Ukraine's Competitiveness

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1. Introduction

Competitiveness, by definition, refers to "...the set of institutions, policies, and factors that determine the level of productivity of an economy" or "...the degree to which a country can produce goods and services that withstand international competition while ensuring sustainable growth in real incomes of the population" , or, in the EU version, "...the ability of an economy to provide, on a stable basis, a high and rising standard of living and employment for those willing to work" .

Michael Porter's classical theory identified four stages of development, each characterised by its own competitive advantages. At the lowest, resource-oriented stage, these are natural resources and cheap labour. When their potential is largely exhausted, factors of investment attractiveness come to the forefront, such as the size of the accessible market, macroeconomic stability, and market institutions – this is the industrialisation stage, with efficiency serving as the main driver. When the potential of this stage is also exhausted because labour becomes so expensive that investment in export-oriented industry loses its rationale, a country may remain trapped for a long time in the "middle-income trap" or, if favourable preconditions exist, move to the third stage – the innovation-driven stage, where innovation is the principal driver and the main product is information created through creative labour. However, at the fourth stage, an excessive level of prosperity may lead to stagnation or even a decline in competitiveness – a process that is likely being observed in certain EU countries and in Japan.

In recent years, however, this theory has undergone reconsideration. The World Economic Forum, which for decades had calculated the Global Competitiveness Index based primarily on Porter's theory, revised its approach in its latest full report on the subject in 2019 in light of a new wave of technological progress and introduced Index 4.0 . The principal difference lay in the recognition that the capacity for innovation is becoming equally important for all countries because, as a result of the rapid decline in the cost of automated production, cheap labour is quickly losing its role as the key competitive advantage of poorer countries: it is becoming increasingly advantageous to locate industrial production either close to natural resources for primary processing or directly near consumers, that is, in developed countries. The latter are also generally relatively favourable and secure jurisdictions from the perspective of protecting property rights (including intellectual property rights), with access to inexpensive capital, which gives them advantages in capital-intensive automated production.

[1] What is competitiveness? | World Economic Forum
[2] The Competitiveness of Transition Economies (EN)
[3] EUR-Lex – 52006SC1467 – EN
[4] Porter, Michael E. The Competitive Advantage of Nations. New York: Free Press, 1990.
[5] WEF_TheGlobalCompetitivenessReport2019.pdf

Competitiveness in an Era of Turbulence

The COVID-19 pandemic marked the beginning of an era of turbulence in the world. The disruption of production chains, as well as rapidly growing military threats, particularly russia's full-scale invasion of Ukraine, the massacre of October 07, 2023, which forced Israel to launch a war in the Gaza Strip, and more recently the outbreak of war involving the United States and Israel against Iran, have significantly changed priorities. Whereas previously political instability or participation in local military conflicts were merely problems of individual peripheral countries, which naturally affected their competitiveness and nothing more, with the collapse of the rules-based world order these problems have become global.

This is now being compounded by the growing impact of the latest stage of the scientific and technological revolution – this time driven by rapid advances in the field of AI. Among its obvious and foreseeable consequences are the mass replacement of routine intellectual labour by AI agents, the emergence and rapid spread of AI-controlled robots, which will further intensify the Industry 4.0 trends described above, and a revolution in military affairs that is already making itself felt on the battlefield in Ukraine. At the same time, there are likely consequences that cannot currently be foreseen, and therefore uncertainty is increasing even further.

Accordingly, factors of competitiveness that were previously not even considered have moved to the forefront – such as resilience (including supply-chain resilience), adaptability, access to strategic technologies, control over critical resources, and, more broadly, economic and military security. These factors significantly contradict the factors of competitiveness in peaceful times.

For example, the large size of an external market becomes a risk factor if a substantial share of it depends on potentially unfriendly or "nationally self-interested" states. Cultural and ethnic diversity, instead of being a source of creativity and flexibility, may turn into a factor of internal instability, especially where hostile countries incite discord. At the same time, "green" technologies, which were largely imposed on businesses for environmental reasons, required additional costs and thereby undermined product competitiveness, have proven to be one of the factors of energy security under conditions of unstable supplies of traditional fossil energy sources. Even decisions that were previously economically inefficient, such as duplication of infrastructure or maintaining high reserve levels, have unexpectedly become important factors of resilience. This is not to mention the defence industry and the corresponding unproductive expenditures, which have transformed from an economic burden into a critically important investment in security, without which all other competitiveness factors may lose their significance in an instant.

Under such conditions, measuring competitiveness becomes an extremely difficult task – it is therefore unsurprising that the World Economic Forum ceased publishing its Global Competitiveness Reports. Global rankings tracking competitiveness have not yet adapted to this new reality. Meanwhile, such a radical shift in priorities may reshuffle all the cards. Therefore, their input data and intermediate results regarding competitiveness components remain valid, but the final outcomes may be unrepresentative. Nevertheless, at present there is no other instrument for cross-country comparison, and therefore such rankings are also analysed further, albeit with a critical approach.

Factors of a Country's Competitiveness in an Era of Turbulence: A Preliminary Analysis

Based on the considerations outlined above, the following factors of competitiveness in the current era of global turbulence may be preliminarily identified.

1. The capacity for innovation is based primarily on the availability of the relevant human capital (education, attractiveness for talent), Internet coverage, the formation of "innovation ecosystems" (physical and virtual), as well as cultural factors that are difficult to measure (except through outcomes). This capacity concerns not only technological innovation, but also the production of creative products of various kinds, the invention of new business and organisational solutions (including military ones) that enhance efficiency and strengthen resilience, or even the adaptation of individuals to a rapidly changing environment. Important factors and, at the same time, manifestations of this capacity are entrepreneurship and business sophistication

2. Infrastructure, including digital infrastructure (ICT). In addition to its traditional roles, infrastructure ensures flexibility (such as working from home or from abroad via the Internet during a pandemic or war), plays a major role in military security, and enables the diversification of resource supplies and product exports.

3. Institutions– particularly property rights and the rule of law – have always been important, but their role is increasing even further. In particular, if the production of informational products becomes central, then the ability to obtain returns on investments in such production becomes critically important – whether through royalties, temporary first-mover advantage, or other mechanisms. At the same time, natural mechanisms such as first-mover advantage require very well-established business processes, which are usually associated with high levels of competition within a favourable business climate. However, where such mechanisms do not function, the task becomes non-trivial, because information, unlike material goods and most services, is not exclusive – therefore, its equivalent exchange for exclusive goods and services currently requires the artificial granting of such exclusivity. And this is performed by the state through the legal system via the mechanism of intellectual property rights. For capital-intensive automated production, the protection of property rights is critical. For talented individuals – a safe and law-based environment, democracy, and similar conditions are essential. All of the above is ensured through institutions.

4. Access to critical resources above all food and energy. This does not necessarily require self-sufficiency, but suppliers must be friendly countries, and supply routes must be reliably protected. Material production and construction also require mineral resources and semi-finished products, including rare materials.

5. External military security is ensured either by a powerful army supported by a defence industry and a strong economy, or by geographical remoteness from key sources of danger, or by strong military alliances, and ideally by a combination of all these factors.

At the same time, the "traditional" factors of competitiveness identified by the World Economic Forum in 2019 naturally remain important as well:

6. A favourable business environment – in addition to the factors already mentioned above, this also includes macroeconomic stability. However, unfortunately, existing rankings define it predominantly retrospectively, whereas what should instead be assessed is macroeconomic resilience – especially taking into account the environmental changes discussed above.

7. Markets– the efficiency of product, labour, and financial markets, as well as the size of the market accessible to domestic production. A clarification should be made here regarding the financial market: it is necessary to assess not only efficiency, but also resilience – and in this case the two are, in many respects, contradictory. The assessment of "market size" also becomes significantly more complicated, since the factor of the "friendliness" of foreign countries must be taken into account, yet there are no clear criteria in this regard, while in some cases, such as the "Trump tariffs", volatility prevails.

The results of the analysis of these factors for Ukraine are presented in the summary table (Appendix 1) and analysed in the following section.

Competitiveness Policy as a Replacement for Industrial Policy

The identification of key competitiveness factors is necessary first and foremost for the formulation of competitiveness policy . In the post-industrial era, it should replace industrial policy as an instrument of development policy.

Industrial policy had questionable effectiveness even during the era of industrialisation, especially in countries prone to corruption, and also itself generated corruption (economists continue to debate whether certain countries developed because of or despite such government policies ,), while the rapid pace of technological change in the post-industrial world has made it virtually impossible to identify "priority sectors" in advance over the long term . At the stage of "turbulence", this loses meaning altogether. At the same time, the post-industrial innovation sector is a far riskier area for investment, while identifying promising investment targets becomes an order of magnitude more difficult compared with the industrialisation era. Therefore, regardless of whether industrial policy was beneficial in general, at this stage of development it becomes openly harmful.

However, at a higher level – the development of a country's promising competitive advantages – state policy acquires much greater importance. This is especially so because, in any case, the determination of state policy priorities affects competitiveness factors and therefore shall be conducted with due regard to the relevant prospects. For example, the distribution of the tax burden between household incomes and corporate profits, on the one hand, and real estate assets, including land, on the other, affects the relative competitiveness respectively of agriculture and industry, especially extractive industries, which use substantial amounts of land/real estate;

[6] Competitiveness, competition, and competition policy
[7] Industrial Policy Fosters Corruption – Royal Economic Society
[8] Is Industrial Policy Making a Comeback? | Council on Foreign Relations
[9] Industrial Policy in the Middle East and North Africa: Rethinking the Role of the State on JSTOR
[10] Picking Winners Is Difficult and Costly

and labour-intensive industries and, particularly, intangible production sectors, which use significantly less of these assets but instead generate high profits and require the attraction and retention of talent. Similarly, the allocation of budget expenditures may indirectly support the innovation sector through spending on higher education and fundamental science, or may favour agriculture through agricultural subsidies, even where they are channelled indirectly (for example, through infrastructure development).

Competitiveness policy also differs advantageously from industrial policy in that it is aimed at public goods, namely the fundamental factors of competitiveness, and is therefore less vulnerable to the corruption-related distortions inherent in industrial policy. From a political perspective, however, its long-term nature and the non-obvious link between investment and outcomes may constitute a problem. This creates a dangerous bias in favour of industrial policy, supported by lobbying from the relevant segments of business that benefit from the latter. As a result, sectors that are not based on deep and long-term competitive advantages of a particular country become excessively developed, especially "mature" industries and those in their final stage ("sunset industries") – because precisely these sectors, unlike emerging "infant industries", which should theoretically be the subject of industrial policy, possess sufficient resources for lobbying while at the same time critically depending on state support. Even where the object of state policy is a sector that is objectively successful in itself, development becomes one-sided, making the economy vulnerable to crises in individual sectors and preventing it from rapidly reallocating resources to new, more promising industries when they emerge – as may well now occur in the IT sector, where AI is actively displacing human labour. By contrast, competitiveness policy promotes diversification.

2. Ukraine's Competitive Position

According to the approaches outlined above, Ukraine's competitive position is characterised by a range of rankings and other indicators from various sources, consolidated in the Appendix. The full-scale war has significantly affected these indicators, but in many cases this impact may prove temporary; therefore, both data for relatively peaceful times (for 2021 or the latest available year) and the most recent data are presented there.

An analysis of this dataset indicates that prior to the full-scale war Ukraine had relatively good innovation indicators for its level of prosperity – it ranked among the world's top 50 countries and, in particular, held first place in the number of utility model certificates relative to GDP. This was primarily linked to the high level of human capital and the relatively high returns generated from it. The high level of digitalisation was partly a consequence of, but also a catalyst for, innovativeness.

At the same time, the weakest links were market and legal institutions, which created an unfavourable business environment and hindered the retention and attraction of talent. Among the barriers to investment, particular problems included the judicial system (insufficiently capable and often acting in bad faith, including through corruption and politicisation), external security (the armed aggression of the russian federation had continued since 2014, although at that time it was localised and of limited intensity), and corruption. More broadly, an obstacle is the patronal system , which consists of semi-closed patronage networks operating according to non-transparent rules. Such a system is incompatible with the rule of law and relies on personal connections, largely vertical in nature. It operates above formal laws, which externally may appear "European", and is predominantly based on the discretion these laws grant to implementers and regulators.

Infrastructure occupied an intermediate position: on the one hand, there was a well-developed ICT infrastructure, the presence of ports, trunk pipelines, and a relatively well-developed railway system, albeit with a broad-gauge track that creates problems at crossings of the western border. Before the full-scale war, the energy system was relatively reliable (for a country with such a level of prosperity), diversified in terms of sources, and possessed surplus capacity. On the other hand, the insufficient density and mediocre quality of motor roads (with no motorways and many roads in unsatisfactory condition), as well as the deterioration of municipal infrastructure, were and remain weak points of the infrastructure system.

The ratio between the different "pillars" of competitiveness, reflected in the diagram from the 2021 Global Innovation Index, is fairly typical. [12].

Perhaps Ukraine's only significant advantage in the post-industrial economy is the ability to levy moderate taxes on freelancers' income due to the existence of a favourable simplified taxation system for microbusinesses, including self-employed professionals and start-ups. This contributed to the rapid development of IT and other post-industrial sectors , though predominantly in the outsourcing model, since the weakness of the rule of law in general, and of property rights in particular, made "product-based" business in Ukraine excessively risky.

[11] The Anatomy of Post-Communist Regimes I by Bálint Magyar and Bálint Madlovics
[12] https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021/ua.pdf
[13] World Bank Document

As a result, in order to attract capital and ensure the protection of intellectual property rights, the greater part of "product-based" businesses are registered abroad while maintaining development back offices in Ukraine . For IT companies employing hired workers, a special regime, "Diia City", was created, featuring competitive taxation and a number of other special provisions. Residency within this regime may be obtained by legal entities through compliance with the criteria established by the Law of Ukraine "On Stimulating the Development of the Digital Economy in Ukraine", including criteria relating to the type of activity and staffing indicators (minimum average number of employees and gig specialists, as well as the level of their remuneration). However, the special regime mainly covers sufficiently mature IT businesses, leaving aside freelancers working for foreign companies and enterprises from other sectors that develop the same competitive advantages of Ukraine. The special regime also imposes fairly strict requirements on start-ups, although it provides them with a temporary "maximum facilitation" regime that remains in force until 31 December of the year following the year in which they obtained resident status.

At the same time, in the industrial production sector Ukraine generally lacked competitive advantages, since by almost all indicators important at Porter's second stage of development (except perhaps for the size of the accessible market), Ukraine ranked within the second hundred globally. Labour is relatively inexpensive compared with EU countries and, at the same time, reasonably skilled. However, it is significantly more expensive than in most countries where the majority of the world's population lives, which is also substantially younger, and labour costs are rising rapidly due to competition from EU employers, which creates pressure towards higher nominal wages. In Asian countries, taxes are also substantially lower than in Ukraine, while workers are more disciplined. On the other hand, for capital-intensive industries Ukraine is unattractive because of the high risks to property rights. Therefore, prior to the full-scale invasion, the industrial production sector developed relatively successfully mainly in the form of either comparatively small niche businesses based on Ukrainian know-how (that is, ultimately on advantages in the sphere of human capital), or food-processing enterprises in cases where it was more profitable to process agricultural products locally (for example, ketchup production), or enterprises that did not require large investments and utilised the residual advantages of relatively cheap labour with comparatively short delivery distances to EU markets.

The indices and other indicators only indirectly reflect the high competitiveness of Ukrainian agribusiness, which is based on natural advantages (fertile soils, a relatively favourable climate, and sufficient water resources) together with relatively inexpensive labour. Ukraine also possesses deposits of mineral resources, including rare minerals. These natural competitive advantages currently account for the lion's share of exports, predominantly in raw-material form (commodities such as iron ore, metal semi-finished products, grain, sunflower oil, and other agricultural products).

Causes and Consequences of Ukraine's Current Competitive Position

The picture described above reflects the outcome of the unbalanced, non-market development model of the USSR period. The communist system rejected the market and, accordingly, market institutions, while at the same time placing strong emphasis on STEM education, which was necessary for success in military technologies.

[14] Ukraine's tech market: 2025 report.pdf

However, under market conditions, the productivity of scientists and engineers depends on the ability to commercialise their developments, which is carried out by entrepreneurs within the market. Accordingly, the returns on the work of technological and product innovators indirectly depend on the quality of market institutions, the development of markets (including financial markets), the entrepreneurial climate, and other conditions that enable the emergence of entrepreneurs interested in commercialising scientific and technological developments, while also influencing the quality of their businesses.

Since historically Ukraine has performed rather poorly in all these preconditions (and previously the situation was even worse), educated specialists have naturally flowed to other countries where they are able to obtain higher incomes and a better quality of life. Accordingly, within Ukraine itself a gradual natural process of restoring equilibrium is taking place: on the one hand, entrepreneurship is gradually developing, including in the sphere of scientific, technological, and similar innovations and intellectual services; on the other hand, the quality of the personnel training system for these sectors is deteriorating somewhat (in relative terms) towards the level characteristic of countries with comparable income per capita and quality of governance. A number of Ukrainian experts, the Ministry of Finance of Ukraine and certain IFIs advocate equal conditions for tractor drivers and IT specialists. However, if such "fairness" is combined with protectionist industrial policy, Ukraine risks losing its competitive advantages corresponding to Porter's third stage of development. This is because protecting domestic manufacturers increases the cost of living and restricts consumer choice for talented individuals. Moreover, restoring such advantages in an "equilibrium" mode would take decades, and many countries have never succeeded in doing so at all.

With a few limited but important exceptions, Ukrainian industry lags significantly behind post-industrial sectors in terms of business development. Its "high-tech" segment is still dominated by enterprises originating from the Soviet military-industrial complex, with their anti-market corporate culture. These enterprises have only limited capacity to commercialise innovative developments created by Ukrainian scientists and engineers; therefore, policies relying on them, and especially subordinating the innovation sector to the interests of domestic industry, lead to the erosion of competitive advantages and to net losses.

In recent years, Ukrainian private defence tech has developed substantially in response to military demand. These numerous successful cases involve the creation of industrial enterprises for the implementation of specific innovations and know-how. It is precisely such enterprises that have been and continue to be successful, unlike the old Soviet model under which research institutes were established within industrial enterprises. Where the implementation of innovation is concerned, industry must adapt itself to the needs of innovators.

Similarly, a policy of artificially supporting the agro-processing sector through protectionism suppresses agribusiness, producing a negative net effect for the economy as a whole ; and where such a policy is implemented through budget subsidies, it leads to inefficient public spending, obstructs tax reductions, and creates corruption vulnerabilities. Both types of policy result from pressure exerted by a well-organised industrial lobby, which resonates with politicians and officials who still think in outdated (and most likely fundamentally flawed) categories of industrial policy.

[15] Кількісні показники України в галузі освіти мають різноспрямовані тренди, і все ще випереджають такі для країн із середнім рівнем розвитку, але з 90-х років розрив значно скоротився https://data360files.worldbank.org/data360-data/data/WB_WDI/WB_WDI_SE_SEC_ENRR_WIDEF.csv

[16] APD_Nivievskyi__Bogonos_ENG.pdf

Instead, Ukraine requires a competitiveness policy primarily aimed at retaining talent, if not attracting it. At present, apart from the traditional support for higher education, there is only one, albeit important, component of such a policy – namely the possibility for freelancers to register as IEs and pay a moderate 6% tax on their income, or for gig workers in the IT sector to pay 10% within the scope of the "Diia City" regime. At the same time, both of these opportunities, especially the former, are under constant attack from parts of society, including civil society organisations (for example, the Centre for Economic Strategy), as well as IFIs and representatives of the government. Such uncertainty does not encourage investment in human capital and business projects based upon it (including start-ups), and also hinders talent retention. Despite the favourable tax regime, there is a continuing outflow of specialists, which for the time being is being offset by the supply of new ones – partly at the expense of the state, which finances part of higher education.

In order to slow the brain drain, it is necessary to:

- preserve the simplified taxation system for IEs;
- extend the "Diia City" regime to all sectors of the "knowledge economy";
- remove artificial obstacles within this regime, in particular the artificially complicated reporting requirements for the distributed profits tax (DPT), which "Diia City" residents may apply instead of the classical corporate profit tax;
- extend the DPT, which is favourable for start-ups and rapidly growing innovative businesses, to the entire economy, or at least to the SME sector following the example of Poland – while removing artificial discretionary mechanisms for supporting industrial innovation and other instruments of industrial policy;
- actively work on the development of market and legal institutions, above all the rule of law, human rights, property rights, and similar principles – including, if necessary, the creation of special legal regimes with the jurisdiction of reputable foreign courts and immunity from inspections until the successful completion of judicial and law-enforcement reforms;
- improve quality of life in Ukraine – infrastructure, security, market competition, and related factors;
- after the end of martial law, transition from universal military service to a professional contract army;
- maintain a high-quality natural and social environment.

Changes Resulting from the Full-Scale War

Under the impact of the full-scale invasion, the competitiveness landscape described above has changed significantly.

Firstly, Ukraine has transitioned from "peacetime efficiency" (cost minimisation, capital attraction, and similar priorities) to the "extreme resilience of wartime". In terms of efficiency, Ukrainian business previously lagged behind many countries of the world because of difficult operating conditions, including frequent and deep economic crises. However, such conditions contributed to the competitive selection of the most resilient, flexible, and durable businesses, as well as the development of the corresponding corporate culture and practices. The full-scale war added the priority of security over profitability, including the deliberate duplication of critical systems. At the same time, due to institutional shortcomings and the limited competence of certain government officials and some international advisers, state intervention was not always beneficial either for resilience or for efficiency. Those businesses that managed to survive under these conditions possess experience that is invaluable in an era of "turbulence"; this experience is becoming a competitive advantage and may be shared with friendly partners. Unfortunately, existing international rankings do not fully reflect these factors.

Secondly, friendshoring in military production (MilTech), combined with innovativeness and the existing industrial infrastructure, has created a niche for a certain revival of the industrial production sector. Because of the specific nature of MilTech, this window of opportunity for industry may prove more durable than in other sectors, such as light industry or household appliance manufacturing, which do not have strong long-term export prospects. However, a condition for realising this advantage is Ukraine's membership in a Western security alliance, preferably NATO, since only in such a case can buyers be confident in such a partnership. In any event, the supply of military and dual-use technologies (even where production is localised directly within the purchasing country) may become a highly promising avenue for realising post-industrial competitive advantages.

At the same time, the full-scale invasion catastrophically undermined security – both through continuous strikes on the rear (including against cities such as Kharkiv, Odesa, Dnipro, Zaporizhzhia and Kyiv), and through other factors, including forced mobilisation. As a result of the full-scale war, Ukraine lost at least 3.1 million people through migration (in addition to those who were already abroad but subsequently registered as refugees), many of whom were highly qualified specialists. For example, Belarusian IT specialists who had only recently moved to Ukraine while fleeing repression under the Lukashenko regime left the country because of the war – a very rare case in which Ukraine had succeeded in attracting talent from abroad. Ukrainian firms also began losing contracts because of risks such as prolonged electricity outages, the loss of key specialists through mobilisation or emigration, and regulatory (including currency-related) restrictions caused by the war. As a result, exports of IT services (important both in themselves and as a proxy indicator for the development of post-industrial sectors), which before the full-scale invasion had been growing rapidly by 20–30% annually, experienced stagnation and even some decline. The situation in other knowledge-economy sectors is probably not much better.

Despite this, Ukraine has largely continued to maintain its competitive positions. In particular, IT exports declined only minimally in absolute terms, while as a share of GDP they continued to grow . Ukraine also ranked 49th among 192 countries in The Sustainable Competitiveness Index , which takes into account the maintenance and development of various forms of capital, including intellectual and social capital.

[17] 290,3 тисячі громадян виїхали та не повернулись в Україну у 2025 році – Опендатабот.
[18] https://bank.gov.ua/files/ES/Trade_y.xlsx
[19] The Global Sustainable Competitiveness Index 2025

3. Scenarios for the D evelopment of Competitiveness Depending on External Conditions

The further course of events depends on how the full-scale war with russia ends. If we do not consider the catastrophic scenario of Ukraine's complete defeat, under which any analysis of its competitiveness would lose meaning, the following options are possible.

1. Continuation of hostilities or an unstable peace without effective external guarantees, with

This will be accompanied by an increasing brain drain and business fleeing due to high risks, high taxes, the necessity of military service, and, in general, a social atmosphere unfavourable for creative work. Those who remain will face an even greater tax burden and longer periods of military service, which will further stimulate migration. Investment in more traditional competitive advantages will be constrained by security risks, while reforms of the law enforcement system and tax authorities necessary to improve the business climate will not take place because of fears of possible failures in security and tax revenues. The competitive advantages gained in innovation and resilience will be eroded as relevant specialists migrate to countries with a better quality of life and stronger prospects.

Under such conditions, likely accession to the EU without a prior radical breakthrough in the rule of law and other "European principles" will lead to increased patronalism and overregulation, although it will allow infrastructure to be rebuilt and further developed. The agricultural sector and military production will primarily develop, although in the latter the outflow of talent will become increasingly apparent. Its markets will also remain limited due to the absence of Ukraine's full membership in defence alliances, which will undermine buyers' trust in it as a long-term partner.

Economic growth will be weak and unstable. The country's overall prospects will be bleak, which will further reinforce the negative phenomena outlined above. Such a scenario is unsustainable in the long term and, without a transition to a more favourable one, will most likely eventually lead to Ukraine's defeat

2. A sustainable peace secured by strong external guarantees, with financing of a joint professional army provided primarily by allies and the possibility of reducing military expenditure to 5%

This offers hope for stopping the outflow of talent and for the partial return of migrants – although probably predominantly those who are less productive and adaptable and who were unable to establish themselves in the new environment. Provided that deep reforms aimed at implementing "European principles" are carried out, and burdensome regulations are postponed until after accession to the EU, there will be a real prospect of improving the business and investment climate. This will encourage capital inflows into the "knowledge economy", the innovative defence industry, the agricultural sector and mineral extraction, as well as into projects involving the primary processing of agricultural raw materials where appropriate). Membership in a military alliance will create conditions for long-term projects in the field of MilTech. Competitive advantages in innovation and resilience will become entrenched, although the partial outflow of specialists will hinder this.

Provided that the external debt is restructured and partially written off, or repaid using frozen russian reserves by way of reparations, as well as through tax and pension reform, tax and administrative pressure could be substantially reduced. Prospects for long-term economic growth and high recovery rates in the early years will contribute to further investment attraction and talent retention. However, the patronal system, the traumas of war, the presence of a large army and military sector in the economy, as well as still high security risks, will restrain growth and are unlikely to make it possible to achieve an "economic miracle" by catching up with the EU's average standard of living in the foreseeable future.

3. The disappearance of the threat from russia and a return to peaceful life (currently appears unlikely)

In the event of radical changes in russia, including its possible disintegration, the direct military threat to Ukraine could disappear for several decades, if not forever. In such a case, Ukraine could regain the temporarily occupied territories, obtain the opportunity to return to peaceful life with low military expenditure and a sharp reduction in the role of the army; receive compensation for losses; obtain full security guarantees within a military alliance (NATO or its successor); and restore its status as a transit country with the corresponding competitive advantages that are currently irrelevant.

Under such a scenario, there would be two greatest challenges: a lack of incentives for institutional progress due to the inflow of resources; and the restoration and reintegration of the temporarily occupied territories, above all the assimilation of their population and refugees to russia and Belarus (and possibly also from russia), who have for a long time been exposed to russian propaganda.

If it proves possible to combine resources and incentives in such a way that they are complementary to one another, and successfully overcome the timing problem described in the previous scenario of "principles first – regulations later", there is a high probability of achieving an "economic miracle", primarily through the rapid development of post-industrial sectors by realising Ukraine's principal competitive advantages, as well as through the export of military technologies based on Ukrainian know-how. There is a chance of moving from talent retention to talent attraction. Additional factors will include investment in the extractive and agricultural sectors, as well as the development of the production of goods and services oriented towards the domestic market.

The greatest risk under such a scenario would be a weakening sense of urgency within the government and civil society as dependence on Western countries and their interest in strengthening Ukraine diminish, as happened after the Orange Revolution against the backdrop of a sharp increase in FDI, an economic boom, and optimistic prospects for rapid European and Euro-Atlantic integration. At the same time, the driving force behind reforms is most often urgent necessity arising from a lack of resources. If the inflow of resources is not accompanied and supported by radical institutional reforms, for which such an inflow creates room (such as tax reform), it may be expected that the boom will prove short-lived, accompanied by the emergence of new oligarchs, as occurred in the countries of Central Europe, and within several years will sink into corruption scandals, political competition for rents, and general disillusionment. Competitive advantages in innovation and resilience will meanwhile be eroded in approximately the same way as occurs at Porter's fourth stage of development.

4. Conclusions and Recommendations

Ukraine has never been among the leaders in competitiveness, primarily because of problems with market institutions. However, its competitive position has always been asymmetrical, with relatively strong positions in the advantages of the "third (post-industrial, innovation-driven) stage of development" according to Porter, but with "bottlenecks" in basic components such as institutional ones. In an era of turbulence, resilience of business and of the economy as a whole has been added to these advantages, although this had previously never been regarded as a competitive advantage. Combined with high innovativeness, a liberal regulatory regime, and strong incentives generated by a war for survival against a neighbour many times stronger, this has at present resulted in a breakthrough in the MilTech sector and, under favourable conditions, also promises further breakthroughs that cannot currently be foreseen.

Regardless of how the war ends (except, of course, for Ukraine's defeat), the country will probably retain the basic competitive advantages based on natural resources. However, these alone are incapable of ensuring sustainable, long-term, and rapid economic growth. Progress in realising them will also depend on the ability of governments – both the Ukrainian government and those of partner countries – to compensate investors for risks.

The further development of the competitiveness factors of the third (post-industrial) stage, as well as the export prospects of the military industry, will depend heavily on the scenario of the war's end (or prolongation): from being limited in the event of prolonged hostilities for an indefinite period or an unstable peace without military guarantees, to an "economic miracle" under the best-case scenario.

In any case, it is critically important to eliminate the largest "bottlenecks" (predominantly institutional ones), such as the lack of the rule of law with all the consequences this entails for property rights, internal security, and so forth. It is also extremely important to resist attempts to import burdensome or discretionary EU regulations, especially ahead of the implementation of "European principles". In particular, it is critically important to preserve the simplified taxation system, with the possibility for freelancers to pay a simple, predictable, moderate, and easy-to-administer single tax. It is also important to preserve and develop other elements of competitiveness policy instead of the industrial policy that the government is currently attempting to pursue.
This includes:

- continued support for higher education – but with important reforms such as "money follows the student";

- creating exceptionally favourable conditions for intellectual work and entrepreneurship, including preserving the simplified taxation system, radically simplifying the general tax system (especially through a transition to a distributed profits tax), and radically reducing the tax burden on wages;

- promoting innovative activity through reducing transaction costs in the search for "angel" or venture financing, indirect support through business incubators, "signalling money" for venture funds, and so forth;

- successful completion of judicial and law enforcement reforms – creating islands of legal protection and "special legal zones" for start-ups and other types of business based on intellectual property;

- measures to improve quality of life, especially for the middle class;
- following the end of martial law – transitioning from universal military service to a professional contract army;
- facilitating the hiring of highly qualified foreigners;
- creating favourable administrative and regulatory conditions for foreign investment, particularly in mineral extraction and the agricultural sector, and overcoming "bottlenecks";
- removing barriers to agricultural exports, including protectionist and regulatory barriers, both external and internal;
- supporting the formation of innovative business ecosystems (instead of artificially creating industrial clusters).

Provided that such a policy is pursued, Ukraine has a good chance of maintaining and developing its competitive advantages – both traditional and newer ones (resilience and adaptability) acquired under difficult conditions.

5. Appendix

Key Indicators Characterising Ukraine's Competitive Position Under Current Conditions and Its Transformation Under the Impact of the Full-Scale War

Consolidated Analytical Table of Indicators of Ukraine's Resilience and Competitiveness (2021–2025). References to sources are provided in hyperlinks under the corresponding

Area	Indicator	2021 (value and source)	Latest data (2023–2026) (value and source)	Notes
1. Innovation and Digitalisation	Global Innovation Index (GII) – Overall	Rank: 49/132 [WIPO 2021]	Rank: 66/139 (2025) [WIPO 2025]	High intensity of knowledge generation partially compensates for the degradation of institutions that form part of the overall index
	GII – Innovation Inputs	Rank: 76/132 [WIPO 2021]	Rank: 80/139 (2025) [WIPO 2025]	Relative stability of the resource base, particularly the higher education system
	GII – Innovation Outputs	Rank: 37/132 [WIPO 2021]	Rank: 54/139 (2025) [WIPO 2025]	High adaptive efficiency of innovation output relative to invested resources. However, in 2025 there are challenges due to logistical and production constraints
	Business Sophistication (GII Subindex)	Rank: 53/132 [WIPO 2021]	Rank: 56/139 (2025) [WIPO 2025]	The ability of businesses to self-organise horizontally and relocate despite the disruption of traditional value chains
	R&D expenditure (% of GDP)	Score: ~0.4 % [WorldBank]	Score: ~0.33 % (2023) [WorldBank]	Critical underfunding of fundamental science
	ICT services exports (USD)	Score: ~USD 7.521 billion [World Bank ICT]	Score: ~USD 6.610 billion (2024) [WorldBankICT]	Remote work largely ensured the stability of foreign currency inflows, but did not prevent their decline due to security risks and migration
	Graduates in science and engineering, % of total tertiary graduates (WIPO GII)	25.1 % Rank: 39/132 [WIPO2021]	24.1 % Rank: 50/139 (2025) [WIPO2025]	The relatively high popularity of STEM education (the slight decline during the full-scale war will most likely be more than offset in the coming years due to strong labour market demand for engineers), although brain drain reduces the potential return on investment in education
	ICT Development Index (IDI) – ITU	Score: 80.8 [ITU2023] Score: 0.00	Score: 81.0(2024) [ITU 2024]Score:82.5 (2025)[ITU2025	Acceleration of digitalisation processes despite military hostilities as a means of resilience
	VC recipients, deals/bn PPP$ GDP	Rank: 93/132 [WIPO2021] Score: 2.83	Score: 0.04 Rank: 91/139 (2025) [WIPO2025]	Critical shortage of venture capital due to institutional problems. Ukrainian unicorns attract it predominantly only after relocating to developed countries

Area	Indicator	2021 (value and source)	Latest data (2023–2026) (value and source)	Notes
2. Infrastructure	Logistics Performance Index (LPI) – Overall	Score: 2.83 Rank: 66/160 (2018) [World Bank2023]	Score: 2.7 Rank: 79/139 (2023) [World Bank2023]	Degradation of infrastructure due to military hostilities, particularly the blockade of ports (latest data prior to their unblocking)
	LPI – Infrastructure (network quality)	Rank: 119/163 Score: 2.22 [WorldBankLPI2018]	Rank: n/a/140 Score: 2.4 [WorldBankLPI2023]	Poor road conditions, which further deteriorated because of the war
	UN E-Government Index (EGDI)	Rank: 46/193 (2022) [UN E-Gov]	Rank: 30/193 (2024) [UN E-Gov]	Digitalisation has become one of the components of resilience
	Internet users (% of population)	Score: ~79 % [WorldBankITNU]	Score: ~82 % (2023) [WorldBank ITNU]	High adaptability of providers to blackout conditions. For users, the war has further increased the value of Internet access
	Electric power sector (SAIDI/SAIFI)	Score: ~80–90% availability [IEA]	unspecified (2024)	The relatively solid performance of the system inherited from the USSR has been largely undermined by russian attacks. However, there is potential to rebuild the system in a better form
3. Institutions	Corruption Perceptions Index (CPI)	Rank: 122/180 (Score: 32) [TI]	Rank: 104/182 (2025) (Score: 36) [BDO]	The wartime environment has contributed to efforts to combat corruption, but this index does not reflect the actual state of corruption, particularly in terms of prevention
	Rule of Law Index (WJP)	Rank: 74/139 [WJP2021]	Rank: 90/143 (2025) [WJP]	Regression from an already poor baseline due to restrictions on transparency under martial law
In particular, property rights	International Property Rights Index (IPRI)	Rank: 105/129 Score: 4.453 [IPRI]	Rank: 104/126 Score: 3.504 (2025) [IPRI]	Overall, a very weak position, further deteriorated by wartime challenges – yet, compared to other countries, the erosion is, paradoxically, not particularly noticeable
	IPRI – Physical Property Rights	Rank: 98/129 Score: 5.755 [IPRI]	Rank: 108/126 Score: 2.907 (2025) [IPRI]	A sharp decline due to physical destruction and corruption risks
	IPRI – Intellectual Property Rights (IPR)	Rank: 93/129 Score: 4.393 [IPRI]	Rank: 96/126 Score: 4.485 (2025) [IPRI]	Despite the low level of enforcement and widespread piracy, the position is better than with regard to physical property rights
	U.S. Chamber International IP Index	Rank: 39/53 [USChamber2021]	Rank: 41/55 (2025) [USChamber 2025]	The ranking is dominated primarily by developed countries, and the score is low
4. Talent	Global Talent Competitiveness (GTCI)	Rank: 61/134 Score: 47.42 [INSEAD 2021]	Rank: 61/135 (2025) Score: 46.31[GTCI 2025]	Preservation of a high level of STEM competencies
	GTCI – Attract (Залучення)	Rank: 80/134 Score: 47.71 [INSEAD 2021]	Rank: 49/135 Score: 55.01 [GTCI 2025]	Sharp improvement in the indicator – a result of the index's construction, in particular the inclusion of gender equality, which has "improved" significantly due to the mobilisation of men

Area	Indicator	2021 (value and source)	Latest data (2023–2026) (value and source)	Notes
	GTCI – Retain (Утримання)	Rank: 59/134 Score: 53.97 [INSEAD 2021]	Rank: 59/135 Score: 58.81 [GTCI 2025]	The significant migration of skilled workers due to security risks is not reflected
5. Agricultural sector	Частка в експорті (олія / зерно)	Rank: 1 (oil), 3–5 (grain) [KSE]	Rank: 1 (oil), 3–6 (grain) (2023) [KSE]	High adaptability of agricultural holdings and traders to logistical disruptions has allowed them to maintain their positions in the markets
	Global Food Security Index (GFSI)	Rank: 58/113 [GFSI2021]	Rank: 71/113 (2022) [GFSI2022]	Ukraine retains its status as a global food donor, although logistical barriers reduce domestic availability, especially in areas close to the conflict zone
	Global Hunger Index (GHI)	Rank: 29/116 Score: 6.8 [GHI2021]	Rank: 46/127 Score: 8.6 (2024) [GHI2024]	Significant deterioration due to military actions, but overall the situation remains favourable
	Частка сільського господарства у ВВП	10.9 % [UIF Report]	7.1 % (2024) [UIF Report]	Decrease due to the loss of part of the territory, but still substantial compared to developed countries
	Crop production index (2014–2016=100)	Score: 121.7 [DataBank Crop]	Score: 90.1 (2022) [DataBankCrop]	Deterioration due to hostilities and contamination with explosive ordnance
6. Mineral resources	Natural resources rents (% of GDP)	7.5 % [DataBank TNRR]	unavailable	Enormous geological potential that remains not fully realised
	Iron ore production (rank)	Rank: 6/world (2022) [USGS2022]	Rank: 9/world (2025) [USGS2026]	Decline due to logistical problems, but still within the global top 10
	Rutile production (global share)	15.4 % [USGS]	16.0 % (2023) [USGS]	Status as a strategic supplier of titanium
7. Market size	GDP (PPP, billion international dollars) (GDP, current prices)	Rank 34/195 746.471 [IMF]	Rank: 46/191 686.94 (2025), forecast 730.76 (2026) [IMF]	Relatively modest decline given a full-scale war, but a significant share is driven by military production
	GDP per capita (PPP) (international dollars per capita) (GDP per capita (current prices)	18.21 thousand [IMFPPPC]	20.90 thousand (2025) forecast 21.89 (2026) [IMF PPPC]	Nominal growth – likely driven by a reduction in population
8. Markets and business	Population (domestic market size)	≈41.3 [WorldBank POP]	≈37.86 (2024) [WorldBankPOP]	The decline is likely underestimated due to the loss of territories and migration
	million people Index of Economic Freedom	Rank: 127/177 Score: 56.2 [Heritage 2021]	Rank: 130/177 Score: 54.1 (2022) [Heritage 2022]	Persistently low positions reflect weak institutional conditions, macroeconomic instability, and related factors. At the same time, relatively high tax pressure is not properly accounted for

Area	Indicator	2021 (value and source)	Latest data (2023–2026) (value and source)	Notes
	Investment Attractiveness (EBA)	Score: 2.73/5 [EBA2021]	Score: 2.70/5 (2025) [EBA2025]	Surprisingly, it has declined only slightly during the years of full-scale war
	KOF Globalization Index	Score: 73.00 [KOF Index]	Score: 71.31 (2023) [KOF	Deepening of friendshoring relations with partners (EU)
9. Security	Global Firepower Index National	Rank: 25/140 [GlobalFPI]	Rank: 20/145 (2025) [GlobalFPI]	It likely does not adequately reflect the increased combat effectiveness of the armed forces, as it does not account for innovation
	Cybersecurity Index (NCSI)	Rank: 24/160 [NCSI2022]	Rank: 18-19/176 (2025) [NCSI2026]	High indicators due to the prolonged cyberwar with russia, further improving over time
10. Market efficiency	Product market efficiency Product market	Rank: 57/141 [WEF 2019]	No assessment is conducted	Moderate level
	Labour market efficiency Labour market	Rank: 57/141 [WEF 2019]	No assessment is conducted	Wage-setting flexibility and informal hiring–firing flexibility partially compensate for limited labour mobility and the rigidities of the labour code
	Financial system development Financial system	Rank: 136/141 [WEF 2019]	No assessment is conducted	The banking system has proven surprisingly resilient, but mainly due to an almost complete reorientation toward lending to the state