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Economic Recovery in Post-World War II West Germany and Ukraine Today*

KEY MESSAGES

- **Historical experience suggests that network infrastructure can be reoriented and reconstructed relatively quickly in postwar Ukraine, with the central government playing a coordinating role**
- **Repair of the housing stock may take longer, and chronic housing shortages leading to inadequate labor supply in some locations may handicap recovery and growth**
- **A voucher program would enable households to choose where to live on the basis of economic opportunity and cost, and provide incentives for residential construction**
- **Postwar Ukraine is likely to run very large current account deficits. Foreign direct investment and portfolio capital inflows will not provide the necessary finance. In addition, substantial foreign aid will be required**
- **Steps should be taken now to coordinate the provision of aid through the creation of an independent administrator and multi-donor fund**

Post-World War II economic reconstruction in Western Europe, and in West Germany in particular, is widely cited a template for getting postwar Ukraine back on its feet. The Marshall Plan is an example of how to organize aid to Ukraine, both in form, which is to say as grants rather than loans, and structure, with a head office in a national capital but also program officers on the ground and ownership on the part of the recipients (Conley 2022). The European Payments Union and European Coal and Steel Community illustrate how economic integration can support reconstruction; they are consistent with the presumption that integration with the European Union, culminating in EU membership, should be integral to Ukraine's reconstruction. The rapid recovery of the West German economy during the Marshall Plan years and then the *Wirtschaftswunder* in the third quarter of the 20th century demonstrate what is possible (Economist 2022).

This is stylized history, designed to inspire. Providing inspiration for a positive public-policy response is certainly a valid use of history. But it is the historian's task to be true to the facts. In this note, I review some facts about West Germany's economic recovery and reconstruction in the Marshall Plan years, with the goal of providing additional perspectives on the challenges and opportunities confronting Ukraine.

NETWORK INFRASTRUCTURE

For better or worse, Allied bombing attacks on Nazi Germany and Russian missile attacks on Ukraine share features in common. Attacks on German cities were intended to demoralize the civilian population. Increasingly from mid-1944, the Allied bombing campaign focused on knocking out key German infrastructure, such as the electric power grid and railway system (Mierzejewski 1988). Even the notorious firebombing of Dresden in February 1945 was motivated by the fact that the city was a major center for Nazi Germany's rail and road network. More than 40 percent of the urban housing stock was destroyed in the course of bombing attacks (more on this below). But this was largely corollary damage of attempts to disable key war industries and critical infrastructure.

Postwar reconstruction of network infrastructure was relatively quick. Already in the summer of 1946, less than a year following Germany's surrender, all bridges and railway lines in the American and British zones of occupation were rebuilt (Vonyó 2012). By late 1947, prior to initiation of the Marshall Plan, the number of locomotives was back up to its prewar peak, and across Continental Western Europe railway freight haulage had recovered to 1938 levels (DeLong and Eichengreen 1993).

A difference between Ukraine and post-World War II Germany was the presence of occupation forces in the earlier war, and the fact that the occupiers needed bridges, rails and roads for their own immediate purposes. Postwar Ukraine may see competing priorities. Still, historical experience suggests that damage to network infrastructure is unlikely to be a lasting constraint on Ukraine's economic recovery. The speed with which Ukraine has succeeded in restoring electricity to its cities and key industrial facilities following Russian missile attacks is consistent with this history. To be sure, Ukraine's task is complicated by the need to reorient rail and power networks away from Rus-

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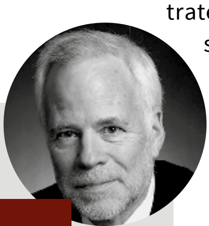

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sia and toward Europe, requiring among other things integrating its gas pipeline network with European LNG terminals (Deryuqina et al. 2022) and changing its railway gauge (Bilotkach and Ivaldi 2022). It is reassuring that after World War II a similar reorientation of West German infrastructure away from what had become the Soviet zone of occupation in favor of a North-South orientation did not derail, as it were, the process.

Local governments have the best understanding of local conditions, so decisions regarding postwar reconstruction should devolve to state and local governments wherever possible. But where power and transport are delivered by networks, investments must be planned and coordinated. This unavoidably creates a leading role for the central government in this sphere.

HOUSING

Housing, on the other hand, is a sector where specific responsibilities for design and construction can be delegated. In West Germany after World War II, the process of repairing the housing stock was largely delegated to state and local authorities. But the process was laborious and time consuming. Some 2.3 million dwelling units in what became West Germany were destroyed between 1939 and 1945, and equal number suffered significant damage (Wandersleb 1953). More than 2 million units were needed for the inflow of evacuees and expellees from Eastern Europe, and another million were needed to meet the needs of newly formed families. Yet in the first five postwar years, only 1 million additional dwelling units became available, chiefly through repairs. The 1950 West German housing census recorded 2 million individuals as living in shelters or make-shift hovels and many others doubling up. Only 40 percent of households had a dwelling unit for themselves.

As a result, the number of residents of the largest cities, which suffered the most destruction, fell significantly, while the population of small towns and villages increased. Industrial agglomerations being urban, there was a mismatch between labor supply and labor demand. Low unemployment in urban areas coexisted with unemployment rates as high as 15 and 20 percent in agrarian states.

As Vonyó (2018) shows, this mismatch was a problem for economic recovery. Supplies financed by the Marshall Plan and the recovery of domestic production largely eliminated raw material and energy shortages by 1950. The stock of capital equipment, valued at constant prices, was back up to 1938 levels (see Table 1). Yet industrial production on the territory of what was now West Germany was still 12 percent lower than in 1939 (Ritschl and Vonyo 2014) – 1950 being two full years after the famous currency and economic reforms in the three western zones (Schnabl 2019). Labor shortages in the cities, in or near to which the most efficient large industrial plants were located, accounted for the difference.

Ukraine will face similar, if not identical problems. As one set of authors (Green et al. 2022) puts it, “refugees are where housing is not, and housing is where people are not.” However much one hopes that Ukraine regains its entire prewar territory, Donetsk and Luhansk may remain under Russian control, and there may be a continued flow of Ukrainians westward from those regions. Firms may relocate to western Ukraine in order to be closer to the EU market but be unable to find workers in the absence of an adequate housing stock. These problems will be compounded if Ukraine fails to re-attract residents who fled the country during the war.

The prospects are complicated by the fact that not just the location but also the composition of employment is likely to change. Ukraine was already undergoing a transition from industry to services, which will now accelerate as a result of the decline of Russian-facing industries. It may be that employment in high-tech services can be disbursed; the rise of work-from-home points to this possibility. But the history of high tech suggests that agglomeration economies are important for innovation (think Silicon Valley), and that tech workers value urban amenities (think San Francisco).

In 1950, the new West German government finally began systematically addressing the housing problem. The First Housing Act set a goal of 300,000 new dwellings a year and was extended through 1962. It provided low-cost public loans for constructing rental units for low-income earners. Starting in 1950, federal finance included Marshall Plan funds targeted at low-cost housing units in locales with the most urgent

Table 1

Capital Stock at Constant 1936 Prices, Postwar West German Territory (1936 = 100)

Year	Mining and manufacturing	Aggregate economy		
	Capital stock	Equipment	Structures	Aggregate
1938		107	103	102
1944	136			
1946	116			
1948	113			
1950	122	107	92	95

Source: Eichengreen and Ritschl (2009).

needs, and for persons working in critical industries and export trades (Kassouha 2020). But two-thirds of public funds were provided by state and local authorities, which raised them by issuing housing bonds. Interest on the bonds was tax exempt, and purchases could be deducted from taxable income within limits. Lenders were induced to provide capital for residential construction by income tax reductions or deferrals. Local tax reductions encouraged additional construction, while accelerated depreciation was permitted for the first two years, at 10 percent per annum, as opposed to the conventional 3 percent.

The result, according to Wertheimer (1958) was a housing "miracle," in the form of additions to the housing stock at an annual rate of 5 percent, five times the historical pace. Without this, the implication follows, the *Wirtschaftswunder* would not have been possible.

The fact that the occupation authorities after World War II did not prioritize rubble removal or housing reconstruction, where the Ukrainian government presumably will, suggests that Ukraine may be able to reconstruct its housing stock faster. Rubble removal has been mechanized in the course of the last 75 years. Recourse today to modular and prefab housing points in the same direction. Finally, there is the fact that Ukraine's population has declined considerably over the last three decades, from some 51 million in 1991 to 42 million in 2021, suggesting the preexistence of surplus housing.

That said, there is no question that significant investment in housing construction and repair will be required. Damaged dwellings will have to be repaired, and the energy efficiency of the housing stock will have to be enhanced.

Green et al. (2022) suggest providing vouchers for housing purchases by households whose single-family dwelling units have been destroyed. Vouchers would be proportional to the prewar value of property, with an adjustment for increased construction costs, and supplemented with government-subsidized affordable mortgage loans, resembling West German practice in the 1950s. While the public authorities might take the lead in constructing multi-family units where the city owns the land, it would be preferable for residents to receive vouchers rather than having flats allocated on the basis of prewar occupancy. This would give households more freedom to decide where to live, while also incentivizing construction in desirable areas. Reconstruction of the housing stock is also an opportunity to sell off public land to individuals and development companies, and in the course of so doing to shift the composition of the housing stock from Soviet-style multi-unit flats to single-family homes. It provides an opportunity for upgrading energy efficiency.

BALANCE OF PAYMENTS CONSTRAINT

The exact nature of the problems that the Marshall Plan was intended to solve, and how it solved them, continue to be debated. The traditional view (e.g., Borchardt and Buchheim 1991) is that economic recovery was held back by shortages of coal and key industrial materials. Post-World War II Europe had no way of financing imports of energy and materials from the dollar area. Marshall Plan aid relaxed this constraint and, by making intermediate inputs available, enabled Europe to export. Its conditionality required the recipients to eliminate the price controls that had discouraged firms and farmers from producing for the market.

A revisionist view, associated with Milward (1984), argues that industrial activity in Western Europe, aside from West Germany where the occupying powers continued to limit production in heavy industry, had in fact more than fully recovered to 1938 levels before the Marshall Plan came on stream. In other words, intermediate inputs were not the binding constraint. Europe's balance of payments crisis reflected not an inability to produce and export but, rather, governments' overly ambitious reconstruction plans. Investment rates that exceeded the available savings translated into current account deficits that could be financed by limited foreign exchange reserves only for a finite period, and private capital inflows were prominent by their absence.

In principle, this constraint might have been relaxed by reducing food imports and subsidies, effectively requiring additional forced saving by households. But doing so would have risked political unrest.

The Marshall Plan provided resources for financing current account deficits and politically vital food supplies. By conditioning US aid on European integration and locking Germany peacefully into Europe, it allowed ceilings on West German industrial production to be lifted, loosening remaining supply bottlenecks (Berger and Ritschl 1995). Its conditionality required governments to set exchange rates at realistic levels, helping to correct the imbalance between imports and exports. It required them to balance budgets, closing the gap between investment and saving. It provided funding for the European Payments Union (EPU) to extend financial assistance to countries, including West Germany, with temporary payments problems (Eichengreen 1993).

West Germany is widely cited as a case where exports surged as a result of currency reform, price decontrol and economic liberalization during the Marshall Plan years (see e.g., Wallich 1955). But, in fact, the value of imports of goods and services was still almost twice the value of exports of goods and services in 1949 (see Table 2). In 1950, imports again exceeded exports, this time by 30 percent, and the German government was forced to appeal to the EPU for emergency credit. In return it agreed to increase taxes, limit private spending, and restrict the extension of credit by banks to industry (a measure effected by raising bank reserve requirements). With these measures, investment growth slowed. There was then a fortuitous improvement in the terms of trade as European demand for German capital goods ramped up, and the current account of the balance of payments finally swung into surplus in 1952.

Ukraine will be similarly prone to run current account deficits or else face a binding external constraint on investment. It has the advantage, in contrast to post-World War II Germany, of not having to import food, even if agricultural production is depressed for a period by the presence of Russian mines, given its massive grain surplus. De-mining was also a major problem after World War II but could be accelerated by employing the same German engineers who had laid the mines in the first place, and hence knew where to find them, and in the notorious Danish case by deploying German prisoners of war. Such options are either unavailable or unacceptable today.

Gorodnichenko et al. (2022) foresee the need to raise the share of investment in Ukraine's postwar GDP to at least 30 percent, up from 15-18 percent previously. Meanwhile, private-sector savings capacity is likely to be depressed. Private finance for ongoing current account deficits of, say, 15 percent of GDP would essentially be unprecedented. Like West Germany in 1950, Ukraine will have to rely on official credits, in its case from the International Monetary Fund, other multilaterals, and bilateral donors.

Unlike West Germany in 1950, however, Ukraine has the advantage of a flexible exchange rate, which it can adjust to boost export supplies and limit import demands. Reconstruction will take place in an environment of active international financial markets, which should enable Ukraine to attract foreign direct investment (FDI), and portfolio capital flows once inherited debt is restructured (Obstfeld et al. 2022). But there is also the danger that FDI will be deterred by war risk in the absence of a definitive resolution to the conflict with Russia. To overcome these security concerns, Movchan and Rogoff (2022) recommend multilateral provision of insurance against military risks, similar to multilateral Investment Guarantees managed by the World Bank. Ukraine and the Multilateral Investment Guarantee Agency in fact announced a pilot project along these lines in September 2022. One is reminded of the security guarantee provided to West Germany by the United States, France and Britain and, starting in 1955, by NATO.

Portfolio capital inflows have the disadvantage of creating additional debt-service obligations for the government, corporations and banks, and they command premium interest rates. There is also the risk of disruptions in the event of a sudden stop. Private capital is part of the solution to the financing problem, but only part. This suggests the need for continued foreign aid, pointing in turn to the question of how aid should be organized.

ORGANIZING AID

The Marshall Plan consisted of one donor, the United States, and 16 national recipients. Aid for Ukrainian reconstruction, in contrast, will involve one national recipient and donors from at least 16 countries. This points to the need to integrate and coordinate the efforts of the donors, not just governments but also NGOs, philanthropists and others.

Integration and coordination imply the need for a clearly-defined, hierarchically-organized administrative structure overseen by a managing director and experienced management team, reporting to a supervisory board made up of representatives of the principal donors. Eichengreen and Rashovan (2022) argue that this agency should be led by a director experienced in dealing with the European Commission and that it should draw on the Commission's expertise and resources, since EU membership is the economic and political endgame for Ukraine, requiring that reconstruction should proceed in a manner consistent with EU norms and standards. At the same time, the reconstruction agency should be independent of the Commission, just as the Marshall Plan had significant independence from US State and Treasury Departments. This will enable the agency to ramp up quickly, display flexibility in hiring, and avoid political interference.

The agency should have its main office in Kyiv, just as the Economic Cooperation Administration based the office of its Special Representative (Averell Harriman) in Paris, and foreign and Ukrainian staff in the field. (The Office of the Special Representative oversaw the work of 600 Americans and 800 Europeans.) But local knowledge resides with Ukrainians on the ground, and ownership of reconstruction implies the need for input and guidance from Ukraine when it comes to project selection and execution.

Table 2

German Balance of Payments on Current Account (Millions of US Dollars)

Year	Exports of goods and services	Imports of goods and services	Current account balance
1949	1,283	2,304	– 1,022
1950	2,199	2,823	– 625
1951	3,896	3,753	144
1952	4,814	4,253	561
1953	5,316	4,380	937

Source: Dernburg (1954).

The Office of the Special Representative recognized national units that made recommendations regarding aid disbursements. But whereas the Office of the Special Representative liaised with 16 separate national units, the Ukrainian reconstruction agency will want to distinguish a set of distinct operational (energy, telecommunications, transportation) and possibly also regional divisions (Mylovanov and Roland 2022). Alternatively, each operational division could have separate regional subdivisions.

Requests for project funding would come from the Ukrainian side and be reviewed, approved or vetoed by the agency. The central government should coordinate with regional and municipal authorities, who have the best sense of the facts and opportunities on the ground. The creation of regional divisions would encourage this by giving regional authorities a separate channel through which to make their recommendations. The agency should be able to halt disbursements for projects that go awry. A special commission or court, made up of members of the reformed Ukrainian judiciary and foreign magistrates, could hear appeals of decisions to veto and halt projects.

To facilitate integration and coordination, it will be important for bilateral and other donors to funnel their contributions through this agency. Some donors may nonetheless wish to proceed separately, just as various NGOs proceeded outside the Marshall Plan after World War II. Because adequate funding may be slow to materialize, it would be desirable to create an arrangement similar to the International Finance Facility for Immunization, whereby donors pledge to provide money over a period of time and the facility immediately issues bonds against these donations.

Donors to Ukraine, like donors everywhere, will want reassurance regarding control of corruption. Corruption was a problem in a number of Marshall Plan countries. C. A. Munkman, a US State Department official, in a retrospective review of experience in Greece (Munkman 1958), concluded that of aid targeted at economic development (as distinguished from the significant share of US aid directed toward strengthening the Greek military), only 10 percent achieved its goal. He colorfully described how Marshall Aid intended for obtaining horses for use in agriculture bought horses bred for racing that were useless in the field. Marshall Planners reduced aid disbursements in 1951-52 owing to the inability of the Greek government to allocate them efficiently (Vetsopoulos 2009).

Transparency is the best disinfectant for corruption. Ukraine operates a digital platform, ProZorro, where bids and contracts for public procurement are available for all to see. But problems can also occur after the procurement stage. Data and information should be assembled in timely fashion, audited by international accounting firms, and made available publicly in order for donors and civil society to monitor the reconstruction process. A comprehensive digital platform – and expanded version of ProZorro – could be created for this purpose.

POLICY IMPLICATIONS

Successful reconstruction of Ukraine will have to surmount further challenges in addition to those analyzed here. These include reforming health, education and judicial systems, improving the business environment, and above all strengthening economic and political governance. In building institutions for economic and political governance, West Germany was able to look back at institutions that had operated reasonably successfully prior to the 1930s. Eichengreen and Ritschl (2009) argue that there was continuity between these earlier institutions and the governance arrangements put back in place after World War II. In particular, collective bargaining and workplace codetermination as developed in the 1920s were restored after 1945. Acts passed starting in the 1950s, drawing on earlier legislation, cemented Germany's system of industrial cooperation.

Ukraine lacks a similar inheritance of successful institutions of economic and political governance. It will want to import knowledge about their structure from the EU and specifically from EU members formerly known as transition economies. This is yet another reason why Ukrainian institutions and policies should be harmonized with those of the EU, and why EU membership should be the ultimate economic and political objective of reconstruction.

West Germany's experience after World War II similarly demonstrates the benefits of economic integration. European integration facilitated export-led growth and specialization along lines of comparative advantage, which would similarly benefit Ukraine. Beyond that, West German experience has a number of implications for Ukrainian reconstruction. It suggests an important role for the central government in coordinating reconstruction of the country's network infrastructure, including roads, railways and energy networks, which will have to be reoriented away from now hostile powers and toward Europe. In contrast, responsibility for housing can be delegated to regional and municipal governments, and a program of housing vouchers can give households agency over where and how to live.

Post-World War II experience suggests that Ukraine will need security guarantees in order to attract foreign direct investment. It will need foreign aid to finance the high levels of investment required for repair and reconstruction, and to close the balance-of-payments gap while it struggles to replace its former exports to Russia. Foreign aid does not administer itself. The experience of the Marshall Plan, in West Germany and elsewhere, provides some guidance about how an effective aid agency might be organized.

But it is important to recognize that the circumstances of Ukrainian reconstruction are different and that there will be differences in administration. The role of historical comparisons, after all, is not just to emphasize similarities but also to highlight differences.

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