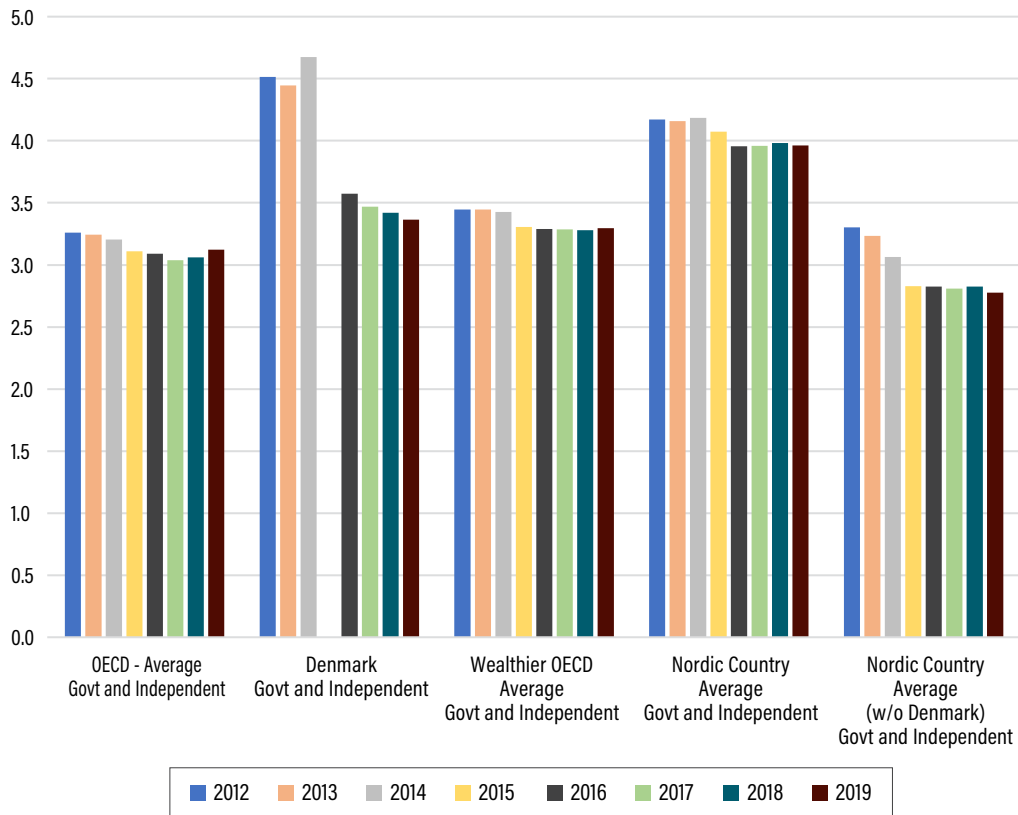
expenditure on primary and lower secondary schools as a share of GDP (3.4 percent) exceeded both the OECD average (3.1 percent) and the average of the wealthier OECD countries (3.3 percent), but fell well below the Nordic countries' average (4.0 percent) (OECD, 2020a, table C2.2).

**Table 4.2: Total Spending on Educational Institutions as a Percentage of GDP, Government Public and Independent**

COUNTRIES	2012	2013	2014	2015	2016	2017	2018	2019
Denmark	4.5	4.5	4.4	4.7	-	3.5	3.4	3.4
OECD Average	3.3	3.2	3.2	3.1	3.1	3	3.1	3.1
OECD Wealthier Countries Average	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.3
OECD Nordic Countries Average	4.2	4.2	4.2	4.1	4	4	4	4

Source: OECD (2020a, table C2.2).

**Figure 4.8: Total Government Spending on Educational Institutions as a Percentage of GDP, Government Public and Independent**



Source: OECD (2020a, table C2.2).

As figure 4.8 shows, Denmark's total government spending on government and independent primary and lower secondary schools as a percentage of GDP declined overall from 2012 to 2019, with a temporary increase in 2014. From 2012 to 2015, Denmark's spending exceeded the respective averages of the OECD, the wealthier OECD countries,

and the Nordic countries, but declined in later years to fall below those of the comparison groups between 2017 and 2019 (OECD, 2020a, table C2.2).

As a share of total government expenditure in 2017, Denmark's spending on primary education (3.8 percent) exceeded the OECD average of 3.4 percent. On lower secondary education, Denmark spent 2.0 percent of total government spending—close to the OECD average of 2.1 percent (OECD, 2020a, table C4.1).

Denmark's level of funding for independent schools puts the country in the top half of OECD countries in this respect, but lags compared with its Nordic neighbours. The OECD (2017) found that, in 10 of 29 OECD countries, independent schools received more than 80 percent of their funding from government, and in 18 countries (including Denmark) governments provided more than half of such funding. The countries with the highest level of government funding were neighbouring Sweden (99 percent), Finland (97 percent), and the Netherlands (96 percent). Thus, although school choice rights are secure in Denmark, funding is not generous, regionally speaking.

### **Independent School Improvement with Increased Choice**

Danish schools perform well overall and have improved in recent years, but that improvement is most clear among independent schools in math and reading. Christoffersen and Larsen (2011), writing for the liberal, free-market-oriented Center for Politiske Studier, analyzed costs, socio-economic profiles, and student performance at 1,214 primary and lower secondary schools in Denmark—192 independent schools (35 percent of the total) and 1,022 government public schools (67 percent of the total). While they found that there was not a significant difference in socio-economic status of independent school and government school students, independent schools produced stronger student performance at a lower cost—on average 12 percent less expensive per student—based on school expenditure on compensation, the largest school expense.

Given the diversity of independent school offerings, noted by both Wiborg (2012) and Rangvid (2008), not all independent schools are chosen by families for their academic strength. As a result, not all show stronger academic performance than do the government public schools or independent schools in other countries, although, according to Rangvid (2008), the academic-focused grammar schools and Catholic schools in Denmark tend to have stronger student achievement. Of course, although many independent schools do not specifically emphasize academic rigour, this does not preclude their producing strong academic performance. Rangvid notes, however, that some independent schools have higher levels of special needs students, for example. So why are Danish independent schools improving under the country's school choice system?

One possibility is that parental choice is motivating competition among schools. As noted earlier, the Danish government supports parental choice in education in part because the competition between schools that it generates has a positive, motivating impact on government schools. Yet independent schools might be even more motivated

to improve in order to attract students. As noted, the Center for Politiske Studier has shown that independent schools offer better-quality education at a lower price than do government public schools. Christoffersen (2011) posits this is not due to profit motives—independent schools in Denmark do not operate in a free market system—but rather because of competition, since independent schools receive, on average, only 75 percent of their funding from government, and do not automatically receive additional funding for in-need students, as public schools do. Further, Christoffersen and Larsen (2011) note that independent schools have greater motivation to attract and retain students because government public schools are legally obligated to offer schooling to all children within their respective municipalities, and most children attend government schools. As a result, government schools do not realistically face the threat of closing, while independent schools do. Independent schools also have a higher level of autonomy than do government public schools, and so might be more flexible and better able to meet the unique needs of their respective student populations, making it easier for these schools to improve their students' achievement.

Independent schools also might do better than government public schools in improving the performance of lower-income students over time. Christoffersen and Larsen (2011) found that the proportion of low-income students is not significantly higher in government public schools than in independent schools. A 2017 OECD report found that Danish independent schools “are highly diverse and attract students from all socioeconomic backgrounds,” but on average that independent school students were more advantaged than government public school students (OECD, 2017). Some Canadian research might help explain this: a 2017 analysis found that families of independent school students in British Columbia had after-tax incomes 14.7 percent higher than families of children in government public schools, but when the “elite” independent schools—representing only 7.7 percent of total independent schools—were removed, the income difference between these families was reduced to only 1.9 percent (Clemens et al., 2017). Similarly, in the neighbouring province of Alberta, independent school families were found to have 33.7 percent higher incomes than families with children in government public schools, but when elite independent schools were removed, the average income of independent school families actually fell to 1.8 percent lower than those families with children in government public schools (MacLeod et al., 2017). In other words, there does not seem to be a significant difference in the socio-economic profiles of independent school students versus government school students in Denmark, but the gap that does exist might be explained by elite schools pulling up the average, while not representing the true socio-economic “norm” of independent school students. Wiborg (2012) notes that Denmark's independent schools are “community schools,” where “fees are low and in reach of most parents.” More recent Center for Politiske Studier analysis substantiated its own earlier findings, with Christoffersen (2019b) finding that when accounting for students' socio-economic background, in general independent schools do the best job of lifting students' achievement.

## Conclusion

Denmark's school choice system offers government funding to independent schools and parents the right to choose the education they want for their children. As part of the country's expansive welfare state, Denmark offers both government public schools and (especially) non-profit independent schools a high level of autonomy. The result is a diverse range of independent schools available for Danish children, offering a variety of pedagogical and religious approaches and enrolling a cross-section of students from all socio-economic backgrounds and academic abilities, while facilitating a high degree of innovation in classrooms. This educational diversity is rooted in Denmark's historical commitment to heterogeneity in schooling.

The expansion of Denmark's school choice policies in the 1990s and early 2000s coincided with a 45 percent increase in independent school enrolment between 1998 and 2018, decreasing enrolment in government public schools, increasing secondary graduation rates, and increasing student achievement in math and reading, particularly in independent schools, which have lifted student achievement since the country's school choice policies were expanded. Student achievement has improved alongside graduation rates without increasing education spending as a share of either GDP or total government spending.

Denmark's experience with open enrolment—allowing parents to choose any government public school or independent school for their child—and funding both government schools and independent schools based on enrolment provides an example for other countries interested in implementing similar school choice policies. Danish families and communities have the autonomy to establish and support schools suited to their unique needs, with tax funding following their children to the schools of their choice. There is evidence that the competition motivated by this system could account for the improvement in students' achievement and success.

## Notes

- 1 The wealthier OECD countries are defined as: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Italy, Japan, Netherlands, New Zealand, Norway, South Korea, Spain, Switzerland, Sweden, United Kingdom, and the United States. The Nordic countries are Denmark, Finland, Iceland, Norway, and Sweden.
- 2 This differs from Denmark's upper secondary schools—for students older than 16, typically beginning at the end of compulsory education—which are funded using a true voucher system through which funds are allocated directly to students who in turn decide where to spend them.

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## GENEROUS AND EXPENSIVE An Overview of Denmark's Income Support System

**Jake Fuss**

### Introduction

The income support system in Denmark offers some of the most generous benefits among advanced countries around the world. Danish social security is based on a philosophy of strong supports for families, protecting the most vulnerable in society, and encouraging a duty to participate in the workforce. Denmark has one of the most expensive governments to operate and one of the highest tax burdens in the OECD (Bunn and Asen, 2021; OECD, 2022n). Transfers to families with children, highly subsidized day care, maternity benefits, social assistance payments, and disability benefits are all important features of the Danish system. However, there are also unique roles for the private sector to play. Private occupational pensions play a significant role in the old age pension system in Denmark, contributing to high replacement rates<sup>1</sup> for retirement income and comparably low poverty rates among seniors (OECD, 2019; OECD, 2022j). This essay will examine five components of the Danish income support system and provide comparisons to OECD countries on spending. While the Danish system does have apparent weaknesses, Denmark's income support system also offers several advantages in the form of extensive and substantial benefits to citizens to support them during sickness, retirement, childhood, and unemployment.

### Old age pensions

The Danish old-age pension system consists of both public and private components within a three-pillar framework. Public pension benefits make up the first pillar, which includes a basic pension, labour market supplementary pension, and additional supplements. The second pillar involves privately organized occupational pension schemes and the third pillar is defined by individual, voluntary pension schemes.

#### ***Pillar I***

The Danish old-age public pension system (*Folkepension*) is a universal means-tested basic pension financed by general tax revenues and consists of an annual basic amount and a pension supplement. Most Danes are entitled to the basic amount, but the dollar value may be

reduced if their annual work income exceeds US\$52,283 (European Commission, 2022a).<sup>2</sup> Benefits are reduced by 30 percent if the pensioner's income exceeds the income threshold (OECD, 2021). If your income exceeds US\$90,912, then you will not receive any public benefits from the state through the Folkepension system (European Commission, 2022a).

Danish individuals must reach the specified retirement age (depending on your birthdate) to be entitled to a public pension (European Commission, 2022a). Full public pensions also generally require 40 years of residence (OECD, 2021). Basic pension amounts (*grundbeløb*) are equivalent to roughly 18 percent of average income, which is US\$989 per month regardless of marriage status (European Commission, 2022a). These pensions are entirely financed through general tax revenue as a pay-as-you-go system (Mączyńska et al., 2020).

Basic pension recipients may also be eligible for supplementary pension benefits (*ældrecheck*) if they are deemed to be low-income. Individuals can only receive supplements if they have an annual income below US\$56,835, while married partners or cohabiters receive it with income below US\$69,443 (European Commission, 2022a). Monthly pension supplements are equivalent to US\$1,113 for single individuals and US\$562 for each member in a couple (European Commission, 2022a). If personal income exceeds US\$13,609 for a single pensioner, their supplement is phased out at a rate of 31 percent. Supplements are reduced by 16 percent for cohabiting or married pensioners when their income exceeds US\$27,264 (European Commission, 2022a).

The final component of Pillar I of the pension system is the labour market supplementary pension scheme (*arbejdsmarkedets tillægspension*, or ATP). These pensions are based on compulsory lump-sum contributions and the benefit amount is determined by the level and duration of contributions and length of career (European Commission, 2022a). You must contribute to the ATP if you are an employee in the public or private sector and work a minimum of 9 hours per week (European Commission, 2022a).

Specifically, workers accrue ATP benefits on a what-you-pay-is-what-you-get basis. ATP offers pensions to almost all workers in Denmark and is voluntary for those who are self-employed. In 2017, full-time employee contributions equaled a maximum of US\$496 per year (OECD, 2019). However, only one-third of this contribution is paid by the employee; the employer bears the costs of the remaining two-thirds (OECD, 2021).<sup>3</sup> The fixed contribution amount is reduced if the contributor works less than 116 hours per month (OECD, 2021). Benefit amounts depend on the number of years the contributor has been saving, but the maximum annual amount was US\$3,739 in 2020 (Mączyńska et al., 2020). Approximately 88 percent of the workforce contributes to the ATP scheme and total benefit payments are US\$2.6 billion annually (Mączyńska et al., 2020).<sup>4</sup>

The biggest source of income for Danish pensioners currently comes from Pillar I. Mączyńska et al. (2020) estimate that roughly 40 percent of pensioners have little or no income beyond Pillar I. Total payouts from the Folkepension amount to US\$18.3 billion annually (Mączyńska et al., 2020). Pillar I is also very important for the poorest Danish pensioners as 90 percent of retirement income for low-income Danes comes through the Folkepension (Mączyńska et al., 2020).

## **Pillar II**

Occupational pension schemes are the main component of Pillar II. These are non-statutory, privately organized pensions in the labour market. Prior to reforms made in the 1990s, occupational pensions were typically only offered to public sector or white-collar workers (Mączyńska et al., 2020). However, these plans have since greatly expanded in popularity as they aim to increase income replacement rates and household savings while reducing the strain on government finances from publicly provided pensions (Mączyńska et al., 2020).

Pillar II pension schemes are unique because they are privately provided and fully funded, defined contribution plans. Danish pensioners have become less reliant on public pensions since the 1990s and participation in occupational pension schemes has now surpassed 80 percent of the workforce (Andersen et al., 2022; Mączyńska et al., 2020; OECD, 2019). Contribution rates have increased since the 1990s, but vary based on the type of job and organization of employment. For instance, contribution rates are commonly around 12 percent of salaries for blue-collar workers and between 15 to 18 percent for white-collar workers (Mączyńska et al., 2020; OECD, 2019). Similar to the ATP pensions, employers pay two-thirds of the contribution while employees pay the remaining third (Mączyńska et al., 2020).<sup>5</sup>

Occupational pension schemes are accrued on a what-you-pay-is-what-you-get basis, so retirement income from Pillar II is highly dependent on your income level while working (OECD, 2021). In 2016, benefits from occupational and private schemes amounted to 3.4 percent of GDP in Denmark (Denmark, Ministry of Finance, 2018). Private pension schemes paid out approximately US\$10.3 billion to Danes in 2017 and nearly 2.4 million people made contributions to one or more occupational schemes in 2018 (Mączyńska et al., 2020). These schemes are often established by life insurance companies, pension funds, or, in rare instances, banks (Mączyńska et al., 2020).

While Pillar I is currently of greater importance to the retirement income for many pensioners compared to Pillar II schemes, this is expected to change quickly in the coming decades. Mączyńska et al. (2020) estimate that private pensions will provide more than half of all retirement income for 40 percent of pensioners by 2040 and even the lowest income Danes will receive about 20 percent of their retirement income from these plans by the same year. The authors further note that occupational pension schemes will “contribute to a high replacement ratio and, at the same time, improve public finances through higher tax revenue and lower public pension expenses.”

Notably, occupational pension schemes have been found to increase household savings. For every additional contribution of DKK 1, household savings are estimated to have increased by DKK 0.8 (Forsikring and Pension, 2012). The household savings rate has increased from 5 percent in the 1980s to 18 percent in 2019 and this has largely been credited to the expansion of fully funded Pillar II schemes (Andersen et al., 2022). The result has been a pronounced drop in public expenditures on pensions relative to the size of the economy as private Danish retirement benefits rise and individuals receive less retirement money from governments due to means-testing (Andersen et al., 2022).<sup>6</sup>

As examined in a later section, Denmark ranks in the middle of the pack among OECD countries on public pension spending, but among the highest on private pension spending.

### **Pillar III**

Pension schemes in Pillar III are also privately provided and funded, but they are entirely voluntary. Private individuals in Denmark may establish pension savings plans with life insurance companies or banks and develop their own savings strategies by setting their own contribution rates through defined contribution plans (Denmark, Ministry of Finance, 2018). Participation in Pillar III is low with only 25 percent of Danish individuals enrolling in such pension plans (Mączyńska et al., 2020). The number of Danes contributing to individual schemes decreased from roughly 1 million people in 2000 to 674,315 in 2017 (Mączyńska et al., 2020). Limited interest in individual savings plans can largely be attributed to the expansion of Pillar II pension schemes and changes in tax regulations (Mączyńska et al., 2020). Approximately 60 percent of individual contributions are held in insurance companies or pension funds, while banks hold around 40 percent of these savings assets (Mączyńska et al., 2020).

### **Unemployment benefits**

Denmark has a fairly unique unemployment insurance system that has evolved over time, especially over the last four decades. Danish unemployment reached a historic high of 12.3 percent in 1993 and costs for public benefits were straining government finances (Haahr et al., 1996). Consequently, the country made a number of reforms in the 1990s to emphasize active labour market policies (ALMP) to shift the focus from providing income support to equipping people with the tools they need to find new job opportunities. Upgrading the skills of workers through training, education, job rotation, job search assistance, and vocational guidance became the primary focus of government (Hendeliowitz, 2008). Some analysts have referred to this as the switch from “welfare” to “workfare.” Private unemployment insurance funds also became a larger point of emphasis. These reforms reduced job protection for Danish workers, but youth unemployment dropped and the average period of unemployment declined while the adaptability and flexibility of the labour force increased (Hendeliowitz, 2008).

Starting in 1993, the government of Poul Nyrup Rasmussen undertook efforts to lower the effective replacement ratios<sup>7</sup> in the unemployment benefit system and shorten the benefit period (Torfing, 2016). These policy changes were made to combat significant increases in the structural level of unemployment in Denmark. However, in recent years the roll-out of active labour market policies has also become expensive for the government (RFRU, 2014). While these policies have increased the incentives for workers to actively search for employment, they also impose a significant fiscal burden on the state.

Today, Denmark has a high degree of labour mobility. Workers typically stay in their jobs for less time than in other OECD countries and frequently rely on ALMP programs for re-skilling and training. According to Hendeliowitz (2008), roughly 25 to 35 percent

of the Danish workforce switches jobs annually and Denmark has one of the lowest average job durations among peer countries. Moreover, the country has one of the highest employment rates in the OECD.<sup>8</sup> Denmark had the twelfth highest employment rate in 2019 at 75.0 percent of the workforce (OECD, 2022a). In contrast, Canada and the United States ranked 14<sup>th</sup> (74.2 percent) and 20<sup>th</sup> (71.4 percent) respectively (OECD, 2022a).

Denmark provides unemployment benefits (*Arbejdsløshedsdagpenge*) to jobless workers who have joined a voluntary unemployment insurance fund (*Arbejdsløshedskasse*) (European Commission, 2020b). Membership in the unemployment insurance scheme is optional, but the system can cover workers in the private sector, the public sector, or self-employed individuals. Unemployment benefits are invested and administered by more than two dozen private unemployment insurance funds called “A-kasse” (*Arbejdsløshedskasse*) rather than by the government. However, the Danish government must approve the funds and it disburses the payments to recipients while financing most of the unemployment benefits.

Voluntary unemployment insurance is financed through three sources: membership and administration fees, taxes, and employer contributions. Workers belonging to an unemployment insurance fund pay a monthly membership fee to the A-kasse funds (Dagpengekommissionen, 2015). Employers also pay 2 percent of the financing for unemployment insurance through a payroll tax (Dagpengekommissionen, 2015). However, unemployment benefits are primarily funded through tax revenue (Dagpengekommissionen, 2015). Some estimates suggest that 90 percent or more of the revenue for private unemployment insurance funds comes from government (Hendeliowitz, 2008).

To receive unemployment benefits, recipients must have contributed to an A-kasse for at least one year prior to their loss of employment and they must adhere to eligibility requirements that include registering for employment at the public employment service, actively seeking work, and being available at one day’s notice (A-Kasser, 2022). Claimants must also either be employed full-time for at least 1,942 hours or employed part-time for 1,258 hours within the past three years to be eligible (European Commission, 2022b). Applicants are entitled to receive benefits for up to two years within a three-year period (OECD, 2020).

Benefit amounts are paid based on the recipient’s previous salary, age, recent educational training, and full-time or part-time status. Amounts are determined primarily on the previous salary of the recipient as payments are generally calculated based on the 12 highest salary payments received over the last 24-month period (Stephan, 2017). Unemployment benefits are capped at 90 percent of the worker’s previous paid salary (Stephan, 2017). The OECD notes that, on average, unemployment benefits replace around 80 percent of previous income for Danish workers, which is the fourth highest amount among the countries in their database (OECD, 2022b).

Maximum unemployment benefits amounted to US\$35,179 annually in 2021 for those who were full-time insured workers and US\$23,452 for part-time insured workers

(A-Kasser, 2022). Recent graduates without employment records are also eligible to receive smaller unemployment benefits. The age of the individual and whether or not they have children also play a role. Those under the age of 25 can receive a maximum of US\$17,589 if they are full-time insured, and full-time insured graduates over age 25 can receive US\$28,847 if they have children or US\$25,152 if they don't (A-Kasser, 2022). Self-employed workers are eligible to receive benefits if they meet similar conditions and have business income of at least US\$37,020 during the past three years (A-Kasser, 2022).

Unemployed workers who choose to work part time while searching for full-time work can further top up their income by receiving a supplementary benefit for a maximum of 30 weeks (Nordic Co-operation, 2022a). Eligibility depends upon the recipient being available and searching for full-time employment. Workers are considered to be working part time if they work fewer than 145 hours per month (OECD, 2020).

Estimates suggest that roughly 75 to 80 percent of the Danish workforce belongs to an unemployment insurance fund (Meilland, 2008; Stephan, 2017). Stephan (2017) notes that the focus on getting unemployed people back to work quickly has helped achieve “a better match between supply and demand for labour” than in previous decades. The proportion of Danish workers that are unemployed long-term is typically far lower than in the European Union. In 2016, 22.3 percent of unemployed workers in Denmark were out of work for over a year, while the average was 46.4 percent in the EU (Stephan, 2017). The OECD estimates that the long-term unemployment rate was 20.3 percent for Denmark in 2021, which is lower than the OECD average of 28.4 percent (OECD, 2022c).<sup>9</sup> Canada's long-term unemployment rate was lower than either, at 16.4 percent that same year, the fifth lowest among OECD countries (OECD, 2022c).

### **Social assistance**

Social assistance (*Kontanthjælp*) is available to Danes who are unable to support themselves or their families due to a change in social conditions (unemployment, illness, etc.). Several conditions must be met to access these benefits. Claimants cannot receive social assistance if they are receiving unemployment benefits, refusing to apply for jobs, own a specified amount of assets that they could sell, or have lived in Denmark for less than seven of the previous eight years (European Commission, 2022c).

The amount of benefits varies according to an applicant's age, educational qualifications, children, and living situation. Single, well-educated individuals are eligible to receive US\$552 per month if they are under the age of 30 provided they live at home (European Commission, 2022c). The amount increases to US\$1,130 per month if they have children (OECD, 2020). For recipients over age 30, social assistance is either US\$1,753 per month if they have no children or US\$2,330 per month if they do have children (OECD, 2020).

Danes without educational training are eligible for varying benefits depending on their family situation. For instance, a single individual under the age of 30 without vocational training can receive US\$1,921 per month if they have children, but only US\$961 per

month if they don't (OECD, 2020). Claimants can receive additional income support (*særlig støtte*) from municipalities for supplementary expenses including housing costs, medicines, dental care, relocation costs, and several others (SSA, 2018; OECD, 2020).

For couples, social assistance depends on the income and savings of both partners. Assets<sup>10</sup> below US\$3,034 for married couples are not considered in the calculation (Borger, 2022b). Couples with children may get up to US\$2,330 a month for each partner (OECD, 2020). Couples without children can receive a maximum benefit of US\$1,753 per month each (OECD, 2020). Spouses or cohabiters receive less money if they are under the age of 30 or do not have vocational education.

Social assistance benefits are reduced for people who have the capacity to work but have not worked at least 225 hours in the previous 12 months (OECD, 2020). Under these circumstances, benefits are reduced by US\$160 per month for individuals aged 30 and over and the benefit can be taken away from at least one partner in a couple (OECD, 2020). Recipients can apply for exemptions if their work capacity is reduced and they cannot physically meet the work hour requirement (European Commission, 2022c).

### Family benefits and maternity

Denmark has an extensive host of benefits available to support parents and their children and has the most expensive system in the OECD (see later sections). The child and youth allowance (*Børnechecken*) is one of the primary family benefit programs. This tax-free benefit is automatically paid to families that live in Denmark and have children under the age of 18. It is financed out of general government revenue, but it is means-tested according to the income of the recipient (OECD, 2020). Benefits are reduced by 2 percent of the amount of the recipient's income that exceeds the US\$124,154 threshold (Statistics Denmark, 2022a).

Payments for the child and youth allowance depend on the age of the children. In 2020, families were paid US\$756 quarterly for each child between the ages of 0 and 2, US\$555 per child aged 3 to 6, and US\$437 per child aged 7 to 17 (European Commission, 2022d). Mothers are typically the beneficiaries, but fathers may receive payments if they have full custody and live apart from the mother.

Child allowances (*Børnetilskud*) are also offered to some Danish families. These benefits are usually paid out to families in specific circumstances—single parents, orphans, cases where a child's paternity has not been established, mothers with multiple births, parents who are also receiving an old-age or disability pension, etc. Child allowances are non-contributory and are paid regardless of family income (OECD, 2020). In 2019, roughly 1.2 million children received child allowances (UNICEF, 2020).

Ordinary child allowances (*ordinært børnetilskud*) are offered to single parents who are the sole provider, live in Denmark, and are Danish citizens (OECD, 2020). Single parents can receive US\$223 per child under the age of 18 each quarter (Borger, 2022c). An extra child allowance (*ekstra børnetilskud*) of US\$226 may also be paid each quarter



no matter how many children a family has (Borger, 2022c). To be eligible for the extra child allowance as a single parent, the recipient must be entitled to the ordinary child allowance, have custody, and have the child(ren) living with them. In the fourth quarter of 2021, the Danish government paid ordinary child allowances to 127,831 recipients (Statistics Denmark, 2022a).

Day care is another area where the government financially supports Danish families. Local municipalities are required to ensure that all children between 26 weeks old and school age have the option to attend subsidized day care (European Commission, 2022d). This support comes in the form of either a subsidy for formal centre-based care (*Tilskud til egenbetaling*) or a subsidy for taking care of your own children (*Tilskud til pasning af egne børn*).

For formal centre-based care, the contribution amount is unevenly split among the parents and municipalities. Parents contribute a maximum of 25 percent of gross fees, while municipalities are responsible for the remaining 75 percent (OECD, 2020). Lower-income families do not pay anything if their annual income is below US\$28,509 (European Commission, 2022d). For those with incomes between US\$28,509 and US\$88,560, child care is partially subsidized.

Women can claim maternity benefits during pregnancy, childbirth, or in the early stages of adoption. Mothers must either be a salaried employee, self-employed, or enrolled in an unemployment insurance fund to access these benefits (European Commission, 2022d). Salaried employees are required to have worked for a minimum of 160 hours in the last four months and at least 40 hours per month in three of those four months (European Commission, 2022d). Self-employed individuals must have worked for at least 6 months within the last year before going on maternity leave. Mothers cannot receive maternity benefits if they are on social assistance (European Commission, 2022d).

Parents are entitled to receive parental benefits (*Barselsdagpenge*) for a maximum period of 52 weeks (European Commission, 2022d). Leave for maternity is granted for a period of four weeks before birth and 14 weeks after childbirth. Fathers are eligible to take two weeks of paternity leave in the first 14 weeks after childbirth (Oresunddirekt, 2021). Each parent may then take 32 weeks of parental leave (total of 64 weeks), but they can only receive parental benefits for 32 weeks collectively. The maximum benefit for maternity in 2021 was US\$677 per week before tax. If the employer continues to pay an employee's full salary during maternity leave, the employer, not the individual, will be reimbursed by the government. Benefits for self-employed workers are calculated based on the profit of their business, income transferred to spouses, and other government benefits (European Commission, 2022d).

### Disability benefits

Denmark's system for disability benefits is comparable to that of most other OECD countries, but it is the most generous and expensive (see later sections). Disability pensions are

offered to individuals with permanent disabilities that render them incapable of providing for themselves by working. Generally, people with temporary disabilities or individuals under the age of 40 are not provided with disability pensions unless there are exceptional circumstances (Nordic Co-operation, 2022b).

Eligibility for disability pensions is determined by an assessment of the capacity of the individual to work (*Ressourceforløb*) and several other criteria. The municipal assessment considers different factors including physical and mental health, education, employment, and social networks. Danes will only receive a disability pension if their assessment concludes their capacity to work is substantially and permanently reduced to such a degree that self-sufficiency is impossible (European Commission, 2022e). Notably, workers are not granted disability benefits if their capacity to work can be improved through treatment or rehabilitation. To qualify for a disability pension, prospective recipients must also be Danish citizens and have lived in Denmark for at least 3 years from age 15, or, for those who are not Danish citizens, to have lived in Denmark for at least 10 years from age 15 (European Commission, 2022e).

Most disability benefits are means-tested in Denmark. Before taxes, single individuals can receive US\$2,937 per month and married or cohabiting individuals can receive US\$2,497 per month (Borger, 2022d). However, the amount is reduced if individual or family income exceeds a given threshold. For instance, disability payments are reduced by 30 percent of annual income exceeding US\$11,273 for single individuals or US\$26,961 for people with spouses or partners (SSA, 2018). Additional supplements are available to cover expenses for more severe disabilities. These payments do not depend on income levels, but recipients can receive at least US\$228 per month (SSA, 2018).

For individuals who are ruled ineligible for disability pensions, some may be entitled to a “*Fleksjob*” if their capacity to work is deemed limited due to health reasons (Nordic Co-operation, 2022b). In basic terms, flexi-jobs are a hybrid form of employment that designate tasks and working hours to eligible individuals based on the capacity of what the person can handle (Borger, 2022d). Qualified individuals are paid salaries by their employer for the work they complete, but they also receive a flexible pay subsidy from the local government as a supplement. For instance, an employer would pay 10 hours’ worth of salary to a worker if they complete 20 hours of work per week at a work intensity of 50 percent. The amount of the government subsidy is calculated based on the person’s salary and individuals can receive a maximum total income equivalent to the salary they would receive in a full-time position (Borger, 2022d). In 2022, the maximum flexi-wage subsidy was US\$2,877 per month (Borger, 2022d).

Introducing the *Fleksjob* concept required a substantial reform of the Danish Disability Pension Act in 2013. The Danish government tightened the criteria for disability pensions and expanded subsidized job schemes to reduce the number of people receiving disability benefits, especially among people aged 40 or under (Mathisen et al., 2021). A 2021 study in the *European Journal of Public Health* found that “the probability of being awarded disability pension was halved after the reform” (Mathisen et al., 2021). The number of

individuals receiving disability benefits decreased from 234,675 in 2007 to 202,658 in 2017 (Statistics Denmark, 2022b).

### Student grants

One unique feature that Denmark has implemented is a system of high-level, taxpayer-funded student grants and loans called *Statens Uddannelsesstøtte* (SU). The program has been around since the 1970s and was established to reduce social inequality and help students fund their advanced public education (Mares, 2021). To be eligible, students must be enrolled in an approved program, be at least 18 years old, and not receive any other public support for living expenses. In 2022, Danish students receiving higher education were eligible for US\$959 monthly SU grants (Mares, 2021). However, some Danish economists have raised concerns that the program is becoming an excessive burden on public finances (it has an annual cost of US\$3 billion) and students are taking too long to complete their education (Zieler, 2018).

### Comparisons to other OECD countries

#### *Social spending*

Denmark is one of the highest spending countries on income supports in the OECD. Public social expenditures generally include benefits for low-income households and people who are elderly, disabled, or unemployed. In 2018, public social expenditures equaled 28.7 percent of GDP for Denmark (OECD, 2022d). This was the fourth highest amount among OECD countries that year. Public social spending has risen dramatically in Denmark over recent decades; the amount of public expenditures on it has climbed from 22.0 percent of GDP in 1990 (OECD, 2022d). OECD countries, on average, had public social expenditures equivalent to 19.8 percent of GDP in 2018. Canada spent 18.0 percent of GDP (21<sup>st</sup> in the OECD) that year on it (OECD, 2022d). Public social spending-to-GDP ratios are highest in France (31.1 percent), Finland (29.3 percent), and Belgium (28.8 percent) (OECD, 2022d).

Denmark maintains its position near the top of the list on spending per capita. Public social spending by Denmark totaled US\$14,854 per person in 2017, the third highest amount in the OECD (OECD, 2022d) and 71 percent above the OECD average of \$8,686. Only Luxembourg (US\$22,664 per person) and Norway (US\$15,841 per person) ranked higher on this measure (OECD, 2022d). At US\$8,278 in 2017 Canada's per capita public social spending ranked it 19<sup>th</sup> (OECD, 2022d).

#### *Pension spending*

While Denmark is clearly one of the biggest spenders in the OECD on its overall social benefits system, it's informative to break the country's spending down into sub-categories. Comparisons of old age pension spending, for instance, offer a unique perspective

on the Danish system. Public pension spending equaled 8.0 percent of GDP for Denmark in 2017 (OECD, 2022e). The country ranked in the middle of the pack among OECD countries as the 15<sup>th</sup> highest spender on public pensions, only marginally above the OECD average of 7.7 percent of GDP (OECD, 2022e). However, Denmark does rank significantly higher than Canada, which spends 4.8 percent of GDP (30<sup>th</sup> in the OECD) on public pensions (OECD, 2022e). Italy (15.6 percent of GDP), Greece (15.5 percent of GDP), and France (13.6 percent of GDP) are the three highest spenders on public pensions (OECD, 2022e).

The prevalence of private occupational pensions is perhaps the main reason for Denmark not ranking near the top of the list on spending for public old age pensions. Danish spending on private pensions totaled 4.7 percent of GDP in 2017, the fifth highest amount in the OECD (OECD, 2022e). Denmark trails only the United States (8.1 percent of GDP), Australia (6.8 percent of GDP), Iceland (5.5 percent of GDP), and Switzerland (5.0 percent of GDP) on this measure (OECD, 2022e). The OECD average for private pension spending in 2017 was 1.5 percent of GDP (OECD, 2022e). Canada also ranks near the top of the list for private pension spending at 4.5 percent of GDP, the seventh highest in the OECD (OECD, 2022e).

### ***Unemployment and labour market programs***

Despite having a voluntary unemployment insurance system, Denmark has placed considerable emphasis on flexibility in labour markets and job training. The OECD tracks public spending on labour market programs, which include public employment services, training, hiring subsidies, and unemployment benefits. In 2017, Denmark was the highest spender of any OECD country on labour market programs at 3.0 percent of GDP (OECD, 2022f). The OECD average in 2017 was 1.2 percent of GDP. Canada ranked 18<sup>th</sup> with public spending on labour market programs at 0.8 percent of GDP (OECD, 2022f). France, Finland, Belgium, and Spain round out the top 5 spending countries on this measure after Denmark (OECD, 2022f).

### ***Family benefits spending***

Denmark has one of the most generous systems for family benefits in the world. Highly subsidized child care, child allowances, and extensive maternity benefits are among its important features. Family benefits spending is broadly defined as public expenditures on child-related cash transfers to families with children, parental leave payments, and subsidies for child care. At 3.4 percent of GDP in 2017, Denmark spends the most of any OECD country as a percentage of GDP on public family benefits, nearly double the OECD average of 2.1 percent of GDP (OECD, 2022g). Sweden (3.4 percent of GDP), Luxembourg (3.3 percent of GDP), Iceland (3.3 percent of GDP), and Norway (3.2 percent of GDP) are the next four highest spending countries (OECD, 2022g). Canada spent 1.6 percent of GDP on family benefits in 2017, ranking it 26<sup>th</sup> in the OECD (OECD, 2022g).

Turkey and the United States are the bottom two public spenders on family benefits at less than 1.0 percent of GDP (OECD, 2022g).

### ***Social assistance spending***

Social assistance benefits are generous in Denmark, but recipients are still encouraged to look for work. In the OECD, social benefits to households refer to cash transfers made by government to households to meet their financial needs in sickness, unemployment, family circumstances, or other unexpected events. At 15.8 percent of GDP, Denmark was the 12<sup>th</sup> highest spender among OECD countries on social benefits to households in 2019 (OECD, 2022h), whereas the OECD average was 12.0 percent of GDP (OECD, 2022h). Canada ranked 31<sup>st</sup> on this measure with spending on social benefits to households at 10.0 percent of GDP (OECD, 2022h). Italy (20.1 percent of GDP), France (19.4 percent of GDP), and Greece (18.9 percent of GDP) are the three highest ranking countries on the list (OECD, 2022h).

### ***Disability benefit spending***

Denmark has the most generous, but most expensive disability benefit system in the OECD. In 2017, Denmark was the highest public spender on incapacity benefits at 4.9 percent of GDP (OECD, 2022i). The next closest spenders on this benefit were the other Scandinavian countries: Norway (4.4 percent of GDP), Sweden (3.8 percent of GDP), and Finland (3.2 percent of GDP) (OECD, 2022i). The OECD average for spending on disability benefits is 2.0 percent of GDP. Canada ranks well below that rate at 0.7 percent of GDP, ranking it 33<sup>rd</sup> in the OECD (OECD, 2022i). Mexico, Costa Rica, and Colombia are the bottom three countries on these expenditures; each spends less than 0.1 percent of GDP on disability benefits (OECD, 2022i).

### ***Summary***

Denmark is clearly one of the highest spending countries in the OECD on its income support programs. However, its ranking is different depending on the sub-category of its support programs (see table 1). Denmark ranks first in the OECD on public spending on family benefits, disability benefits, and labour market programs. The Danish system is in the middle of the pack on public old age pension spending due to the existence of a strong private occupational pension system. It also ranks outside of the top OECD countries on spending for social benefits to households. Overall, however, Denmark has one of the most generous income support systems among all advanced countries.

### ***Comparison to Canada***

There are several similarities between the income support system in Denmark and Canada, but some marked differences as well. The pension system in both countries employs a multi-pillar strategy that combines private and publicly funded pensions. The Danish Folkepension basic amount and pension supplements operate in a manner fairly similar

Table 5.1: Denmark's Ranking on Spending Categories Among OECD Countries

Category	Denmark's Rank	Denmark's Amount	OECD Average	Year
Public Social Expenditures as % of GDP	4th	28.7%	19.8%	2018
Public Social Expenditures USD Per Person	3rd	\$14,854	\$8,686	2017
Public Pension Spending as % of GDP	15th	8.0%	7.7%	2017
Private Pension Spending as % of GDP	5th	4.7%	1.5%	2017
Public Spending on Labour Markets	1st	3.0%	1.2%	2017
Family Benefit Spending as % of GDP	1st	3.4%	2.1%	2017
Social Benefits to Households as % of GDP	12th	15.8%	12.0%	2019
Public Spending on Incapacity Benefits as % of GDP	1st	4.9%	2.0%	2017

Sources: OECD (2022d, 2022e, 2022f, 2022g, 2022h, 2022i).

to Canada's Old Age Security (OAS) and Guaranteed Income Supplement (GIS) (Canada, Employment and Social Development, 2022). Denmark's ATP pension is also similar to the Canada Pension Plan (CPP) with its employer and employee contributions. However, private pensions in Pillar II are arguably more important in Denmark than they are in Canada due to their high income replacement rates.

Child care benefits are more generous in Denmark, but Canada's federal government has now introduced a national day care strategy which provides funding to provinces for \$10-a-day day care so the gap in funding appears to be closing between the two countries (Canada, Department of Finance, 2021). Unemployment insurance is voluntary in Denmark, whereas it is a compulsory program in Canada (Fuss and Globerman, 2020). However, social benefits to households are more widely accessible in Denmark and the Danish government spends more on training and job search assistance than Canada does. Fleksjobs are a feature of the Danish disability system that Canada currently does not have. In Denmark, partially incapacitated workers are encouraged to participate in the workforce while working within their limits. Overall, the Danish system offers more generous benefits than the Canadian system, but requires a higher level of government spending, taxation, and government involvement for most areas of income supports.

## Strengths and weaknesses of Denmark's system

### Strengths

There are several advantages to Denmark's income support system. First, the combination and design of both public and private old age pensions has ensured that there is adequate support for seniors in their retirement. Specifically, the expansion of Pillar II has allowed workers to receive higher pension incomes (Forsikring and Pension, 2012). Occupational pension schemes offer market-based solutions that, generally speaking, are not based on political decisions and reduce the burden placed on public finances (Forsikring and Pension, 2012). In fact, the OECD estimates that public expenditures on pensions in Denmark will decline over the next four decades, while spending will rise in both Canada and the United States (OECD, 2019).

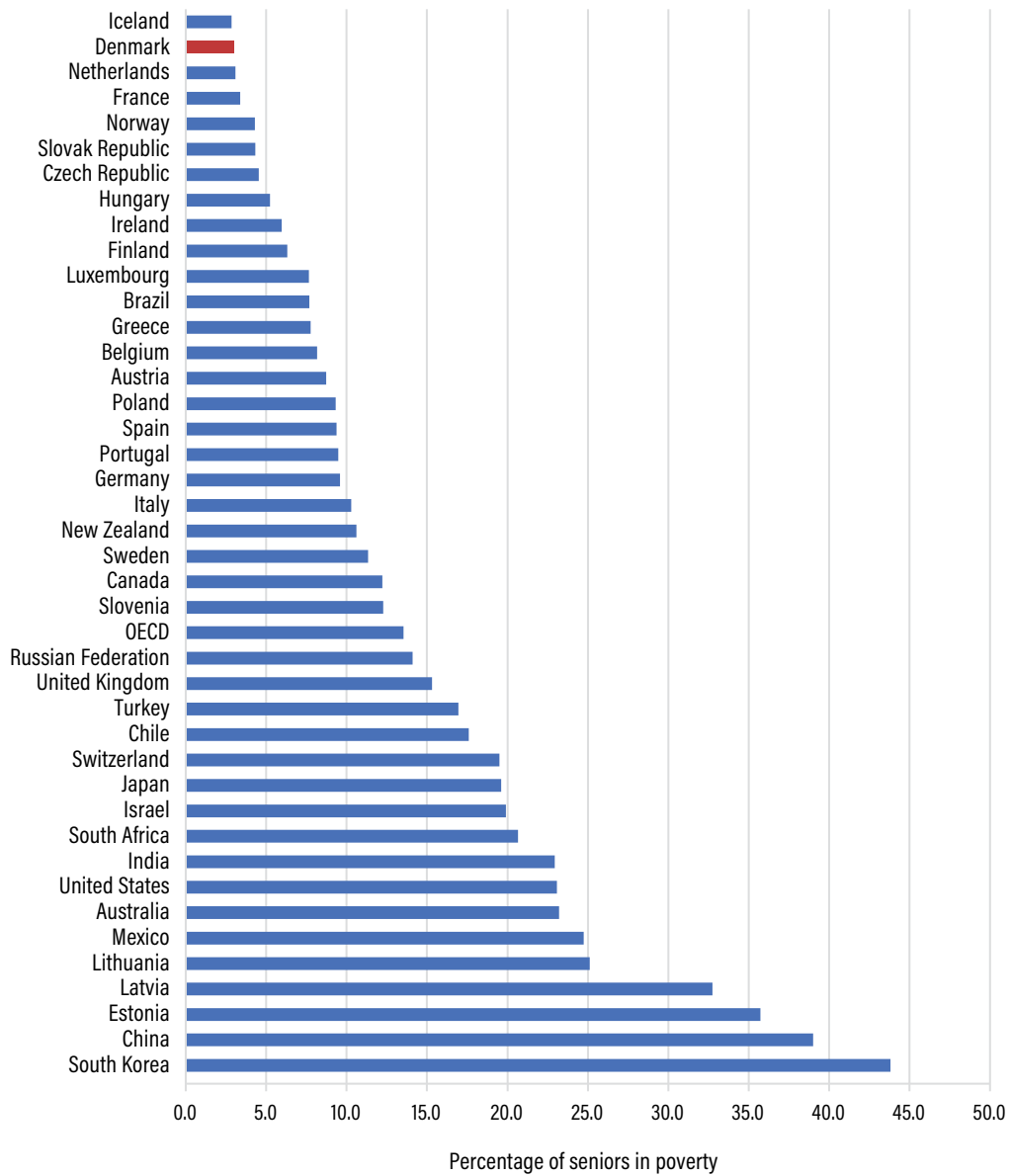
Moreover, despite ranking in the middle of the pack among OECD countries for spending on public pensions, Denmark does not have a low pension replacement rate. In 2020, both men and women in Denmark had the second highest gross pension replacement rate in the OECD at 80.0 percent of pre-retirement earnings (OECD, 2022j; Andersen et al., 2022). This is significantly above the OECD average of 51.8 percent replacement rates for men and 50.9 percent for women (OECD, 2022j). Canada is well below that average at 38.8 percent gross pension replacement rates for both sexes in 2020 (OECD, 2022j). Even though countries like Italy, France, Austria, Greece, and Finland spend more public dollars as a share of GDP on their pension systems, they are unable to provide as much retirement income for their citizens as Denmark. For instance, France had the third highest ratio of public spending on pensions as a percentage of GDP, but ranks 15<sup>th</sup> on gross pension replacement rates for women and 18<sup>th</sup> for men (60.2 percent for both sexes in 2020) among OECD countries (OECD, 2022j).

The OECD projects that low-income earners in Denmark could receive a future gross replacement rate of 114 percent, indicating that their retirement benefits could end up being higher than the salaries they earned while working (OECD, 2019). Replacement rates from private Danish pensions are the among the highest in the OECD at over 50 percent (OECD, 2019). Furthermore, the assets in funded and private pension plans equaled 198.6 percent of Danish GDP in 2018, the largest amount in the OECD (OECD, 2019).

Consequently, the number of poor pensioners has sharply declined in Denmark in recent decades. From 2000 to 2010, the number of impoverished elderly Danes dropped by 60 percent (Forsikring and Pension, 2012). Figure 5.1 shows that old age poverty rates are 3.0 percent in Denmark, the second lowest amount in the OECD, trailing only Iceland (OECD, 2019). In contrast, poverty rates for seniors are higher than 20 percent in Australia, Mexico, and the United States (OECD, 2019). Canada's old-age poverty rate in 2016 was more than triple that of Denmark at 12.2 percent (OECD, 2019).

High pension replacement rates, low old-age poverty rates, and reduced strain on public finances are some of the main reasons why the 2018 Mercer Global Pension Index ranked the Danish pension system the number one pension system in the world (Jensen et al., 2020).

Figure 5.1: Poverty Rates Among Seniors in Selected Countries, 2016



The Danish income support system also benefits from the emphasis the country places on working. Danes are encouraged to work and it's seen as almost a duty of individuals to participate unless they are physically or mentally incapable. Disabled individuals are offered opportunities through flexi-jobs so they can contribute and be independent and are not excluded from the job market. Employers and the government ensure the flexi-jobs are suitable and collaborate to ensure the jobs are not overly strenuous for people with capacity challenges.

While benefits for social assistance and unemployment are generous, the Danish government has been very effective at designing its systems to push people to seek work quickly. Denmark consistently has a far lower proportion of workers in long-term unemployment



than the average in the European Union and OECD (Stephan, 2017; OECD, 2022c). As mentioned earlier, the long-term unemployment rate was 20.3 percent for Denmark in 2021, which is lower than the 28.4 percent average in the OECD (OECD, 2022c). The structure of Denmark's labour market, government policies, and its unemployment system all strongly encourage job activation, training, and re-skilling. While there is high employee turnover, shorter durations of unemployment and high employment rates are notable features of the Danish labour market that enable it to be highly flexible, mobile, and dynamic.

### **Weaknesses**

Although Denmark's income support system is generous, funding its various programs requires high tax rates on personal income and on goods and services. In 2021, Denmark had the second highest top marginal tax rate on personal income in the OECD at 55.9 percent (OECD, 2022k). Japan was the only country with a higher top marginal tax rate and edged out Denmark by less than 0.1 percentage points (OECD, 2022k). Furthermore, Denmark tied Norway and Sweden for the second highest value added tax (VAT) rate in the OECD at 25 percent, behind only Hungary (27 percent) (OECD, 2022l). High tax rates to fund the Danish system of benefits means that the country's residents have less money and choice for personal consumption.

Due to Denmark's relatively high tax burden, the Tax Foundation ranks the country 28<sup>th</sup> in the OECD on tax competitiveness, which means the country is likely to struggle with attracting and retaining highly skilled workers and investment (Bunn and Asen, 2021). Denmark also had the highest overall tax burden in the OECD in both 2019 and 2020 (OECD, 2022m). The country's tax-to-GDP ratio equaled 46.5 percent in 2020, significantly higher than the OECD average of 33.5 percent (OECD, 2021).

While taxes on personal income and goods and services are high in Denmark, the country's top combined corporate income tax rate is relatively low (see table 2) compared to Canada, Australia, Germany, France, and the United States (OECD, 2022m). In fact, Denmark's 22.0 percent corporate income tax rate is tied for 21<sup>st</sup> with Norway and Greece in the OECD (OECD, 2022m). Since corporate income taxes are one of the most harmful forms of taxation for economic growth, relatively low business taxes in Denmark help mitigate the effects of a high VAT and taxes on personal income.

Another weakness of the Danish income support system is that it requires a high degree of government involvement and expenditures. Economists use the term "size of government" to refer to the extent to which governments consume, control, and allocate resources in an economy. While small governments can lack the necessary resources to effectively deliver services, governments that are too big can undertake activities that do not promote economic prosperity (Di Matteo, 2020). Extensive redistribution of income, business subsidies, and unnecessary government services that are better left to the private sector are examples of unproductive economic activities. Big governments can crowd out private sector activity and lower their country's economic growth rate (Di Matteo, 2020).

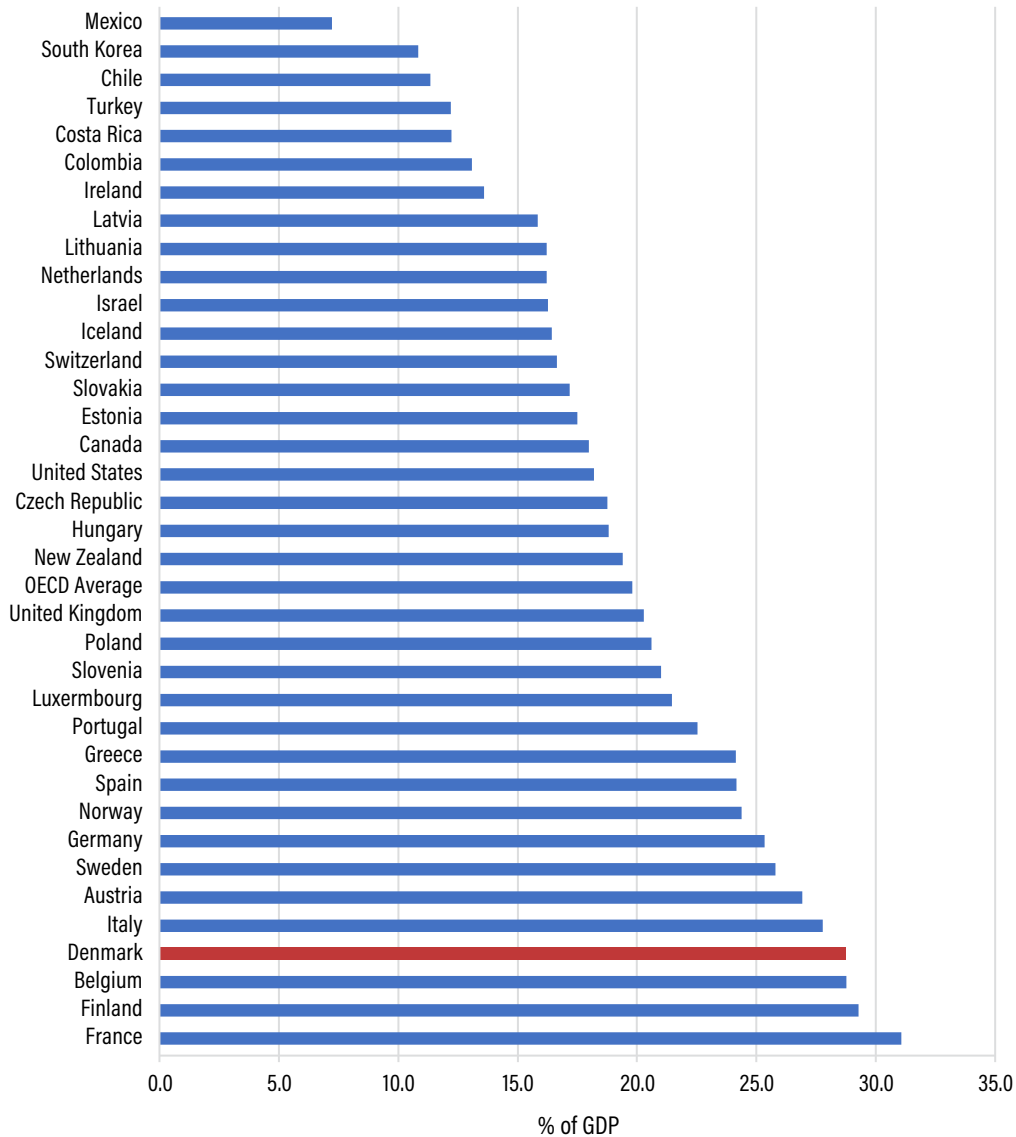
Table 5.2: Ranking of Corporate Income Tax Rates (%) Among OECD Countries, 2022

RANK	COUNTRY	CIT RATE	RANK	COUNTRY	CIT RATE
1	Colombia	35.0	19	Türkiye	23.0
2	Portugal	31.5	21	Denmark	22.0
3	Australia	30.0	21	Greece	22.0
3	Costa Rica	30.0	21	Norway	22.0
3	Mexico	30.0	24	Slovak Republic	21.0
6	Germany	29.8	25	Sweden	20.6
7	Japan	29.7	26	Estonia	20.0
8	New Zealand	28.0	26	Finland	20.0
9	Italy	27.8	26	Iceland	20.0
10	South Korea	27.5	26	Latvia	20.0
11	Canada	26.2	30	Switzerland	19.7
12	France	25.8	31	Czech Republic	19.0
13	United States	25.8	31	Poland	19.0
14	Netherlands	25.8	31	Slovenia	19.0
15	Austria	25.0	31	United Kingdom	19.0
15	Belgium	25.0	35	Lithuania	15.0
15	Spain	25.0	36	Ireland	12.5
18	Luxembourg	24.9	37	Chile	10.0
19	Israel	23.0	38	Hungary	9.0

Source: OECD (2022m).

Empirical research from Di Matteo (2020) found that the optimal size of government for maximizing economic growth exists when government spending ranges between 24 and 32 percent of GDP. Once advanced economies exceed this threshold of government spending, then countries typically experience lower rates of economic growth. This is a potential weakness for Denmark since the country had the 4<sup>th</sup> highest general government spending-to-GDP ratio in 2018 among OECD countries (OECD, 2022n). At a government spending-to-GDP ratio of 50.5 percent (see figure 5.2), Denmark is well above the optimal size of government for maximizing economic growth (OECD, 2022n). Only France, Finland, and Belgium spent more relative to the size of their economies (OECD, 2022n). On an alternative measure of the size of government, Denmark ranked third highest in the OECD in 2018 at US\$29,055 per person in general government spending (OECD, 2022n). Luxembourg and Norway were the only countries to exceed this amount and the OECD average was US\$18,789 per person (OECD, 2022n). As one of the highest spending countries in the world, the cost of more government in Denmark is higher taxes and potentially less economic growth.

Figure 5.2: Public Social Spending as a Percent of GDP Among Selected OECD Countries, 2018



## Conclusion

Denmark's income support system emphasizes a large role for government and an extensive host of generous benefits for individuals and families. The country is one of the highest spenders on public income supports in the OECD and employs some of the highest tax rates as well. However, private occupational pensions are one of the most important features of its social security system and Denmark ranks in the top five among OECD countries for spending on private pensions. This allows Danes to have among the highest retirement incomes in the OECD and relatively few poor pensioners. Denmark also boasts a flexible and mobile labour market with comparably shorter durations of unemployment than most advanced economies. Generous benefits for families, maternity, social assistance, and disabled individuals appear not to have hindered the Danish

labour market to a significant extent thanks to the country's high employment relative to its peers. A voluntary employment insurance system also differentiates the system from countries like Canada. Overall, Denmark has an expensive but well-managed income support system that features some unique components.

## Notes

- 1 Replacement rates measure how effectively the pension system 'replaces' the income that an individual earned before retirement.
- 2 Throughout this paper, data that was originally provided in Danish Kroner (DKK) has been converted to US dollars using the OECD's purchasing power parities (PPP) (OECD, 2023). For instance, the income threshold of DKK 344 600 is equivalent to approximately \$52,283 USD.
- 3 Contribution rates vary based on hours of work, but full-time employees typically pay US\$14 per month while employers pay US\$29 per month (Borger, 2022a).
- 4 The ATP Group is a self-governing institution that invests ATP pension funds on behalf of Danes (ATP, 2022).
- 5 Private pension contributions are tax deductible if they are not lump sum pension schemes that involve a one-time payment from the pension administrator (OECD, 2019)
- 6 Since the early 1990s the overall trend has been to increase the retirement age. Thus, the retirement age in the Folkepension is now linked to average life expectancy. Consequently, if life expectancy increases there is an automatic adjustment of the retirement age to reflect this.
- 7 Replacement ratios indicate the effectiveness of the unemployment benefit system to 'replace' previous earnings from when an individual was employed
- 8 The OECD defines the employment rate as the "ratio of the employed to the working age population."
- 9 The OECD defines long-term unemployment as people who have been unemployed for 12 months or more. It shows the proportion of these long-term unemployed among all unemployed (OECD, 2022c).
- 10 The Danish government defines assets broadly as items than can easily be converted into money (Borger, 2022b).

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