ECONOMICS

Towards Prosperous Development for Ukraine

Theoretical Considerations and German Experiences

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1.
Introduction

After the war with Russia ends, Ukraine faces the enormous challenge of rebuilding and creating a prosperous economy. The challenges are enormous. The war damage in Ukraine to date amounts to significantly more than Ukraine's entire gross domestic product (GDP) in 2024. The housing stock has been hit hardest, followed by infrastructure, energy supply and agriculture (Nivievskyi et al. 2024). In addition, the war has caused gigantic macroeconomic disturbances. In 2024 the budget deficit was almost 25 per cent of GDP and public debt to GDP was around 100 per cent (OECD 2024). The current account deficit was around 10 per cent of GDP and external debt to GDP in 2024 around 95 per cent (Statista 2025). Skilled labour shortages are already a challenge and could worsen because of the migration of qualified workers and experts.[1]

Various directions of development are possible. We outline three alternative developments in particular in what follows.

On the first development path, given the economic challenges there is a danger that Ukraine will remain stuck in a constellation of low GDP growth, poor productivity development and *failure to catch up* with living standards comparable to those in more developed European countries. GDP per capita expressed in terms of purchasing power parity in constant international US dollars (2021) in Ukraine (euro area level in brackets) in 1990 was $22,816 ($38,284), in 2008 $18,884 ($51,398) and in 2023 $15,885 ($56,610) (World Bank 2025). This means that in Ukraine living standards per capita have long been stagnating and that this could continue.

In a second development direction, Ukraine would pursue a *neoliberal policy* with extensive external and internal deregulation. A total and uncontrolled opening up to foreign direct investment (FDI) after the end of the war could lead to a selling off of profitable assets in Ukraine with high future profit outflows and the danger that Ukraine's economy will always be 'second-class' – a country's integration into global FDI flows is no guarantee of long-term prosperity

1 These are major differences compared with the situation in Germany after the Second World War. Germany was able to start with low external and internal debt and quickly generate export surpluses in the 1950s as part of the 'economic miracle'. There was also an influx of German people from the newly formed Soviet bloc.

(Dünhaupt et al. 2022). In such a scenario, there would also be a risk that high potential Ukrainian companies would lose out in foreign competition. If this policy were accompanied by comprehensive deregulation of the labour market, resulting in a massive increase in wage differentials, the country would quickly become massively more unequal – currently, it is one of the least unequal countries, with a Gini coefficient of disposable income of 25.6 in 2020, the latest year available (World Bank 2025). This low Gini coefficient reflects the fact that, despite a small group of super rich households, the majority of Ukrainian households have a relative equal income distribution by international comparison.[2] Nevertheless, economic policy after the end of the war should pay attention to maintaining a relatively balanced income distribution. This is because a relatively equal income distribution supports domestic growth dynamics and also productivity development, as poorer households can then also invest in education and training for their children.

On a third development path, Ukraine would focus on *building its own economic development*, which does not exclude FDI in certain areas. The focus of development would be on promoting its own large companies and a strong sector of small- and medium-sized enterprises (SMEs). Comprehensive industrial policy measures would be necessary, including a sufficient and favourable supply of credit, not only for large companies, but also for SMEs. Development banks would play an important role here. It would also be necessary to quickly achieve a balanced current account situation after the end of the war in order to avoid the foreign sector suppressing domestic aggregate demand. Current account deficits would in addition intensify the foreign debt problem. On this third development path, the country would also maintain a relatively egalitarian distribution of income.

2 When interpreting Gini coefficient data, it is important to consider that it is based on household surveys, which typically exclude very wealthy households. As a result, the Gini coefficient often appears lower than it actually is, understating the true extent of income inequality.
The Gini coefficient in the United States in 2022 was 41.3 and in Brazil 52.0. It was 31.5 in France and 28.1 in Poland (in 2021). In Germany it was 32.4 (in 2020). The income share of the highest 10 per cent in Ukraine was 22.8 per cent, in the United States 30.9 per cent (World Bank 2025). According to the World Bank (2025) in 2022 the income share of the highest 10 per cent in Ukraine was 21.7 per cent, in the United States 30.2 per cent, in Germany 25.0 per cent and in Poland 22.8 per cent. The share of the lowest 10 per cent in Ukraine was 4.2 per cent, in the United States 2.0 per cent, in Germany 2.9 per cent and in Poland 3.4 per cent. The income percentage of the top 1 per cent in Ukraine in 2022 was 13.6 per cent, in the United States 20.9 per cent, in Germany 10.3 per cent and in Poland 10.4 per cent (Our World Data 2025). By international comparison, the top income earners in Ukraine receive a relatively high share of income, indicating that there are a number of super-rich people. Otherwise, the income distribution is relatively even.

We favour this third scenario, which offers the best opportunities for a prosperous economy in the longer term and for Ukraine to climb up the ladder to become a 'first-class' economy.

Moreover, capitalism is of course far from a single, uniform system. Different types of capitalism have existed throughout history. In their famous book *Varieties of Capitalism* Peter Hall and David Soskice (2001) distinguished between a 'coordinated market economy' and a 'liberal market economy'. Germany is a showcase for the first type of capitalism, the United States for the second. In coordinated market economies, for example, there is a certain cooperation between firms, in terms of corporate governance. Trade unions and other codetermination actors play an important role and companies may have close relations with a 'house bank'; while in liberal market economies institutions tasked with organising cooperation between companies are weak, trade unions and other codetermination actors play no role in corporate governance and bigger firms finance themselves more directly via the capital market (see below for more details).

This approach has been further developed in a number of directions. In their study of state-permeated capitalism in large emerging economies, Nölke et al. (2020) show that in typical emerging economies, not only in China, the state plays a prominent role in the development of the economy. A special type of capitalism was established in central and eastern European states that previously were part of the Soviet bloc. These countries were characterised as dependent market economies (Nölke and Vliegenthart 2009). Cornel Ban (2013: 1) describes developments in a number of these countries as 'from cocktail to dependence', and shows that a certain catching up happened after the end of the Soviet Bloc, at the price of dependence on FDI and foreign financing in general and a lack of momentum in many of these countries that would allow them to catch up with the leading countries of the European Union (EU). Summarising this debate, it becomes clear that for a country such as Ukraine it is unlikely that it would find it easy to catch up economically if it opts for a liberal market economy. What is needed is an active state, including a comprehensive industrial policy combined with a financial system and macroeconomic regime designed to stimulate growth. In this contribution, we discuss the elements needed for such development.

The situation in Ukraine after the end of the war will have certain similarities with the situation in the Federal Republic of Germany after the Second World

War. Germany at that time managed to launch a so-called 'economic miracle'. Thus, it seems to be useful to examine key elements of Germany's post-War economic development. Of course, the situation in Ukraine is hardly identical. But German development can at least provide food for thought for possible development in Ukraine. This is why we also discuss the Marshall Plan, whose purpose was to organise US help for Germany and other European countries after the Second World War.

Section 2 discusses the need for industrial policy in development. The role of the exchange rate is also discussed. Section 3 focuses on the financial system and its role in promoting the corporate sector, including supporting industrial policy via development banks. This is followed in Section 4 by a short study of the Marshall Plan. Section 5 discusses the importance of SMEs for development, and Section 6 emphasises the need to develop national champions. A brief summary, including an outline of a comprehensive development package, is provided in the concluding Section 7. In the debate about the financial system, SMEs and national champions, after the theoretical discussion, the situation in Germany is discussed. Where appropriate, brief comparisons are made with the economy in Ukraine. However, this is not a paper about Ukraine, but about what can be learned from theoretical considerations and experiences in Germany.

2.
Industrial policy and economic development

2.1 Horizontal and vertical industrial policy

Industrial policy has long been a cornerstone of economic development, providing governments with tools with which to shape their economies, tackle market failures and foster structural transformation (Rodrik 2008). It involves strategic government interventions aimed at promoting specific sectors, technologies or tasks to achieve economic growth and societal welfare (Warwick 2013). While the approaches and instruments of industrial policy vary considerably, the need for it is grounded both theoretically and empirically (Chang 2002; Cimoli et al. 2009).

The rationale for industrial policy rests on two central arguments. First, it addresses market failures that hinder optimal resource allocation. Markets often fail to provide the necessary investments in innovation, infrastructure and skills because of high risks, high capital requirements, coordination challenges and economies of scale. For instance, private firms may shy away from pioneering new technologies or sectors because of uncertain returns, even though such investments are crucial for long-term development. Governments can step in to provide incentives, reduce risks and direct resources into high-potential areas.

Second, industrial policy may correct structural inequalities and the limitations of the market mechanism in fostering inclusive development. The global economic system tends to propagate underdevelopment, particularly in less developed countries, which struggle to catch up with advanced economies. Since the Second World War, only a few nations – including Japan, South Korea, Singapore, Taiwan and China – have bridged this gap successfully. These countries employed comprehensive industrial policies, using targeted interventions to create new comparative advantages and diversify their economies (Herr 2018). Despite progress in reducing global poverty – driven largely by China and India – the gap in real GDP per capita between developed and developing nations remains wide.

Dani Rodrik (2008) famously named one of his publications 'Don't ask why, ask how'. This underscores the importance of understanding the mechanisms of industrial policy and the need to design context-specific strategies.

Industrial policy is often categorised in terms of horizontal and vertical approaches, each addressing different aspects of economic development.

Horizontal policies are aimed at improving the overall business environment without targeting specific sectors. Examples include investments in education, infrastructure, research and development, and macroeconomic stability (Warwick 2013). These policies create the foundational conditions for growth by enhancing productivity and competitiveness across the economy. However, while necessary, they are often insufficient to drive structural transformation. For example, general education reforms may fail to create the specialised skills required for emerging industries. And many horizontal industrial policy measures include decisions on structures, for example, whether rail transport or roads should be expanded.

Vertical policies focus on specific sectors, technologies or tasks within global value chains. They aim to create new comparative advantages by channelling resources into high-potential areas. Examples include subsidies for renewable energy, local content requirements, state equity or state-owned companies in strategically important areas and targeted export promotion. Vertical policies require governments to make strategic choices about which industries or technologies to prioritise, which often involves significant risks (Cimoli et al. 2009). These interventions are indispensable for fostering innovation, supporting infant industries and addressing structural imbalances.

Both types of policy are often interconnected. For instance, horizontal policies, such as education reforms, may include vertical elements, such as targeting skill development for specific sectors, such as renewable energy or digital technologies.

The successful design and implementation of industrial policy require a combination of strategic instruments and coordinated efforts among various stakeholders. Innovation policy is a critical component of this, focusing on developing and transferring knowledge to enterprises. This involves collaboration among firms, research institutes, universities and government agencies to implement new technologies and enhance skills. Development banks may play a crucial role by providing the long-term financing needed to support high-risk ventures.

In the present situation this applies in particular to areas such as renewable energy and so-called 'artificial intelligence' (AI). One key objective of innovation policy is functional upgrading within global value chains, which shifts economic activity from basic production to more complex, value-added tasks that drive competitiveness and long-term growth (Humphrey and Schmitz 2002; Dünhaupt et al. 2022).

Another important element of industrial policy is the creation of economic clusters. These clusters concentrate firms, institutions and stakeholders in specific geographical areas, fostering synergies that enhance productivity and innovation. They benefit from shared infrastructure, collaborative research efforts and skill development initiatives. Examples of successful clusters include 'Silicon Valley' in the United States, Germany's machine-building industry and Chile's salmon sector (UNCTAD 2006). Policies supporting clusters often include targeted financing, export promotion and the enforcement of labour standards, which collectively enhance industries' resilience and innovative capacity.

Industrial policy also emphasises high-road strategies that focus on fair wages and decent working conditions. By ensuring minimum wages and promoting sectoral wage bargaining, such policies reduce inequality and stimulate consumer demand. This forces firms to compete on quality and efficiency rather than on labour costs, creating a virtuous cycle in which better paid workers contribute to higher productivity and economic growth (Herr 2018). Ensuring fair labour conditions also supports social cohesion and economic inclusivity, making industrial policy a driver of both economic and social progress.

Macroeconomic policies are integral to industrial policy success. A competitive real exchange rate is particularly significant as it increases the profitability of exports while shielding domestic industries from intense foreign competition. This acts as a general protection mechanism for infant industries, allowing them to grow and establish themselves in global markets (Rodrik 2005; see Section 5.3). Additionally, government procurement and public investment stimulate demand in key sectors, ensuring that supply-side interventions translate into tangible economic outcomes (Warwick 2013). Together, these macroeconomic tools and strategic measures create a cohesive framework that supports sustainable development and long-term structural transformation.

This integrated approach to industrial policy demonstrates the importance of combining targeted interventions with broader systemic support. By addressing

market failures, fostering innovation and ensuring social inclusivity, industrial policy can guide economies effectively toward sustained growth, resilience and higher living standards.

Industrial policy should follow a long-term strategy. There should be a basic consensus in society concerning the direction in which the country should develop. Not only the government should be involved in the development and implementation of industrial policy. Strong trade unions and civil society should also play an important role. And of course there must be close cooperation between companies and the state in the development of industrial policy. However, this must not take a form in which a small number of companies or even families exert massive influence on the government and oligarchic structures develop. To prevent the development of such structures, strong and broad-based employers' organisations that represent the overall interests of companies large and small are needed.

2.2 The role of the exchange rate

A change in the nominal exchange rate, which leads to real depreciation, increases the international price competitiveness of tradable goods and services. This has the same effect as the introduction of a standardised tariff on all imported goods and services. The real exchange rate is therefore an important element in the creation and defence of a country's international competitiveness. David Ricardo (1817) already emphasised, with his theory of comparative advantage, that, thanks to the real exchange rate, even a country that is inferior to its foreign counterparts in terms of productivity in the production of all goods can export and balance its trade in goods and services. We should keep in mind that if net capital flows are zero, the current account balance will automatically be in equilibrium.

There is also a link between the real exchange rate and economic growth. This is well explained by two well-known economists:

> *Development experience—first and foremost that of the high-growth economies of East Asia, but also development experience generally—shows that keeping the real exchange rate at competitive levels can be critical for jump-starting growth. (Eichengreen 2008: 20)*

> *I show that undervaluation of the currency (a high real exchange rate) stimulates economic growth. This is true particularly for developing countries. This finding is robust to using different measures of the real exchange rate and different estimation techniques. I also provide some evidence that the operative channel is the size of the tradable sector (especially industry). (Rodrik 2009: 365)*

A constellation with regard to the real exchange rate that leads to a deficit in trade in goods and services limits the growth of the tradable sector in the economy; the goods and services balance becomes a brake on growth. If a country with this starting position switches to a real exchange rate that equalises the goods and services balance or even generates a surplus, then the tradable sector in the economy grows, imports shrink and growth is stimulated. Productivity gains can also be expected, which are stimulated by the growth itself, but also by the fact that the tradable sector is in many cases a relatively productive sector of the economy.

However, there are a number of problems with using the exchange rate to protect the domestic economy from foreign competition and stimulate domestic growth. First, real depreciation means that the terms of trade change in such a way that, at least in the short term, real domestic income falls as a result of higher import prices. This can be politically difficult. In the long run real depreciation will increase output, employment and real income, but this takes time.

Secondly, and related to the first argument, falling real wages as a result of a change in the terms of trade can give impetus to rising nominal wages. If real income losses from depreciation are offset by rising nominal incomes, the country slips into a depreciation–wage–price spiral. Restrictive monetary policy and a stabilisation crisis are the usual outcome of such a development. Countries with domestic inflation pressure may use the nominal exchange rate for a real overvaluation in order to combat domestic inflation. The price is a slowdown in domestic economic growth.

Thirdly, there is a currency hierarchy. At the top of the hierarchy stands the US dollar, followed by the euro and a few other countries that take on international monetary functions, for example to price international important goods, such as natural resources, or denominate international credit contracts. At the bottom

of the hierarchy are currencies with a low reputation which do not even fulfil all domestic functions. In these countries, in the case of dollarisation or euroisation, the US dollar or the euro partly take over a domestic monetary function. Only countries at the top of the currency hierarchy are able to take foreign credit in domestic currency, which is a huge privilege (Herr and Nettekoven 2022). In the case of foreign debt, which in most countries is denominated in foreign currency, real depreciation increases the real debt burden. Sharp depreciations inevitably lead to financial problems, insolvency or a systemic financial crisis if foreign debt levels are high. Foreign debt is a sweet toxin that can initially be beneficial but then radically restrict a country's room for manoeuvre. For this reason, countries should strive for low foreign debt.

Fourthly, overvaluation in the form of hindering the development of the industrial sector can be caused if a country has natural resource wealth. The demand for raw materials can be so high that, even if the country has a high current account surplus, the real exchange rate is driven to a level that massively hinders or even prevents industrialisation. This phenomenon, which at first glance seems surprising, has been named *Dutch disease* and affects many countries with a high proportion of raw materials in their total exports (for a summary of the problem see Humphreys et al. 2007). The risk of Dutch disease implies that Ukraine must not focus its exports exclusively on natural resources and become a supplier of raw materials to the rest of the world. In that case industrial development would suffer. Overall, the rents earned from the extraction of natural resources should benefit society. State-owned companies thus make sense in this regard. Norway is not the only example of this. Among others, Brazil has the oil company Petrobras and Chile CODELCO, the state-owned copper company. Joint ventures between state-owned companies and foreign investors are also conceivable in the event of insufficient domestic capacities for the extraction of raw materials. In any case, rents respectively extra profits should be heavily taxed in the case of private resource extraction.

Dutch disease can also occur with high foreign transfers or high foreign borrowing (Nkusu 2004).

> *We find that aid inflows have systematic adverse effects on a country's competitiveness, as reflected in the lower relative growth rate of exportable industries.*

> *We provide some evidence suggesting that the channel for these effects is the real exchange rate appreciation caused by aid inflows. We conjecture that this may explain, in part, why it is hard to find robust evidence that foreign aid helps countries grow. (Rajan and Subramanian 2011: 106).*

The conclusion is that countries need to analyse very carefully which foreign transfers and capital inflows have positive or negative economic effects in the longer term.

Fifthly, real depreciation can fail if the elasticities of exports and imports are too low.[3] In the case of very low elasticities a country cannot do without imports even if their price rises and it cannot export more despite a low price. In this case, there is market failure and the country should resort to selective quantitative controls on imports.

Overall, the result is that the development of the real exchange rate is of great importance for the development of a country's industrial sector and thus for general development. It is part of an industrial policy strategy. In order to manage the real exchange rate for the benefit of domestic development, however, a number of prerequisites must be met. Control of the domestic inflation rate is important. In the ideal case, a country should be able to defend high international price competition via relatively low domestic cost increases without nominal depreciation. If nominal depreciation is needed to increase domestic price competitiveness, the population has to accept lower real income in the short term because of higher import prices. This can be politically difficult. Last not least, elites are needed that favour domestic industrial development even if foreign luxury goods are expensive because of the exchange rate.

Germany has been highly successful in utilising the exchange rate as an instrument to support domestic development. It achieved current account surpluses for decades with an undervaluation strategy and turning exports into a growth

3 According to the so-called Marshall-Lerner condition, a normal reaction occurs – that is, the current account balance improves in case of a depreciation – if the absolute value of the price elasticity of foreign demand for domestic export goods plus the price elasticity of domestic import demand is greater than 1. This result is subject to a number of strict assumptions. For a broader approach, see McPheters and Stronge (1979).

driver. In the decades after the Second World War, but especially in the 2000s, high export surpluses indirectly stimulated private investment and positive economic development. Monetary policy, for example, in the form of intervention in the foreign exchange market to prevent appreciation, as well as moderate wage development and the inclusion of trade unions in the export model were elements of a mercantilist strategy (Heine and Herr 2024).

Rising export surpluses increase domestic growth but also imply the export of unemployment. With its high surpluses, Germany has thus become a disruptive factor in Europe and the global economy and has been one of the largest current account surplus countries based on industrial products in the world alongside Japan and China. Industrialisation driven by current account and export surpluses not only implies a beggar-thy-neighbour policy – that is, development at the expense of others – but can ultimately also be problematic for the country with export surpluses. If other countries no longer accept the mercantilist country's current account surpluses or if its competitiveness is reduced for whatever reason, it slides into crisis. Germany found itself in such a constellation following the Covid-19 pandemic in 2020, the following energy price shock and geopolitical escalation in recent years.

A country should therefore aim to achieve socially inclusive growth driven by domestic demand, while at the same time preventing trade and current account deficits. The real exchange rate can play an important role here. The aim should be a development model in which countries tend to strive for a balanced current account. Ukraine should do everything to balance its current account to stimulate growth, avoid foreign indebtedness and increase national sovereignty.

3.
Role of the financial system in development

The financial system has comprehensive significance not only for industrial policy, but also for the development of the corporate sector in general and macroeconomic development. In the following first subsection, we look at the significance of the financial sector in the tradition of John Maynard Keynes and Joseph Schumpeter. Here we also make some remarks about the financial system in Ukraine. The second subsection deals with development banks, which play an important role in industrial policy. Finally, an analysis of the financial system in Germany allows a variety of suggestions for the development of the sector in Ukraine.

Finance and development – a modern Keynesian and Schumpeterian view

Finance in the tradition of Keynes and Schumpeter

John Maynard Keynes (1933) spoke of a so-called 'monetary production economy' to characterise the capitalist system that emerged at the end of the nineteenth century in England. In fact, production processes in the current economic system take place only when money is advanced into capital goods, labour and so on. If no money is advanced into production processes, then production lies idle, no new capacity is created through investment in the capital stock and labour cannot find work. For Joseph Schumpeter (1911), the banker was the 'ephor' of production processes, since it is often the financier who has the final say in the realisation of a new investment. More than any other economist, he stressed that investment and economic dynamism depend on credit (Herr 2010).

> *In this sense, therefore, we define the kernel of the credit phenomenon in the following manner: credit is essentially the creation of purchasing power for the purpose of transferring it to the entrepreneur (...). The creation of purchasing power characterises, in principle, the method by which development is carried out in a system with private property and division of labour. (Schumpeter 1911: 107)*

Income created through production flows as wages, interest or dividends to asset owners, or remains in enterprises as undistributed profit to be reinvested. *Investment in capital stock* leads not only to high income generation, but also to major advances in productivity, as the new capital goods generally embody newer technologies compared with old capital goods. Income is partly consumed and partly saved – investment thus creates its own savings. Additional assets are created in the course of credit-production-income formation. In a stable expansion process, additional monetary wealth is held in the economy in various forms, from additional cash to domestic deposits to long-term financial investments.

When it comes to understanding investment dynamics, it is also important to focus on the behaviour of the managers (who in smaller companies are also the owners) and financiers of enterprises. Both managers and financiers must be willing to invest. Monetary returns on an investment may lie far in the future; for example, in the case of an investment in a steel or a car factory, but also in a kneading machine for a small bakery. Expectations about future sales opportunities therefore play a central role in investment decisions. Expectations of future cash flows do not depend solely on economic factors, but also on the expected social and political situation and development of the country. When there is considerable uncertainty about economic and societal development, investment will be low (Keynes 1936: Chapter 12).

Positive expectations of sufficient future demand are obviously a factor in expected future returns and investment. This leads to the question of income distribution. If income is distributed too unequally, there will be a lack of sustainable consumer demand. This is the most important element of demand and usually accounts for about two-thirds of total demand in an economy. According to World Bank statistics (2025) Ukraine has a relatively equal income distribution (see Section 1). As consumption demand is the biggest demand element and to a large extent depends on income distribution Ukraine's income distribution increases its chances of launching domestic-oriented growth comparable with the 1950s and 1960s in Germany and other European countries, but also the United States. In an ideal case, high investment triggers high income creation, which in turn leads, as a result of relatively equal income distribution, to high consumption demand, which in turn leads to high capacity utilisation and higher investment. Keeping income distribution relatively equal should thus be one of Ukraine's key policy targets.

Let us return to investment decision-making. After the expected rate of return on an investment is calculated, this rate is compared with the interest rate. If a firm borrows to pay for the investment, it incurs the cost of interest on the loan. If equity is used, owners will demand a rate of return on equity at least as high as the interest rate, which determines the opportunity costs of an investment. This brings us to financiers, the second group that is important in relation to investment, and comprising several subgroups. Both bankers and private wealth owners can lend to firms. However, banks and wealthy individuals do not determine the interest rate. It is the central bank that determines banks' refinancing conditions. Central banks may drive up interest rates by increasing refinancing costs on the money market or keep the real interest rate level high. If monetary policy lowers interest rates, the interest rates for companies generally fall, too. This means that although the central bank has no direct power to determine the interest rate for companies – the interest margin, which includes costs, profits and risk considerations, is determined by the banks alone – it does have a great deal of indirect power to influence interest rate levels. As there is no developed bond market for firms in countries such as Ukraine, private wealth owners play a relatively small role as lenders to firms. In addition, developed bond markets for firms need institutions such as rating agencies or comprehensive knowledge about firms, which are difficult to establish.

The central bank has the task of keeping the inflation rate at a relatively low level. The European Central Bank, the Bank of England or the Federal Reserve Bank (the US central bank), for example, aim at a medium-term inflation rate of 2 per cent. The development of unit labour costs, exchange rates and exogenous shocks, such as energy costs, all play a role in determining the inflation rate. High demand with fully utilised capacity can also lead to inflationary processes. The central bank must react to all of these developments with its interest rate policy. In addition, the interest rate level depends, among other things, on whether a country is affected by capital flight and the exchange rate is under pressure to depreciate (Heine and Herr 2024).

The level of the interest rate is only one dimension of credit supply. Credit markets are not comparable to normal goods markets, in which there is usually a balance between supply and demand, at least in the medium term, and all buyers are served at a given price. Credit markets are characterised by hard credit rationing, in other words, a situation in which those demanding credit are not served. Even at higher interest rates, potential borrowers will not be able to convince a bank to grant a loan if the bank expects that the loan cannot be

repaid (Stiglitz and Greenwald 2003). It is important to understand that the central bank is powerless against hard credit rationing by banks.

Another way of financing investments is to increase equity, in the case of larger companies by issuing new shares. The issue of new shares plays an important role for specific projects, but the macroeconomic significance of issuing shares is low. Let's take the United States, a financial system in which the stock market plays a major role. In 2021, initial public offerings (IPOs) in the United States were extraordinarily high, at 134.9 billion US dollars ($). In recent decades, they have averaged $50 billion (Statista 2025). Gross capital formation in the United States was $5.4 trillion in 2021 (World Bank 2025). IPOs accounted for just 2.5 per cent of capital formation in 2021; normally they are just over 1 per cent. Share buybacks in the United States reached a value of $881.7 billion in 2021 (S&P Global 2023). This means that overall the stock market contributed only marginally to investment financing.

The United States and the United Kingdom have capital-market orientated financial systems with a greater role for equity markets, but also for the financing of larger companies through the issue of bonds, which are often purchased by non-bank financial intermediaries, which then refinance themselves via private wealth owners. Germany and continental Europe in general have more bank-based financial systems. This means that banks also grant long-term loans to large companies and the financing of companies via the issue of bonds plays a small role. But for small companies, too, banks play the major role in the provision of credit in capital market–based systems. For a country such as Ukraine a bank-based financial system with a key role for banks in providing loans to companies is more suitable than a capital market–oriented system. This is because a capital market–based system requires specific institutionalisation, ranging from rating agencies and liquid secondary markets for securities to a culture of limiting speculation, all factors that are generally not present in emerging markets and cannot be created quickly.

It is of central importance for the development of an economy that sufficient credit is available to finance investment on favourable terms. This includes the availability of long-term loans with reasonable interest rates. High interest rates dampen investment activity, encourage risky investments compared with long-term safe investments, and contribute to the creation of income inequality. Financing long-term investments with short-term loans is risky, as interest rates may have risen in the event of debt rescheduling. And sufficient credit should be available not only for big companies, but also for SMEs, as the latter are also of

great importance for the dynamics of capital accumulation in a country. A bank-based financial system is more suitable for supplying SMEs with credit, as small companies have hardly any opportunities to issue securities.

The financial system in Ukraine

It seems clear that after the war is over Ukraine will face a disrupted and dysfunctional financial system. Currency substitution seems to be high, which means that bank deposits and cash in Ukraine are held in foreign currency, mainly US dollars ($) and euros (€). Recent data are difficult to obtain. But Ukraine has a tradition of currency substitution. In 2021 according to IMF calculations (2022: 21) 31.8 per cent of all domestic deposits were in a foreign currency; and 36.9 per cent of domestic loans were in a foreign currency. In addition, it is believed that a considerable stock of cash in Ukraine is held in a foreign currency (Bereslavska and Shkliar 2022). With the beginning of Russia's invasion of Ukraine in February 2022 demand for euro bank notes increased 'extremely' in non-euro-countries close to the war zone (ECB 2023). It must be expected that cash holdings in foreign currency also increased in Ukraine. And finally, a high rate of currency substitution is also indicated by the major role of crypto currencies in Ukraine. 'Ukraine was ranked fifth on the Global Crypto Adoption Index in 2023, and approximately 6.5 million Ukrainians, 15.72% of the population, owned digital currency in 2022' (Ihnatenko and Abbasova 2024: 3). The clearest sign of a distorted financial system is the low percentage of loans issued by banks to the private sector (non-financial corporations and private households, including non-profit institutions serving households) and the low ratio of bank deposits to GDP, both of which were below 20 per cent in Ukraine in 2020. SMEs in particular are heavily credit-constrained in Ukraine (De Haas and Pivovarsky 2022). At the end of 2023 domestic credit to the private sector issued by banks as a percentage of GDP was 14 per cent in Ukraine, compared with 49.8 per cent in the United States, 80.5 per cent in the Euro Area and 82.5 per cent in Germany (World Bank 2025). Of course it should be taken into account here that in the United States the bond market plays an important role.[4] The financial system in Ukraine, which is almost completely bank-based, does not provide the private sector with sufficient credit.

4 Taking total domestic credit to the private sector as a percentage of GDP, we get the following figures (end 2022): Ukraine 23.6 per cent, the Euro Area 86.7 per cent, Germany 83.3 per cent and the United States 189.8 per cent (World Bank 2025).

Why is the credit to GDP ratio so low in Ukraine? In the case of high currency substitution – a high percentage of foreign currency deposits in the domestic banking system, high cash holdings in foreign currency and capital flight to keep wealth abroad – credit expansion in domestic currency, even with very productive investments, inevitably accompanied by an increase in domestic monetary assets, quickly comes to an end. This is because a high proportion of any additional financial assets created are converted into foreign currency, resulting in the depreciation of the national currency. Sharp depreciations lead to inflationary developments, lower living standards and further erosion of the standing of the national currency, with negative economic effects. The central bank has to react to sharp depreciation with high interest rates, which halt credit expansion and investment activity (see Herr 2018; Herr and Nettekoven 2017 and 2022; Heine and Herr 2024).

Borrowing abroad appears to be one way out. However, this way of financing the domestic economy is extremely risky. It is like a 'sweet elixir that conceals a dangerous poison': it appears positive at first, but can have very negative consequences in the long term. The problem is that countries that issue money with a low reputation or, in the eyes of investors, have a low asset protection function, suffer from so-called 'original sin'. Unlike the United States or the Euro Area they cannot borrow in their own currency. In the case of high foreign debt quotas, any sharp real depreciation will trigger a financial crisis, as the real burden of foreign debt increases with depreciation, and the domestic central bank cannot take over the function as lender of last resort.

To sum up, in countries with a low reputation in the eyes of wealth owners the following problems arise. First, credit expansion in domestic currency is restricted. Second, foreign credit in foreign currency, as well as euroisation or dollarisation increase the fragility and instability of domestic financial markets. In particular, currency mismatch in the economy becomes a serious problem. The problem is that international capital flows are not stable. There are boom-bust cycles with periods of high capital inflows and sudden halts caused by changes in expectations, which can be triggered by myriad factors, ranging from high debt ratios and economic problems in other countries to domestic political shocks. Third, high foreign debt leads to high external economic dependence. Fourth, the low quality of domestic currency leads to pressure on central banks to compensate this with relatively high interest rates. And fifth, there is not only a lack of domestic credit, but especially a lack of long-term credit.

It is obvious that Ukraine should create a stable financial system that generates sufficient long-term loans at acceptable interest rates. At the same time, foreign debt, which can lead to instability and dependencies, should be limited. A low inflation rate, a central bank ensuring price stability, an absence of current account deficits and low foreign debt quotas are good strategies for increasing the reputation of the domestic currency. It is an advantage that about half of the bank assets in Ukraine are still state-owned (De Haas and Pivovarsky 2022: 3). Further far-reaching privatisation of the financial system is not an option. Selling domestic institutions to foreign banks would be particularly problematic, as foreign banks are generally very cautious about granting domestic loans and often invest deposits in safe foreign financial markets. State development banks should play an important role in providing the domestic economy with credit, also for SMEs (see below).

In the following section the main features of the German financial system are outlined. This is not intended to be a blueprint for Ukraine, but it can provide suggestions for structuring the Ukrainian financial system.

Key role of development banks

Development banks are state-owned financial institutions designed to support economic development and structural transformation by providing long-term financing and technical assistance. In special cases, they also can provide equity for companies. Unlike commercial banks, which prioritise profitability and low risk and often focus on short-term lending, development banks serve broader public policy objectives. They are particularly vital in funding high-risk, long-term projects in sectors such as infrastructure, technology and renewable energy, which private financial institutions may avoid due to uncertainty or low immediate returns (Griffith-Jones and Tyson 2013). What makes development banks unique is their mandate to address market and financial system failures. They prioritise developmental impact over profit maximisation and often play a countercyclical role by injecting capital during economic downturns (Mazzucato and Penna 2016). This dual function distinguishes them as critical tools for governments, especially in emerging economies, in which private credit systems are often underdeveloped.

In addition to their long-term vision, development banks play a countercyclical role by stabilising credit flows during economic downturns. Private financial systems tend to over-lend in boom periods and withdraw during crises, exacer-

bating economic instability (Griffith-Jones and Cozzi 2017). Development banks, however, maintain or even expand lending during crises, exercising a stabilising influence on economies. UNCTAD (2017) emphasises this role, highlighting how countercyclical lending by development banks has helped to mitigate financial crises in various regions.

Critics of development banks argue that they may be prone to government failures, such as corruption, rent-seeking or inefficient allocation of resources. For example, opponents suggest that by offering lower-than-market interest rates, development banks might distort financial markets or crowd out private sector lending (Shimana 2017). However, these risks must be weighed against the costs of inaction in the face of market failures. Nayyar (2017: 195) argues

> *Industrial policy is no panacea: there are benefits and there are costs. ... The risks associated with industrial policy must be balanced against the risks associated with no industrial policy.*

By addressing both market and government failures effectively, development banks can bridge critical gaps in financial and industrial systems, and this makes them indispensable for sustainable development.

The role of development banks in driving industrial policy is perhaps best exemplified by the success of East Asian economies. These countries used development banks to finance industrialisation through long-term, low-interest loans. Priority was given to projects with strong backward and forward linkages, high value-added and export potential. Rigorous conditions, such as local content requirements and export performance targets, ensured that funding was strategically aligned with national development goals (Stiglitz and Uy 1996; Amsden 2001).

Germany's national development bank KfW (*Kreditanstalt für Wiederaufbau*) offers another compelling example. Established after the Second World War, KfW has consistently supported strategic sectors, from post-war reconstruction to renewable energy. In the 2000s, KfW played a pivotal role in financing 80 per cent of Germany's wind energy plants and 40 per cent of its renewable energy capacity. This underscores the transformative impact of development banks on emerging industries (Naqvi et al. 2018). KfW's unique structure – including state ownership, tax exemptions, no shareholder dividends, and government guaran-

tees for credits given by commercial banks – enables it to focus on long-term development goals rather than short-term profits (Griffith-Jones and Cozzi 2017).

SMEs often struggle to access credit, particularly in developing countries. Development banks can bridge this gap by prioritising innovative, growth-oriented SMEs – often referred to as dynamic SMEs – which drive technological progress and job creation (Herr and Nettekoven 2017; see Section 4).

Germany's decentralised banking system, dominated by community-owned and cooperative banks, serves as a model that goes beyond the role of development banks in a narrow sense. These institutions operate under a regional principle, using local knowledge to allocate credit efficiently. Such approaches could be adapted by development banks in the Global South to support SMEs and local public investment projects (Detzer et al. 2017).

Despite their potential, development banks in developing countries face structural challenges, such as limited domestic credit capacity and currency instability. To overcome these barriers, policies must promote financial stability, including low inflation and manageable current account deficits, while minimising currency mismatches (Herr and Nettekoven 2022). Furthermore, a degree of financial de-globalisation may be necessary to enable sustainable credit expansion, as excessive reliance on foreign capital can undermine domestic financial autonomy (Rodrik 2011; Griffith-Jones and Tyson 2013).

Development banks are more than financial institutions; they are strategic tools for economic transformation. By addressing market and government failures, providing long-term and countercyclical finance, and supporting innovation, development banks enable countries to achieve their industrial policy goals. While challenges such as corruption and inefficiencies must be addressed, the risks of inaction in the face of market failures are far greater. Lessons from East Asia, Germany and beyond highlight the transformative potential of development banks when aligned with coherent industrial strategies. For less developed countries, including countries such as Ukraine, these institutions represent a pathway to overcoming structural challenges and fostering sustainable, inclusive growth.

Financial system in Germany

The German financial system has a reputation for supplying the economy – and SMEs in particular – with the credit it needs. It is bank-centred, which means that banks play the most important role in corporate financing and lending in general. Another specific feature of the German financial system is that banks that are not privately owned and not profit-oriented account for around 50 per cent of the balance sheet of the total banking system and hold more than 60 per cent of total private deposits (see for details Detzer et al. 2017). Table 1 presents the German banking system in terms of bank balance sheets.

Table 1: Structure of the German banking system in 2023 in terms of bank balance sheets

	Ownership	Share of total bank balance sheets	Share of deposits by private households
Three large private banks (Deutsche Bank, Commerzbank and UniCredit Bank AG)	Private	23.3%	16.2%
Regional banks and other private credit institutions	Smaller privately owned banks	18.3%	for both groups 20.2%
Branches of foreign banks	Private	5.7%	
Savings banks (*Sparkassen*)	Local authorities, cities, districts, etc.	14.6%	35.9%
State banks (*Landesbanken*)	Federal states / savings banks	8.5%	0.2%
Credit cooperatives (*Volksbanken and Raiffeisenbanken*)	Customers	11.0%	26.1%
Banks with special promotional tasks (including KfW)	Central state and federal states	15.0%	For all three groups 0.2%
Building societies (*Bausparkassen*)	Private/savings banks/credit cooperatives/state banks	2.4%	
Mortgage banks (*Hypothekenbanken*)	Private/savings banks/credit cooperatives/state banks	2.1%	

Source: Statista (2025).

Germany has three *large private banks*: Deutsche Bank (the biggest), Commerzbank and UniCredit Bank AG. Together they account for 23.3 per cent of total bank assets in Germany. Dresdner Bank, another big bank, went bankrupt after the 2008/09 financial crisis and was taken over by Commerzbank. The three banks in particular provide large companies with loans. Traditionally, the large private banks held large stakes in big German corporations and also represented many small shareholders at general meetings of shareholders. This close personal and capital connection between large banks and large companies and also large private insurance companies was known as 'Deutschland AG'. It was specific to West German capitalism and, alongside the bank-centred financial system or the structure of SMEs, one of the pillars of post War economic miracle. Martin Höpner and Lothar Krempel (2006: 3) of the Max Planck Institute for the Study of Societies summarise the model as follows:

> *This captures an essential characteristic of German capitalism: Financial companies that co-operate rather than compete with each other take stakes in so many companies in industry and commerce that they gain an interest in the stability of the economy. They organise the network – in political economy this is referred to as 'organised capitalism' – carry out intensive monitoring of non-financial companies and regulate competition between them.*[5]

This network has been substantially dismantled from the 1990s on, but still exists to some extent (Detzer et al. 2017: Chapter 11).

The institutionalised codetermination of trade unions in large companies also fits in with this cooperative model. Workers' representatives, mainly trade union members, sit on the supervisory boards of all stock companies. There are also company works councils with consultation and codetermination rights in certain social areas.

Regional banks and other private credit institutions (accounting for 18.3 per cent of total bank assets), some of which are family owned, are relatively small and

5 German texts are translated into English.

have only regional significance. They primarily serve local companies and private households. *Branches of foreign banks* (5.7 per cent of total bank assets) play a relatively small role.

In 2023 there were over 350 savings banks (*Sparkassen*) with 16,000 branches in Germany, owned by local authorities (cities or districts). In terms of total assets, they accounted for 14.6 per cent of all banks in 2023 and around 35.9 per cent of the deposits of German private households. The regional principle applies to them, which means that they can grant loans and carry out other business only in their geographic area. Savings banks are closely linked to local SMEs. They have a broad branch network. Smaller companies and private households keep their bank deposits mainly in savings banks and collectively owned banks (see below). The success of the German *Mittelstand* (SMEs) depends to a large extent on the close relationship between local banks and companies. Savings banks describe their function as follows:

> *Savings banks are independent credit institutions with local roots and a nationwide presence throughout Germany. They are decentralised in their business areas with local decision-making powers and are particularly close to the market and customers.*

> *[They have] the public mandate to ensure an adequate supply of monetary and credit services to all sections of the population, companies and the public sector in the area of their municipal owner. This public mandate is the basis and guideline for their actions. (Sparkassen 2024: 1)*

The savings bank financial group also owns some *Bausparkassen* (building societies) (Sparkassen 2024).

Savings banks have five state banks (*Landesbanken*) as joint central institutions, which combined account for 8.5 per cent of total bank balance sheets. Their owners include the relevant federal states, local savings banks, or both. As central institutions, state banks ensure that the regional savings banks are integrated into supra-regional and international lending relationships. State banks act as the house bank for state governments, cooperate with local state economic

development agencies, finance local infrastructure tasks, for example, and also grant loans to companies (Sparkassen 2024).

The number of state banks was reduced in the wake of the 2008/2009 financial market crisis. Speculative international activities had plunged some of these institutions into major losses, which led to bailouts by the state as the owner of state banks, and also to mergers of state banks. It was a mistake not to ban state banks from doing business abroad and investing in risky assets. Local savings banks, which are forced to concentrate on local business, were an important stabilising factor during the big financial crisis of 2008/09 (Detzer et al. 2016)

The *credit cooperative* banks comprise around 1,000 institutions and over 7,000 branches. In 2023 they accounted for 14.6 per cent of banks' balance sheets and 26.1 per cent of private household deposits. Of the more than 30 million customers, 17.8 million are also members, that is, owners of their bank. It is worth quoting the banks' own literature:

> *The cooperative banking group has traditionally felt particularly committed and connected to the SME sector in all its breadth. Volksbanks and Raiffeisenbanks originated as self-help organisations for small and medium-sized enterprises. This origin characterises their self-image. As partners and financiers, they are committed to a strong, independent SME sector in Germany and to a culture of independent firms. (Genossenschaftliche Finanzgruppe 2024: 1).*

The credit cooperative banks also have a central institution, DZ Bank, and own building societies (*Bausparkassen*). The regional principle also applies to cooperative banks.

Banks with special promotional tasks are state-owned, partly at central state level and partly by federal governments and partly by lower government levels. Their share of total bank balance sheets in 2023 was a remarkable 15 per cent. Their purpose is to provide state support in certain areas. They serve as an important instrument for targeted industrial policy support. The largest bank in this banking group is the Kreditanstalt für Wiederaufbau (KfW), a development bank owned by the central government (the main owner with 80 per cent of eq-

uity) and the federal states. It is exempted from paying taxes on its profits, pays no dividends to shareholders and benefits from government guarantees (Naqvi et al. 2018). In terms of total assets, KfW was the third largest bank in Germany in 2024, with €561 billion, behind Deutsche Bank (€1,312 billion), the biggest of the three big private banks, and the cooperative DZ Bank (€645 billion) and ahead of Commerzbank (€517 billion) as the second biggest private bank (Mobile Banking 2025).

In the debate on the strategic role of development banks, KfW's positive example is emphasised repeatedly (Griffith-Jones and Cozzi 2017; Dünhaupt and Herr 2020). Most importantly, however, its long-standing role in financing strategic investments provides a good example of successful industrial policy. 'While specific sectors targeted have changed over time, the focus remains on high value adding or technology intensive sectors with a high degree of linkages and spillover effects with the rest of the economy' (Naqvi et al. 2018: 25)

> *As a public law institution ... KfW fulfils a government management function (...), we have repeatedly focussed on issues of particular relevance to the future and current challenges that we face worldwide. Subsidiary action is of central importance to us – we therefore become active precisely when and where the market is weak or stimulus is needed. (KfW 2025: 1)*[6]

In the 1960s and 1970s, KfW supported investment mainly in areas such as industrial machinery, aircraft, ships, capital goods, engineering, coal and steel. In recent decades, renewable energy plants and ecological housing-efficiency were also added. Its main instruments were the provision of credit on preferential terms, subsidised directed credit programmes and subsidised project and export finance. KfW can support firms, including start-ups, private households (for example in changing their heating systems) and local communities, for example for infrastructure projects. It also supports German exports and carries out development projects in less developed countries. The priorities of KfW's work are determined by the central government. In combating the Covid-19 pandemic, for example, KfW played a major role in stabilising the economy (De Conti et al. 2023).

6 Author's translation.

Bausparkassen (building societies) are especially important for private households. *Hypothekenbanken* (mortgage banks) specialise in real estate lending and are allowed to issue mortgage bonds to refinance themselves. But other banks may also provide mortgage loans. Ownership of these banking groups is mixed. Accounting for 4.5 per cent of total bank assets, they play a relatively small role in the German financial system.

In terms of total assets, about 50 per cent of Germany's banks are not profit-oriented and are publicly or cooperatively owned. In 2023 the share of non-profit banks in loans to companies and the self-employed was 61.0%, compared with savings banks (30.3 per cent), cooperative banks (21.0 per cent) and state banks (9.7 per cent) (Statista 2025).

The German banking system is very well suited for supporting SMEs. Big development banks can play a major role in implementing industrial policy in a sustainable and efficient way. Industrial policy has therefore always played a major role in Germany and was an important element in the country's economic success after the Second World War.

4.
Short case study of the Marshall Plan after the Second World War

The Marshall Plan, formally known as the European Recovery Program (ERP), was a US initiative launched in 1948 to address the economic devastation afflicting post-war Europe and to counter the geopolitical threat posed by the Soviet Union. Named after US Secretary of State George C. Marshall, who outlined the program during his 1947 Harvard commencement address, the ERP provided approximately $12.4 billion to 16 Western European countries, including West Germany, France and Great Britain. This initiative played a critical role in reconstructing war-torn economies and 'containing communism' (Hogan 1987).

The Marshall Plan pursued two primary goals: first, to revive Europe's productive capacities and financial systems in order to restore normal economic functioning; and second, to establish a strong capitalist Western Europe as a bulwark against Soviet expansion (DeLong and Eichengreen 1993). However, some historians argue that the Plan also served US economic interests by providing a solution to post-war overproduction and ensuring a stable market for American goods (Milward 1984).

The ERP combined substantial financial aid with conditional economic reforms. Participating countries were required to: (i) develop multilateral trade and payment systems within Europe, (ii) move toward currency convertibility, (iii) reduce trade barriers, including eliminating discrimination against US imports, (iv) limit government controls such as rationing and subsidies, and (v) expand exports to the United States (Hogan 1987; Eichengreen 2008). The last point is particularly interesting, as the United States promoted West Germany's export success. The Federal Republic of Germany was founded in 1949 and from a current account deficit of 0.3 per cent of GDP in 1950, Germany was able to record a surplus of 2.1 per cent of GDP as early as 1951. The surplus remained high throughout the 1950s (Statista 2025).

These conditions were supposed to integrate European economies into a liberalised trade system, while promoting American economic interests. Aid was distributed unevenly, with larger industrialised countries receiving the bulk of

it, based on the belief that their recovery would stimulate economic growth in smaller states (DeLong and Eichengreen 1993).

Recipient countries, including West Germany, were required to pay for Marshall Plan goods, which meant US exports, in local currency, which was deposited into designated *counterpart funds*. This innovative mechanism was central to the operation of the Marshall Plan. Rather than providing direct cash transfers or grants, the US supplied goods – industrial equipment, machinery and agricultural products – which recipient governments purchased using their own currencies. These local payments were then held in special accounts within the recipient countries. Crucially, no actual US dollars were transferred; the transactions effectively recycled local currencies within recipient economies while securing markets for US exports (Naqvi et al. 2018).

The counterpart funds had a dual purpose. Domestically, these funds financed critical public investments, addressing immediate recovery needs such as infrastructure rebuilding, industrial modernisation and regional development. In West Germany, these funds were managed by KfW, an institution established to administer and invest counterpart funds strategically. From 1950 to 1953, KfW allocated approximately $1.89 billion (DM 3.7 billion) to projects in manufacturing, transport and energy. Taking German GDP from 1950 this makes 1.08 per cent for a period of three years. This was substantial but not spectacularly high and did not push Germany into a foreign trade deficit. KfW's role extended beyond mere distribution; it acted as an architect of economic recovery, identifying key areas for growth and ensuring that investments were in line with long-term development goals (KfW 2004). For example, it prioritised projects that enhanced productivity, fostered regional connectivity, and supported SMEs.

Internationally, *counterpart funds* aligned with the Marshall Plan's goal of fostering trade liberalisation and European economic integration. A portion of these funds supported the European Payments Union (EPU), which allowed member countries to settle trade imbalances without depleting hard currency reserves. This system not only stabilised intra-European trade but also reduced transaction costs, encouraging economic interdependence among participating nations. These arrangements reflected the Marshall Plan's broader geopolitical aims, as they tied Western Europe's recovery to US strategic and economic interests while countering the influence of the Soviet bloc (Hogan 1987).

While the Marshall Plan is often credited with Western Europe's rapid recovery, critical analyses reveal a more nuanced picture. The Program's in-kind aid structure primarily served US domestic interests by absorbing surplus production and establishing dependency on US goods. The claim that 'no money was ever transferred' underscores how the Marshall Plan functioned as a mechanism for economic diplomacy, in which material aid rather than liquid funds underpinned recovery (Naqvi et al. 2018). By tying aid to the purchase of American goods, the plan ensured that financial benefits flowed back to US producers, reinforcing domestic stability while shaping the global economic order.

West Germany's recovery was further bolstered by the London Debt Agreement (LDA) of 1953, a landmark framework that addressed both pre-war and post-war debts. Negotiated among 20 creditor nations, including the United States, the United Kingdom and France, the LDA reduced Germany's external debts by 50 per cent, from DM 29.7 billion to DM 14.5 billion, equivalent to 22 per cent of German GDP in 1952. Crucially, the agreement tied repayments to Germany's economic performance, capping annual debt service at 3 per cent of export revenues. This progressive structure ensured that repayments would not overburden the recovering economy, allowing West Germany to prioritise domestic investment and economic reconstruction. The repayment period was extended over 30 years, creating a stable financial environment for long-term growth (Schuker 1988; Klasing 2011).

The LDA's approach to debt restructuring stands in stark contrast to debt relief policies today, which often impose harsh repayment conditions. For example, recent International Monetary Fund (IMF)-defined debt service/export ratios for countries such as Jamaica (25.9 per cent) and Ukraine (42.3 per cent) impose far greater financial strain on their economies, diverting resources away from domestic investment. In contrast, the LDA prioritised sustainability and mutual benefit, enabling West Germany to rebuild without the punitive conditions often associated with modern debt agreements (World Bank 2023).

The progressive nature of the LDA reflected lessons learned from the Treaty of Versailles in 1919 after the end of First World War, within the framework of which excessive reparations destabilised the German economy in the interwar period. By capping debt repayments and linking them to export performance, the LDA not only facilitated Germany's economic recovery but also promoted trade relationships between Germany and its creditors. This export-linked structure incentivised creditor nations to support Germany's economic success, creating a mutually beneficial cycle of growth and repayment.

The synergy between Marshall Plan aid, *counterpart funds*, and the LDA created the conditions for West Germany's *Wirtschaftswunder* or 'economic miracle'. This integrated approach allowed the country to rebuild its industrial base, restore productive capacity and reintegrate into the global economy. KfW's strategic deployment of its funds complemented the debt relief provided under the LDA, demonstrating how carefully coordinated policies can achieve both economic recovery and structural transformation. Another important element of the Marshall Plan was the promotion of cooperation between the formerly hostile states in Western Europe. In 1951, the European Coal and Steel Community was founded with the most important Western European continental countries. It allowed duty-free exports and imports of coal and steel and operated as a cartel that regulated production volumes in the member states to prevent destructive competition (Bayer 2002).

The Marshall Plan contributed a great deal to European recovery, but it was not purely altruistic. It required recipients to cooperate, adopt liberal trade policies, reduce barriers to US imports and align with the US-led global order. These conditions entrenched dependencies on American goods while securing Western Europe's geopolitical alignment. KfW's strategic use of its funds highlights how local institutions mitigated these dependencies by prioritising domestic needs over external pressures, achieving a balance between liberalisation and state-led development.

The Marshall Plan exemplifies the intersection of economic aid, strategic state intervention and geopolitical strategy. While critical in stabilising Europe and fostering recovery, its mechanisms, particularly counterpart funds, reveal how the US balanced recipient needs with its own economic and strategic priorities. These interdependencies laid the foundation for Europe's recovery while reinforcing US global dominance.

5.
Small- and medium-sized enterprises

Definition

There is no universally accepted definition of small and medium-sized enterprises (SMEs). Indeed, there is considerable divergence between the criteria put forward by different institutions. The European Commission (2020: 11) defines SMEs as enterprises with fewer than 250 employees and an annual turnover of below €50 million. Three categories of enterprises are defined within the SME sector in terms of size: enterprises with fewer than 10 employees and up to €2 million turnover are microenterprises; enterprises with fewer than 50 employees and up to €10 million turnover are small enterprises; and enterprises with fewer than 250 employees and up to €50 million turnover are medium-sized enterprises (ibid.). Large enterprises are thus those with more than 250 employees or more than €50 million annual turnover (Destatis 2024a). According to KfW-ifo SME Barometer, however, SMEs are enterprises with up to 500 employees and up to €50 million annual turnover (KfW 2024a: 3). With regard to the retail trade, construction and service sectors, lower annual turnover or employee size thresholds are identified (ibid.). The SME definition of the International Financial Corporation (IFC), a member of the World Bank Group (2024), differs from both these institutions (see Table 2).

Table 2 Alternative SME definitions

Institution	Enterprise category	Number of employees	Turnover size
European Commission	Microenterprise	< 10 and	≤ €2 million
	Small enterprise	< 50 and	≤ €10 million
	Medium-sized enterprise	< 250 and	≤ €50 million
Destatis	Large enterprises	≥ 250 or	> €50 million

Institution	Enterprise category	Number of employees	Turnover size
KfW	SME (in general)	≤ 500	≤ €50 million
	Retail sector	≤ 500	≤ €12.5 million
	Construction sector	≤ 200	≤ €50 million
	Service sector	≤ 500	≤ €25 million
	Large enterprises	All enterprises exceeding any one of the general thresholds or sectoral thresholds	
IFC	Microenterprise	< 10	< $100 thousand
	Small enterprise	< 50	< $3 million
	Medium-sized enterprise	≤ 300	≤ $15 million

Source: Authors' illustration.

In the EU, SMEs – based on the European Commission's definition – accounted for 99.8 per cent of all enterprises, 53.1 per cent of total EU value added and 65.2 per cent of non-financial business sector employment in 2023. Microenterprises make up by far the largest share of EU SMEs, at 93.8 per cent (European Commission 2024: 8f). The innovativeness and productivity of SMEs are crucial to national economic development.

'Dynamic' SMEs and 'poverty SMEs'

When it comes to productivity (value added per person employed) that of SMEs, on average, increases along with the size of the enterprise. SMEs are on average much less productive than large enterprises, achieving only 60 per cent of the latter's productivity level. Microenterprises on average are the least productive in the SME sector, managing only around 49 per cent of the productivity level of large enterprises, while small enterprises reach 63 per cent and medium-sized enterprises 80 per cent, on average (European Commission 2024: 9 f).

While the productivity level grows with firm size, particularly due to economies of scale and scope and greater financial resources, SMEs can diverge strongly by type in terms of their capacity to innovate and to move to higher value added activities. Some microenterprises or start-ups can be highly innovative compared with some medium-sized enterprises. If grouped by their innovativeness, different types of SMEs have different implications for a country's development. In this sense, we can categorise SMEs as 'dynamic' SMEs and 'poverty' SMEs. Dy-

namic SMEs also have two subgroups: (i) innovation leaders and (ii) companies that adopt these innovations fairly passively (on this, see Herr and Nettekoven 2017: 3f). In this regard, dynamic SMEs could be defined as firms with the potential to achieve product and/or process upgrading, and potentially functional upgrading, along with social upgrading in terms of skill development and improved working standards. Product upgrading and/or process upgrading involve a capacity to bring new and better products to the market, and a capacity to produce more efficiently by using better technology and/or organisational innovations, respectively. Firms' innovativeness could also involve functional upgrading and inter-sectoral upgrading. The former refers to expanding the firm's activities to higher value added activities in value chains or expansion into new sectors, while the latter involves shifting or expanding a firm's productive activities to related sectors with higher value added (for these four types of upgrading, see Humphrey and Schmitz 2002; Gereffi 2019). For SMEs in value chains, this entails undertaking a wider range of sophisticated tasks within the value chain, including the production of more technically demanding components, and even the design and marketing of the product. By upgrading, SMEs can also develop into larger enterprises eventually.

So-called 'poverty SMEs', on the other hand, are neither innovation leaders nor necessarily have the capacity to adopt innovations; they usually emerge because of a lack of alternative employment opportunities or sustain their market competitiveness based on very low labour standards, including low wages or incomes for self-employed persons. Poverty SMEs usually exist in the informal sector and in the Global South their share of total SMEs is usually high. These SMEs make no contribution to a country's economic development. Nevertheless, such SMEs – which may also be called 'necessity start-ups' – are also present in the Global North. For example, in Germany in 2023, 8 per cent of start-up entrepreneurs were previously unemployed and 23 per cent of new businesses were launched because of the lack of better income alternatives (KfW 2024b: 3). However, poverty SMEs, such as small street food stalls or self-employed shoemakers or seamstresses, can increase employment. Consider micro enterprises (that is, companies with fewer than 10 employees): while of course not all of them are poverty SMEs, in 2022 they contributed almost 20 per cent of employment in Germany, and together with small enterprises (fewer than 50 employees) around 40 per cent of total employment (see Table 3).

Table 3 Shares of micro, small-, medium-sized and large enterprises in Germany in 2022, selected characteristics, values in brackets for the European Union (%)

Size categories	Number of enterprises	Employed persons (employees and self-employed)	Turnover (net)	Gross investment in tangible assets	Gross value added at factor costs
Micro, small- and medium-sized enterprises	99.3	54.7	26.5	43.8	51.6
Micro enterprises 1)	82.0	19.4	6.4	14.3	12.4
Small enterprises 2)	14.8	20.0	9.6	14.9	15.1
Medium-sized enterprises 3)	2.5 (0.9)	15.3 (16.0)	10.5	14.7	15.1 (17.1)
Large enterprises 4)	0.7 (0.2)	45.3 (35.6)	73.5	56.2	58.4 (47.6)

Notes:
1) Micro enterprises: fewer than 10 employees and annual turnover or annual balance sheet of less than €2 million;
2) small enterprises: between 10 and 50 employees and annual turnover or annual balance sheet of less than €10 million;
3) medium-sized enterprises: between 50 and 250 employees and annual turnover of less than €50 million or an annual balance sheet of less than €43 million;
4) large enterprises: more than 250 employees and annual turnover of at least €50 million or an annual balance sheet of at least €43 million.

Source: Statistisches Bundesamt (2024), Eurostat (2024a).

Key role of dynamic SMEs in development

Dynamic SMEs are economically and socially significant because of their value-added and employment creation, but more importantly because of their capacity to innovate or adopt innovations. For this reason, the creation of new companies or the further development of existing innovative SMEs would boost entrepreneurship. This should also be part of industrial policy.

Turning to SMEs in the Global South, which are integrated in global value chains (GVCs), product and process upgrading is limited but feasible, for example in the electronics and garment sectors, but functional upgrading is rare (Gereffi 2019: 242; Humphrey and Schmitz 2002: 1023f; Giuliani et al. 2005: 563f). Continuous product and/or process upgrading in SMEs integrated in global value chains as suppliers to big multinational lead firms are necessary in some industries in

order to remain competitive in global markets. Lead firms in global value chains often facilitate such upgrading in SMEs. Without these lead firms, SMEs would usually not be able to switch to higher value-added activities, especially considering the hierarchical structure of global value chains.

SMEs that manage to achieve functional upgrading may play a key role in a country's development by taking over higher value-added activities. Expanding or shifting to higher value added economic activities is necessary in order to boost GDP per capita and narrow the gap between the living standards of less developed countries and those of high-income countries. On the basis of proactive industrial policy, which ideally should also facilitate learning and technology transfer from global lead firms, functional upgrading is a way of escaping from the so-called 'middle income trap'. The development experience of many East Asian economies exemplifies this. Industrial upgrading in the apparel industry in East Asian economies, exemplified by Hong Kong, South Korea, Singapore and Taiwan, commenced with the observation and emulation of foreign (American and European) buyers and marketing strategies during the 1960s and 1970s. This involved the analysis of market preferences, quality requirements, supply chain organisation and marketing (Gereffi 1999). The role of a heavy, multifaceted industrial policy should not be overlooked in the context of these countries' developmental experience (Stiglitz 1996).

For SMEs in the Global North, which already operate in an economic context of relatively high level technology and easier access to finance, skills and knowledge, regular product and process upgrading, whether as innovation leaders or followers, is the norm rather than the exception when it comes to remaining competitive in an industry. Many SMEs in the Global North remain productive and competitive based on technological or organisational advancements, not usually as a result of low labour standards. Functional upgrading is not necessarily required to increase these SMEs' value added. Many SMEs in the Global North rather remain with their specialised product lines, regularly advancing their products and production processes.

The role of small- and medium-sized enterprises and their financing in Germany

In the German economy, as in all countries, SMEs play an important role in employment and gross value creation. In 2022 in Germany micro enterprises (fewer than 10 employees) accounted for 19.4 per cent of all enterprise employ-

ees; the share of small enterprises (between 10 and 50 employees) was 20 per cent, that of medium-sized enterprises (between 50 and 250 employees) was 15.3 per cent, and that of large enterprises (250 persons or more) was 45.3 per cent. Value-added per person in Germany, as well as gross investment per person is larger in large enterprises than in other enterprises (Destatis 2025). This is because in small enterprises less capital per person is needed – for example in tax consultancy offices or small restaurants – than in big factories. Also, many SMEs can be found in low productivity sectors, for example in delivery services and security firms. This does not exclude that some SMEs are very successful in high-tech sectors and especially in niche markets (see below).

In 2022 the shares of both employment and gross value added in large enterprises was lower in the EU than in Germany. This indicates that Germany is more industrialised than the EU average (see Table 3).

Innovations do not take place in isolation in individual companies. Rather, innovative companies are integrated in networks or clusters and part of innovative regions. A number of factors combine in economic clusters to boost the innovative strength of regions and countries. In order to measure the innovative strength of regions, the EU has developed a Regional Innovation Scoreboard as an index. The index encompasses a large number of indicators. The latter are divided into three groups: *Enablers* (including finance and support, human resources such as doctoral students, international cooperation, public sector R&D expenditure, availability of venture capital and so on); *Firm Activities* (innovative SMEs collaborating with others, SME innovation in-house, public-private cooperation, firm R&D expenditures); and *Outputs* (SMEs with product or process innovations, SMEs with marketing or organisational innovations, employment in knowledge-intensive activities, employment growth in firms' innovative sectors, export of medium or high-tech goods and services, and so on) (European Commission 2024: 6). It becomes clear that SMEs play an important role in regions' innovative power. As already mentioned, not all SMEs are innovative – as Schumpeter put it (1911), they are normal firms – but those that are represent a key ingredient in countries' innovative potential and economic development.

The EU's Regional Innovation Scoreboard 2023 (see Table 4) shows EU Member States and their innovative regions. Regarding innovative regions, Germany is in a strong position, with eight regions classified as innovation leaders, twenty-one as strong innovators and nine as moderate innovators. Among the most innovative regions in the EU in 2023 we find Hovedstaden in Denmark, followed

by Helsinki-Uusimaa in Finland, Oberbayern in Germany, Stockholm in Sweden, and Berlin in Germany (European Commission 2024: 15). It should be noted that even relatively small countries such as Denmark, Finland, Sweden and Switzerland have gained a strong position among innovation leaders, while Germany, the largest economy in the EU measured by GDP, has the most regions in the groups 'innovation leaders' and 'strong innovators'. Other large European economies, such as the United Kingdom, France, Italy and Spain, are lagging behind in terms of the number and quality of innovative regions. The other European countries shown in the table are relatively weak with regard to innovative regions.

Table 4 Regional performance groups by country based on the Regional Innovation Scoreboard 2023

	Perfomance group EIS	Innovation Leader			Strong Innovator			Moderate Innovator			Emerging Innovators		
	2023	+		-	+		-	+		-			
All countries		5	9	22	18	20	32	25	24	20	42	12	10
Switzerland	Innovation Leader		3	2	2								
Denmark	Innovation Leader	1	1	1		1	1						
Sweden	Innovation Leader	1	2	1		1	1	2					
Finland	Innovation Leader	1			3					1			
Netherland	Innovation Leader		1	5	3		3						
Belgium	Innovation Leader			2		1							
Austria	Strong Innovator			1		2							
Norway	Strong Innovator			2		3		1					
Germany	Strong Innovator	2	2	4	7	7	7	7	2				
Ireland	Strong Innovator				1		2						
United Kingdom	Strong Innovator			2	2	2	5	1					
France	Strong Innovator			1		2	2	3	3	1	1	1	
Slovenia	Moderate Innovator						1		1				
Czechia	Moderate Innovator			1			1		5		1		
Italy	Moderate Innovator						3	7	4	5	2		
Spain	Moderate Innovator					1	3	1	3	6	3	1	1
Portugal	Moderate Innovator							1	2	1	3		
Lithuania	Moderate Innovator						1			1			
Greece	Moderate Innovator							1	1	5	6		
Hungary	Moderate Innovator						1				7		

	Perfomance group EIS	Innovation Leader			Strong Innovator			Moderate Innovator			Emerging Innovators		
Croatia	Emerging Innovator						1				3		
Slovakia	Emerging Innovator							1			3		
Serbia	Emerging Innovator								1		1	2	
Poland	Emerging Innovator							1	1		10	5	
Bulgaria	Emerging Innovator										1	3	2
Romania	Emerging Innovator										1		7

Note: Countries ordered by their performance score in the European Innovation Scoreboard 2023; the plus and minus signs for the different performance groups indicate: (+) top sub-group, (no sign) middle sub-group, (-) bottom-sub-group.

Source: European Commission (2024: 15).

The OECD (2023) provides more detailed information about the SME sector in its SME and Entrepreneur Outlook (see Table 5). German SMEs perform very well with regard to the exchange of information in supply chains, the use of customer relationship management software, building networks with other professional groups, and links with local chambers of commerce. They are above the OECD average with regard to cooperating on innovation activities with universities or other higher education institutions. They are not particularly good in international cooperation and networks outside their own enterprise groups. Furthermore, networks of women scarcely exist in the German SME sector. In terms of social media use and cloud computing services German SMEs are slightly below average. Overall, however, the performance of SMEs in Germany is good, with a number of strengths, some characteristics that are close to the OECD average, and also some weaknesses.

Table 5 SME integration to networks or network technologies, benchmarking OECD indices, scale from 0 to 200 (0 being the lowest OECD value, 100 the median value, and 200 the highest value)

Indicator	Germany	Comparison with all OECD countries: Bottom 5, Middle group, Top 5
Firms cooperating on innovation activities with universities or other higher education institutions	120	Middle group
Firms cooperating on innovation activities with enterprises engaged in international collaboration	50	Middle group
Firms cooperating on innovation activities with private business enterprises outside the enterprise group	60	Middle group

Indicator	Germany	Comparison with all OECD countries: Bottom 5, Middle group, Top 5
Businesses sharing supply chain management information	195	Top 5
Businesses using social media	95	Middle group
Purchasing cloud computing services	95	Middle group
Businesses using customer relationship management software and businesses purchasing cloud computing services (including office software, finance or accounting software, customer relationship management software, hosting of databases, storage of files, and computing power to run own software)	180	Just reaching Top 5
Women's networks 1)	1	Bottom 5
Networking with small business leaders	50	Middle group
Networking with people with similar jobs	10	Bottom 5
Networking with other professional groups	180	Top 5
Local chamber of commerce	180	Top 5
Industry-based networks	50	Middle group
Networking with at least one group	150	Middle group

Note: 1) This and the following indicators are based on a survey which asked: Which of these kinds of professional groups, if any, are you a part of?

Source: OECD (2023: 321).

Germany is known for its *hidden champions*, that is, medium-sized companies that play an important role in a niche product on a continent or worldwide; they are usually one of the three leading suppliers in a market and have annual revenue below $4 billion (Simon 2009: 15). Hidden champions belong to the group of SMEs or are smaller companies within the group of larger companies and usually are publicly little known. Although their size does not necessarily qualify them as SMEs according to the definitions in Table 2, they are much smaller than the big global multinational companies listed in, for example, the Fortune Global 500 (ibid.). The empirical estimation of hidden champions is not easy. For example, there are no standardised global statistics. But there is agreement

that there are a disproportionately high number of hidden champions in Germany, given the size of the country. Rammer and Spielkamp (2019) estimated that there were 1,637 hidden champions in Germany, Schenkenhofer (2022) came up with a figure of 1,372.

Hidden champions are companies that produce highly specialised products or services in their niche market and refrain from diversification (Simon 2009: 65). They are an example of how firms, especially in the Global North, may remain highly productive and competitive within global value chains by product and process upgrading, and that functional upgrading is not relevant or even desirable for them. Hidden champions show a number of characteristics (Herr and Nettekoven 2017). They are economically independent, which usually implies that they are family businesses and have no separation between management and ownership. They are not affected by financialisation as there are no shareholders – in many cases institutional investors – pushing for fast returns on investment. Hidden champions have lean organisations and flat hierarchies and they have close customer relations with mutual trust. Also important is the fact that they have high social capital, which means they work closely with local politicians and have a strong commitment to social activities in their local environment. Last but not least they are entrepreneurs in a Schumpeterian sense with a long-term approach; profit maximisation is only one of many investment aims and in many cases not the most important (Schenkenhofer 2019: 458ff).

An important precondition for hidden champions is access to funding (see Section 2). Rammer and Spielkamp (2029: 4) write about hidden champions: 'The scope of action depends on the firm's cash position and the available means to finance trendsetting projects.' Changes in the German financial system have been limited despite global financial liberalisation (Detzer et al. 2017; Vitols 2024). This is particularly true in the area of financing SMEs and hidden champions, many of them belonging to the German *Mittelstand*. The house bank principle continues to play a major role for SMEs and makes banks stable long-term partners of firms.

> *In Germany, the house bank principle has proven its worth for Mittelstand companies, which describes the close cooperation of a Mittelstand company with a local bank (communal saving banks and credit cooperatives) in a long-term partnership. (Schenkenhofer 2022: 458)*

To summarise, financing via the local banking system plays a decisive role in the success of SMEs in Germany. The house bank principle allows for stable and long-term financing, which also helps to overcome firms' short-term problems. In particular, the non-profit regional oriented banking sector plays a positive role here. One segment of SMEs, so-called 'hidden champions', ensure a high level of innovative strength in the sector, which of course requires many other elements for success in addition to financing. But not only finance is important for SME dynamics. SMEs should be supported by strong chambers of commerce and other institutions, which organise technological transfer, qualifications and social capital in the form of networking with the local community. One of the secrets of SME development seems to be the combination of competition and cooperation.

German experience also teaches us that a decentralised innovation dynamic via SMEs, however successful it may be, is not sufficient for a country to be successful overall. Decentralised innovation must be complemented by the innovative strength of large companies and the control and support of fundamental technological developments through processes organised by the whole of society through central government. In Germany, this last dimension has been neglected, a clear example being the German automotive industry (Book 2024).

6.
Large enterprises – national champions

The term 'national champion' has more than one definition in the literature, but it commonly refers to strategically important and mostly large domestic enterprises, although enterprise size can differ from private to public sector or country to country in terms of domestic market share and export success. Fogel et al. (2011: 34), for instance, define national champions in terms of their presence among the top ten largest employers in a country in a given year. Alice Amsden provides a more detailed description, labelling such firms 'national leaders':

> *A national leader may be understood as a nationally owned and controlled firm that is 'targeted' by government (it receives a disproportionate share of subsidies, which allows it to become a dominant player in its 'competitive base' (domestic market), in exchange for which it is obliged to invest heavily in proprietary knowledge based assets. These assets, in turn, allow it to globalise through exporting or outward foreign direct investment. (Amsden 2001: 190)*

The strategic importance of such national champions is discussed in the literature (see Amsden 2001: 190f), including their relative contributions to GDP, employment, technological advancement, connectedness to other industries or global market share. They emerge or exist as wholly or partially state-owned enterprises, private enterprises or joint ventures with foreign firms. In many cases they are supported by the state, directly or indirectly, and may be protected from global competition by trade restrictions when necessary (see, for instance, Amsden 2001: 190f). The development of key domestic industries and globally competitive large domestic enterprises by means of industrial policy and protectionism has been widely shown in the literature. The cited examples include some of today's advanced industrialised countries (Chang 2003) and late industrialising countries in East Asia and Latin America (Rodrik 1995; Stiglitz 1996; Amsden 2001). Notable examples of national champions in late industrialising countries, particularly in technology-intensive sectors, have emerged as a result of robust industrial policy. These include Hyundai Motors and Samsung in South

Korea; Acer Computers in Taiwan; Maruti Motors in India; and the petrochemical and steel industries of Brazil, Mexico, Chile, China and Indonesia, among others (Amsden 2001: 193f; Rodrik 1995: 81f). In Germany, prominent examples of national champions include large manufacturing companies in the automotive industry, such as Volkswagen Group and BMW; in the electronics industry, such as Siemens; and in the steel industry, such as Thyssenkrupp (Bofinger 2019).

In what follows we focus on the role of national champions in development and economic catch-up, as discussed in the literature. We advance economic arguments, as well as political-economic and socio-economic justifications, before concentrating on the German capitalist model.

6.1 Key role of national champions for economic development and catching-up

The role of industrial policy, including opening – but also closing – certain sectors for FDI, and trade protectionism in fostering the growth of large domestic enterprises is a topic of considerable debate in the field of economic development. While some argue that such policies are essential if countries are to advance economically and catch up with more developed nations, others take the opposite view. The main arguments against a national champions strategy are as follows: first, it may distort market competition, which is thought to facilitate enterprise innovation and thus productivity in the economy. Second, politicians may fail to identify the appropriate industrial policy instruments or firms to support. Third, it may pave the way for corruption and/or rent-seeking on the part of firms, which would then fail to achieve the aim of creating productive and innovative large domestic enterprises. It is certainly a bad model if a handful of companies in an oligarchic structure dominate the government and thus also the industrial policy being pursued without developing sufficient innovative strength of their own (Aghion 2023: 30f). On top of these arguments, a new strand of criticism of the national champions strategy for development purposes has been raised in the twenty-first century in relation to the climate crisis. As supporting the big national firms usually goes hand in hand with supporting fossil fuel–based industries using outdated technologies and harmful energy sources, a ‘national champion’ strategy in industrial policy has been criticised as being counteractive to ecological sustainability goals, particularly in the context of today’s advanced industrialised countries (see Aiginger and Rodrik 2020: 201; Mazzucato 2024: 41).

These are valid criticisms. However, if we understand economic development narrowly as 'a process of transition from a set of assets based on primary products, exploited by unskilled labour, to a set of assets based on knowledge, exploited by skilled labour' (Amsden 2001: 2), a whole range of economic, political-economic and socio-economic arguments can be brought forward to substantiate the implementation of a national champions strategy for development.

Economic arguments

The initial rationale for establishing large domestic enterprises via industrial policy is to take advantage of internal economies of scale. Certain technologies make sense only in large-scale production. There are indivisibilities in production inputs. For example, computerised assembly line production for cars cannot be broken down to produce only a few units, and efficient research departments for software development cannot be made very small. What is more, there are efficiency gains with increasing size, such as optimal stock-keeping in relation to output, which decreases with production volume. There are also network effects, for example in the railway system or water supply for households and firms. These effects of various kinds mean that in many areas large companies are more efficient than small ones. However, large companies have to make large capital advances, which lead to high stocks of fixed capital. Fixed costs are then distributed on a larger output quantity, lowering the cost of production per unit of output. High stocks of fixed capital create market entry barriers in many segments of industrial production and services with internal economies of scale, such as the automotive industry, the pharmaceutical industry, chemicals or internet platforms. Only large-scale enterprises can afford to remain competitive in these industries; new firms have no chance of entering the market. For this reason, internal economies of scale lead endogenously to oligopolistic markets or even monopolies. Profits are higher in these market structures compared with markets with a high number of smaller firms (so-called 'pure competition'). East Asian countries have shown that national champions can be established only with government help and protection. Of course, FDI by multinational companies could establish big companies in specific sectors, but in that case a country will not be able to achieve top position in the sector as the foreign owner will not transfer key competences and innovative power to subsidiaries. Furthermore, profits will flow out of the country (see Amsden 2001: 197f; Stiglitz 1996: 159).

Second, large enterprises usually invest more in research and development (R&D), and have more financial resources for investment in new technologies,

new products and employee training, which allows them to increase productivity. Large enterprises are more likely to incur high R&D investment costs without the need for quick profits as they have a larger and richer variety of financial sources than smaller enterprises. The return on R&D investment usually requires a long time span and is uncertain, which justifies protection from competition and government support in various ways. This is also because high levels of competition could result in knowledge leakages, which would then reduce enterprises' expected return on R&D investment, cutting their investment in new discoveries (Stiglitz 1996: 158; Aubert et al. 2008). The learning effects due to larger volumes of production, along with larger financial capacity to invest in R&D and acquire new technologies, not to mention higher investment in employee training result in higher productivity and innovative power among large enterprises (see, for instance, Chandler 1990: 8f). In the EU, on average, large manufacturing enterprises with 250 or more employees had labour productivity per hour around twice that of enterprises with 20–49 employees in 2022 (Eurostat 2024a). A much higher share of large enterprises (78.6 per cent) give rise to in-house product or process innovations, compared with medium-size enterprises (55.5 per cent) and smaller enterprises (39.5 per cent) in the EU19 (Eurostat 2024b: Figure 3).

If we take Germany, for example, as in the EU on average, large enterprises have much higher productivity levels than SMEs. If we take the German manufacturing sector, while enterprises with 20–49 employees and those with 50–249 employees had a value added per hour of around €42 and €49, respectively, enterprises with 250 or more employees had a value added per hour of around €80 on average in 2022 (Eurostat 2024a).

If we take digitalisation as an example for technological investments, in the EU the gap between SMEs and large enterprises is considerable, especially at high levels of digital intensity.[7] While 70 per cent of small enterprises (10–49 employees) and 89 per cent of medium-sized enterprises (50–249 employees) reached at least the basic level of digital intensity, a very high level of digital intensity was achieved by only around 4 per cent of small enterprises and 15 per cent of medium-sized enterprises as of 2024. On the other hand, around 98 per cent of large enterprises (250 or more employees) reached at least the basic level and 40 per cent of large enterprises reached a very high level of digital intensity in

7 The Digital Intensity Index indicates the variety of digital technologies used by enterprises, ranging from zero to twelve (Eurostat 2024c).

2024 in the EU (Eurostat 2024c). Only 7.4 per cent of SMEs used at least one type of so-called 'artificial intelligence' ('AI') technology as opposed to 30.4 per cent of large enterprises in 2023 in the EU (Eurostat 2024d).[8]

In terms of employee training, in the EU the frequency of enterprises providing continuing vocational training (CVT)[9] courses and/or other forms of CVT increases with company size. Only 63.5 per cent of small enterprises (10–49 employees) has provided these courses as opposed to 82.5 per cent of medium-sized enterprises (50–249 employees) and 92.8 per cent of large enterprises (250 employees or more). Annual expenditure on CVT courses per person employed differ significantly between SMEs and large enterprises, at €342 for small enterprises and €435 for medium-sized ones, while large enterprises spent €858 per employee for CVT courses in the EU in 2020 (Eurostat 2024e).

Political economy arguments

First, it can be anticipated that major domestic-oriented enterprises will allocate profits to investments within the domestic market, given their superior ability to identify and exploit domestic profit opportunities. In contrast, foreign firms operating within the domestic market are more likely to reinvest their profits elsewhere in the global market (Amsden 2007: 294). Second, if we take especially global value chains between the Global North and the Global South, foreign multinational companies (MNCs) with headquarters in the Global North usually carry out only low value added activities in the Global South. Independent domestic firms with the help of subsidies for R&D are likely to have a strong motivation to engage in functional or intersectoral upgrading, whereas foreign multinationals in the domestic economy usually do not facilitate knowledge diffusion, at most only minor technology and knowledge transfer (Amsden 2001: 191; Wade 2016: 30; Dünhaupt and Herr 2022: 84). While FDI can be beneficial in the case of greenfield investment in terms of increasing productive capacity and creating employment opportunities, it does not guarantee the transfer of technology and knowledge to the host country. This can be achieved, however, through the implementation of strategic industrial policies, such as local content rules,[10] as

8 All activities (except agriculture, forestry and fishing, and mining and quarrying), without the financial sector (Eurostat 2024d).

9 '*Weiterbildung*' in German.

10 It should be noted that the use of local content rules is prohibited under the World Trade Organization's (WTO) TRIMS Agreement.

evidenced by the experiences of late industrialising East Asian countries and, more recently, China (Holzman and Zenglein 2022: 420f). Third, in many cases, benefiting from global markets and achieving global competitiveness against foreign firms requires the exploitation of internal and external economies of scale, which domestic firms can manage only by means of protection and government support (Krugman 1991; Dünhaupt and Herr 2022: 90). To develop an industry from infancy to an advanced level ready for global competition, vertical industrial policy and protection from global competition are necessary, directed towards specific industries or specific firms, thereby generating national champions, as suggested by Friedrich List's (1885) well known infant industry argument. Almost all of today's advanced industrialised countries used industrial policy and protectionism to develop their infant industries in the eighteenth and nineteenth centuries (Chang 2002). Fourth, a certain degree of economic autonomy in some sectors, such as steel, chemicals, mining, IT and agriculture, are significant as they provide inputs to the rest of the economy and are strategically important for national security reasons. Thus, subsidising and protecting large domestic enterprises in these sectors from global competition is also justified by the strategic autonomy argument.

Socio-economic arguments

Large enterprises generate significant employment and innovation, and they are usually bastions of institutions specific to the type of capitalism prevailing in that country. Big companies are at the centre of national wage bargaining institutions and specific corporate governance models. Relatively high labour standards and labour movement strength are rooted in large enterprises. They become anchors for the wage bargaining system, corporate governance and labour standards in the other sectors and the economy in general.

Large companies play a key role in social dialogue, which can facilitate investment in future technologies and employee training, leading to increased productivity and competitiveness and, ideally, high labour standards. However, it is important to rein in oligarchic structures – that is, the exertion of influence over governments by oligarchs with domestic oligopolies or monopolies, for example, by financing specific parties or controlling mass media and political development. Here too, strong trade unions play a central role, working together with civil society to curb the power of oligarchs.

6.2 The role of national champions in Germany

Germany's post-war model of capitalism has long been a poster child in the literature, labelled a 'coordinated market economy' by 'varieties of capitalism' research (Hall and Soskice 2001: 21f; Wood 2001) or 'cooperative managerial capitalism' (Chandler 1990: 393f), whereby market and non-market coordination across institutions and actors, and complementarities between them prevail. After the Second World War, Germany faced the challenge of rebuilding its economy while preventing the concentration of economic power in the hands of a few. Unlike in the early twentieth century, when cartels and industrial conglomerates exerted significant influence, post-war reforms prioritised competition and market openness. Strong antitrust laws limited monopolisation, and codetermination rules gave workers a voice in corporate decision-making, preventing industries from being controlled solely by business elites. The social market economy fostered broad-based industrial growth rather than the dominance of a few powerful actors, ensuring that economic success did not translate into unchecked political influence.

If we take the 'varieties of capitalism' approach, for example, the defining pillars or areas of interaction of a capitalist model are industrial relations, corporate governance and relations between firms and the financial system, vocational education and training, and inter-firm and industry and science relations in knowledge and technology generation (Hall and Soskice 2001).[11]

The defining features of Germany's cooperative capitalism model have been identified the following: employee participation in company management, coordinated sectoral wage bargaining, development banking and the so-called 'house bank' system, dual apprenticeship, and a cooperative/competitive system between firms, along with industry and science partnerships to produce new knowledge and technological advancement (Hall and Soskice 2001: 21f; Wood 2001; Herr and Nettekoven 2017; Chang and Andreoni 2019, among others).

First, the stakeholder model of corporate governance – namely the codetermination system based on works councils at enterprises with at least five employees and supervisory boards at the largest companies (with more than 2,000 employees) – is probably the most striking characteristic of the German model of capitalism. The wage bargaining system consisting of collective wage negoti-

11 Varieties of capitalism research concentrates mainly on supply side conditions. Macroeconomic demand drivers are neglected. For the arguments here this does not play a role.

ations between trade unions and employers' associations[12] is organised mainly at sectoral level between employers' associations and trade unions. There is also company-level wage bargaining, however, for example at Volkswagen AG. After Germany's reunification the traditional characteristics of the national wage bargaining system began to be eroded by declining union membership, employers' association membership and the labour market reforms in the early 2000s. A duality emerged between a well-paid unionised sector and a low-paid non-unionised precarious sector (Herr and Ruoff 2019: 12f). In recent decades this tendency has continued, as shown by the ever declining union density, lower collective bargaining coverage and erosion of workers' participation at enterprise level. As in many other European countries, global competition pressures, technological and demographic changes, the shrinking importance of industries with high union density, and new forms of work have played a role in this erosion of codetermination (Müller and Schnabel 2019). In the metal and electro industries, for example, in 1970, 75 per cent of employees were employed at enterprises organised in employers' associations in West Germany. This figure had decreased to 59 per cent in West Germany by 2003. In eastern Germany, it decelerated from the 1990s on and approached 21 per cent in 2003 (Schnabel 2005: 11f). In 2000, 44 per cent of enterprises, corresponding to 68 per cent of employees, were covered by collective bargaining, decreasing to 24 per cent of enterprises, corresponding to 49 per cent of employees by 2023 (Lübkerand Schulten 2024: 10). As of 2023, 22 per cent of enterprises had sectoral wage bargaining agreements and 2 per cent of enterprises had company level wage bargaining agreements in Germany, referring to 42 per cent and 8 per cent of all employees, respectively (IAB 2024).

Germany's codetermination system still enables elements of democratic decision-making through the participation of employee representatives. Employee participation mainly through works councils, but also in supervisory boards in the largest enterprises in the private sector facilitates a long-term orientation for companies. This includes co-decision-making to find solutions to avoid lay-offs, save jobs and provide training for employees and investment plans, as opposed to the short-term oriented 'shareholder value' model, which concentrates only on the interests of owners and strives for quick profits. Trade unions, which are especially strong in the metal and electro industries, are the major forces backing the works councils at companies. Works councils are likely to make it easier

12 Employers' organisations were established in Germany as early as the late nineteenth century.

to clarify enterprises' skill needs. As an example, based on a survey of more than 2,000 works councils in Germany in 2021, 39.7 per cent of works councils confirmed that they had made suggestions on the design or content of existing further training measures and 38.3 per cent had made suggestions for introducing new further training measures in the past two years (multiple answers were possible) (Erol andAhlers 2023: 12).

Large enterprises are more likely to have works councils than SMEs. Works council influence in training also varies with firm size, as smaller firms have less financial capacity to invest in training than larger firms and may have no works councils to push for employee training (Stegmaier 2012). Although the employer has the right to decide whether to provide training or not, works councils can co-determine many aspects of training once the employer makes the decision (Erol and Ahlers 2023). Lammers et al. (2022: 394) summarise the rights of involvement of works councils as follows:

> *Works councils may request checks regarding the existing demand for training; they can co-determine the selection of participants and training personnel as well as the duration and content of training measures. If the works council and management do not reach an agreement on further training activities, the works council may appeal to the conciliation board for mediation. Thus, the works council is explicitly involved in human resources planning and employees' skills development.*

Despite this crucial role of works councils, the codetermination system has been slowly eroding in Germany, similar to the collective bargaining system. In 2023, only 7 per cent of companies in Germany had works councils or staff representation, albeit covering 41 per cent of all employees (see IAB 2024). The larger the company, the stronger the tendency to establish works councils. For instance, only 2 per cent of companies with 5–9 employees have works councils or staff representation, while 32 per cent of companies with 51–100 employees and as many as 73 per cent of companies with more than 200 employees have works councils or staff representation in Germany.

The second pillar, firm and financial system relations, in particular the house-

bank system and the major role of development bank KfW, provides finance to SMEs and large companies. SMEs benefit in particular from regional house-banks through long-lasting close relations, satisfying their long-term financing needs (Herr and Nettekoven 2017) (see Sections 2 and 3).

Third, the dual apprenticeship system enables firm-specific and industry-specific skill development, which is a common feature of coordinated types of capitalism. This differs from liberal market economies such as the United States and the United Kingdom, which focus on general skills (Hall and Soskice 2001). The German dual apprenticeship system enables employees to obtain specific skills in rather long-term training programmes, while guaranteeing employment at the company after the relevant skills have been acquired (see for further details see Herr and Nettekoven 2017).

Fourth, industry-level interaction among firms (formal and informal) enables exchange of knowledge and experience and facilitates so called 'cooperative competition'. The system discourages poaching of skilled employees from other firms (Hall and Soskice 2001; Herr and Nettekoven 2017). Industry and science partnerships, particularly with the Frauenhofer Institute and the Max Planck Institutes, generate new scientific knowledge and technological advancement synergistically. The Frauenhofer Institute in particular has the task of putting existing knowledge into practice in cooperation with companies. This applies to large and small companies alike (Chang and Andreoni 2019; Herr and Nettekoven 2017).

Large domestic enterprises are the most important bastion of Germany's coordinated capitalism. The automotive industry is key for the German economy and includes many national champions. It alone contributed 14.9 per cent of manufacturing sector value added in 2020 (Eurostat 2024f), 17 per cent of total exports in 2023 (Destatis 2024b), and 11 per cent of manufacturing sector employment in 2021 in Germany (ACEA 2023: 14). Some 87 per cent (2022) of employees in the German automotive industry are covered by collective bargaining (Destatis 2023). The automotive industry also plays a prominent role in the German economy's technological development, with a share of total R&D investment in the private economy (excluding government and universities) of 34.5 per cent (2021) (Stifteverband n.d.). The automotive industry is also strategically important with regard to its connectedness to other industries, such as steel, plastics, IT and textiles. For the EU, the German automotive industry also plays a relatively big role as it contributes almost one-third of EU vehicle production in units (2022) and its direct employment accounts for more than one-third of total

EU employment in the sector (2021) (ACEA 2023: 23, 15).

Because of the automotive industry's central economic and social role for Germany, the stakeholders – industry organisations, trade unions and political actors – consider maintaining its global competitiveness and market share under the aegis of its national champions as crucial elements of Germany's (and the EU's) development strategy. Various industrial policy programmes aimed at facilitating the electromobility transformation and the digital transformation of the automotive industry at both EU and national level show this. Despite the apparently 'green' names of these programmes, they have often been criticised on ecological grounds (see Nettekoven 2023: 12f). Despite all these efforts, the automotive industry slipped into a deep crisis in 2024, largely because it may be too late to seriously tackle the transformation to e-mobility and other countries, such as China, have a technological lead in this area.

What can we learn from Germany's experience? Through cooperation between management and trade unions, together with political support and a long-term orientation overall, it has been possible to develop important national champions in Germany. Economic upgrading could be combined with social upgrading in the form of codetermination and decent social standards in large companies. Germany has been able to limit excessive one-sided influence on governments on the part of large companies. Various factors have played a role. There are strong trade unions with a strong umbrella organisation, the DGB (Deutscher Gewerkschaftsbund), which represents the overall interests of employees. The employers' organisation is also important. The BDA (Bundesvereinigung der Deutschen Arbeitgeberverbände) represents all areas of industry, including crafts and services. There are also sectoral organisations for employees and employers that represent their specific interests. In addition to employers' organisations, all firms are required to be members of chambers of trade, industry or commerce. This network of institutions reduces the power of individual corporate interests in the political process. Civil society also plays a role in general decision-making and limits the influence of a handful of individual companies.

However, these generally good conditions have not prevented large companies and governments from failing to recognise technological developments and the emergence of new key sectors, for example in the computer industry or global internet platforms. It has become clear that the general development of industries, including supporting new sectors and national champions, cannot be left to the micro-calculations of companies. Rather in a democratic society national strategic development must be discussed and then implemented in a rational process involving government, business organisations, trade unions and civil society.

7.
Key lessons and policy directions

In this article, we have addressed essential aspects of the development of countries such as Ukraine, in particular the need for industrial policy, a financial system that promotes development and the role of SMEs and national champions.

As a relatively large country, it is of fundamental importance for the development of Ukraine to initiate a domestically based growth dynamic. In order to realise such a goal, a whole bundle of policies is required. Experience in other countries can provide valuable suggestions. We consider it essential that various development paths for Ukraine are discussed and that the country then decides on its own path. In this article, various sets of such policies have been discussed. It has also looked at the extent to which the Federal Republic of Germany has been able to follow successful policies, especially after the Second World War.

First, the financial system plays an important role in development. In the tradition of John Maynard Keynes and Joseph Schumpeter, the credit-investment-income-formation process is the backbone of dynamic economic development. Sufficient long-term loans at low interest rates are necessary for this. We believe that a domestically owned banking system, including a large proportion of state or cooperative banks, is a central element in ensuring a sufficient supply of credit to all enterprise groups. Selling domestic banks to foreign investors is not a promising way forward, as foreign banks lend disproportionally to foreign firms and may reduce domestic growth options (Stiglitz and Greenwald 2003: 234f.)

Secondly, a country's positive development requires both a strong SME sector and prosperous big companies, including national champions. Germany shows that a strong and innovative SME sector is supported by good financing from banks, but also by cooperation between companies, strong SME employers' associations that support companies, and cooperation with research institutes. This implies that for SMEs also state support, for example special credit schemes or programmes to transfer technologies and qualifications, is important. National champions are particularly necessary for a larger country such as Ukraine, as only national champions may bring about constant economic upgrading. Subsidiaries of foreign companies have no interest in functional upgrading and always retreat behind the innovative power of corporate centres. A country without its own national champions will always remain second-class.

Third, industrial policy plays a decisive role in a country's development. Besides horizontal policy, vertical industrial policy is needed. Germany has always pursued a massive vertical industrial policy, even in phases when this was officially frowned upon. A positive role is played by government institutions that cooperate with SMEs, support start-ups and promote technological development. Strategically important large and potentially large companies should be supported as well, ideally within the framework of economic clusters. In international trade, comparative advantages should be exploited, but new ones have to be supported and created with government help, which requires a vision of the direction in which a country's industry and economy in general should move. Last but not least, it is highly advisable to include ecological needs in an industrial policy strategy. Industrial policy has been successful in Germany for decades, but Germany has also made clear mistakes. During recent decades future important sectors have received too little support or have not been sufficiently promoted following successful innovation, for example in the wind and solar industries. Germany managed to give birth to many national champions of the technologies of the last century, but so far not of the present. Ukraine must therefore discuss very carefully which future industries need to be promoted, based on its level of development (Teipen et al. 2022; Felipe 2015; Di Maio 2009).

It is crucial that an efficient mechanism be created to develop a vision of Ukraine's future development. Ideally, all relevant social groups – government, employers' organisations, trade unions, civil society, experts – would be involved in discussing such a vision, including the broad lines of industrial policy. This leads us to a recommendation to build strong employers' organisations and strong trade unions, as well as strong civil society organisations and scientific research centres.

Fourthly, development banks play an important role in industrial policy. They are an important element in promoting specific sectors, including SMEs, and can also provide long-term loans at favourable interest rates. Thus, a big development bank with the task of supporting industrial policy and also credit supply for SMEs is desirable. Germany's KfW is a good example.

Fifth, FDI should be integrated into an industrial policy concept. It should play a role only in sectors in which high technological transfers and spillover effects are to be expected. Local content rules, even if not allowed by the WTO, and joint ventures could play an important role. In general, indeed, Ukraine should be given more room for industrial policy than the WTO currently allows. It would be

unwise to allow foreign capital to play a role in sectors such as energy supply, water supply, local public transport, health care and housing construction. Public utilities should remain in the ownership of state institutions at various levels of government.

Sixth, economic upgrading should be linked to social upgrading. This implies, among other things, that wage dispersion should be limited by adequate minimum wages, that collective bargaining autonomy should be guaranteed, that collective bargaining coverage should be high and that a minimum standard of the welfare state should be guaranteed. These policies boost productivity because, to put it in old-fashioned terms, they enhance the reproduction of labour, but they also enhance domestic demand dynamics.

Seventh, the macroeconomic regime also plays an important role in a country's development. This means the dynamics of aggregate demand and its different elements. This point, which has been dealt with only in passing in this article so far, will be discussed briefly here. An investment-driven growth model is appropriate for a country in Ukraine's situation. Both private and public investment should play a major role in this. A high level of investment activity should be integrated into a comprehensive industrial policy concept. In free trade and investment agreements, care must therefore be taken to ensure that Ukraine has sufficient room for manoeuvre in terms of industrial policy and developing its own industries.

Consumption demand by private households is quantitatively the most important element of aggregate demand. Productive interaction between investment and consumption demand is created if consumption demand is sufficiently high to lead to high capacity utilisation. The dynamic of consumption demand depends to a large extent on income distribution. Studies by economists at the IMF show that excessive inequality in income distribution does not allow for long-term growth phases (Ostry 2015). For this reason, a relatively egalitarian distribution of income is an important element of prosperous sustainable development. Also, a basic welfare state, including the pension system, supports consumption demand.

There should also be a sound external balance. A deficit in the balance of goods and services weakens aggregate demand and stimulates production abroad. In addition, we have argued that an overvalued exchange rate, which is linked to deficits of the goods and services balance, slows down the development of the

industrial sector, which is important for development. Germany from the 1950s onwards had surpluses in the trade and current account balance in most periods. Together with relatively equal income distribution this stimulated the demand dynamic in the decades after the Second World War. But trying to achieve surpluses in goods and services implies stimulating the domestic economy at the expense of other countries, which is particularly problematic for the Euro Area trading partners. Presently the German model based on achieving permanent external surpluses is in crisis and more domestic-oriented growth is needed.

Thus, we recommend having a medium-term balanced current account in Ukraine. In negotiations with the EU and other countries Ukraine could argue that something like the Marshall Plan plus the London Debt Agreement should be followed. This requires transferring knowledge, technology, skills and needed goods to Ukraine without foreign debt, reducing the debt burden and allowing or even stimulating Ukrainian exports and allowing Ukraine to use industrial policy to protect and develop its economy.

As far as public budgets are concerned, we favour the fiscal policy »golden rule«. Government consumption expenditure, including subsidies, should be covered by taxes in the medium term. But it should be possible to finance public investment by credit. Especially in a post-war reconstruction phase, public investment can become a key driver of growth. Anticyclical fiscal policy can be built into this medium-term strategy. The proposed strategy for public budgets requires a functioning tax system that generates sufficient public revenue to cover all consumptive expenditure. The tax system should also have a positive influence on income distribution.

Eighth, Ukraine is suffering from labour emigration and the associated brain drain. The problem is not easy to solve, as the income differences between Ukraine and the EU, for example, are high. It is conceivable that EU countries could encourage the return of Ukrainian labour. Good social standards or factors such as a healthy civil society also reduce emigration.

The last point to be addressed is wage formation and the role of trade unions. In the medium term, unit labour costs are the most important factor in the development of the price level. Between 1971 and 2022 in Germany there was a correlation of 0.81 between changes in unit labour costs and the GDP deflator. In the United States the figure was 0.94, in France 0.95 and in the United Kingdom 0.95. In all countries the correlation is high. The correlation is also high for the

consumer price index, but in a number of countries it is lower because factors such as housing rental play a major role (Heine et al. 2024). There is such a high correlation because price shocks, such as sharp rises in commodities, lead to a price surge that suppresses real wages. Trade unions usually pursue a policy of real wage protection and increase wages accordingly. However, if the level of nominal unit labour costs rises, the price level rises. A similar mechanism can occur if trade unions want to increase real wages but productivity has not risen accordingly. Sharp exchange rate movements and, in certain constellations, high demand in a situation of full capacity utilisation can also become important for inflationary processes. However, this does not change the fact that medium-term development of nominal wage costs is the most important anchor for price level developments, together with a relatively stable exchange rate. This means that nominal wages should increase according to trend productivity development plus the central bank's target inflation rate. In such a case unit labour costs should increase according to the inflation target (Heine and Herr 2024: 155ff).

In Germany, wage negotiations generally follow a macroeconomic logic. As a rule, the trade union IG Metall leads the way in wage negotiations and its collective agreements send a strong signal to all other sectors in the economy. During wage negotiations, IG Metall focuses on the overall economic situation and the competitiveness of German industry. Another factor is the Bundesbank, the German central bank, which has always made it clear that it is not afraid to initiate a »stabilisation crisis« with increasing unemployment in the event of inflationary wage settlements through restrictive monetary policy.

In the 1970s, after the oil price shock of 1973, high wage demands and increases led to conflicts with the German Bundesbank, which then exacerbated the recession in 1975 through its policy of raising and keeping interest rates high. After that, wage growth became moderate again, overall. After German reunification, the high level of collective bargaining coverage declined significantly and, together with labour market deregulation, a low-wage sector emerged. A statutory minimum wage was introduced in 2015 to limit the explosion of the low-wage sector (Heine and Herr 2024: 33ff).

To achieve a stable low inflation rate in the medium term wage bargaining in Ukraine should take macroeconomic developments into account, especially the development of productivity. Strong trade unions and employers' organisations and wage negotiations at sectoral level, including horizontal coordination be-

tween different sectors, would be the ideal model. A high level of collective bargaining is desirable in order to encourage companies to compete, not through pressure on wages, but through good management and innovation. Statutory minimum wages play a role in supporting the stability of the labour market. Trade unions should have a strong say in their development in Ukraine.

Finally, one last lesson should be drawn from the German experience. A successful and comprehensive industrial policy requires more than a functioning banking system and a solid institutional infrastructure for industrial policy. Following the Covid-19 crisis in 2020/21 and the start of the war in Ukraine in 2022 and its effect on energy prices, a deep structural crisis began to loom in Germany. But there are deeper reasons behind these short-term problems. In recent decades, for the purpose of consolidating public budgets, Germany has severely neglected public investments. The government – and many companies – have also neglected the ecological transformation. A short-term orientation has led to the exploitation of good profit opportunities with traditional goods without striving for fundamental innovations as part of a long-term strategy. Just think of the German automotive industry, which has long relied on the traditional combustion engine and is now not playing a leading role in digitalisation and battery production. The German government in particular, but also the trade unions and employers' organisations, made a mistake by not initiating sufficient research and applications in cutting-edge innovations, including at European level. The lesson is that for economic and social success, there must be good financial institutions for economic development, but also a government and company managements that have the will and motivation to think in the longer term and to innovate. A vision of the future economic and social development of the country has to be discussed and elaborated. Ideally, a broad consensus on such a longer term vision will be established that is shared by significant parts of society, including the central segments of capital, the trade unions and civil society.

8.
The way forward for Ukraine

Ukraine stands at a critical juncture at which the right mix of industrial policy, financial infrastructure and institutional frameworks can shape its long-term economic trajectory. A development strategy that prioritises domestic growth dynamics, fosters a strong SME sector alongside national champions, and leverages industrial policy for strategic upgrading is essential. At the same time, integrating social and economic upgrading, maintaining macroeconomic stability, and ensuring a balanced external position will be crucial for sustainable development.

Post-war Ukraine will find itself in a critical situation, with the threats of stagnation on one hand and the sell-off of key sectors to foreign investors on the other, which would create long-term dependence on external capital. It is crucial that Ukraine retain the ability to shape its own economic path, which requires strong institutions and an economic policy framework that safeguards national interests while fostering growth.

To achieve this, Ukraine must retain policy space for industrial development, secure investment in key sectors and avoid excessive dependence on foreign capital in strategic industries. Strong cooperation between the government, employers, trade unions and civil society can help to create a shared vision for the country's economic future.

A fresh start is possible only if Ukraine is freed from the burden of excessive foreign debt, just as West Germany was after the Second World War. Without this, long-term investment in reconstruction and industrial development will remain constrained. Likewise, Ukraine cannot rebuild without its people: reversing the brain drain and actively attracting skilled labour back home will be just as critical as securing financial resources.

With the right policies and support from its international partners, Ukraine can turn crisis into opportunity and build a resilient economy while maintaining control over its own development path.

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Towards prosperous development for Ukraine – theoretical considerations and German experiences

1. Industrial policy must be central to Ukraine's development. Germany's experience shows that both horizontal and vertical industrial policies are crucial. This entails investing in education and infrastructure, while also promoting specific sectors and businesses, both small and large, as part of an economic upgrading approach. Government, trade unions, employers' organisations and civil society should jointly develop a vision for Ukraine's development. Every possible industrial policy instrument should be used, including development banks, public procurement, subsidies, public investment, state-owned companies and the exchange rate.

2. Macroeconomic management is an important pillar of sustainable development. Government policies and development banks can play a major role in stimulating investment, while state-owned enterprises in key sectors, such as natural resources, can play a constructive role. Income inequality should be kept low in order to stimulate consumption demand. Macroeconomic management includes ensuring the relative stability of the exchange rate and productivity-oriented development of the nominal wage level. Current account deficits should be avoided, as these lead to dependencies and suppress aggregate demand. To this end, the exchange rate must be managed in such a way that the domestic economy is competitive.

3. Economic upgrading must go hand in hand with social upgrading. A relatively equal income distribution and a well-developed welfare state are essential. Strong trade unions play a key role, not only in the development of industrial policy, but also in achieving high wage bargaining coverage, helping to implement vertical and horizontal coordination of wage development and establishing wage development as a stabilising factor in macroeconomic development. In sectors with weaker trade unions statutory minimum wages should play an important role.

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