

Wrocław 2050

WRO 2050

Multi-Domain
Scenarios
for the Future

SUPPLEMENT

Consequences
of the War in Ukraine
for Wrocław

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Wrocław
miasto spotkań

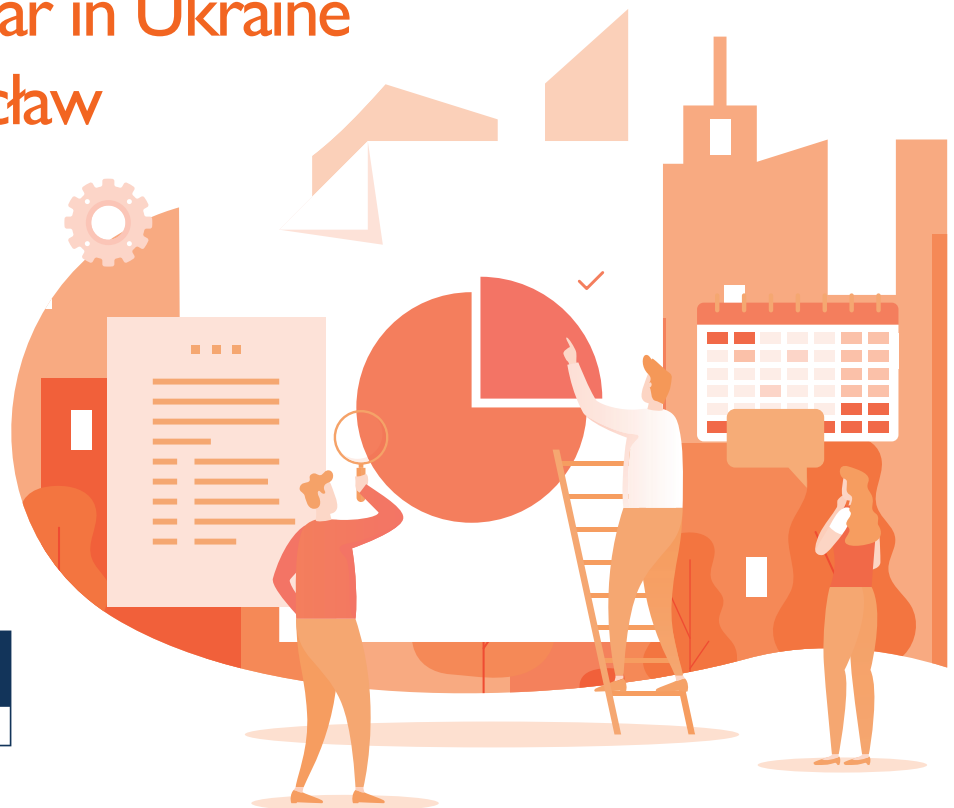


TABLE OF CONTENTS

Introduction **5**

Management Summary **6**

Methodology **7**

STAGE 1: Analysis of Key Wrocław Uncertainties
in the Context of Events in Ukraine **5**

STAGE 2: Assessment of Chances
of Scenario Unfolding **5**

STAGE 3: Analysis of Consequences of the War
in Ukraine for the Future of Wrocław **8**

Analysis of Key Wrocław Uncertainties in the
Context of Events in Ukraine **10**

Potential Consequences of the War in Ukraine **7**

Potential Further Course of Events **8**

Conclusions From the Sensitivity Analysis of
the Wrocław Scenarios with Respect to the
Consequences of Events in Ukraine **14**

Assessment of Chances of Scenario Unfolding	14
Verification of Paths Leading to the Scenarios for Wrocław 2050	15
Scenario 1: 'Strong State'	16
Scenario 2: 'Hostages of the Economy'	17
Scenario 3: 'Slow Life'	17
Scenario 4: 'Technological Expansion'	21
Analysis of Consequences of the War in Ukraine for the Future of Wrocław	23
Future Competence of Local Governments	23
Scenario 1: 'Strong State'	20
Scenario 2: 'Hostages of the Economy'	21
Scenario 3: 'Slow Life'	21
Scenario 4: 'Technological Expansion'	34
Consequences of the War in Ukraine for Wrocław	26
Socio-Political Consequences	26
Economic Consequences	32
Recapitulation	34

INTRODUCTION

When the 'Wrocław 2050. Multi-Domain Scenarios for the Future' report was published, the invasion of the Russian Federation of Ukraine remained in the sphere of uncertainty and changes that Europe could face in relation to this seemed distant. The Russian invasion of Ukraine is, without doubt, a huge humanitarian tragedy and a foreboding of a new era in the history not only of Ukraine, but also Europe. War has brought a number of extensive and far-reaching consequences for our continent, but also for the world, leading to a refugee, food, energy and economic crisis.

Hence, it is of utmost importance to analyse its consequences, both the present and the potential ones, and to try to figure out their impact on the development of our countries, regions and cities. This will help us become better prepared for what is going to happen in the - no doubt uneasy - future.

Even though the future cannot be foreseen in detail - or precisely due to it - it is necessary to consider various scenarios. At the present moment, the outcome of the conflict in Ukraine remains unknown. Nevertheless, it will definitely have effects influencing various aspects of our activities. For this reason, we will discuss the potential consequences of the war for four possible future scenarios and select the most important aspects pertaining to Wrocław.

I heartily encourage you to read the report and hope that it will help build Wrocław that is resistant to any potential threats and jointly create the future.



KACPER NOSARZEWSKI
Partner – 4CF

MANAGEMENT SUMMARY

The supplement titled 'Consequences of the War in Ukraine for Wrocław' is aimed at determining the potential consequences of the war in Ukraine for Wrocław, as well as analysing the assumptions adopted in the 'Wrocław 2050. Multi-Domain Scenarios for the Future' report once again.

In the first part, 'Analysis of Key Wrocław Uncertainties in the Context of Events in Ukraine', identification of potential paths of development and resolution of the conflict in Ukraine was made. The following paths are believed to be the most probable: New Cold War, Divided Ukraine and Pro-Western Ukraine. Furthermore, main consequences have also been identified, which refer to: increased significance of the NATO and China on the international stage, increased migration of people, intensification of nationality-based antagonisms, European Union's withdrawal from Russian hydrocarbons, deepening economic crisis, as well as development and increased investments in military technologies.

Next, the sensitivity of key Wrocław uncertainties was identified with respect to the potential consequences of the war. The analysis has shown that in the context of the events in Ukraine, the 'Hostages of the Economy' scenario is becoming feasible, where none of the key assumptions has been weakened to a significant degree. The 'Strong State' scenario also remains quite resistant to such events. The most susceptible to the situation is the 'Slow Life' scenario - its unfolding has come to be less probable.

In the second part of the report, 'Assessment of Chances of Scenario Unfolding', the possible paths leading to the scenarios were analysed, i.e. the conditions that would have to be fulfilled in the present situation for a given scenario to arise in a form as close to the original as possible. The major condition precedent for the emergence of the scenarios is restoration of global cooperation, because the present day situation where blocs of countries are under formation weakens the scenario assumptions. Re-establishment of efficient global cooperation seems feasible in case of a quality change - which is going to happen sooner or later - of top authorities in Russia and rapprochement of this country in relations with the West.

In the last part, 'Analysis of Consequences of the War in Ukraine for the Future of Wrocław', the potential future competence of local governments for each scenario was analysed and subsequently used for the preparation of a further discussion. The most limited competence of territorial governments would be manifested in the 'Strong State' scenario, while the most extensive in the 'Slow Life' scenario.

Ultimately, the key consequences of the war for Wrocław were pinpointed. The major threats refer to social tensions and radicalisation, as well as economic slowdown (in a short-term perspective, also energy poverty). However, the long-term perspective also brings potential chances, such as development of the IT industry in Wrocław, progressing energy transformation and possibilities of regional cooperation.

METHODOLOGY

This supplement relies on three main elements:

- The 'Wrocław 2050. Multi-Domain Scenarios for the Future' report;
- 4CF PnyX internal workshop;
- internal workshop with the Wrocław municipal office.

The results of the aforementioned elements were supported by further analyses and desk research.

1

STAGE 1

Analysis of Key Wrocław Uncertainties in the Context of Events in Ukraine

The first stage of the project relied on the internal 4CF workshop and the 'Wrocław 2050. Multi-Domain Scenarios for the Future' report.

The internal workshop, which took place on 9 May 2022, was attended by six foresight analysts. The workshop made use of a signature on-line app, 4CF PnyX, which allows for holding a creative discussion on-line with automated conclusion drawing. It is a tool supporting a group discussion and analysis that facilitates organisation and assessment of conclusions.

During the workshop, the employees pinpointed the main consequences of the war in Ukraine pertaining to the broad range of issues on the level of Ukraine, Poland, Europe and the world. These were the consequences pertaining to the continuation of the current course of events in Ukraine. The probability of every consequence was assessed by all participants of the workshop.

Furthermore, seven potential paths of development of the war in Ukraine were identified during the workshop - changes in the character of the conflict and the potential ways of its resolution were taken into account. Next, the possible paths of development were assessed with respect to the level of probability. Possible consequences were assigned to each of the potential paths along which the situation may unfold.

2

STAGE 2 Assessment of Chances of Scenario Unfolding

At the second stage, the chances of unfolding of four scenarios in the context of consequences of the war in Ukraine were assessed. To this aim, the previously performed sensitivity analysis of key assumptions of the scenarios for Wrocław was extended to the sensitivity analysis of other significant elements comprising the content of the scenarios.

For each scenario, from 28 to 40 additional statements with clear impact on the final overtone of the scenario and its consequences for Wrocław were identified. For each of these statements, the potential impact of the current and future consequences of the war in Ukraine was assessed in a mode analogous to the assessment carried out for the key assumptions. The result of the in-depth analysis is a breakdown with the results of assessment of the impact of the war on key and other significant premises of the Wrocław scenarios.

Next, the factors/ conditions which would have to be introduced/ fulfilled for the four Wrocław scenarios to unfold in the same (or a similar) shape in which they were described in the 'Wrocław 2050. Multi-Domain Scenarios for the Future' report, in spite of the war in Ukraine, were described. They primarily refer to the possible resolution of the conflict which would have to be materialised for a given scenario to take place.

Apart from conflict development paths, four potential events with low and extremely low probability whose occurrence would have, however, led to the deconstruction of reality (unpredictable further course of events and emergence of a new, difficult to foresee, order of the world), were also indicated.

Another step for the initial determination which - among scenarios for Wrocław 2050 outlined in the 'Wrocław 2050. Multi-Domain Scenarios for the Future' report - are the most and which are the least susceptible to the effects of the war in Ukraine, was analysis of how the consequences of the hitherto events and potential future could affect the resolution of key uncertainties for Wrocław.

3

STAGE 3 Analysis of Consequences of the War in Ukraine for the Future of Wrocław

The last stage relied on the results of prior parts of the project and a workshop carried out jointly with the Municipality of Wrocław. The workshop was organised on 3 June 2022 with a group of 20 participants from the Municipality.

It relied on two parts: in the first one, the participants read the modified scenarios of the future until 2050 (created at the first stage of the project) and for each of them, they analysed the potential changes in the competence of local government units.

In the second part, the participants learnt about the possible consequences of the war in Ukraine (identified during the first stage of the project). From the list of consequences comprising issues related to politics, economy, society, ecology, technology and law, they chose those that will be of major importance for the future of Wrocław.

Next, the participants pinpointed the consequences of the issues selected for Wrocław, determined the level of their impact and period of maturity, as well as a strategy of risk management, which Wrocław could adopt with respect to them (possible choices: acceptance, mitigation, avoidance and transfer). This allowed for the preparation of a matrix of most important consequences of the war in Ukraine for Wrocław.

ANALYSIS OF KEY WROCLAW UNCERTAINTIES IN THE CONTEXT OF EVENTS IN UKRAINE

The analysis relies on the potential consequences of the war in Ukraine (as well as these that are happening nowadays). In the first part of this stage, the expected consequences of the conflict were distinguished. Next, the possible paths of development and an end of the war in Ukraine were described. The last part analyses the impact of the expected consequences on the resolution of key uncertainties for Wrocław.

Potential Consequences of the War in Ukraine

In the course of the internal workshop carried out with the use of the 4CF PnyX tool, potential consequences of the hitherto events in Ukraine have been identified, which are going to affect Wrocław in the perspective of 2050 with significant probability. The table below summarises the identified phenomena.

CATEGORY	EXPECTED CONSEQUENCES
Political	Growth in the global political position of China
	Increased significance of NATO (stronger, reinforced, united)
	Close alliance and tighter economic cooperation between Poland and Ukraine
Ecological	Accelerated process of decarbonisation in the European Union member states
	Slowing down of decarbonisation on a global scale
	Temporary increase in low-stack emission in Poland

CATEGORY	EXPECTED CONSEQUENCES
Social	Continuous increase in the number of the Ukrainian minority in Poland
	Economic migration of Russian people
	Intensification of nationality antagonisms in the European Union
	Intensification of right-wing radicalism in Europe and in Poland (primarily with respect to migrants)
	Intensification of residential crisis in Poland (at least until 2030)
	Intensification of peri-urbanisation and sub-urbanisation in relation to the increase in demand for apartments in Poland
	Increase of social acceptance for the autonomous weapons in Europe
Technological	Major leap in development of military technologies
	Intensification of cyber-threats, in particular attacks by other countries
	Increase in the EU investments in technological innovations in the area of green energy
Economic	Poland's and EU's cuts to the import of Russian hydrocarbons
	A decade-long economic crisis triggered by, among others, growing energy and material prices
	Collapse of global markets. Formation of several political and economic blocs
	Growing expenses on defence in the European countries (at least by 2040)
	Lower level of foreign investments in Poland in the perspective of the next few years
	Persisting high inflation (possible until 2040)
Legal	Increase in energy prices (at least until 2030)
	Operation in the conditions of increased threat for the EU countries, reflected in legislation, at least until 2040
Other	Politicisation of economy. Economy as a tool of political pressure
	Higher significance of information war

TABLE NO. 1. Consequences of the war in Ukraine

Potential Further Course of Events

The future of Wrocław will depend not only on the events that have happened to date, but also on the further course of the events in Ukraine. Hence, the 4CF team sketched several variants of the possible unfolding of the situation. In particular, attention was paid to the changing nature of the conflict and its potential resolution.

When discussing the further course of the conflict in Ukraine, two key variables were taken into account. One of them was intensification of military operations (from complete suspension and entering into a peace agreement, through territorially and militarily limited nature of military operations, to the war of attrition, carried out with the use of mass destruction weapons, including nuclear weapons). The second variable depended on the territory of the states where the conflict could be waged. Would it be limited exclusively to Ukraine, would it spill over to other countries in the region, whether and in which degree there would be an open conflict with the NATO and eventually - would it cover the entire world, transitioning into WWII? With respect to the potential resolution of the conflict, the discussion pertained to its length, the shape of Ukraine and Russia after its end and the course of events if the conflict spilled over to other countries.

In consequence of an in-depth discussion and analysis of the factors above, seven possible future scenarios for the next decade were singled out (with various probability of emergence), which may affect the possibility of unfolding of the 2050 scenarios for Wrocław. These are (the estimated probability was provided in brackets):

Hot war in Europe LOW ■■■■■■

in this version of the future, Russia and the West will conduct direct military operations (hybrid war) in the Eastern European countries that are not NATO members. Military activities in this version of the future may spill outside of Ukraine, e.g. to Moldova, Georgia, Belarus or the Baltic states.

New cold war HIGHT ■■■■

in this version of the future, the world is divided into two, economically almost independent and hostile, blocs. The issues important for the future of the world are no longer discussed on the global level.

Palace coup VERY LOW ■■■■■■

a palace coup in Russia and establishment of a new authority, distancing itself from the heritage of Putin, has resulted in a new opening in the relations of this country with the West.

Pro-western Ukraine HIGHER THAN AVERAGE ■■■■

in this version of the future, the war in Ukraine ends and the state authorities keep a clearly pro-western stance. The EU countries and the USA support the process of the country's reconstruction. The Ukrainian society is euro-enthusiastic. The country is not only rebuilt from the war destruction, but also undergoes a number of reforms (including anti-corruption), which allow it to join the EU quickly.

Ukraine in chaos LOWER THAN AVERAGE] ■■■■■■

in this version of the future, the military operations in Ukraine are no longer in the hot phase; however, the occupying armies are still residing in some of its areas (in particular in the east and south-east) and the embers of the conflict are still smouldering. So far, no peace agreements have been signed. Partial reconstruction of the damages from the beginning of the war was made. Further course of events is still unknown.

Ukraine subordinate to Russia VERY LOW ■■■■■■

in this version of the future, Russia wins the war, subjugating the entire territory of Ukraine. Ukraine is not incorporated into Russia, but becomes a second Belarus with authorities in Kyiv subordinate to Russia. Civil population is persecuted. In the area of the entire country, the Ukrainian guerrilla is active and military operations with a limited scale are ongoing.

Divided Ukraine HIGHER THAN AVERAGE ■■■■

this is the version of the future in which, as a result of peace treaties, Ukraine has lost a part of its eastern areas (including Donetsk and Luhansk) along with access to the sea. A Novorossiya Republic, fully dependant on Russia, is set up on these areas. The majority of the Ukrainian population resettles from the lost areas.

Furthermore, four future events with a low and extremely low probability, the occurrence of which would have led to the deconstruction of reality (unpredictable further course of events and emergence of a new, difficult to foresee, order of the world) were listed:

Use of tactical nuclear weapons in Ukraine

LOW ■■■■■■

Use of multiple nuclear weapons in the territory of Ukraine

EXTREMELY LOW ■■■■■■

Provocation consisting in use of nuclear weapons by Russia within its own territory

VERY LOW ■■■■■■

Full scale war between Russia and NATO. Limited use of nuclear weapons (without using the entire arsenal)

EXTREMELY LOW ■■■■■■

Full scale war between Russia and NATO. Launch of the Mutual Assured Destruction

EXTREMELY LOW ■■■■■■

Conclusions from the Sensitivity Analysis of the Wrocław Scenarios with Respect to the Consequences of the Events in Ukraine

In order to determine which of the four scenarios for Wrocław 2050 are the most and the least susceptible to the effects of the war in Ukraine, an analysis was made of how the consequences of the hitherto events and potential versions of the future could affect the resolution of key uncertainties for Wrocław. These resolutions were the fundamental assumptions for the scenarios, providing them with the main overtone.

The table below presents a summary of the results of the analysis that was carried out:

SCENARIO 1: 'STRONG STATE'	
2050 Assumption	Impact of the War
In 2050, Poland is a country considered a flawed democracy.	No impact/ undetermined
In 2050, the fertility rate in Poland is below 1.3 children per woman of reproductive age.	No impact/ undetermined
In the last three decades, recurrence of pandemics of new, quickly spreading infectious diseases was periodically seen.	No impact/ undetermined
Since 2020, the level of the quality of life has not changed significantly in Europe.	No impact/ undetermined
In 2050, commercial entities in Poland do not contribute to the cost of managing and developing cities.	Weakening of assumption
Local governments in Poland have limited autonomy with respect to central authorities.	No impact/ undetermined
The EU member states have failed to achieve several important objectives listed in the Green Deal.	No impact/ undetermined
As compared to 2020, the global greenhouse gas emissions have fallen only slightly or remain on the same level.	Weakening of assumption
In 2050, the share of e-commerce in retail in Europe exceeds 75%.	No impact/ undetermined

SCENARIO 2: 'HOSTAGES OF THE ECONOMY'	
2050 Assumption	Impact of the War
In 2050, most of the commodity needs of the European citizens are met by products imported from outside their home.	Weakening of assumption
In 2050, Poland is a fully democratic state within the traditional meaning of democracy (tripartite separation of powers, independent media, civil liberties, term limits of state authorities).	No impact/ undetermined
In 2050, the fertility rate in Poland is above 1.3 children per woman of reproductive age.	Weakening of assumption
A pandemic with a scale and impact comparable to the COVID-19 has not occurred over the last three decades.	No impact/ undetermined
Autonomous vehicles have not become widespread in Europe.	Weakening of assumption
In 2050, individual car transport in European cities still covers a large percentage of travel of their inhabitants.	No impact/ undetermined
Since 2020, the level of the quality of life has deteriorated significantly in Europe.	Strengthening of assumption
As compared to 2020, there has been significant sub-urbanisation and peri-urbanisation of the Polish cities.	Significant strengthening of assumption
Mono-functional districts and buildings exist in the Polish cities. Not all needs can be met close to the place of residence.	Strengthening of assumption
Authority in Poland has been strongly decentralised. Municipal governments enjoy extensive autonomy.	Weakening of assumption
As compared to 2020, the global greenhouse gas emissions have increased.	Significant strengthening of assumption
In 2050, the green technology sector does not play a key role in the Polish economy.	Weakening of assumption

SCENARIO 3: 'SLOW LIFE'	
2050 Assumption	Impact of the War
Over the last 30 years, globalisation of services has accelerated.	Weakening of assumption
In 2050, most of the commodity needs of European citizens are satisfied by local production.	Strengthening of assumption
In 2050, commercial entities in Poland contribute to the cost of managing and developing cities.	Strengthening of assumption
As compared to 2020, global greenhouse gas emissions have dropped by over a half.	!!! Significant weakening of assumption

In 2050, the share of e-commerce in retail in Europe does not exceed 75%.	No impact/ undetermined
In 2050, the green technology sector plays a key role in the Polish economy.	Strengthening of assumption
International cooperation on the global level has been tightened.	Weakening
High social capital in Poland.	!!! Significant weakening of assumption

SCENARIO 4: TECHNOLOGICAL EXPANSION

2050 Assumption	Impact of the War
Over the last 30 years, globalisation of services was progressing.	Weakening of assumption
In 2050, Poland is regarded as a fully democratic country, yet the definition of a model democracy has changed.	Strengthening of assumption
Autonomous vehicles are commonly used in Europe.	Strengthening of assumption
In 2050, individual car transport in European cities still covers a slight percentage of travel of their inhabitants.	No impact/ undetermined
Since 2020, a clear growth in the quality of life has taken place in Poland.	Weakening of assumption
As compared to 2020, there has been no significant sub-urbanisation and peri-urbanisation of the Polish cities.	!!! Significant weakening of assumption
In 2050, many spaces and buildings in Polish cities are multifunctional. Mono-functional districts are practically no longer found (residential, office, commercial). The inhabitants can have all their needs met in their immediate neighbourhood.	Weakening of assumption
The EU member states have managed to implement almost all of the assumptions contained in the Green Deal.	Weakening of assumption

TABLE NO. 2. Impact of the war on the scenario assumptions

The results of the sensitivity analysis presented above indicate that the first two scenarios are relatively less sensitive to the events in Ukraine; in their case, none of the assumptions has been weakened to a significant degree. The most susceptible is the third scenario, where the realisation of as many as two of the key assumptions in the context of the events in Ukraine has turned out to be little probable (even though not impossible).

ASSESSMENT OF CHANCES OF SCENARIO UNFOLDING

To assess the chances of unfolding of the scenarios in the new conditions, the previously performed sensitivity analysis of the key assumptions of the Wrocław scenarios was extended to the sensitivity analysis of other significant elements comprising the content of the scenarios.

For each scenario, from 28 to 40 additional statements with a clear impact on the final overtone of the scenario and its consequences for Wrocław were identified. For each of them, the potential impact of the current and future consequences of the war in Ukraine has been assessed in a mode analogous to the assessment carried out for the key assumptions. The table below presents a breakdown containing the results of assessment of the impact of the war on key and other significant assumptions of the Wrocław scenarios.

	SCENARIO 1			SCENARIO 2			SCENARIO 3			SCENARIO 4		
	K	pK	K and pK	K	pK	K and pK	K	pK	K and pK	K	pK	K and pK
↑	2,56	0,00	1,79	9,62	0,38	6,85	0,00	0,00	0,00	0,00	0,28	0,08
↗	23,08	9,49	19,00	34,62	11,92	27,81	11,63	8,14	10,58	11,11	6,11	9,61
→	15,38	61,28	29,15	15,38	64,42	30,10	6,98	58,37	22,40	19,44	70,28	34,69
↘	28,21	8,46	22,28	25,00	9,62	20,38	48,84	10,70	37,40	47,22	11,39	36,47
↓	0,00	1,03	0,31	1,92	0,00	1,35	6,98	0,00	4,88	2,78	0,00	1,94
?	30,77	19,74	27,46	13,46	13,65	13,52	25,58	22,79	24,74	19,44	11,94	17,19
impact resultant	0,00	-1,03	-0,31	25,00	3,08	18,42	-51,16	-2,56	-36,58	-41,67	-4,72	-30,58

TABLE NO. 2. Designations adopted in the table: ↑ – significant strengthening of assumption ↗ – strengthening of assumption → – no impact on the assumption, ↘ – weakening of assumption, ↓ – significant weakening of assumption, ? – undetermined impact (some events related to the war reinforce, others weaken the assumption)

The share of assumptions subject to: significant strengthening, strengthening, no impact, weakening, significant weakening and impact with undetermined direction was defined for every scenario (where some of the events related to the war have a strengthening, while others have a weakening impact). In the columns marked with letter 'K', the impact of the current consequences of the war is indicated, in columns marked as 'pK' the probability-weighted impact of the possible future variants of events, while columns 'K and pK' present the weighted impact of current and potential future consequences. **The last row contains the resultant of impact of changes caused by the Russian aggression in Ukraine on the chances of the scenario unfolding**¹. Grades equal to 0 mean that the assumptions of the scenario which were weakened or strongly weakened are balanced by the grades that were strengthened or significantly strengthened. Grades higher than 0 indicate the predominance of assumptions that were strengthened by the events in Ukraine over the weakened ones. Grades lower than 0 entail dominance of assumptions that were weakened or significantly weakened by the war.

The extended analysis of scenario sensitivity and assessment of chances of their unfolding confirmed the findings that were made in the course of the sensitivity analysis of key assumptions. The first two scenarios have turned out to be definitely less susceptible to the impact of the war as compared to the third and the fourth scenario. In the case of the second scenario ('Hostages of the Economy'), the war substantiates a higher number of events than it weakens. The most sensitive was the most optimistic scenario, 'Slow Life', in the case of which a significant predominance of weakened assumptions as compared to strengthened ones is visible. In particular, the share of strongly weakened assumptions is very high in this scenario (almost 7 percent) which puts the possibility of its unfolding in doubt.

Summing up, the analysis has shown that the war in Ukraine substantiates the 'Hostages of the Economy' scenario the most. The 'Strong State' scenario also stands a high chance of unfolding. Much less probable are the events described in the 'Technological Expansion' scenario. Ultimately, in the new conditions, the realisation of the 'Slow Life' scenario in its primary aspects is almost impossible.

Verification of Paths Leading to the Scenarios for Wrocław 2050

In light of earlier assumptions, the question about the conditions in which full unfolding of the Wrocław scenarios will be possible remains open, i.e. fulfilment of all of the premises underlying them. Russia's direct aggression in Ukraine has turned out to be an event with a high impact on the assumptions of the Wrocław 2050 scenarios. For every scenario, almost a half or over a half of the assumptions are subject to positive or negative impact of the events beyond the eastern border of Poland. However, it does not mean that such scenarios no longer stand the chance of unfolding.

The occurrence of the scenarios in an unchanged or almost unchanged shape would nevertheless require another drastic change of the geo-political situation in the direction similar to the status quo before February 2022. This primarily results from the immense consequences which the collapse of the global cooperation may have for the world, Europe, Poland and eventually Wrocław. International cooperation or, more broadly existence of any form of the so-called 'global governance' is a prerequisite for counteracting climate changes and tackling their effects, preserving a stable eco-

nomie situation, sustainable technological development or counteracting humanitarian crises. The original Wrocław scenarios assumed a varied degree of global cooperation; however, a situation where the cooperation collapses in every area, leading to the emergence of conflicting blocs of states, with the European Union being a part of one of them, has not been described. This is primarily due to the fact that in the conditions of the year 2021 such scenario seemed excessively pessimistic.

Re-establishment of efficient global cooperation seems possible only in the situation of a sooner or later quality change of the top authorities in Russia and rapprochement of this country in relations with the West. The required forms and consequences of such change may be diverse for diverse scenarios. There is an option with a relatively high probability of occurrence, namely a non-revolutionary change of power in Russia in the perspective of another decade (for the first scenario), up to the option which seems almost impossible to take place, namely the imminent, almost concurrent coups in Russia and China (for the third scenario).

A more detailed description of the paths leading to each of the scenarios for Wrocław is presented below.

¹Grades were calculated according to the 2x formula (share of assumptions with significant strengthening - share of assumptions with significant weakening) + (share of strengthened assumptions - share of weakened assumptions).

Scenario 1 'Strong State'

The war in Ukraine reduced the probability of occurrence of several important assumptions from the 'Strong State' scenario. First and foremost, the probability of European Union's neutrality in the dispute between the United States and China has been reduced, along with Poland's ability to keep a low level of population approximating 33 millions of citizens. The chance of keeping the global greenhouse gas emissions on a level similar to the current one and the growth of global temperatures corresponding to it is lower than a year before. Contrary to the scenario, the potential long-lasting deterioration of the budgetary situation of the local governments also elevated the chances for the contributions of commercial entities to the cost of city managing and developing. Fulfilment of the assumptions above and other assumptions associated with them, which now stand a lower than before chances for realisation, requires a specific further course of the events in Ukraine to designate a new path leading to a specific scenario.

Such path may be designated in case of not immediate, yet peaceful change of power in Russia in the perspective of the next 10 years. Assuming that the current regime will last in the perspective of the next decade may be conducive to the realisation of a number of important elements of the first scenario: consolidation and centralisation of power in Russia in the face of the existing external threat, limitation of civic freedoms and emergence of the European Union of two speeds in relation to the existence of the euro zone, less susceptible to the fluctuations of currency rates, and the related economic turmoil and de-investment processes in the east of the Community. In turn,

these aspects may be conducive to the nationalisation of the selected branches of the Polish economy.

If the present-day regime in Russia lasts for more than ten years, the realisation of the assumptions listed initially, weakened by the situation in Ukraine, would not take place. The change of power in Russia (not necessarily related to its democratisation), entering into peace treaties with Ukraine and the country's turn towards Europe would allow, in the perspective of the next years, for fulfilling the assumptions of the 'Strong State' scenario. First and foremost, reduction of the threat in the east would present the European Union with a potential opportunity for distancing itself from the United States and the American conflict with China. In particular, it would be possible with the assumption that China conducts a pragmatic policy, and builds its image as a rational, conciliatory global leader eschewing aggressive rhetoric with respect to Europe.

Normalised situation in the region and establishment of normal economic relations between Russia and its neighbours could help return to the path of curbing the global greenhouse gas emissions and accomplishing a level of emission initially assumed in the 'Strong State' scenario. Peace in Ukraine and the country's development in the conditions of a safe international environment would be conducive to the return of Ukrainian migrants to their country and fulfilment of the assumption related to the size of Poland's population in 2050. This, in turn, would be conducive to full employment and keeping the social inequalities slight, as compared to other European Union countries.

Scenario 2 'Hostages of the Economy'

While some of the assumptions in the 'Hostages of the Economy' scenario are already being fulfilled (high inflation and crisis, which are being solved with a concurrent restrictive monetary policy and fiscal expansion), its Achilles' heel in the face of the consequences of the war in Ukraine are the assumptions pertaining to the development of world connectivity (and thus availability of reliable information), globalisation and progressing economic inter-dependence of various states and regions of the world. Thus, the scenario assumed subordination of political activities to the requirements of economy and not, as it is happening nowadays, subordination of economy to politics.

Returning to the path of events leading to the fulfilment of the set of assumptions of the second scenario for Wrocław would require renewed establishment and tightening of global economic cooperation. In principle, it is exclusively possible in case of an imminent coup in Russia, the consequences of which would include far-reaching economic transformations: liberalisation of economy, an end to the mafia-like relationship between the Russian authorities and business and a gradual abandonment of resource-based economy. Such transformations, if they happened quickly, i.e. before the solidification of international divisions, would allow for renewed development of commercial exchange and economic cooperation on a global scale. In turn, such cooperation could be solidified, also via development of global connectivity, thanks to the activities of international corporations fearing renewed divisions and their consequences.

Scenario 3 'Slow life'

The 'Slow Life' scenario is an idyllic scenario relying on two fundamental assumptions, the probability of which was reduced to the minimum by the Russian aggression in Ukraine. The first of them is the significant drop in the global greenhouse gas emissions, the second a notable growth of social capital (social trust, tendency to cooperation, care for mutual welfare, civic stances) in Poland and abroad. As described earlier, the collapse of international cooperation and economic crisis which are the consequences of the conflict in Ukraine will reduce the motivation to take united actions for the sake of the climate. In turn, the rather low social capital in Poland will be additionally disrupted by the growing distrust, actions of Russian 'trolls' and expected nationality-based tensions. Meanwhile, insofar as such capital may easily be weakened, its accumulation is a tedious and long-lasting process. This makes the social consequences of the war in Ukraine hard to reverse already at the present moment.

In relation to the above, the probability of complete fulfilment of the assumptions from the 'Slow Life' scenario seems currently slight. One of the paths which may lead to it is the scenario of rapid and concurrent coups in Russia and in China, which would allow for far-reaching UN reforms and commencement of coordinated actions for the sake the climate. Russia's attachment to the resource-based policy and energy policy primarily relying on fossil fuels will be an important factor weighing in on the increase in greenhouse gas emissions in the future. In Russia's current economic situation, limited exploitation of fossil fuels would require support from outside. Nowadays, it seems impossible for such support to come from western economies in any of the variants of the events. It could potentially be offered by China, yet this would be contradictory to the interests of the present-day authorities of China, which are one of the main beneficiaries of the present events. Hence, changes in this respect require a coup not only in Russia, but also in China.

Such coup would allow for a far-reaching UN reform, which could enable a stable international cooperation in the area of climate and would significantly reduce the risk of new armed conflicts. The conditions of intense international cooperation and unity of interests in the face of the global threat, namely the warming of the climate, could be conducive to quicker rebuilding and accumulation of the social capital. This would offer a basis for implementation of the subsequent assumptions of the third scenario for Wrocław 2050. Increase of social capital would also be more probable in case of a peaceful and positive resolution of the conflict in Ukraine. Social capital and trust would also be induced by the reinforcement of the European Union by joint and unified actions of the member states aimed at warding off the military, political and humanitarian crisis.

Scenario 4 Technological Expansion

The fourth Wrocław scenario foresees a global technological expansion, which allows for resolving many problems that affect people, and a clear dominance of China on the international arena. The unfolding of the scenario would be possible in the conditions where, first of all, the axis of dispute between China and the United States does not transition into an open war and secondly, China does not become an ally of the Russian regime. The best variant of the future for the unfolding of this scenario would be active condemnation of the Russian invasion in Ukraine by China (and quick resolution of the conflict) and a political coup in Russia used by China to reinforce its global position or even sponsored by China.

War is not contradictory with the technological progress. On the contrary, war drives investments and research in the area of new technologies. However, these enterprises are primarily focused on the military technologies, which does not support the assumption of this scenario pertaining to the development of a technology responding to the diversified problems of humanity. Nevertheless, some military technologies may find application in civil technologies, e.g. autonomous vehicles. However, a quick end to the war in Ukraine would be needed for the materialisation of the assumption about multi-dimensional technological expansion.

Furthermore, new technologies and results of research are unwillingly presented at the international arena during a war – the countries focus more on regaining technological sovereignty and protecting their academic accomplishments. Technologies are rather distributed within alliances than on a global forum. On top of that, as has already been noted in the case of the war in Ukraine, sanctions imposed on the aggressor and its allies are aimed at limiting its technological capacity. Globalisation of services and reduced isolation of economic blocs would be fostered by a political coup in Russia.

The scenario also assumes green transformation, development of democracy and increase in the quality of life (including sustainable development) in Poland and in Europe – an armed conflict in the neighbourhood (resulting in social anxiety and transfer of funds to defence) coupled with economic and refugee crisis greatly weaken this assumption. For it to be realised, the conflict in Ukraine would have to be quickly resolved and a political coup would have to be carried out in Russia – the best effects would be accomplished if both events had a pro-western attitude (or, in case of Russia if it was at least peaceful with respect to the West). After the end of the conflict, rapid reconstruction of Ukraine would be needed.

ANALYSIS OF CONSEQUENCES OF THE WAR IN UKRAINE FOR THE FUTURE OF WROCŁAW

In the previous stages, potential consequences of the war were analysed, including factors at various political levels, primarily on the international and national level. In turn, this stage consisted in identification of these consequences that would have the greatest significance for Wrocław and examination of potential derivative consequences. Furthermore, the potential paths of development of the policy pertaining to the local governments were examined in the face of four modified scenarios

Future Competence of Local Governments

In the first part of the workshop, the participants discussed the potential future changes in competence of the local government as part of four scenarios, modified according with the consequences of the war in Ukraine.

The first scenario, 'Strong State', assumes absolute centralisation of power in Poland and a gradual drop in the significance of territorial government. The third scenario, 'Slow Life', seems to have the most extensive perspectives of decentralisation. The remaining scenarios assume greater centralisation than the scenarios before the war. However, in their case, the scale of centralisation would depend on a number of external and internal factors.

A detailed analysis of the potential future competence of local governments as part of each of the scenarios is presented below..

Scenario 1 'Strong State'

The first scenario, 'Strong State', originally assumed high centralisation of policy and state management, leading to a weakened role of cities. As part of

this scenario, areas listed by the participants as handed over to the central management in the first place include **PUBLIC HEALTH**, **EDUCATION** (especially taking into account the degradation of democracy in this scenario), but primarily **CRISIS MANAGEMENT**. The central government could make use of the state of emergency (e.g. during a pandemic or a state of safety hazard) and crisis management in the name of consistency of the crisis policy and rapid response as a pretext for limiting the competence of local government units. Gradually, the control of the central government over **SPATIAL MANAGEMENT** would also grow - the government could control conservation work, as well as the strategic investments in the city.

In this scenario, the governmental administration would gradually expand the control over local government units. Local government units would implement tasks commissioned by the government and would be used as a distributor of subsidies received for purposes predominantly designated by the government. Eventually, local government units could be wound up in this scenario, while the municipal **LEGISLATIVE AND EXECUTIVE POWERS** would be exercised by the central government. The city mayor could be replaced by a delegate designated by the central government.

The actual authority of local governments would be reduced not only by the statutory limitation of competence, but also a decrease in the financial potential of self governments. **OWN INCOME OF LOCAL GOVERNMENTS** could be gradually reduced by limiting the revenues from PIT or a decrease in the share of local governments in PIT. Furthermore, the state treasury could take over control over real properties, liquidating **MUNICIPAL PROPERTY**. Eventually, the central government would strive for distributing funds among local governments on the central level and imposing a structure of expenses, which would paralyse the autonomous operation of local governments.

Scenario 2 'Hostages of the Economy'

In case of the second scenario, 'Hostages of the Economy', the main problem is the economic crisis and lower quality of life. On top of that, intensifying sub-urbanisation coupled with economic problems could lead to the formation of slum areas. Such situation would also be conducive to the growth of crime rate in the city.

Faced with increasing social and economic problems, local government units might not be able to handle the burden of liability for all the areas entrusted to them. In spite of the fact that the central government would try to extend competence of local governments, e.g. within the **SCOPE OF MANAGEMENT OF IMMIGRATION POLICY** or **SAFETY** (municipal security services could be reinforced or new services could be created), local governments would encounter significant difficulties in fulfilling these functions and ensuring proper quality of life for the residents.

This would primarily follow from inadequate **FUNDS** assigned to the local governments (which would be aggravated by, among others, lower receipts of the city budget in relation to the increase of peri-urbanisation, and in consequence lower income from PIT). Furthermore, in a crisis situation (such as, e.g., the pandemic, safety hazards, natural disasters), **THE CRISIS MANAGEMENT FUNCTIONS** would be fulfilled by the government. This could lead to the eventual limitation of the local government's functions in areas such as **HEALTH** or **SPATIAL MANAGEMENT**. The competence of local government units could also be limited for the sake of **SUPRA-COMMUNE AGREEMENTS**, as part of a consistent response to the emerging challenges. The scale of competence limitation and the potential of local government units would depend on the intensification of external threats.

As compared to the original 'Hostages of the Economy' scenario where the competence of local government units is extended, the authority of the local government units could thus be reduced in the face of the new challenges related to the war, the pandemic and other hazards.

Scenario 3 'Slow Life'

The assumptions of the 'Slow Life' scenario would be greatly weakened by the consequences of the war in Ukraine, such as disruption of safety, economic crisis or inflow of refugees. The 'Slow Life' scenario would be replaced by a policy subjected, to a significant degree, to the economic strategy. On the other hand, the principle of **SUBSIDIARITY** would have been reinforced, focused on **CRISIS MANAGEMENT** and guaranteed access to resources.

The local governments would be tasked with guaranteeing '**RESOURCE SOVEREIGNTY**', i.e. access to energy and food in communes. Furthermore, the local government units would acquire new tools and competence to establish **PARTNERSHIPS WITH THE PRIVATE SECTOR**. Such partnerships would offer an opportunity for the development of the cities and communes, yet at the same time, they could elevate the risk of limitation of the actual power of the local government. The high share and impact of commercial entities could weaken the control of the local government over the jointly performed projects. Furthermore, during the time of economic crisis and budget deficit, better faring enterprises could take over (buy) **REAL PROPERTIES** belonging to the city.

Scenario 4 Technological Expansion

The technological expansion scenario assumes transformation of the definition of democracy and changes in the management systems driven by development of new technologies. Simultaneously, on account of the war in Ukraine and the economic crisis, the assumptions pertaining to the growth in the quality of life and lack of problems related to peri-/ sub-urbanisation have changed. To the contrary, techno-

logical expansion could go hand in hand with increasing social stratification. New technologies, including artificial intelligence, could be applied for efficient management of socio-economic problems. This could further lead to the changes in the **CITY MANAGEMENT SYSTEM**, such as, e.g., management based on big data or grassroots management (by citizens using on-line tools). On the other hand, this scenario carries the risk of **CENTRALISATION** for the purpose of synchronising the national response to various hazards on the central level..

Consequences of the War in Ukraine for Wrocław

In the course of the workshop, the consequences of the war in Ukraine with special significance for Wrocław were singled out. Taking the macro-consequences of the war into account, the participants identified the consequences for the city. The potential level of their impact was also assessed (low, average or high) and period of maturity (short: up to 5 years, average, from 5 to 10 years and long: exceeding 10 years, or 'now' if a given phenomenon is already taking place). The participants also determined the strategies of risk management that the city of Wrocław could adopt in response to the potential hazards.

Based on the PMBOK standard, according to Spątek and Trzeciak, the following risk response strategies were singled out²:

ACCEPTANCE: Wrocław would accept a specific risk and would not take any actions aimed at counteracting it;

MITIGATION: Wrocław would take actions aimed at levelling the adverse effects of a specific threat;

TRANSFER: Wrocław would transfer the risk to another entity, e.g. via insurance, relying on the assistance of the central government or other entities;

AVOIDANCE: Wrocław would try to prevent the occurrence of a given threat by changing the strategy or taking relevant actions.

The table below (**TABLE NO. 3**) presents the consequences of the war in Ukraine for Wrocław resulting from individual macro-consequences, selected by the workshop participants (as the most significant for Wrocław). Some consequences for Wrocław were assigned to more than one macro-consequence.

²Spątek S., Trzeciak M., Zarządzanie ryzykiem w ramach metodyk tradycyjnych oraz zwinnych w zarządzaniu projektami, 'Zeszyty Naukowe. Organizacja i Zarządzanie / Politechnika Śląska' (vol. 93), 2016, pp. 483–492, ISSN 1641-3466.

CONSEQUENCES OF THE WAR IN UKRAINE	LEVEL OF IMPACT	PERIOD OF MATURITY	RISK RESPONSE STRATEGY
POLITICAL			
Growth of the global political position of China			
Reindustrializacja we Wrocławiu	High	Average	Acceptance

CONSEQUENCES OF THE WAR IN UKRAINE	LEVEL OF IMPACT	PERIOD OF MATURITY	RISK RESPONSE STRATEGY
Increased significance of NATO (stronger, reinforced and united)			
Threat to residents' safety	Average	Short	Acceptance
Impulse for the city's and the region's development	Low	Short	Acceptance
Safety in relation to the APOD terminal	Average	Average	Acceptance
Close alliance and tighter economic cooperation between Poland and Ukraine			
Outflow (limited) of Ukrainian citizens from Wrocław	Average	Short	Acceptance
Collapse of Polish-German relations	Average	Average	Mitigation
SOCIAL			
Uncertainty of the future among Wrocław residents (lack of feeling of safety)	High	Short	Mitigation
Continuous increase in the number of the Ukrainian minority in Poland			
Improved socio-demographic situation of Wrocław	High	Short	Acceptance
Political subjectivity of the Ukrainian minority	High	Short	Mitigation
Intensification of nationality antagonisms in the European Union			
Political subjectivity of the Ukrainian minority	High	Short	Mitigation
Increase in social tensions with nationalistic overtones	High	Average	Mitigation
Intensification of right-wing radicalism in Europe and in Poland (primarily towards migrants)			
Growth of extremism, violence underlying right-wing radicalism and left-wing reaction	High	Now	Mitigation
Increase in social tensions with nationalistic overtones	High	Average	Mitigation
Intensification of residential crisis in Poland (at least until 2030)			
Too low supply of apartments on the market	High	Short	Transfer/ Mitigation
Exchange of the city's population (migrations)	High	Now	Mitigation
Intensification of peri-urbanisation and sub-urbanisation in relation to the increase in demand for apartments in Poland			
Exchange of the city's population (migrations)	High	Now	Mitigation
ECONOMIC			
Limited entrepreneurship of Wrocław residents	High	Short	Mitigation

CONSEQUENCES OF THE WAR IN UKRAINE	LEVEL OF IMPACT	PERIOD OF MATURITY	RISK RESPONSE STRATEGY
Poland's and EU's cuts to the import of Russian hydrocarbons			
Growth of current costs of city maintenance and cuts to investments	High	Short	Transfer/ Mitigation/ Avoidance
A decade-long economic crisis triggered by, among others, growing energy and material prices			
Growth of current costs of city maintenance and cuts to investments	High	Short	Transfer/ Mitigation/ Avoidance
Devastation of public finances	High	Now	Mitigation
Collapse of global markets. Formation of several political and economic blocs			
Opportunity for Wrocław with respect to the development of regional market (Central-European)	Average	Average	Acceptance
Growing expenses on defence in the European countries (at least by 2040)			
Development of defence industry in Wrocław	Average	Average	Acceptance
Lower level of foreign investments in Poland in the perspective of the next few years			
Loss of subsequent foreign investors and slowdown of the city's economic development	High	Average	Mitigation
Persisting high inflation (possible until 2040)			
Growth of current costs of city maintenance and cuts to investments	High	Short	Transfer/ Mitigation/ Avoidance
Devastation of public finances	High	Now	Mitigation
Increase in energy prices (at least until 2030)			
Transformation/ energy sovereignty	Average	Short	Acceptance
Energy poverty	High	Now	Mitigation
Economic slowdown	High	Now	Mitigation
ECOLOGICAL			
Intensification of spatial conflicts with respect to environmental protection issues	Average	Average	Mitigation
Accelerated process of decarbonisation in the European Union member states			
Difficulties with location of RES sources in Wrocław	Average	Average	Transfer

CONSEQUENCES OF THE WAR IN UKRAINE	LEVEL OF IMPACT	PERIOD OF MATURITY	RISK RESPONSE STRATEGY
Slowdown of decarbonisation on a global scale			
Lack of funds for energy transformation and public transportation	High	Now	Mitigation
TECHNOLOGICAL			
Major leap in development of military technologies			
Further development of the IT industry in Wrocław (yet there is also a threat - lump sum income tax)	High	Average	Acceptance
Development of defence industry in Wrocław	Average	Average	Acceptance
Intensification of cyber-threats, in particular attacks from other countries			
Loss of social capital (due to disinformation)	Average	Average	Avoidance
Acts of violence and radicalisation among and with respect to the Ukrainian minority	High	Average	Transfer
Degradation of critical infrastructure	High	Now	Avoidance
Increase in the EU investments in technological innovations in the area of green energy			
Opportunity for performance of external investments related to the green energy in Wrocław	High	Average	Acceptance
LEGAL			
Operation in the conditions of increased threat for the EU countries, reflected in legislation, at least until 2040			
Further weakening of the position of the Wrocław local government	High	Average	Mitigation
INNE			
Higher significance of information warfare			
Further weakening of the position of the Wrocław local government	High	Average	Mitigation
Reduced social trust (leading to the weakening of the city's social capital)	High	Short	Mitigation

TABLE NO. 3 Consequences of the War in Ukraine for Wrocław

The figure below (fig. No. 3) presents the results of workshop work pertaining to the consequences of the war in Ukraine for Wrocław. Risk response strategies assigned to individual consequences were marked with relevant colours: acceptance, mitigation, transfer, avoidance. If the participants decided that a risk response strategy for a given threat would differ depending on other factors or would become complex, a given threat was marked in **ORANGE**.

The workshop primarily focused on threats resulting from the consequences of the war in Ukraine, and that is why risk management strategies with respect to threats were adopted. However, the participants also noted that some of these consequences entailed opportunities for the development of Wrocław. In this case, it was assumed that the response strategy would be acceptance, without differentiation between active and passive use of specific opportunities.

LEVEL OF IMPACT	HIGH	<ul style="list-style-type: none"> • Growth of extremism and violence • Exchange of city population (migrations) • Devastation of public finances • Energy poverty • Economic slowdown • Lack of funds for energy transformation and public transportation • Degradation of critical infrastructure 	<ul style="list-style-type: none"> • Improved socio-demographic situation of Wrocław • Uncertainty of the future among Wrocław residents • Political subjectivity of the Ukrainian minority • Limited entrepreneurship of Wrocław residents • Reduced social trust (leading to weakened social capital of the city) • Insufficient supply of apartments at the market • Growth in current costs of city maintenance and limitation of investments 	<ul style="list-style-type: none"> • Further development of IT industry in Wrocław • Opportunity for performance of external investments related to green energy in Wrocław • Further weakening of the position of the Wrocław local government • Re-industrialisation in Wrocław • Growth of social tensions related to nationality issues • Loss of subsequent foreign investors and slowdown of the city's economic development • Acts of violence and radicalisation among and towards the Ukrainian minority
	AVERAGE		<ul style="list-style-type: none"> • Outflow (limited) of Ukrainians from Wrocław • Threat to residents' safety • Energy transformation/ sovereignty 	<ul style="list-style-type: none"> • Safety related to the APOD terminal • Opportunity for Wrocław to develop the regional market (Central European) • Development of arms industry • Collapse of Polish-German relations • Intensification of spatial conflicts with respect to environmental protection issues • Difficulties with location of RES in Wrocław • Loss of social capital (due to disinformation)
	LOW		<ul style="list-style-type: none"> • Impulse for development of the city and the region 	
		NOW	SHORT	MID-TERM
		TIME OF MATURITY		

Fig. No. 1. Consequences of the War in Ukraine for Wrocław

Consequences of the war in Ukraine for Wrocław will be visible in a short or mid-term period (majority), while some of them are already taking place nowadays. The participants did not assign any consequences to the categories with extended maturity. This means that Wrocław will have to respond quickly to the consequences of the war in Ukraine and the hazards related to it.

Furthermore, a definite majority of the consequences were considered phenomena with an average or high level of impact. The low level of impact was only expected in the case of an impulse for development of the city and the region (in effect of the war) given that the expected scale of this event is rather low.

The most significant consequences for Wrocław (i.e. the ones with the shortest period of maturity and the highest level of impact) refer primarily to the social and economic issues.

Socio-Political Consequences

Among the social consequences which are happening now, there is migration (both the influx of refugees from Ukraine and outflow of Ukrainian men in recruitment age), as well as growth of extremism (far right and far left), as a reaction to migration and the present-day political situation, which may lead to acts of violence. In response to these threats, the city of Wrocław should apply the strategy of mitigation.

In the near future, covering the next several years, opportunities pertaining to the city's society may also appear, such as improvement of the demographic situation of Wrocław (thanks to the influx of Ukrainian population) and political subjectivity of the Ukrainian minority (which may be treated both as an opportunity and as a challenge, on account of the potential resistance of a part of the city's population and growing social tensions). However, in spite of the improvement of the demographic situation of the city, the growth of social capital may be slowed down on account of uncertainty of the future among residents and reduced social trust which, coupled with the difficult economic situation, may lead to the limitation of residents' entrepreneurial stances. Moreover, the trend of immigration of the Ukrainian population to Wrocław observed to an average degree nowadays - may be slowed down when safety in Ukraine has stabilised and the country's reconstruction has been commenced. The workshop participants adopted mitigation as the strategy for the drop in social trust and the feeling of uncertainty among the residents, while they chose acceptance in the case of the outflow of the Ukrainian population.

In the mid-term perspective (5-10 years), the participants singled out threats with a high level of impact related to radicalisation, such as increased tension related to nationalism, which Wrocław should try to mitigate, or acts of violence among and against the Ukrainian minority which, according to the participants, should be handled by the police and the domestic authorities. In the mid-term perspective, the loss of social capital due to disinformation is also expected, with an average level of impact. In this case, the workshop participants suggested the avoidance strategy, for example organisation of information campaigns or legal persecution of disinformation campaigns.

Among political issues, the workshop participants singled out weakened position of the Wrocław self-government in a mid-term perspective, related to, among others, potential extended operation of the central government in the conditions of increased risk and politicisation of economy (use of economy as a tool for exerting political pressure). The self-government of Wrocław, contrary to the limited possibilities of counteracting this risk, should aim to limit the impact of such risk as its materialisation has a high level impact on the city's development. Furthermore, in a mid-term perspective, a collapse of the Polish-German relations could take place in relation to the political differences. This would have an average impact on Wrocław, and the city would try to mitigate this threat.

In a short-term perspective, the participants indicated the possible threat to the safety of Wrocław residents. Given the very low probability of military

activities spreading to the area of Poland, this point however refers to the unconventional threats with an average level of impact. Moreover, in the mid-term perspective, plans are made for a Polish-American aviation base to be constructed in the vicinity of Wrocław (Aerial Port of Debarkation, APOD), which would increase the safety of Poland and the region, but might also result in exposure of the Wrocław local community to new military and terrorist attacks.

Economic Consequences

The war in Ukraine will also bring economic consequences. At the present moment, the workshop participants singled out threats with a high level of impact for Wrocław, such as slowdown of economic growth and growing budget deficit, caused by a drop in consumption (on account of the inflation and high interest rates), sanctions, growing energy prices and other effects of the war in Ukraine. These consequences entail more problems, such as limited funds for the energy transformation and energy poverty. The proposed management strategy with respect to such threats is mitigation, e.g. by proper allocation of public funds and attempts at sourcing new investors.

In the course of the next five years, growth of current costs of city maintenance and cuts to investments are expected, which would have a high negative impact on the city's development. In such case, the participants proposed adoption of avoidance strategy, as far as possible, and if this turns out to be impossible, mitigation of threats and a partial transfer (consisting in engagement of the central government to manage such risk). In a short-term perspective, acceleration of energy transformation and sovereignty is also expected on account of sanctions on Russia and suspended energy supplies from Russia, which makes finding new energy source an urgent issue. Some participants also suggested that the present day situation in Ukraine could offer an impulse for the region's development, attracting new investors, e.g. those withdrawing from Ukraine or wishing to develop new sectors in Wrocław (e.g. defence industry). The level of impact of this phenomenon was nevertheless determined as low, on account of the expected low scale of the phenomenon and its questionable probability.

In the mid-term perspective, the workshop participants noted opportunities with a high level of impact, such as development of the IT industry and defence industry (with an average level of impact) in Wrocław and in the neighbourhood, which could contribute to the city's re-industrialisation. The city could also source new external investors for the subsequent projects related to the energy transformation, which would have a high impact on Wrocław's development. However, depending on the future political and economic situation, the city could still lose foreign investors. If the military activities end, the investors may be more willing to focus their activities in Ukraine (and withdraw from Wrocław), while in case the war drags on, the difficult economic situation could discourage the investors from being active at the Central and Eastern European market. The engagement of foreign

investors will have a strong impact on the economic development of Wrocław. Furthermore, in the mid-term perspective, the chance for Wrocław developing the regional market (understood as the Central European market) is growing, yet this opportunity remains on an average level of impact on account of uncertainty of its materialisation.

In the mid-term perspective, there may also be problems with locating renewable energy sources in Wrocław, which would have an average impact on the city. With respect to this threat, Wrocław would adopt the transfer strategy. A threat with a similar intensity and period of maturity may be conflicts related to the management of the area, where protection of green areas will be poised against investments - new residential areas or infrastructure. Wrocław could try to mitigate such threats. Another threat pertaining to the spatial development of the city and social problems may be too low supply of apartments at the market caused, among others, by the influx of refugees. According to the workshop participants, this threat would be characterised by a high level of impact and a short period of maturity. In the face of this risk, Wrocław could apply the strategy of transfer and mitigation to a degree that corresponds to the city's competence and potential.

RECAPITULATION

In the context of the consequences of the war in Ukraine, unfolding of the 'Hostages of the Economy' scenario seems to be the most probable; it assumes economic problems and a drop in the quality of life. These assumptions will be deepened by de-globalisation and the economic crisis. If international cooperation is not strengthened, it will be difficult to reverse the negative assumptions of this scenario. Furthermore, the present day situation weakens the assumption pertaining to the limitation of the greenhouse gas emissions, even though the situation is conducive to energy transformation in Poland and in Europe.

At the same time, in spite of the assumption of Poland as a democratic state, guided by governance, the assumption of strong decentralisation has been weakened. As further noted by the workshop participants, in such situation the competence of local governments will largely depend on the willingness and mode of management of the central government. On the one hand, such competence could be extended to functions related to safety and migration policy. Yet on the other hand, in the face of imminent crises (economic, humanitarian, natural disasters, etc.), the government could decide to decentralise crisis management and take over some competences of the local governments as part of unifying the response to crisis. A significant challenge in every scenario may be the funding of local governments due to lower budget receipts during the economic slowdown.

Challenges that Wrocław will have to face primarily include the economic crisis, but also migrations of people and threats related to it, such as increased tensions in the society or even radical stances; there are also issues pertaining to spatial management (sub-urbanisation, peri-urbanisation and supply of apartments). Additionally, energy transformation should accelerate in a mid-term perspective; however, in a short term, the city (as well as the rest of Poland) may struggle with energy poverty. Faced with most of these challenges, Wrocław should try to adjust the strategy of mitigating threats, as many of them are driven by external factors and it is impossible to avoid them.

