ANALYSIS OF INSTITUTIONAL FACTORS AS PART OF THE COMPONENT OF ECONOMIC FREEDOM AS A BACKGROUND OF IMPROVEMENT OF STRUCTURAL PROPORTIONS IN THE CONTEXT OF IMPROVING GOVERNANCE

Uliana NIKONENKO [1*], Tetyana MEDYNSKA [2] Oleksandr BILOTSKYI [3], Mariia BARAN [4], Inna SHEVCHUK [5]

[1]*Faculty of Media Communications and Entrepreneurship, Ukrainian Academy of Printing, Lviv, Ukraine*
[2]*Institute of Economics and Finance, Lviv University of Trade and Economics, Lviv, Ukraine*
[3, 4]*Department of Public Management and Administration, Ivano-Frankivsk National Technical University, Ivano-Frankivsk, Ukraine*
[5]*Departament of Public Administration and Administration, Khmelnytsky University of Management and Law, Khmelnytskyi, Ukraine*

Abstract. *Purpose* – the main purpose of the study is to analyze the institutional factors that are usually considered as components of economic freedom, as well as to assess the level of economic freedom as a prerequisite for improving structural proportions and stimulating the investment process in an economy with excess raw materials sector (such as Ukraine).

Research methodology – the methodological basis is a system of complementary mathematical, general scientific and special methods, in particular system-structural comparison of retrospective, diagnostics and mathematical methods of studying possible dependence, general methods of analysis and synthesis, etc.

Findings – the main result of the study is that increasing the degree of economic freedom in Ukraine contributes to structural shifts in favour of non-resource exports.

Research limitations – our assessment methodology does not take into account the specifics of most European countries and is mainly aimed at countries of Eastern Europe so far.

Practical implications – our proposed methodology for assessing the dependence of structural changes in a country's exports on the economic freedom index IEF can be used in the practice of public administration in countries of such countries as Ukraine and others.

Originality/Value – a proposed method for estimating the dependence of structural changes in Ukrainian exports on the IEF Index of Economic Freedom.

Keywords: institutional factors, national economy, structural reforms, level of economic freedom, liberalization, exports.

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*Corresponding author. E-mail: *uliana_nikonenko@i.ua

Introduction

The attitude to institutional factors differs in the domestic expert environment by a peculiar dualism, when the practicality of institutional changes is not disputed by almost everyone, but their interpretation and connection with the policy of financial stabilization reveal significant differences (Shevchuk, 2019). Since the concept of "institutional factors" is used in the academic literature in a fairly wide range – from the level of corruption to the status of a central bank, it is also often used as a synonym for structural reforms, some clarifications are needed. In a narrow sense, the institutional status of the central bank and the rules of monetary and fiscal policy are appropriate for institutional factors (Other institutional factors include an authoritarian form of government (this is often one of the explanations for the successful course of economic transformation in Chile since the mid-1970s), a social package (this has been used in Mexico since the late 1980s), and the monetary council system as one of the options for tightly attaching a monetary unit to one of the world currencies (this was the practice of Argentina in the 1990s)). It is clear that in this case, we are talking mainly about institutional factors for responsible economic policy, which should provide both financial stabilization and the necessary structural reforms (Williamson, 1999).

Most often in this context, we are talking about a set of Washington Consensus events: 1) fiscal discipline, 2) government spending, 3) tax reform, 4) financial liberalization, 5) exchange rate unification, 6) foreign trade liberalization, 7) attracting foreign direct investment, 8) privatization, 9) deregulation, 10) guarantees of property rights (Fiscal discipline provides for a budget deficit of not more than 2% of GDP, improvement of government spending (redistribution of expenses in favour of education, health care and infrastructure investments, tax reform (expansion of the tax base, with a reduction in marginal tax rates)). Financial liberalization should ensure that the interest rate is determined on market principles, which implies its positive values (this is necessary to increase savings and prevent capital outflows). The unification of the exchange rate means the abandonment of the system of multiplied exchange rates, which in the post-war period was often used by developing countries, in particular Argentina. The liberalization of foreign trade is aimed at overcoming structural deformations and creating prerequisites for increasing exports. FDI is important as a factor in increasing investment and long-term financing of the current account deficit. Privatization of state-owned enterprises is important to reduce the budget deficit and increase the efficiency of the economy. Deregulation aims to simplify investment and stimulate competition. Protecting property rights is necessary to increase investment and increase confidence in the economy.). The economic reforms of the 1990s showed the addition of another element – balanced monetary policy (Fischer, 1995).

In a broader sense, institutional factors include privatization, deregulation, guarantees of property rights, the fight against corruption, the effectiveness of the judiciary, are also considered elements of structural reforms. For example, at the beginning of the last decade, it was recognized that in Ukraine institutional changes are necessary for the restructuring of the sectoral structure of the economy (this was demonstrated by the experience of CEE countries) (Kononenko et al., 2018; Liashenko, 2017). Thus, the understanding of structural reforms is limited to changing the structure of the production system in several directions: 1) limiting dependence on the raw materials sector, 2) developing non-primary industries,

3) overcoming deformations in the regional context. On the other hand, a favourable institutional environment is necessary primarily to ensure constructive competition in the domestic market, which creates the prerequisites for successful competition in foreign markets. Until now, the problem has not been resolved, which, together with the weakness of private property protection, limits the possibilities of diversification of Ukrainian exports (Shynkaruk et al., 2015).

So, the study aims at analyzing institutional factors that are usually considered components of economic freedom, as well as assessing the level of economic freedom as a prerequisite for improving structural proportions (in favour of the non-primary sector) and stimulating the investment process in an economy with an excessive raw materials sector (such as Ukraine), which determine directions priority liberalization of the economic environment (freedom of investment, the order of government spending, freedom of entrepreneurial activity, protection of the rights of transparency) and at the same time avoid potential risks from unnecessary liberalization measures in the financial market and in foreign trade.

The current practice of developing international economic relations, developing against the backdrop of deepening global crises, more and more proves that the world is undergoing a reorientation of trade and economic policies pursued by countries towards wider use of amended protectionism. The implementation of the ideas of liberal economic patriotism, involving the active use of neo-protectionism tools, is aimed at stimulating economic activity, while the use of domestic needs instead of simply controlling foreign trade is a response to the deformation of the classic liberalism creed "laissez-faire". Given this, it should be noted that in an economy with high profitability of the commodity sector, government intervention is necessary to transfer resources to the commodity sector. One of them may be the strengthening of the monetary unit, and the other – the provision of preferences for activities in the non-primary (technological) sector. Since direct financing of technological sectors contains risks of abuse and economic inefficiency, it is more about developing infrastructure and stimulating the accumulation of human capital. Another opportunity is the promotion of foreign investment. When attracting foreign direct investment, incentives for the internal redistribution of resources in favour of the commodity sector are offset by the increased return on foreign investment in the commodity-exporting country compared to the host country. The appropriateness of the policy of administrative assistance to transfer production resources to the non-primary sector only increases in the event of structural shocks.

Empirically confirmed the importance of economic freedom as a factor in improving the quality structure of exports, implemented mainly through freedom of investment and the order of government spending, as well as freedom of business. The high correlation between the freedom of the investment process and the structure of exports can easily be interpreted in favour of attracting foreign direct investment as a factor in favourable structural transformations (in favour of non-resource exports). Such results offset the numerous criticisms of Russian scholars regarding the negative impact of neoliberal politics in general and the Washington Consensus in particular.

The importance of the study is that today it is very important to establish the dependence of structural changes in Ukrainian exports on institutional factors that are components of economic freedom.

The uniqueness of the study is that it is empirically proven that increasing the degree of economic freedom contributes to structural transformations in favour of non-resource exports, that is, improves the quality structure of Ukraine's exports.

1. Literature review

The "Washington Consensus" toolkit is mainly criticized by Russian scientists from the standpoint of discrepancy with the specific conditions of transformation economies (Korablin, 2017), copying the "matrix" of Latin American reforms (Kovalchuk, 2018) or failure to implement the concept of an "autonomously operating technocrat government" (Panchenko & Voichak, 2016), which generally corresponds to the arguments of numerous foreign critics of neoliberal politics (Holiuk & Voloshchuk, 2015). In particular, the excessive speed of privatization among the CIS countries, which lacked institutional and cultural freedom, was considered erroneous, which led to the "capture" of the state by monopolistic groups of newborn capital (Korablin, 2017). As a result, instead of a market economy, an environment for corruption and raiding arose. At the same time, excessive openness for imports and the inability to focus on increasing technological exports in the absence of monetary resources and significant technological backwardness of capital-intensive industries led to an increase in the volume of commodity exports and the transformation into a raw materials appendage of developed countries with the largest number of votes in the IMF (Rudan, 2017).

A. Sharov (2017) categorically declares that in relations with the IMF one should not adhere to the recommendations of this organization, but should propose "effective reform measures" that can solve a set of economic problems: a) financial and macroeconomic stabilization (formal goals of the IMF) b) providing prospects for economic growth (program goals of the government) c) ensuring the economic security of Ukraine (constitutional obligation of the president and other public authorities). However, the specialist does not specifically name any of the reform measures.

An acceptable alternative is the proposal of the "post-Washington consensus" from the Nobel laureate J. Stiglitz. In a condensed form, we are talking about maintaining the system of state regulation and restrictions on foreign trade. Macroeconomic stabilization and privatization are considered insufficient for sustainable economic development if a reliable financial system is not enough (without this it is impossible to increase private savings and reallocate financial resources). The importance of the accumulation of human capital and technological development is also noted; it is impossible to solve without government intervention. Other well-known critics of the Washington Consensus emphasize the importance of increasing investment, overcoming property stratification and strengthening state institutions, smoothing economic cycles, in particular through stabilization funds, creating a social protection system, taxing the rich, supporting small businesses, improving the land market, etc (Birdsall et al., 2001).

The arguments are contradictory, because in an economy with a raw materials orientation, the active development of the social protection system can interfere with the functioning of the stabilization fund (enough funds). Small business support may also not have the expected incentive effect, so instead of repeating the successful German policy of supporting

small and medium-sized enterprises Mittelstand, which is considered the basis of the German economic miracle, you can be trapped in the abuse of public funds, as is usually the case with economies with weak institutions. The effectiveness of public investment also depends on the quality of institutions, and this significantly limits the possibilities for their use.

Another analytical design was the "Beijing consensus" (attachment to innovation and constant experimentation with economic policy, focus on the stability of the economic system and increased exports, limited control of capital flows), supposedly working in the interests of ordinary people and ensuring the preservation of economic and political independence (Maslov, 2017). Subsequently, two more consensuses appeared "Mumbai" and "Seoul" (Holiuk & Voloshchuk, 2015). In the first case, it is about preserving the democratic principles of organizing political life (this contrasts with Chinese experience), decentralization, increasing the well-being of the masses, the predominant orientation of the manufacturing sector on the domestic market (this denies the Chinese experience), the development of private entrepreneurship and innovation, and peaceful foreign policy. But the "Seoul Consensus" provides for the creation of modern infrastructure, maintaining macroeconomic stability, guarantees for public and private investment, social protection, high-quality public administration, and food security.

Although some domestic scientists are in a hurry to join the repeated voices abroad, which, they say, is the global crisis of 2008–2009. De facto eliminated the "Washington Consensus" (in particular, in the spring of 2009. That was then stated by then Prime Minister of Great Britain Brown), for example, this opinion is shared by Yu. Maslov (2017) (In some cases, conclusions about the inconsistency of the experience of countries with the logic of the "Washington Consensus" were drawn up based on rather dubious analogies. For example, in one study, the conclusion about the need to adopt economic reform programs to the specifics of each particular country, in this case, Ukraine, was made by the example of the lack of a relationship between interest rates and the amount of savings. This supposedly proves the inefficiency of financial liberalization, but it can be evidence of the importance of such institutional factors as distrust of the banking system or the spread of corruption) do not rush. Firstly, there is no convincing evidence of expansionary fiscal and monetary policies, and this is precisely what the supporters of a "sovereign" policy have in mind, which will help stimulate economic growth and do without high inflation. There is much more reason to believe that the raw material orientation of the Ukrainian economy is more due to the revaluation of the hryvnia due to expansionary monetary and fiscal policies than the IMF "dictate". Secondly, the order of government spending does not mean limiting public investment. It is only about the rejection of unproductive expenditures on subsidies and the functioning of inefficient state enterprises, which should free up funds for other programs. As noted by E. Panchenko and M. Voichak (2016), the policy of state regulation, including in the high-tech business sector, did not contradict the logic of the "Washington Consensus", but there were not enough opportunities for the corresponding improvement of government spending.

Thirdly, it cannot be argued that the policy of the "Washington Consensus" was ever implemented in Ukraine. Maximum were fragmented attempts to implement its components. In 2000–2001 A very contrasting transition to a budget surplus took place, but gradually this element of economic policy was lost. In 2006–2008 The stability of the hryvnia exchange rate

was maintained amid excessive growth in monetary aggregates. Tax reform based on the expansion of the tax base remains on the agenda. The system of subsidies and benefits was significantly expanded back in the middle of the last decade, and after the financial crisis of 2008–2009. This element of fiscal policy has received additional impulses. In the best of times (2006–2008), attracting FDI amounted to 8% of GDP, but these revenues were directed mainly to the needs of the market. Since the mid-2000s, the liberalization of capital flows has been almost complete, but it took place against the background of a growing redistribution of government expenditures for social purposes and almost "transparent" borders, leaving no options for liberalizing foreign trade (even if measures of limited trade protectionism were introduced, this should not have the expected effect).

As you can see on the example of Chile (Shevchuk, 2019), only holistic implementation of the corresponding policy in all its aspects brings positive results, and not just individual fragments. For example, privatization will not have the expected consequences in an economy where subsidies for the industry remain and there are no guarantees of property rights. It may also be harmful to liberalize foreign trade in the absence of an effective tax system that can impose private consumption. At the same time, it should be recognized that similar results may have a stabilization policy in an economy with weak institutions. Supplementing the Washington Consensus with an independent central bank status only partially solves this problem. Success requires institutional support in a wide range, and the criterion for the success of economic policies in a commodity-oriented economy should be considered the simultaneous achievement of financial stabilization and the implementation of structural transformations in favour of the non-resource sector.

Assessment of the level of economic freedom is the subject of research in a large number of scientific papers. For example, Ail-Gasaymeh (2020) investigated economic freedom in Jordan and GCC countries.

Czegledi (2020) investigated the coherence of market beliefs as a determinant of economic freedom. Le and Kim (2020) examined the effect of economic freedom on investment in a single country. Teague, Storr and Fike (2020) conducted an empirical analysis of economic freedom and materialism.

Our study is different in that we empirically prove that increasing the degree of economic freedom contributes to structural transformations in favour of non-resource exports, that is, it improves the quality structure of Ukraine's exports.

2. Methodology

The concept of economic freedom can be considered an approximate characterization of the institutional environment in the broad sense. The most commonly used index of economic freedom is the Index of Economic Freedom (IEF), calculated by The Heritage Foundation, an American research centre and The Wall Street Journal. The IEF integrated index takes into account 12 sub-indices: protection of private property, the effectiveness of the judiciary, integrity of government policy, tax burden, government spending, fiscal health, freedom of business, labour market flexibility, monetary freedom, foreign trade freedom, investment climate, freedom financial activities. However, we have taken only 9 subindices of the Economic

Freedom Index. Only those that have an impact on the macroeconomic policy of Ukraine were considered (it is clear that in exporting countries of raw materials, such as Ukraine, the proper quality of the political process, effective legal proceedings, etc.

One general (integral) index of economic freedom allows you to graphically depict the dynamics of the level of economic freedom in Ukraine on a 100-point scale over a fairly long period.

It is easy to see a kind of "cross-section" between economic freedom and the "Washington consensus" in terms of fiscal discipline, balanced monetary policy, both liberalizations – foreign trade and capital flows, and the creation of an appropriate investment climate. At the same time, the IEF index takes into account institutional factors from a "wide" set: the quality of legal proceedings, protection of property rights, and freedom of business. In both cases, institutional decisions in a narrow interpretation are not considered directly, but rather indirectly – as a means of achieving fiscal discipline and monetary freedom (in the sense of the absence of financial crises). In our opinion, this approach does not quite take into account the realities of low- and middle-income countries where there is no proper quality of the political process. Accordingly, we need more reliable guarantees for economic policy, improving the quality of the institutional environment (in the broad sense), and appropriate structural reforms.

Institutional decisions like an independent central bank are useful from the point of view of: 1) strict observance of radical economic policy, 2) neutralization of negative socio-political factors and (preferably) 3) creation of public support for economic feasibility. Guarantees of compliance with economic feasibility are achieved by setting clear rules and restrictions for economic policy and transparency of the democratic procedure for changing the status quo. For example, central bank independence means not only controlling the supply of money or inflation, but also creating pressure in the direction of fiscal discipline, liberalization of foreign trade, and the encouragement of foreign investment. Providing convincing economic results and improving the living standards of the population, institutional decisions are able to generate public support in favour of economic feasibility and is not excluded (only in the longer term), which will strengthen the foundations for political stability in itself. Limiting the possibilities of expansionary economic policy – an indispensable feature of an effective institutional solution – narrows the field for corruption and political games. This weakens the position of corporate structures and limits the possibility of exploiting populist slogans.

Institutional decisions shorten the time period during which society becomes convinced of the irreversibility of economic reforms. It was the uncertainty of entrepreneurs and ordinary citizens in the government's determination to continue the reform policy that created problems in Argentina (1976–1981 and 1985–1988), Brazil (1985–1993), Mexico (1994–1995), Chile (1980–1984) and other countries. This feature gains increased weight if it is necessary to redistribute resources from the raw materials sector to non-primary sectors.

Contrasting financial stabilization with institutional transformation is extremely harmful. The liberal version speaks of the inadequacy of price and monetary stability for structural transformations, and the radical structuralist keys even speak of the possible harmfulness of financial stabilization for modernization processes. The conclusions of the Razumkov Center are indicative: uncertainty regarding the effectiveness of structural policy is identified with

the supposed rejection of Latin American-style structuralism (Sidenko & Rekhta, 2017; Kozyuk, 2018). It is argued that it is the state that should actively influence innovation processes, accelerating the development of the latest technologies that provide global and regional competitive advantages in the field of high technologies. Since this is not enough for Ukraine's economic policy over the entire period since the beginning of the 1990s, technological lag and insufficient economic growth become clear.

S. Korablin (2017) calls not to exaggerate the influence of institutional features because this has no decisive influence on economic growth. This position is explained by the fact that the only sustainable economic recovery of Ukraine occurred in 2000–2007. Although there were no less well-known facts of corruption, shadow business and political confrontation, there were not enough high prices for raw materials. It can be concluded that in Ukraine, internal factors do not influence economic growth at all. Like, at the heart of economic growth 2000–2007. It was not radical structural reforms that lay, not a special business climate, not an attractive investment environment and not budgetary discipline, but a rise in world raw material prices independent of them.

The opposite position is that institutional factors still affect the dynamics of economic growth and structural changes. Thus, V. Holyan (2016) notes that the monopolization of agricultural markets by agricultural holdings and their concentration of a significant bank of agricultural land negatively affects the investment attractiveness of the agricultural sector, which led to a reduction in foreign direct investment in agriculture, forestry and hunting.

Institutional problems can explain the fact that excess liquidity is regularly observed in the banking system. The problem is not created by an imaginary lack of credit resources, as the lack of investment opportunities. Under such conditions, calls for institutional and structural transformations are entirely appropriate (Bytsiura, 2016). Moreover, any proposals on the priority areas of structural transformations will not be implemented unless appropriate institutional prerequisites are created for such changes (Antoniuk, 2017).

Institutional obstacles to the modernization of the Ukrainian economy are numerous: 1) procedural overload of doing business (the number of procedures necessary for doing business exceeds the indicators of developed countries and neighbouring countries by 2–3 times), 2) lack of certainty and protection of property rights, 3) a high level of corruption in government bodies and judicial proceedings; 4) an imbalance in the mechanisms for resolving corporate disputes in judicial and extra-judicial order; 5) the post-crisis disorientation of the authorities (Zhalilo et al., 2018). The consequences are a low level of legitimacy of power, high individualism and a sense of isolation from social processes, lack of national identity, high social anxiety, etc., which leads to the transition of chronic institutional crisis from the economic to the social and political plane.

A favourable institutional environment provides an opportunity not only to develop a business but also to respond flexibly to new needs and conditions. Among practical measures, they usually emphasize the importance of the legal foundations of doing business, guaranteeing property rights, demonopolization of the economy, eradicating corruption at all levels and creating equal and transparent conditions for entrepreneurial activity in any field, stimulating competition (Karasova, 2018).

In the stabilization policy plane in a dollarized economy, weak institutions (not only the independent status of the central bank) are multiplying the effect of expectations of a "weak" monetary unit. This can happen both in the event of a drop in world prices for raw materials and regardless of weather, often in the context of the political cycle, which provides for a significant increase in government spending on the eve of the election campaign. As noted by V. Kozyuk (2018), in addition to these two factors, "very significant mixing of signals and noise" has its own effect, which distinguishes not only biased odious experts but also individual officials who, by definition, must send completely different signals.

For example, rather contradictory signals are sent by the chairman of the NBU (National Bank of Ukraine) Council B. Danylyshyn. In early February 2018, they were offered a transition to two-factor targeting – inflation and the hryvnia exchange rate, and on occasion, it was argued that the restrictive monetary policy seriously restrains lending to the economy primarily for high rates, but not without "diverting banks' funds to NBU certificates of deposit" (Danylyshyn, 2018). The NBU discount rate hike cycle was called "untimely", since "inflation in Ukraine is not monetary, but mainly costly". Such peremptory statements are rather strange because empirical studies confirm the opposite: the proportion of money supply in inflation decomposition reaches 50%, and the budget balance is 40% (Shevchuk, 2019). Ukrainian inflation can be called "non-monetary" only in the sense that price dynamics no less strongly depend on fiscal policy. Moreover, the monetary nature of Ukrainian inflation is manifested much more clearly than is typical for Latin American countries.

In general, achieving a high level of economic freedom for a country involves achieving a high level of its main sub-indices (Figure 1).

It should be noted that Ukraine was taken for the study, which is an active exporter of raw materials with a rather low level of economic development. Ukraine today is one of the important participants in export-import operations in Eastern Europe. The European Union sees in Ukraine its potential participant, which can bring a lot of good for the European community.
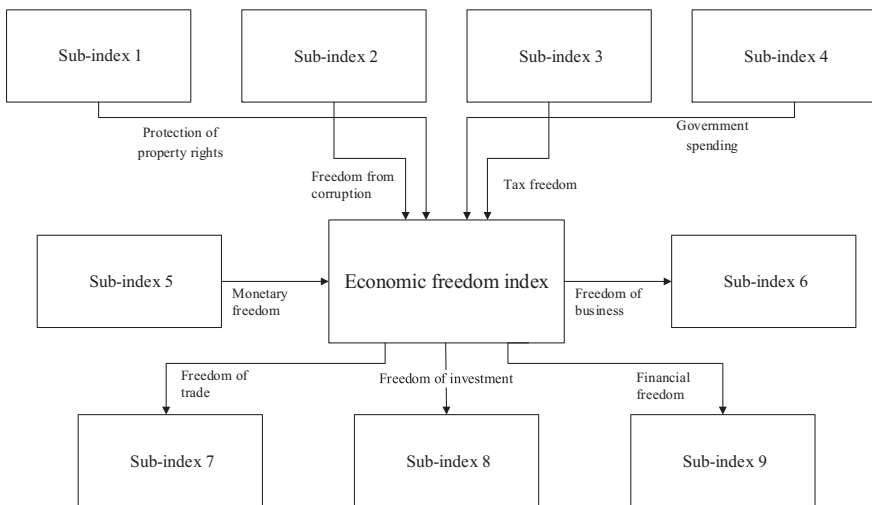

Figure 1. Ukraine: index of economic freedom, 1995–2018 (development by authors)

3. Results and discussions

To analyse the institutional factors of the structural transformation process in Ukraine, it is appropriate to use the IEF Index of Economic Freedom mentioned above (Figure 2). The IEF Integral Index reveals a gradual increase in economic freedom in Ukraine on a 100-point scale from 40 points in 1995. Up to 55 points in 2005 (in fact, we are talking about 2004, because IEF indexes are published at the beginning of the calendar year). In the future, freedom of economic activity decreased until 2010. Then, the IEF index stabilized at 46–47 points (except for 2014), and since 2017, the growth of economic freedom has resumed. The situation has improved in recent years, but the level of economic freedom remains below the record levels of the middle of the last decade.

The domestic indicator of 2018 at the level of 51.9 points can be compared with data from other countries. Except for Brazil (51.4), commodity-exporting countries from Latin America predominantly have mostly better values: Argentina – 52.3 points; Colombia – 68.9; Uruguay – 69.3 points. Chile's reformer country (75.2) can be attributed to liberal economies with high levels of entrepreneurial freedom, such as New Zealand (84.2), Australia (80.9) or Canada (77.1). Only Hong Kong and Singapore had a higher IEF index, respectively 90.2 and 88.8 points. Countries with low rates include: South Korea – barely 5.8 points, Venezuela – 25.2; Cuba – 31.9; Congo – 38.9; Eritrea – 41.7; Equatorial Guinea – 42; Zimbabwe – 44; Bolivia – 44.1; Algeria – 44.7; Djibouti – 45.1; Mozambique – 46.3 points. The countries of Southeast Asia are characterized by a high level of economic freedom: Malaysia – 74.5 points; South Korea – 73.8; Thailand – 67.1; Indonesia – 67.2 points. This figure is lower in Turkey and South Africa, following 65.4 and 63 points. At the same level, economic freedom in Portugal is 63.4 points.

It is disturbing that the level of economic freedom in Ukraine is inferior to the countries of the former Soviet Union: Georgia – 76.2 points; Kazakhstan – 69.1; Moldova – 58.4; Russia – 58.2; Belarus – 58.1; Georgia – 76.2 points. Below are the indicators only of Uzbekistan and Turkmenistan, under 51.5 and 47.1 points. But the rest of the post-Soviet countries have a high level of economic freedom: Armenia – 68.7 points; Azerbaijan – 64.3; Kyrgyzstan – 62.8; Tajikistan – 58.3 points. A. Lyashenko (2017) notices a peculiar "turning point" in 2004–2006 when neighbouring countries (Poland, Russia, even Belarus) made efforts to liberalize the economic environment, and Ukraine chose the opposite direction of movement in return.

Figure 2. Ukraine: index of economic freedom, 1995–2018
(built according to the Heritage Foundation, n.d.)

Examination of sub-indexes reveals that Ukraine is quite liberal in matters of taxation, monetary policy and foreign trade (Figure 3). But to wish for a better fight against corruption, protection of property rights, issues of the investment climate and the functioning of financial markets.

A high assessment of domestic tax legislation is somewhat unexpected because it is mainly domestic researchers who critically evaluate this particular component of economic freedom. In particular, it is argued that the problem of obstacles to business is acute in the field of tax administration because the reporting and accounting procedures directly affect the speed of operations in the economic activities of enterprises (Zhalilo et al., 2018). Distressed government spending policies. Streamlining government spending was quite successful in 2000–2005. However, in the future, the situation rapidly deteriorated. From 2014, changes for the better resumed, but so far only the level of the second half of the 1990s has been reached.
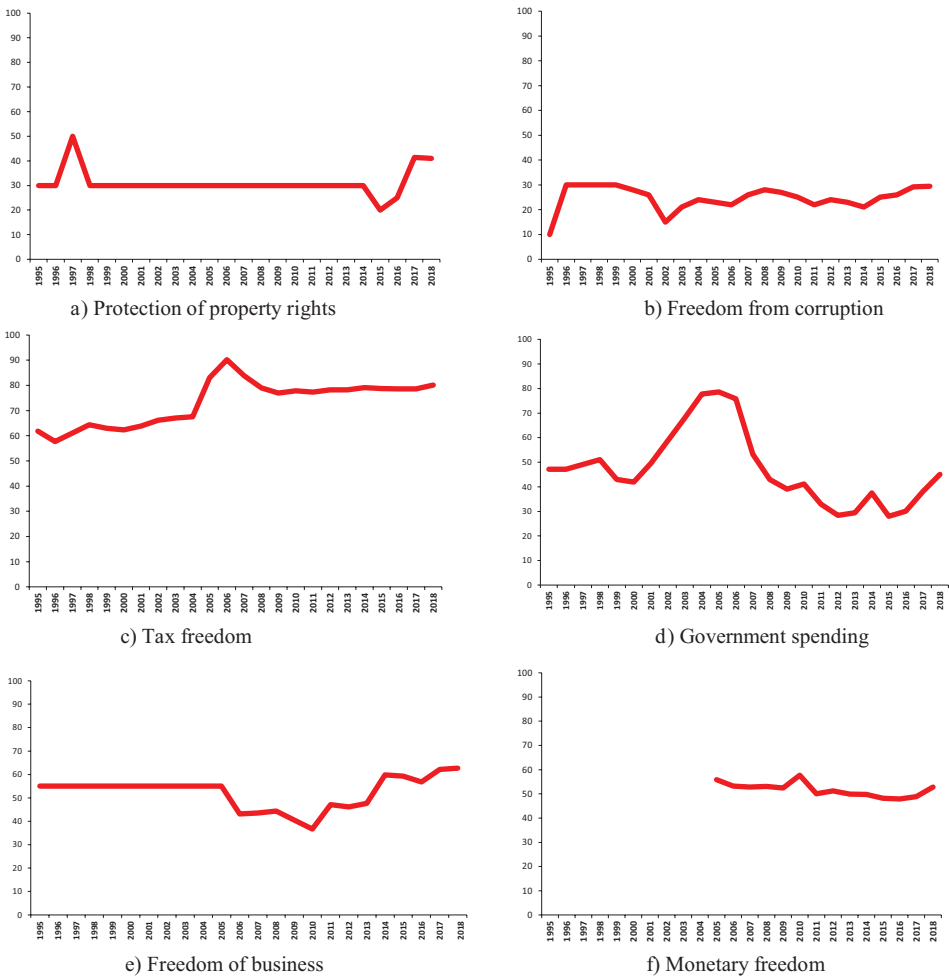

a) Protection of property rights

b) Freedom from corruption

c) Tax freedom

d) Government spending

e) Freedom of business

f) Monetary freedom

Figure 3. *To be continue*

g) Freedom of trade

h) Freedom of investment
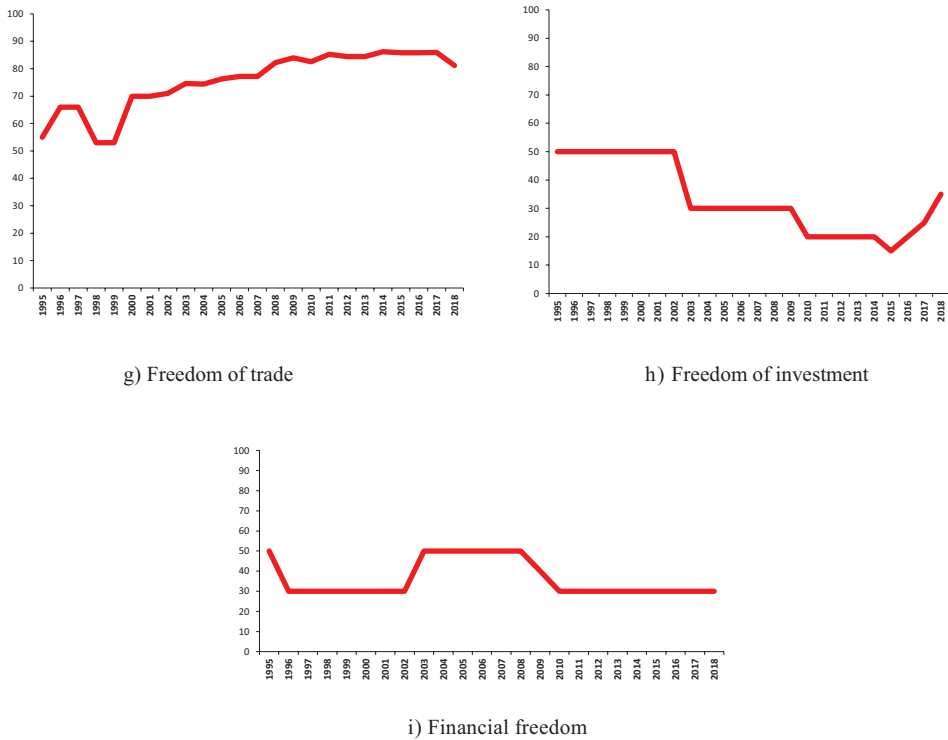

i) Financial freedom

Figure 3. Ukraine: components of index of economic freedom, 1995–2018
(built according to the Heritage Foundation, n.d.)

Ukraine should have had a liberal trade regime since the mid-1990s, and over time this orientation of customs legislation only intensified, without restoration of trade protectionism even in times of crisis. Monetary policy became liberal in the middle of the last decade and has not changed since then, despite a certain regression in 2009–2010. And again in 2014–2016. In both cases, it was a reaction to the crisis. However, since 2017, monetary policy has again become liberal.

The protection of property rights and the level of corruption have not changed much over the past two decades, despite two revolutions and the repeatedly declared course towards reform. The freedom of doing business has improved somewhat recently, after an obvious deterioration of this indicator in 2006–2010, and it remains a positive trend. However, there is not enough liberal environment for investments and activities in the financial market.

It should be recognized that domestic researchers are mainly limited to stating facts and generating sentences, without relying on empirically determined dependencies. In general, it cannot be ruled out that economic freedom is superfluous for Ukraine, at least in a number of institutional aspects, as S. Korablin (2017), mentioned above, asserts that a rather high degree of liberalization of macroeconomic policy is quite valid.

To study the possible dependence of structural changes in Ukrainian exports on institutional and other factors that are usually considered components of economic freedom, we used the following statistical model:

$$STR_t = \alpha_0 + \sum_{i=1}^{n} \alpha_i STR_{t-i} + \beta FREEDOM_t + \gamma_1 BOOM_t + \gamma_2 CRISIS_t + \varepsilon_t, \qquad (1)$$

where: $FREEDOM_t$ – is the IEF economic freedom index (or one of the sub-indexes); $BOOM_t$ – is a dummy variable for accounting for the commodity boom (1 – for 2003Q4: 2004Q2, 2006Q1: 2008Q2, 0 for the remaining quarters); α_0 – is a constant; α_i – is the retardation selected macroeconomic indicator with i-lag (α_1, α_2 – retardation with a lag of one and two quarters respectively); ε_t – is a stochastic factor;

$CRISIS_t$ – is a dummy variable that takes into account crisis phenomena (1 for 2000Q1, 2004Q3: 2004Q4, 2008Q3: 2009Q4, 2013Q1: 2015Q4, 0 – for the remaining quarters).

Thus, it is assumed that the situation at the beginning of 2000 had its own influence, is connected with the inertia of the deep currency crisis of 2008–2009, the short-term period of financial destabilization at the end of 2004, conditioned by the "orange revolution", the events of the global financial crisis of 2008–2009 and the last acute crisis in 2014–2015. It is assumed that the crisis appeared at the beginning of 2013 and ended by the end of 2015, although the recovery of pre-crisis economic dynamics continues to this day.

The initial hypothesis is that an increase in the level of economic freedom leads to structural changes in favour of the non-resource sector ($\beta > 0$). For a commodity boom, it is appropriate to assume the opposite effect, as well as for crisis phenomena ($\gamma_1, \gamma_2 < 0$).

Empirical estimates of equation (1) using the two-step least squares method (2SLS) using quarterly data for the period 1995–2018. Are given in Table 1. The obtained results explain from 90% to 92% of changes in the dynamics of dependent variables, which is quite acceptable for a statistical model, and the stationarity of residues, according to the ADF test, allows to correctly interpret the obtained functional dependencies.

Our results confirm the inertia of the STR_t indicator (with a lag of two quarters). The $CRISIS_t$ variable was removed from the regression equations since no dependence of this indicator on crisis phenomena was found.

The main result is that increasing the degree of economic freedom contributes to structural shifts in favour of non-resource exports. The corresponding influence is realized mainly through freedom of investment and the order of government spending, as well as freedom of entrepreneurial activity. The coefficient β has the largest value (and statistical significance at the level of 5%) precisely in the specification with the sub-index "freedom of investment". The corresponding coefficient is almost three times less in the specification with the sub-index "government spending" and even less in the specification with the sub-index "business freedom". The high relationship between freedom of the investment process and STRt can easily be interpreted in favour of attracting FDI as a factor in favourable structural transformations. Thus, additional confirmation was found about the determining influence of FDI in the process of improving the quality structure of Ukrainian exports, and not excluded – the economy as a whole.

Table 1. Estimates of the dependence of structural changes in Ukrainian exports on the IEF economic freedom index (source: calculated according to the Heritage Foundation, n.d.)

Indicator of economic freedom (*FREEDOM$_t$*)	α_1	α_2	β	γ_1	Statistics
Integral index IEF	0.626 (5.34***)	0.271 (2.39**)	0.0025 (1.72*)	0.182 (3.12***)	R^2 = 0.91 ADF = −9.20***
Sub-indexes					
"Protection of property rights"	0.634 (5.41***)	0.281 (2.48**)	0.0029 (1.53)	0.181 (3.09***)	R^2 = 0.91 ADF = −9.21***
"Freedom from corruption"	0.541 (5.46***)	0.283 (2.49**)	0.0036 (1.32)	0.170 (2.94***)	R^2 = 0.91 ADF= −9.09***
"Tax freedom"	0.544 (5.38***)	0.282 (2.46**)	0.0009 (1.18)	0.172 (2.74***)	R^2 = 0.91 ADF= −9.14***
"Government spending"	0.610 (5.25***)	0.280 (2.52**)	0.0028 (2.18**)	0.172 (3.04***)	R^2 = 0.91 ADF = −9.47***
"Freedom of business"	0.626 (5.34***)	0.286 (2.55**)	0.0018 (1.70*)	0.193 (3.92***)	R^2 = 0.91 ADF = −9.18***
"Monetary freedom"	0.639 (5.45***)	0.276 (2.42**)	0.0013 (1.39)	0.175 (3.01***)	R^2 = 0.91 ADF = −9.14***
"Freedom of trade"	0.648 (5.51***)	0.282 (2.45**)	0.0007 (1.05)	0.174 (2.94***)	R^2 = 0.90 ADF = −9.12***
"Freedom of investment"	0.588 (5.08***)	0.250 (2.36**)	0.0071 (2.62**)	0.214 (3.63***)	R^2 = 0.92 ADF = −8.93***
"Financial freedom"	0.640 (5.45***)	0.272 (2.37**)	0.0027 (1.32)	0.145 (2.49**)	R^2 = 0.92 ADF = −9.21***

*Note: ***, ** and * mean statistical significance at 1%, 5% and 10%, respectively.*

Although the remaining components of the IEF index do not affect the index of structural changes at a statistically significant level, in all cases the estimated coefficient β turned out to be positive. It is also worth noting that the value of the coefficient β is quite high in the specifications with the sub-indexes "freedom from corruption" (0.0036) and "financial freedom" (0.0027). This means that these two components of the general index of economic freedom can cause instability of the structural transformation process in favour of the non-resource sector. The liberalization of foreign trade and the corresponding changes in tax legislation does not seem to have a significant impact on structural transformations. There are no indications that the liberal trade regime has led to a deepening commodity orientation of the Ukrainian economy (Rudan, 2017).

An important difference is that domestic investment is positively dependent on the commodity boom and negatively on crisis. This has not been identified for FDI that are resistant to both shocks. This means that attracting FDI can increase the stability of the Ukrainian economy to instability in world commodity markets and contribute to structural shifts in favour of the non-resource sector of the Ukrainian economy.

Assessing the impact of institutional factors in a wider context, it is necessary to use increased economic freedom to attract foreign direct investment (FDI), since there is no reason

to fear that FDI will contribute to the deindustrialization of the economy and the strengthening of its raw material nature, as claimed for individual foreign countries.

The direct relationship between an increase in the degree of economic freedom and FDI inflows has proper empirical evidence:

$$FDI_t = \quad 0.360FDI_{t-1} \quad +0.166FDI_{t-2} \quad +0.032FREEDOM_t$$
$$(3.31^{***}) \qquad\qquad (1.37) \qquad\qquad (3.31^{***}) \tag{2}$$
$$R^2 = 0.92 \quad ADF = -8.35^{***}.$$

A similarly favourable dependence is observed for all, without exception, IEF sub-indices at the level of statistical significance of at least 5%. The corresponding regression coefficient for the sub-index "freedom of trade" has a slightly lower significance at the level of 10%, but the weakness of the corresponding effect can easily be explained by the achieved almost maximum openness of the domestic economy to foreign trade.

Economic freedom in a similar way must affect the rate of domestic investment:

$$INV_t = \quad 0.762INV_{t-1} \quad +0.121INV_{t-2} \quad +0.007FREEDOM_t$$
$$(10.54^{***}) \qquad\qquad (1.86^*) \qquad\qquad (3.84^{***})$$
$$+0.032BOOM_t \quad -0.067CRISIS_t \tag{3}$$
$$(1.90^*) \qquad\qquad (-4.46^{***})$$
$$R^2 = 0.94 \qquad ADF = -8.29^{***}.$$

True, the regression coefficient at FREEDOMt is much smaller, but also statistically significant at the level of 1%. All evidence indicates that the dependence of domestic investment on the achieved level of economic freedom is much weaker.

An analysis of the dependence of investments on sub-indices showed that tax freedom and a liberal trade regime have a significant stimulating effect (the corresponding regression coefficients turned out to be significant at the level of 1%); less significant were monetary freedom (at 5%) and business freedom (at 10%). Other factors of economic freedom turned out to be insignificant, although the corresponding regression coefficients are positive, except for the coefficient for financial freedom, which turned out to be negative.

We will separately establish which sub-indices of economic freedom most affect its level and which are less (Table 2).

Table 2. The list of sub-indices of economic freedom and their mathematical designation

Mathematical notation	Subindex group	Mnemonic name
Z_1	Cost sub-index group: government spending; freedom of investment; freedom from corruption	CSI
Z_2	Group of business sub-indices freedom of business; freedom of trade; protection of property rights	GBI
Z_3	Group of sub-indices of finance: financial freedom; freedom of investment; tax freedom	GFI

Matrix A of dimension 3×3 elements is added to the table by adding an information line and a column with the names of the threats to it (Table 3).

Table 3. Binary dependency matrix

		1	2	3
		CSI	GBI	GFI
1	CSI	0	0	0
2	GBI	1	0	1
3	GFI	1	0	0

Based on the matrix A, we construct the reachability matrix. We form the binary matrix $(I + A)$, where I is the identity matrix. As a result, the reachability matrix must satisfy the condition (4):

$$(I + A)^{k-1} \leq (I + A)^k = (I + A)^{k+1}. \tag{4}$$

The actual construction of the binary matrix is reduced to filling in the table (Table 4).

Table 4. The reach matrix

		1	2	3
		CSI	GBI	GFI
1	CSI	1	0	0
2	GBI	1	1	1
3	GFI	1	0	1

The vertex zj is reached from the vertex z_i if there is a path in the graph that leads from the vertex z_i to the vertex z_j. Such a peak is called reachable. Denote the subset of similar vertices by $S(z_i)$. Similarly, the vertex z_i is the front of the vertex z_j if it reaches its vertex. Let the set of predecessor vertices form a subset of $P(z_i)$.

Finally, the section of the subsets of reachable and predecessor vertices, i.e., the subset (5)

$$R(z_i) = S(z_i) \cap P(z_i). \tag{5}$$

The vertices that are not reached from any of the vertices of the set Z_1, the remaining ones determine a certain level of the hierarchy of priority of the initial groups of sub-indices of economic freedom assigned to these vertices. An additional condition for this is to ensure equality (6):

$$P(z_i) = R(z_i). \tag{6}$$

Performing the totality of the above actions gives the first level (the lowest in terms of the importance of influencing the process under study) of the hierarchy of sub-index groups. To determine it, based on the preliminary matrix, we construct a Table 5.

Table 5. Calculation table for constructing a hierarchy model of the influence of sub-index groups on the level of economic freedom

I	$S(z_i)$	$P(z_i)$	$S(z_i) \cap P(z_i)$
1	1	1, 2, 3	1
2	1, 2, 3	2	2
3	1, 3	2, 3	3

The second column of this table is the number of unit elements of the corresponding rows of the reach matrix, the third is the number of unit elements of the column columns of this matrix.

Without further intermediate calculations, it is possible to build a structured model (Figure 4), characterizing the priority of the influence of a group of sub-indices on the level of economic freedom.
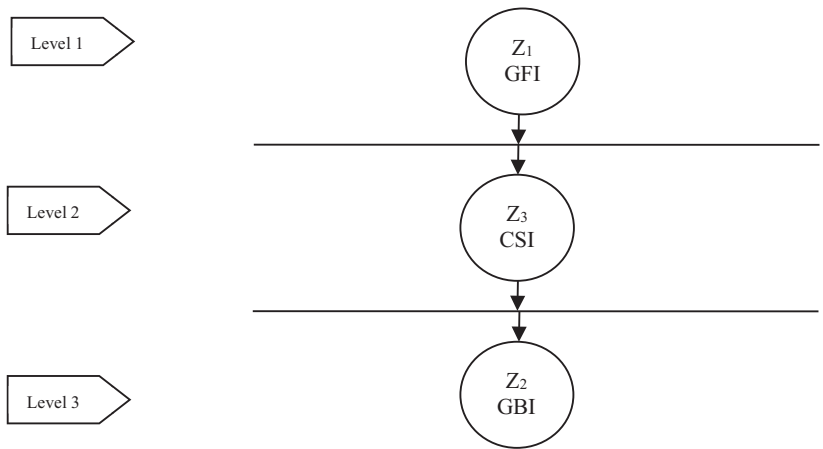

Figure 4. Model of the hierarchy of the impact of sub-index groups on economic freedom (development by authors)

In this case, it is the Cost sub-index group: government spending that exercises the greatest influence on the level of economic freedom; freedom of investment; freedom from corruption.

Conclusions

The study provides additional persuasiveness with the assertion that "catastrophic failures in the legal sphere, issues of state non-interference in business have caused inhibitions of economic development". One mechanism has been the promotion of structural changes in favour of the commodity sector.

The recommended palette of measures for institutional strengthening of the Ukrainian economy as a means of improving the quality structure of the economy is quite transparent. It is necessary to demonstrate effectiveness in the fight against corruption and raiding (without this there are no guarantees of property rights), streamline government spending and improve freedom of business. Increasing the degree of financial freedom is not so urgent, because the difficult conditions of a dollarized economy do not require haste.

If we draw parallels between economic freedom and the Washington Consensus, then there is no reason to deny the benefits of neoliberal politics. A certain dissonance can be seen only in the fact that the quality of fiscal policy in the IEF index of economic freedom usually increases with a decrease in government spending at all levels, while the above empirical estimates suggest the exact opposite – an increase in government spending. The explanation may be that we are talking about such government spending that is financed from growing budget revenues. There is an opportunity for such an increase because the tax burden for Ukraine for IEF developers is considered extremely insignificant.

Tough institutional decisions can not only neutralize various distorting signals and noises but also limit the "perimeter of competitive populism" to a minimum. Otherwise, a sharp political struggle for the leverage of fiscal and monetary stimulus (under the guise of concern for economic growth) will inevitably hinder the implementation of stabilization policies and the transformation into the non-resource sector. First of all, we are talking about limiting the supply of money supply and public debt, as well as creating the prerequisites for a real "floating" of the monetary unit (with periods of significant local strengthening of the national currency).

However, strengthening formal and informal institutions should not be considered a substitute for healthy macroeconomic policies using fiscal and monetary policy rules, which should provide reliable "foundations" for long-term economic growth. In addition to achieving balanced budget guidelines, it is equally important to accumulate sufficient foreign exchange reserves of the National Bank of Ukraine. At the same time, a significant decrease in the volatility of GDP and other macroeconomic indicators and the steady restriction of cashless payments may limit the need for foreign exchange reserves.

In conditions of weak fiscal policy, signals from the National Bank of Ukraine indecisiveness when reaching the inflation target should be much stronger than for "normal" conditions. An increase in the discount rate should be a powerful leading indicator for market participants. If necessary, you can use administrative measures to limit consumer lending and "overheating" of individual markets, especially the real estate market.

In the future, it is necessary to pay attention to the assessment and analysis of institutional factors and the level of economic freedom of countries bordering Ukraine and play an important role in its economic development.

Disclosure statement

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