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A Smart Specialization Strategy for Ukraine

Recommendations to Spark an Economic Rebound After the War

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IDEAS LEADERSHIP HOPE

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Summary of Recommendations

1. Ukraine needs to pursue a smart specialization, doubling down on its competitive strengths, and making informed bets on the future direction of the global economy and the role Ukraine can play in it—especially at a time when China and, increasingly, the United States and Europe are engaging in industrial policy.

2. Ukraine's focus should be on moving up the value chain in its competitive sectors. This should be accomplished through specialization, increased productivity, and workforce training to maximize export earnings and rapidly increase both economic growth and per capita income. This effort will narrow the income gap with the EU, which, in turn, will facilitate EU accession.

3. The EU and the United States should make permanent market opening for Ukrainian products, minimize non-tariff trade barriers for Ukrainian products and services, and, most important, provide risk insurance for European and US companies. The availability of insurance will encourage productive investment in postwar Ukraine, thereby easing Ukrainian access to foreign know-how, technology, and markets.

4. Foreign aid must continue after the war and should be modeled on the Marshall Plan experience, with the US and European governments purchasing needed equipment from US and EU suppliers and transferring this machinery and technology to Ukraine as grants. Ukraine can then sell these to domestic companies, using that revenue for growth-inducing government spending while avoiding an appreciation of Ukraine's currency that would undermine exports.

Introduction

Postwar Ukraine faces a daunting challenge: It must generate and sustain the strong economic growth needed to rebuild its economy, uplift the incomes of its relatively poor population, and successfully compete in the European Union and the broader transatlantic and global economies. This challenge can be met only through a focused effort to maximize Ukraine's comparative economic advantages, transforming Ukraine from a commodity exporter into a supplier of value-added food, mineral, military, and information technology products. To accomplish this, the Kyiv government will have to make tough economic and political choices about the allocation of scarce resources and the legal reforms necessary to maximize investment. Ukraine's success will require the US and European governments to support foreign and domestic private investment in Ukraine and to further open their markets to Ukrainian exports.

Wars are often followed by economic rebounds, and Ukraine can expect a postwar economic resurgence. But such growth spurts are not necessarily automatic or sustainable. They depend on decisions made during and immediately after the conflict, not only about the future direction of the economy, but also about correcting the shortcomings of the prewar economic order. Even though planning for post–World War II Europe began in 1943, the Marshall Plan did not begin until 1948, three years after the war had ended. Ukraine cannot afford such delay, and such delay will not be necessary. A strategic environment conducive to such a massive transfer of funds has already arrived: a competitive world order with an imperial Russia as a major player.

China, the United States, and the nations of the European Union all pursue industrial policies to varying degrees. To compete successfully, Ukraine needs its own industrial policy, or what the European Union has called "smart specialization". This does not mean a return to Soviet-era, woefully unsuccessful central planning. But Ukraine's future economic prosperity will require doubling down on its competitive strengths and making smart bets on the future direction of the global economy and the role Ukraine can play in it.

Compared with other countries in Central and Eastern Europe, Ukraine is less integrated into global value chains. Given Ukraine's low-cost labor and potential as a producer of green energy, critical minerals, IT services, and military equipment, it can provide an important link in the friend-shoring and near-shoring of supply chains now advocated by both Washington and Brussels.

But to do so will require significant foreign investment, and this will depend on the potential to export. A USAID survey has shown that 60% of American firms believe that their future investment in Ukraine will hinge on access to EU markets.[1] And access is contingent upon European governments' willingness to admit Ukraine into the EU's single market, preferably in an unprecedented rolling fashion that enables foreign and domestic investors in Ukraine to begin to gain some access to the EU market sooner rather than later.

Increasing exports, in turn, will fuel economic recovery, as export earnings are recycled into domestic spending and investment. But Ukraine's exports as a portion of its economy have been sliding since 2015, when they accounted for over half of the nation's GDP.[2] In 2022, that export share had fallen to just over a third of GDP.

International competitiveness and the maximization of comparative advantage are means to an end. Ukraine's economic recovery and successful, rapid integration into the EU will depend on strong, sustained, equitable economic growth that significantly narrows Ukraine's per capita income gap with the EU. Such a pathway will help to maintain the Ukrainian people's commitment to a democratic, Western-oriented society. Experience in Spain and Portugal suggests that economic success and knock-on political benefits can best be achieved through competition in the global marketplace bolstered by high levels of investment, diffusion of cutting-edge technologies, and a supportive regulatory and legal environment.

For Ukraine, the benefits of smart specialization are manifold, just as they are for the West. The last thing Europe and the United States need in the decades ahead is a failed economy and a destabilized democracy inside the EU or on its frontier.

Ukraine's task and, by extension, that of its partners in Europe and the United States, is the just and equitable management of the inevitable social and political challenges posed by the country's economic transformation. Postwar economic reconstruction is never easy. But Ukraine will not succeed economically if it fails democratically. And opening the European and US markets is the best investment the West can make to ensure the future of Ukrainian democracy.

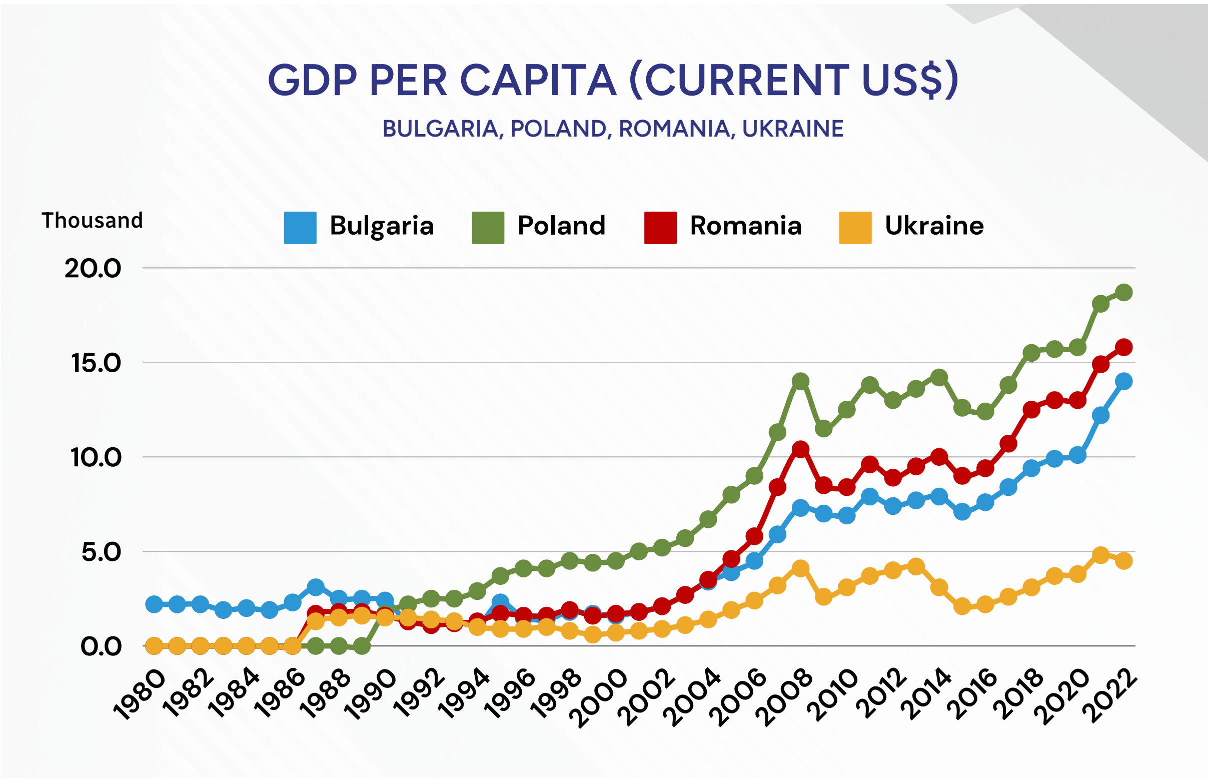
Ukraine's Economy

Ukraine was an extremely poor country before the Russian invasion in 2022—poorer, on a per capita basis, than Indonesia, Namibia, and some of its EU neighbors. Ukrainian per capita GDP was $2,033, compared with $9,502 in Bulgaria and $12,280 in Romania. Overall, Ukrainian per capita income was only 13% of the EU average.[3]

Closing this income gap will be a daunting task. By some estimates, it will still take 20 years for Ukraine to attain Bulgaria's current per capita income if Ukraine grows at 8% per year after the war.

The recent experience of other European countries offers both encouraging examples of success in closing the income gap and sobering lessons about just how hard that can be. In the nearly two decades since it joined the EU, Poland's per capita GDP has doubled. But Romania's per capita GDP has grown only 64% and Bulgaria's just 57%.[4]

The future of both Ukraine's economy, and, by extension, its democracy, will depend on the country's ability to avoid the economic fate of Romania and Bulgaria. Slow growth creates a negative feedback loop that makes future



Source: The World Bank

growth even more elusive. After joining the EU, for example, Bulgaria lost 25% of its population and Romania 19%, thanks to both emigration and a declining birth rate, trends that reflect young people's lack of faith in the future.[5] Without young working-age men and women, economic success is extremely difficult to achieve. To avoid that doom loop, Ukraine will require sustained economic growth that forestalls emigration and a birth dearth, lifts up its people, and enables the country to successfully integrate into the European and world economies.

Recent history suggests Ukraine is capable of a postwar economic revival.

In the first few years of the 21st Century, the nation's economy grew by a robust annual average rate of 7.5%, making it one of the fastest-growing economies in Europe. However, after the 2008 global financial crisis, foreign investment, which had been flowing into the country, declined by more than half, contributing to a 15% contraction of the economy in 2009. Over the next dozen years Ukraine's economy bounced around, averaging only 2.5% growth.[6] Growth was impaired by a lack of investment due in part to the 2014 Russian seizure of Ukrainian territory. The economy then collapsed in 2022 in the wake of Russia's full-scale invasion, contracting 29%.

Agriculture has long dominated Ukraine's economy. In 2021, it accounted for 11% of the nation's GDP. Manufacturing provided 10% of GDP, and mining and quarrying supplied another 6%.

Notably, personal foreign remittances accounted for 10% of GDP, suggesting that a not insignificant share of prewar Ukrainian economic activity was dependent on transfers from emigrants.

Prior to the Russian invasion, trade accounted for 83% of Ukraine's GDP, which was fairly good by global standards, yet largely based on commodity exports. But with its limited participation in international value chains, Ukraine was relatively poorly integrated with its future EU partners. Neighbor and EU member Poland, where trade accounts for 118% of GDP, is an example of what membership could mean for Ukraine's international competitiveness.

As might be expected in a poor country, Ukraine's labor costs are a comparative advantage. Hourly labor costs in 2018 were $2.68 per hour, compared with $8.34 in Bulgaria, $13.65 in Poland, and $44 in Germany (2021).[7] Moreover, Ukrainian labor costs also compare favorably with those in China, where hourly pay in 2022 was slightly more than $8 per hour.

Competitiveness based on labor costs is an evanescent advantage. Cheap labor does not stay cheap. However, experience in Poland and Romania suggests that wage growth will not undermine exports if it is accompanied by greater productivity. Sustainable investment and economic growth are the products of improving productivity, which is itself a product of education, training, management, institutions, and infrastructure. Moreover, Ukraine faces a demographic challenge: Its workforce is aging, and many working-age men and women have been killed or injured in the war or have fled abroad. In the future, the economy will have fewer workers, each of whom will have to be more productive.

Before the war there were significant sectoral differences in productivity. Agricultural productivity was close to 50% of that in Poland and Romania. Manufacturing was even less competitive, with productivity about 20% of that in these two neighboring countries. Among tradable services, productivity in the IT industry was higher relative to peer countries, but professional, scientific, and technical services productivity was much lower.

These sectoral differences in prewar productivity only underscore the need to focus investment on sectors of the economy where current productivity is low but which offer the greatest comparative advantage for Ukraine. And the prospect of EU membership is a powerful incentive to do so. Romania's and Poland's productivity improved between the time they applied for EU membership and their eventual accession, as foreign investment and accompanying technologies and know-how flowed in. But history also offers a cautionary note: Bulgaria's productivity did not improve with the advent of EU membership. The choices governments make in crafting an attractive and hospitable business environment have consequences.

Some of Ukraine's most promising sectors include:

Agriculture and Processed Food

Going back as far as Roman times, Ukraine has been the breadbasket of Europe, accounting for one-fifth of global grain exports at the beginning of the 20th century.

The excellent quality of Ukraine's soil has long given it a major comparative advantage. A quarter of the Earth's "chernozem"—a rich, black soil that is among the most fertile in the world—is in Ukraine. As a result, 57% of the land in Ukraine before the war was used for growing crops—more than three times the share of land used for crop-growing in the United States.[8]

In the decade before the full-scale Russian invasion, Ukraine's agricultural exports grew rapidly. In 2022–23 Ukraine was the world's leading exporter of sunflower seeds, third in rape seeds and millet, fourth in corn, sixth in barley and eighth in wheat, and a major exporter of soybeans and poultry.[9] It accounted for over 55% of the European Union's corn imports and over 40% of China's corn imports.[10]

Ukraine is well positioned to expand its role as a grain exporter. Given its geographic location, freight costs are low for exports to Western European, Middle Eastern, and African countries. And before the war, production costs were about half those of Western European producers. Moreover, farm acreage has always been available on a large scale, so maximizing productivity per hectare has not been a priority. Thus, compared with Western European farmers, Ukrainian farmers have used lower-quality fertilizer and pesticides, resulting in lower average yields.

Over the next decade, export opportunities to the EU are likely to improve. Implementation of the EU's Green Deal is estimated to reduce average crop production by at least 10% in current EU member states, increasing demand for Ukrainian commodities.[11]

In the short run, Ukraine's ability to exploit its international comparative advantage in agriculture will be constrained both by what land, if any, Russia continues to occupy once peace is restored and the amount of farmland that remains out of production as a result of the war. A quarter of Ukraine's prewar wheat production and one-fifth of the sunflower seed production came from its eastern most oblasts, now largely under Russian control. Overall, an estimated 15.2% of Ukraine's farmland is unsuitable for use due to landmines, contamination with explosive ordnance, and exposure to armed hostilities.[12]

While Ukraine has no comparative advantage in beef or pork exports, it does have the potential to increase its dairy and poultry exports.

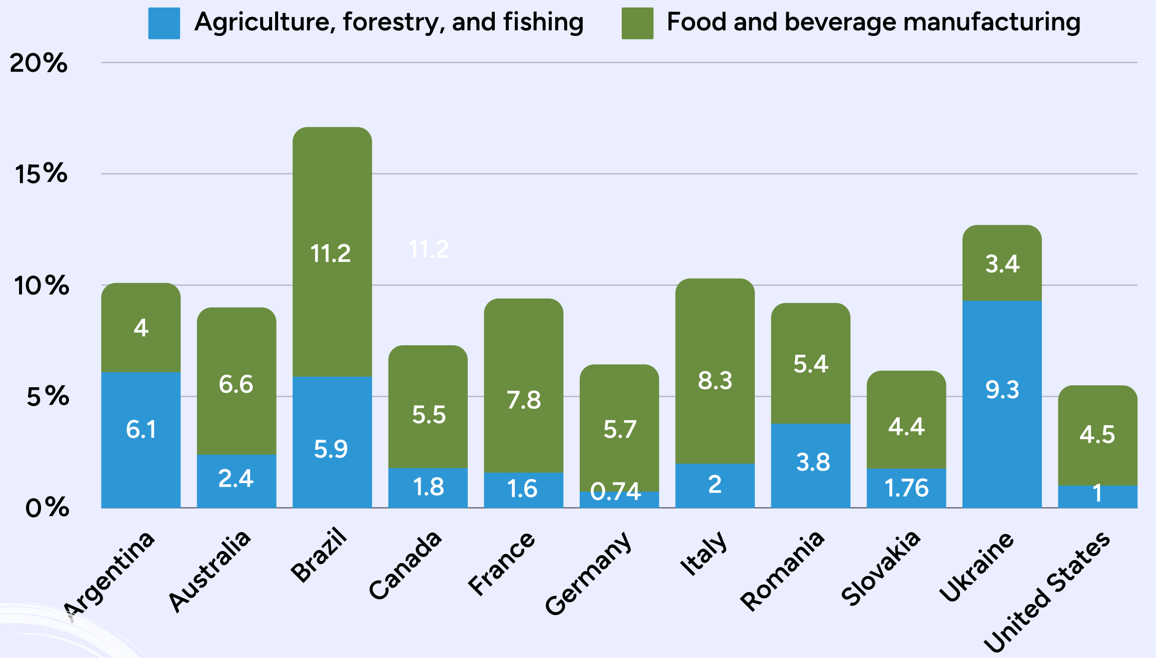
The country's dairy production costs are comparable to those of distant New Zealand, the world's low-cost producer. But investment is low, impeding technological improvements, and milk yields are half those in other key producing countries.[13] Moreover, most production comes from farms with five or fewer cows. And milk quality does not meet EU standards, and so the product is currently not exportable to what could be its largest market.

Ukraine exports about a third of its current poultry production and is the tenth-largest poultry exporter in the world, with most of its production going to the Middle East and the EU, thanks in part to the lifting of a quota. The EU share has the potential to grow. MHP, Ukraine's largest poultry company, increased its exports by 25% in the first nine months of 2023.[14] And, through its investments in the EU, MHP is positioning itself to become part of an EU poultry supply chain, with the experience needed to meet even the most stringent EU health and safety standards.

While currently competitive in sectors of the global agricultural commodities market, food processing is a way for Ukraine to generate added value and earnings, create jobs, improve domestic food security, and diversify its economy. The share of processed food in Ukraine's economy is currently relatively low, accounting for 3.4% of GDP, about one-third of the share currently provided by primary agriculture.[15] And food processing's share of the Ukrainian economy is relatively low compared with that of other major countries, suggesting that there is room to grow.

Nevertheless, sunflower oil is Ukraine's highest-grossing agricultural export, making the country

FIGURE 6: SHARE OF PRIMARY AGRICULTURE AND FOOD MANUFACTURING IN GDP IN 2020



Sources: Kyiv School of Economics, Ukrstat, Eurostat, US Bureau of Economic Analysis, StatCan, OECD, World Bank

the world's leading exporter, accounting for nearly half of global exports. Almost all rapeseed production is exported to the EU for further crushing, so there is future potential for processing for export. Most important for Ukraine's economy, international demand is growing for vegetable oils, oilseed meals, and confectionery, all products that have export potential.

Yet processed food export opportunities may not be easily realized. Despite being a major wheat grower, Ukraine has long faced problems selling wheat flour to the world market, in part because it has simply been easier to export the grain, EU flour markets are protected, and the low grade of Ukrainian wheat does not produce the high-grade flour demanded in the EU market.

Minerals and Metallurgy

Before the war, Ukraine was the world's second-largest source of gallium, the fifth-largest supplier of germanium, the sixth-largest source of titanium, the seventh-largest source of iron, and the eighth-largest source of manganese.[16]

The market for many of these minerals will only grow as the green energy transition accelerates. In 2021, the EU signed a strategic partnership on raw materials with Ukraine to better ensure its access to materials necessary for electric car batteries, wind turbines, and the like. [17]

Metallurgy—the processing of minerals into products—has long been Ukraine's largest manufacturing sector, accounting for about one-fifth of that sector's total contribution to the economy. The country's natural endowment of minerals affords an opportunity to grow this sector. China's experience demonstrates such potential. With the worlds' fourth-largest reserves of lithium, Beijing has built over half of the world's value-added lithium processing capacity—because processing lithium is much more profitable than simply mining it. [18]

After the war, Ukraine should grow its sustainable mining, refining, and metallurgical manufacturing capacity. Producers will need to improve their prewar production processes with environmentally friendly technologies. This can best be achieved through partnerships with European and US investors who have the capital, the latest technologies, and the market access necessary to maximize Ukraine's inherent resource advantage.

Unfortunately, many of Ukraine's critical mineral deposits are in current or recent war zones and are inaccessible. Their future accessibility depends on the outcome of the conflict. The iron and steel industry generated about 25% of Ukraine's exports and 9% of employment prior to the war.[19] But much past metallurgy manufacturing was in eastern Ukraine. The Mariupol steel mill, Ukraine's largest, has been destroyed, while the second largest mill is under Russian control. These two mills accounted for half of Ukraine's pig iron output in 2021.

Steel may never again play the prewar role it did in Ukrainian exports. But the destruction and disruption of the sector affords Ukraine the opportunity to rebuild a more flexible, innovative, technologically cutting-edge capacity. It is also an opportunity to marry steelmaking with Ukraine's nascent hydrogen production ambitions, enabling the decarbonization of the steel industry in order to both reach the national emissions goal of net carbon neutrality by 2060 and meet EU decarbonization standards necessary to sell in that market in the future.

Military Technologies

Out of necessity, but rooted in its history as a major supplier of military technology while part of the Soviet Union, Ukraine has built out its defense-industrial base in the last two years, with plans to make the production and export of military technologies a core component of its international competitiveness in the future.

In 1991, in the wake of the implosion of the Soviet Union, Ukraine found itself with about 30% of the Soviet defense industry and over a million industry workers on its territory. Ukraine was a supplier of missiles, tanks, aircraft engines, and components for the space industry.[20] In 1992, the first year after independence, it was the world's 11th-largest arms exporter.

But, over time, that capacity and export share atrophied. In 2021 Ukraine was the 15th-largest arms exporter, but in the wake of the full-scale Russian invasion and the increase in domestic armaments demand, that share dropped to 22nd in 2022.[21]

With an eye to the future, Ukraine is increasing its domestic defense-industrial base, and has ambitions to conduct joint ventures with US and European companies to co-produce defense materials in Ukraine and elsewhere.

Much can be learned from Israel's experience. Since the 1970s, its innovative domestic arms industry has supplied much of the nation's military needs while growing its export footprint.

The largest potential arms market for postwar Ukraine is likely to be the Global South. And the opportunities there are substantial. Before the war, just six nations from the Middle East and the Global South accounted for 40% of the world's arms export market, more than all major NATO countries combined.[22]

But Ukraine's defense export potential faces challenges.

Persuading Western defense firms to invest in Ukraine or partner with local firms will require new Ukrainian safeguards for investors and their intellectual property rights.

Private Ukrainian defense firms are small and often depend on imported components. Ukraine's state-owned defense industry is one of the least transparent sectors of the economy, which hinders its productivity and the willingness of foreign investors to cooperate with it. For Ukraine to establish an export-oriented defense-industrial base will require joint ventures to access the technology, management expertise, production techniques, and capital of Western companies.

Some cooperation already exists, with joint production in NATO countries of mortar rounds and shells for tanks. There are promising signs of further foreign cooperation. Germany's Rheinmetall has announced plans for a joint venture in Ukraine for the maintenance and repair of German-provided vehicles.[23] In 2024 it hopes to produce armored transport vehicles and infantry fighting vehicles in Ukraine. Long-term, the ambition is for this investment to evolve into joint production of other military technology within Ukraine, including for export. In addition, three Ukrainian corporations have signed agreements with US defense companies to kick-start future collaboration.

To accelerate the development of Ukraine's defense-industrial base, Ukrainian companies would benefit from joint ventures with initial production in the United States and the EU. These would offer benefits to Ukraine and the West while sidestepping the inherent domestic challenges the sector faces. Participants would benefit from Western intellectual-property and legal protection. And there would be less risk of corruption or political interference. As soon as security conditions in Ukraine improve, the joint ventures could relocate to Ukraine.

Energy

Ukraine has a history of exporting energy—largely natural gas and oil transiting from Russia—and a potential future as an exporter of biogases and electricity from nuclear power and renewables.

The war interrupted Ukraine's already declining role as an energy transit country for Russian natural gas and oil. In 2009, two-thirds of Russian gas exported to Europe passed through Ukraine, earning Kyiv substantial fees.[24] By 2021, only one-fifth of Russia's exported gas transited Ukrainian pipelines. Then the bottom fell out. Thanks to the war, the flow through during the fourth quarter of 2022 was 76% lower than in the fourth quarter of 2020.

As a result of the decline in gas and oil transit, Ukraine earned only an estimated $1.2 billion for gas deliveries in 2022.[25] Once the war ends, Russian workarounds coupled with Europe's ongoing transition to greater reliance on renewable energy suggest that Ukrainian transit fee earnings may never fully recover.

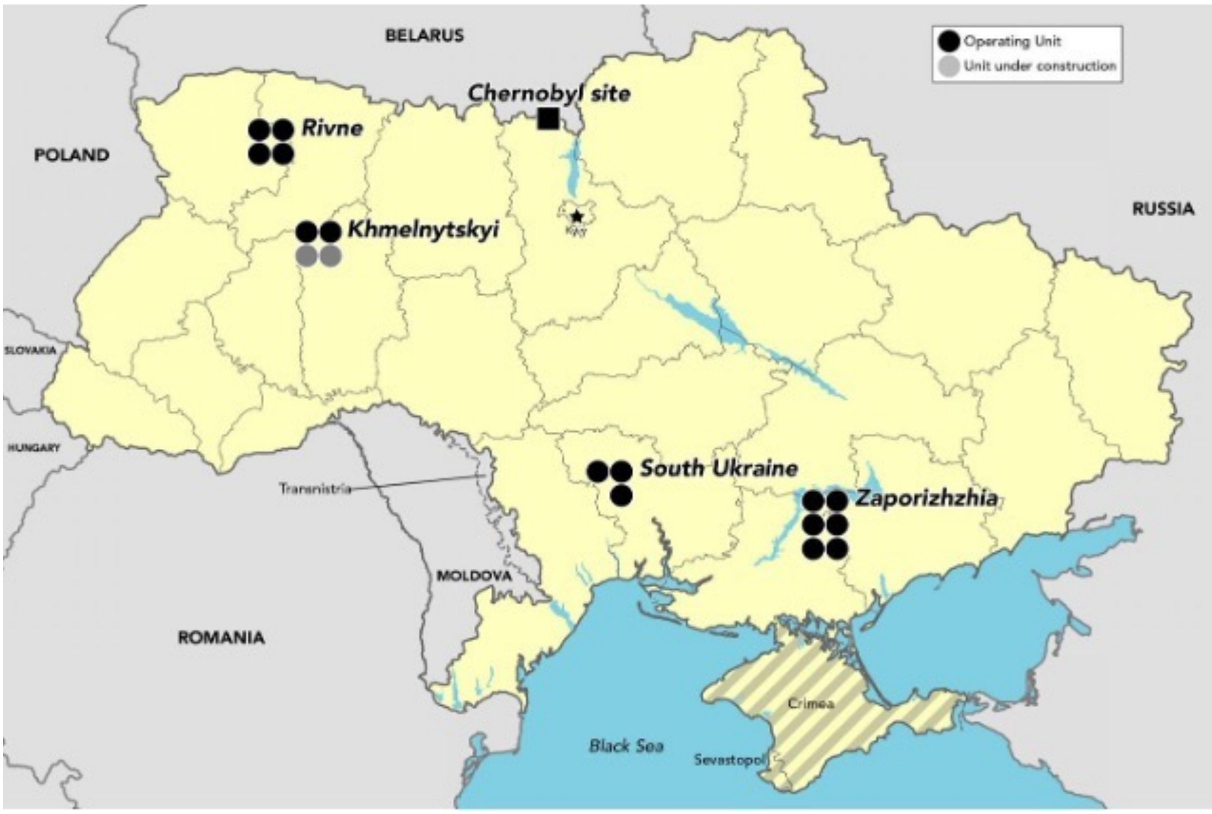
However, Ukraine possesses what some believe is one of the biggest natural gas reserves on the continent, although this resource needs further exploration to fully assess its potential. And the Kyiv government has lofty ambitions to produce 15 billion cubic meters (bcm) of natural gas per year.[26] Ukraine produced only 20 bcm before the war and had to import ten bcm, so such plans may leave little room for exports.

Yet Ukraine also has large underground natural gas storage facilities, with a capacity surpassed only by those in the United States and Russia. This capacity has already been partially used by the EU during the war to safeguard its own reserves, and it is estimated that Ukrainian capacity could increase EU storage by about 10%.[27] In the future, Kyiv will have the opportunity to earn storage fees while further integrating Ukraine into the EU energy market.

With a total of 15 nuclear reactors in four power facilities, Ukraine is the world's seventh-largest producer of nuclear energy and second only to France in the number of reactors among EU member states and EU aspirants.[28] Six of Ukraine's reactors are now under Russian control. But even if those reactors are never again in Ukrainian hands, the nation will retain is second position in the EU as a nuclear power producer.

In June 2022, Ukraine began exporting a modest amount of electricity to its EU neighbors. Future EU demand for electricity will grow as part of Brussels' decarbonization strategy. This will lead to increased demand for electricity imports, and Ukraine is an obvious supplier.

But Ukraine's future electricity export capacity comes with a caveat. In the wake of the Russian invasion, domestic consumption fell faster than production, enabling the 2022 export of electricity to the EU. Once the domestic economy begins to recover and local electricity demand increases, Ukraine will have to expand electricity generation



Source: Foreign Policy Research Institute

faster than consumption if exports to the EU are to grow significantly.

To meet future domestic and export demand will require a renewal of Ukraine's nuclear facilities. By 2040, 13 of Ukraine's 15 reactors will have exceeded their already extended life span, requiring the construction of new reactors, a task that would have to start early in the next decade given the long lead times for such complicated projects, and might cost more than $60 billion. This will, undoubtedly, require external financing in partnership with foreign investors.

But Ukraine has other electricity-generating options. In 2022, renewable electricity generation was the fastest-growing sector of Ukraine's energy production, with more than half coming from solar and a third from wind.[29] Some estimates suggest renewables have the potential to quintuple production. Unfortunately, due to the war, roughly nine-tenths of wind and three-tenths of solar production have been knocked off line.[30]

Another potential energy export is decarbonized gases, principally hydrogen and biomethane.

The most promising of these is biomethane, a natural gas produced from decaying organic matter. Before the war, Ukraine was a significant exporter to the EU of biomass for heating in the form of pellets to be burned and rapeseeds for biodiesel. Ukraine's abundant agricultural and forestry waste can be the basis for the future production of biomethane. Once the war ends, Ukraine will have large areas of land contaminated with heavy metals that may be unsuitable for food production but could be dedicated to energy crop growing. The economic potential of crop waste per year is estimated at the equivalent of 14 million tons of coal.

The EU hopes to increase biomethane consumption ten-fold, and Ukraine believes it has the potential to provide at least one-fifth of that. Dozens of biogas plants were up and running before the war, with the first connected to the grid in April 2023.

Ukraine also has ambitions to become a hydrogen producer and exporter. Green hydrogen is produced by splitting water into hydrogen and oxygen using renewable electricity, which Ukraine hopes to have in abundance. Hydrogen promises to be a primary energy source for the EU's plans to decarbonize steel and other production in the future and its use domestically would help a revived Ukrainian steel sector to break into the EU and other markets.

The EU's Hydrogen Strategy calls for imports of ten gigawatts of hydrogen production from Ukraine by 2030.[31] Unfortunately, the war interrupted virtually all existing Ukrainian hydrogen energy projects, and the updating of Ukraine's pipelines to make them suitable for hydrogen shipments will be an expensive undertaking.

Information Technology and Services

Before the war, information technology and services were one of the success stories of the Ukrainian economy. Ukrainian software developers and designers were becoming the back office for many EU businesses and international clients. IT also spawned cutting-edge startups in robotics, defense, and AI.

The sector has a promising future. In 2022, while Ukraine's GDP plummeted by 29%, the country's tech sector grew by 5% and generated over $7 billion in export revenues. Between 2015 and 2021, computer services exports doubled as a percentage of GDP, rising from 1.8% to 3.5%, with the United States as the largest single customer and Europe the second-largest.[32] The share of computer services as a share of total service exports nearly tripled, growing from 13.4% to 37.8%. Four in ten Ukrainian IT startups are geared to the export market, suggesting that the sector can be a major contributor to the country's export earnings in the future.

Such success is attributable to a relatively inexpensive workforce with good mathematical and engineering skills, minimal state regulation, little taxation, and good connections with the chief high-tech companies around the world, including Boeing, Huawei, Siemens, Oracle, Apple, Microsoft, and IBM.[33]

Labor costs in Ukraine's IT sector are lower than those in Western Europe and the United States, and competitive with Lithuania's and Poland's. Mid-level to senior Ukrainian software developers earn roughly $45 to $65 per hour, compared with at least $110 an hour in the West.[34] Ukraine's IT labor costs are not competitive with those in parts of Asia, but language and cultural compatibility offset some of that disadvantage.

Optimism about Ukraine's IT sector must be tempered, however.

The country's IT sector was only in 11th place in the IT competitiveness ranking among European middle-income countries in 2021.[35] It has been growing in part because the world market has been growing. Moreover, during the war, Ukraine is not paying for support services that underpin its IT sector such as cloud sourcing and Starlink. The competitiveness of the sector once it must pay for these support services has yet to be tested.

In addition, between 2015 and 2021, as exports tripled, IT employment grew by only 16,000, suggesting a dramatic increase in productivity.[36] That is a good thing economically, but it means that computer services are not likely to be a major source of postwar employment.

Safer and better-paying opportunities abroad have also sapped the IT workforce. An estimated one in eight Ukrainian IT professionals has already relocated and one in four of those who remain is considering emigrating.[37]

Ukraine's universities produce more IT graduates than many of its competitors: 68 per 100 thousand population compared with 54 in Estonia and 23 in Poland.[38] But the war has taken a heavy toll on education in Ukraine and thus on the country's ability to continue to supply the skilled workforce needed to succeed as an IT exporter.

Ukraine's score on the OECD's Program for International Student Assessment testing among students in 18 of 27 Ukrainian regions was below the OECD average in mathematics, reading, and science.[39] Moreover, with regard to Ukraine's future European IT competitors, math and science scores were lower than in all the Baltic states, Poland, Hungary, and the Czech Republic.[40]

For Ukraine to compete in the future EU and global IT market, it will need to up its game in training the next generation of IT workers.

What Ukraine Should Do

There is much the Ukrainian government can do to improve its international competitiveness.

First and foremost, it must strengthen the rule of law and demonstrate that a change of administration in Kyiv will in no way undermine this commitment.

Given Ukraine's history of widespread corruption, an anti-corruption ethos needs to be established through strong laws and, even more importantly, through vigorous law enforcement.

Protection of both physical and intellectual property rights also needs to be established through a strengthening of legal frameworks and the court system, and subsequent effective enforcement.

Ukraine has made tremendous strides in these areas, but there remains much work to be done.[41]

The state is the largest owner of economic assets in Ukraine. Once the war is over, such assets need to be privatized. Past privatization efforts have led to many state-owned enterprises ending up in the hands of oligarchs. Kyiv must avoid a repeat of this experience at all costs, as it is economically inefficient and fuels corruption.

Embrace Smart Specialization

In implementing Ukrainian industrial policy, Kyiv should be guided by the opportunities and limitations in particular sectors of the economy.

In agriculture, land reform is a priority. Land was privatized in 2000, but, traumatized by the legacy of Soviet-era collectivization, Ukrainian farmers cling to their undersized holdings. Six in ten Ukrainian farms are less than 50 hectares (124 acres). By comparison, the average French farm is 69 hectares, and the average U.S. farm is 446 acres. Currently, land cannot be used as collateral for a loan. Enabling farmers to modernize and grow their small holdings by borrowing against the value of the land would help maximize production.

At the same time, about one-third of Ukrainian farmland is cultivated by large holdings of up to 10,000 hectares. These enterprises do not own the land, but lease it from small holdings. Legal impediments to larger land holdings have made it uneconomical to invest in modern farming equipment, seeds, fertilizer, and irrigation.

Most recent EU accession countries limit or prohibit foreign acquisition of farmland. But to achieve economies of scale in agriculture and encourage investment by experienced foreign producers with ties to international markets, the moratorium on foreign ownership of agricultural land also needs to end, with constraints remaining for Russia and China for national security reasons.

But roughly one-quarter of agricultural land lacks clear title of ownership, which curtails the ability of domestic and foreign producers to secure short- and long-term financing, and this limits their willingness to purchase modern equipment or build irrigation systems. Such impediments to investment come at a cost. The OECD estimates that grain production could be expanded by as much as 50% in Ukraine through more investment in machinery and infrastructure, skills, and services.[42]

As part of the EU accession process, Ukraine is expected to meet the bloc's higher food health and safety standards. Implementing these requirements will overcome some of the EU non-tariff market access barriers Ukrainian processed food products have faced in the past. Kyiv should implement EU standards as quickly as possible, well before final EU membership. That will require costly production and packaging technologies and know-how that initially can best be provided by EU agrobusiness. The market-access potential afforded by EU firms should outweigh domestic Ukrainian qualms about foreigners cornering that business.

Even as it boosts promising sectors of the economy, Kyiv must learn from its past mistakes. For example, Kyiv has attempted to bolster the food processing industry through export taxation of sunflower seeds to encourage their domestic milling into sunflower oil. But there is no evidence that such support has successfully enhanced food processing companies' competitiveness.

Moreover, past efforts to create industrial parks blessed with tax incentives met with mixed results, with some special economic zones used chiefly for tax evasion.

Once the war is over, Kyiv will need to dramatically increase its spending on research and development (R&D) if it hopes to succeed in a world in which R&D is the mother's milk of competitiveness. On average, Ukraine spent just 0.4% of its GDP on R&D in the period 2016–2020, which is in line with other EU accession hopefuls' spending, but less than a quarter of the EU's average over the same period.[43] Kyiv faces a substantial future innovation gap that will pose a challenge to its economic convergence with the EU. This must be addressed during reconstruction and recovery. Since Ukraine will need investors to introduce the latest in production technologies, Kyiv might consider R&D tax credits for both foreign and domestic investors. There could also be tax benefits for training the local workforce.

Macroeconomic changes are also necessary. A stable monetary policy is a prerequisite for a strong economy. Foreign exchange liberalization will be an incentive for foreign investment, as foreigners will be more willing to invest if they know they can repatriate their profits.

What the West Must Do

Provide Risk Insurance

Possibly the single most important action the EU and the United States could take to bolster Ukraine's postwar export competitiveness would be to provide European, US, and Ukrainian investors with risk insurance. This will allay their concerns and remove private insurance providers' hesitation about the risks of investing in postwar Ukraine.

Such risk insurance could be supplemented by financial guarantees to leverage private investment insured by the World Bank's International Finance Corporation, the American Development Finance Corporation, and its sister organizations in the EU member states.

Given existing constraints, however—national finance organizations face demand for their resources in all parts of the world and private insurers are risk-averse—the Donor Coordination Platform for Ukraine should create or identify an institution to administer a trust fund specifically designed to encourage private investment in Ukraine. This can be achieved through joint risk-sharing by donor nations, possibly financed by Russian assets in the West or the income from those assets. Such a multilateral trust fund would provide private investors in Ukraine the reassurance they need.

Open Western Markets

Once risk insurance is in place, future access to markets in Europe and the United States will powerfully incentivize private investment in postwar Ukraine.

Even before the full-scale invasion, the EU had liberalized two-way trade with Ukraine, making the bloc Ukraine's largest trading partner. In 2022, after the full-scale war had begun, Brussels suspended all remaining tariffs on Ukrainian industrial products and tariff-rate quotas on agricultural products. Making such suspensions permanent would signal to potential international and domestic agricultural, food processing, and industrial investors that they can count on unimpeded future access to the EU market.

In 2022, Washington also suspended tariffs on Ukrainian steel. Given the small amount of bilateral trade, permanently lifting all US tariffs and non-tariff barriers on Ukrainian products would prove minimally beneficial. But it would signal to investors that future market access will not be impeded.

Liberalization of agricultural trade promises the most immediate and meaningful benefits for Ukraine. There is no doubt that improving Ukraine's market access for its agricultural commodities and processed food products will be extremely difficult politically. There are nine million farms in the EU. Nine in ten are family farms, representing 27 million or more voters.[44] Beginning in 2023, farmers demonstrated their political power by blockading roads to prevent Ukrainian produce from entering Poland and other frontline countries. This led the European Commission to propose country-specific safeguards against Ukrainian agricultural exports, including quotas on poultry, meat, sugar, and eggs. Such constraints could cost Ukraine €330 million in annual revenue.[45]

Ukraine has up to 30% of Europe's arable land—an area larger than all of Italy. Once Ukraine joins the EU, Brussels will not be able to afford the same level of support for Ukrainian farmers that it currently provides EU farmers. Nor can it afford to continue to backstop current EU farmers in the face of new competition from Ukraine. The Common Agricultural Policy (CAP), which is allocated according to a nation's agricultural area, will no longer be financially sustainable and will need to be reformed.

The EU has reformed the CAP in the past as the challenges facing farmers have changed. Two decades ago, faced with rising global competition and growing concern about the environment, Brussels reconciled farmer and green interests, establishing new principles, requirements, procedures, and levels of support for all stages of food and feed production.

Reform of the CAP was painful, but the EU successfully adapted to changing circumstances. If Ukraine is to maximize its comparative advantage in agriculture and to be successfully integrated into the EU economy, Brussels will need to make further reforms of its agricultural policy—despite political opposition.

Moreover, US and EU non-tariff trade barriers inhibit the importation of Ukrainian value-added food products. Brussels' free trade agreement with Kyiv boosted Ukrainian processed food exports by a mere 1% thanks to such barriers.[46] And roughly 92% of Ukrainian processed food products are subject to three or more US non-tariff barriers.

Since many European and US non-tariff trade barriers are health and safety rules, they will not be weakened. The best way to grow Ukrainian value-added food exports will be for Washington and Brussels to encourage investment by US and EU companies that have experience in meeting their standards and have the distribution networks to facilitate growing Ukraine's share of the processed food market.

Partner to Grow

NATO countries need to expand their defense-industrial base. Partnering with Ukraine is an opportunity for them to gain access to battle-tested technologies while tapping into Kyiv's low-cost manufacturing capacity.

However, European and US politics pose an obstacle. NATO members have jealously guarded job-creating, taxpayer-funded domestic defense production and procurement. For example, 17 different types of main battle tank are built, procured, and operated in Europe.[47] Such duplication is a product of both an insistence on national sovereignty in strategic industries and a desire for local job creation. The United States and European members of NATO must be willing to pay the domestic political price of rationalizing defense production and procurement if there is to be large-scale integration of Ukraine into the NATO defense-industrial base.

The European Commission has proposed more joint defense spending as well as the establishment of an innovation office in Kyiv. Integrating Ukraine into this effort even before it joins NATO or the EU would boost its military-industrial base.

To grow Ukraine's IT sector, Brussels can include the country in Erasmus and the European Research Council, doing so even before Ukraine's full EU membership, while funding Ukrainian study abroad. Such support will not only bolster the IT sector, but also address Ukraine's skill shortages and forge long-lasting R&D relationships with the West.

As part of Ukraine's EU accession process, Brussels will also have to come to terms with the internal contradictions between the EU's market principles and current realities. The EU has long had rules about market-distorting subsidies and has vigorously enforced competition policy. But to maximize its comparative advantage in the EU and the global market, Kyiv should subsidize certain sectors and, possibly, allow some national champions. Both are practices that EU member states are currently pursuing in the name of the energy transition or de-risking. Granting Kyiv leeway or grace periods as part of its accession process could go a long way toward boosting Ukrainian competitiveness.

European efforts to slow climate change through its carbon border adjustment mechanism could also impede Ukrainian exports of iron, steel, cement, and other products to the EU. To ensure that Brussels' pursuit of climate goals does not undermine Ukraine's economic recovery, the EU will need to help Kyiv with the decarbonization of industrial production.

Learn From the Marshall Plan

Finally, the rebuilding and modernization of Ukraine's industrial base—be it for military technologies or food processing, metallurgy, or other products—will require postwar Western aid as well as private investment. Such aid must be provided in a manner that does not lead to the appreciation of the Ukrainian currency, because that would only undermine the nation's export competitiveness.

The post–World War II Marshall Plan provides a roadmap. At the time, Washington purchased needed equipment—machine tools for example—from US suppliers and transferred it to the governments of war-ravaged European countries, mostly as grants. German companies, for example, then purchased these goods from the Bonn government using domestic currency, with that revenue then used by the German government for growth-inducing government spending. This scheme benefited US manufacturers, and European countries received much-needed funds. The minimal impact on the exchange rate bolstered Europe's export competitiveness.

Given that the reconstruction of Ukraine's economy will initially require Western assistance, European nations and the United States should consider a similar approach. They should acquire needed industrial and farming equipment from EU and US producers and donate it to Ukraine, much as military technology has been donated during the current war. Kyiv could then sell these goods to Ukrainian entrepreneurs, with the proceeds used to subsidize credit for critical growth industries in the country or to backstop investor risk insurance.

Needed: A Public Conversation

Finally, EU member-state governments should launch a conversation now with their publics, not just their farmers, about what eventual EU membership for Ukraine would mean for their societies. In no member state does a majority believe that there is an economic benefit to be gained from Ukrainian membership.[48] Many citizens voice the view that having Kyiv in the club will have no impact at all or even carry some cost to the European economy. Unless European consumers, taxpayers, and voters support Ukraine's membership in the EU, efforts to help it integrate economically into the West will flounder.

Conclusion

Ukraine has a promising future both within the European single market and the global economy. It has competitive advantages in agriculture, processed foods, minerals and metallurgy, renewable energy, military technology, and IT, among other areas. To maximize these advantages, Kyiv must reinforce the rule of law and the West needs to provide foreign investment insurance and access to the European and US markets.

The war in Ukraine is not yet over. But it is not too soon to begin laying the groundwork for Ukraine's postwar economy. The success of that economy—and, by extension, Ukrainian democracy—depends on successfully integrating Ukraine into the Western economy through "smart specialization".

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