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Table of Contents

Wieś i Rolnictwo 4 (189)/2020
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Editors' Note

The ongoing changes in the rural economy have multiple aspects and are extremely complex. Describing these processes often involves attempting to outline scenarios and trajectories of development for subsequent decades (Bański 2017; Future Foundation 2005). In considering the essence of economic changes and future prospects, the focus has largely been on three ways of looking at rural transformations. The first approaches the majority of economic trends as a consequence of urban economic and social processes (Li, Westlund and Liu 2019). In this context, the present and future of the countryside is determined by the situation of centres of economic growth, i.e. metropolises, where capital, various demands for rural resources and the political power are concentrated. Given the increasingly diminishing rural-urban divide, growing interdependency of rural and urban livelihoods as well as the gradually blurring geographical divide between rural and peri-urban regions, this approach is more topical than ever in the global context (Maxwell, Urey and Ashley 2001). The second perspective mainly considers the rural economy and society as separate systems whose development paths follow a unique course because they are based on unique resources. For this reason, the economic development of rural areas would be determined not just by the traditional, primary sectors (agriculture, forestry and fisheries), but by the great diversity of economic activities, including the new ones such as the silver economy, the leisure economy, and the experience economy (Torre and Wallet 2019) which – like farming – make use the local natural resources and benefit from amenities, an appealing landscape and an unspoilt natural environment. However, it has to be stressed that in this approach the immobility of natural resources primarily defines the rural economy and its prospects, as those competitive advantages can be only used on spot or not at all. Hence the development of the rural economy beyond this may be significantly limited (Wiggins and Proctor 2001). Finally, the third way of analysing the economic situation of the countryside and possibilities for change takes account of watershed events or shake-ups of a political, economic, environmental or social nature. In this approach, promoted in the emerging critical event studies (Lamond and Platt 2016), a financial crisis, the diffusion of a spectacular innovation, an institutional change, the effect of sudden and extreme climate change or, finally, a pandemic outbreak, are treated as a type

of revolution. In addition, when considering the hard-to-capture nature of changes in the rural economy and their multidirectionality, the enormous diversification among and within the world's rural regions has to be taken into account as well. This is why this special issue of *Wieś i Rolnictwo* (*Village and Agriculture*) quarterly aims to present rural economic transformations as viewed by renowned researchers representing different countries and research perspectives.

The special issue opens with David Freshwater's paper, in which the author analyses the most important changes that have taken place in rural areas over the past two decades. Freshwater – an Emeritus Professor from the University of Kentucky and the OECD analyst – distinguishes a number of trends that emerged 20 years ago and have been important for the countryside, and compares them with the challenges appearing today. He concludes that some of these trends continue to play a significant role. Among them he mentions the shrinking of available natural resources, progressive technological change, and the urbanisation of lifestyles. However, completely new processes are appearing as well. Among these, the American economist mentions climate change, worsening food security, growing concern over healthy food, and the intensifying cultural and political divisions of society, to which place of residence is becoming a correlate. Although the argumentation is based on data and observations related to rural areas in the United States, the economic and social changes identified here follow a largely similar direction in other countries around the world, e.g. OECD member states (the UK, Canada, or France). This is especially true of countries with industrialised agriculture and a developed market economy. Freshwater ends his text with some remarks on the COVID-19 pandemic's effects on the rural economy and its development prospects. The negative consequences of COVID-19 have led to greater efforts to increase the availability of public services and restore the functioning of industrial sectors and jobs from rural areas that had previously been moved abroad. The question is whether these trends will remain open once the pandemic ends.

One noticeable effect of the COVID-19 pandemic observed in many countries around the world is a changed attitude towards the management and implementation of public policies. This is due to the fact that this health crisis has created a number of large-scale problems and differences, questioning the effectiveness of public institutions in many areas. This process has emerged in Russia, for example. The indirect consequences include a growing tendency to modify the approach to rural policy in Russia. This is the focus of the next paper in the present issue, authored by Evgenia V. Serova, Alexey S. Naumov and Renata G. Yanbykh. The researchers from the Institute for Agrarian Studies of the Higher School of Economics in Moscow outline the problems of Russia's vast rural areas, the main issues being depopulation,

poverty, and residents' relatively worse living conditions. The persistence of these trends is coupled with steady progress in the Russian agri-food sector, whose modernisation and improving output and economic results have always been the focus of public institutions' attention. However, in the face of dynamic structural changes in agriculture and existing socio-demographic problems, the possibilities for the economic development of rural Russia mainly based on a single sector and vertical management have been depleted. According to the authors, in this situation the principal measures should be those creating conditions for the rural population to work outside agriculture and activating grassroots initiatives involving different actors from local communities. As the authors point out, projects serving to improve infrastructure, including those expanding internet access, could be a major development opportunity in the face of the growing social appreciation of living and working in rural areas during the COVID-19 pandemic.

The broader issue of increasing the standard of living through technological advances and the diffusion of innovations throughout the rural economies and communities is also raised in the next paper, by Józef St. Zegar. The author – representing the Institute of Agricultural and Food Economics – National Research Institute in Warsaw (IERiGŻ-PIB) – analyses possible scenarios for the rural economy in Poland from a long-term perspective by referring to some critical processes affecting rural communities, namely the restructuring of the rural economy and the resulting social and demographic challenges similar to those mentioned by the Russian authors. Furthermore, alongside factors related to the natural environment and climate change, the author believes that the direction of change will also be determined by the market and policy-making. This is because the latter two systems determine the occupational and social activity of rural residents as well as deciding on how rural natural resources and economic capital are managed. The author has based his theoretical discussion, which covers past, contemporary and future socio-economic transformations, on statistical data and research results found in the literature. According to Zegar, the transformation of the rural economy in Poland, stretching across many decades, involved the dependence of rural development on capital and urban areas. This changed when Poland joined the EU, as accession substantially improved the material conditions in which rural residents functioned. In the author's view, the challenges faced by rural areas suggest that future actions should focus on their sustainable development. In this process, an economy generating added value that is key to improving the standard of living and quality of life will be of critical importance. As the economist from the Institute of Agricultural and Food Economics – National Research Institute points out, the sustainable development of rural markets should encompass agriculture, sectors based on environmental assets, and business activity in industry and services.

The author also suggests that in choosing a sustainable model as the direction for the rural economic system in Poland one needs to account for deteriorating demographic prospects.

The suggested sustainable development model, comprising its core components that is the state of the economy and the quality of life in rural communities, is largely determined not only by the negative consequences of global health crises and natural hazards, but also by long-term environmental changes. As the exploitation of natural resources increases and negative weather events intensify, the mutual relationship between the natural environment and human activity is becoming increasingly noticeable. The impact of climate change on agriculture and rural development is the focus of the paper by Konrad Prandecki (affiliated to the Institute of Agricultural and Food Economics – National Research Institute in Warsaw), in which the effect that climate change is having on agriculture and rural areas is analysed based on the example of Poland in a time horizon up to 2030. The discussion is based on two scenarios, RCP4.5 and RCP8.5, developed in the *Klimada 2.0* project and assuming a continuation of the climate change trend in the current decade. The direct and indirect effects of this process, which include a temperature increase, the intensification of extreme meteorological events, depleted water resources and soil erosion, will lead to negative consequences for rural areas (e.g. worsened conditions of agricultural production, the increased cost of compensating for material losses, and additional infrastructural investments). Prandecki also points to the necessity to undertake various remedial measures (mitigation and adaptation), including the need to reduce greenhouse-gas emissions in connection with the anticipated deterioration of conditions for the agri-food sector. The author suggests that attaining the strategic goal of Polish agriculture's emission reduction by 2030 will be a difficult task, due to structural as well as historical and cultural factors.

Without doubt, global climate change has had noticeable and increasingly drastic consequences for local geographies (Pyhälä et al., 2016). Already in the 1990s, several studies highlighted the ever-increasing frequency, scale and, consequently, severity of natural and human-induced disasters and crises impacting on local economies dependent upon agriculture and food production (Baethgen 1997; Mendelsohn and Dinar 1999). Those natural disasters also include the occurrence and influence of the infectious diseases such as Lyme disease (Caminade, McIntyre and Jones 2019) or the Ebola virus (Fan 2014). Over the course of time, it seemed that the practical knowledge acquired led to the intended positive outcomes, transforming, adapting and making the broadly considered agricultural and food production sectors resilient and stable, which has to some extent been negatively verified by the COVID-19-related impact and experience. Most recently, one of the most noticeable social problems that have

emerged around the world in connection with the spread of COVID-19 is fulfilling people's basic needs, including access to food. Hunger, which affected almost a billion people before the pandemic, has spread even more widely as a result of serious disruptions in supply chains (Caparrós 2016; Mahajan and Tomar 2021). The possibilities for effective public-policy interventions in order to improve food security, which has been impaired by the health crisis, is the subject of the paper by Jock R. Anderson, Latha Nagarajan, Anwar Naseem, Carl E. Pray and Thomas A. Reardon. The researchers from the Rutgers University Feed the Future Policy Research Consortium describe three types of food supply chain: traditional, modern, and transitional food supply chains (FSCs), focusing on the last of these. In these authors' view, the transitional food supply chain, which predominates in Asia and Africa, extends across rural as well as urban areas; it is characterised by significant fragmentation of producers and very labour-intensive production. FSCs have been the most heavily affected by the COVID-19 pandemic, increasing the scale of malnutrition, poverty and unemployment. The authors suggest some specific options that policy-makers can undertake in the face of food crises caused by the epidemic. The discussion presented in the paper will not only be useful to researchers of this problem, but could also provide valuable guidelines for a wider group of readers, including politicians and experts.

The special issue concludes with a paper presenting the outlook for economic changes in rural areas in the small Latin American country of Uruguay. The paper's author, Adriana Peluffo, focuses on structural changes in the country, one of the main indicators being the diminishing role of agriculture in generating the global product and jobs. The economist, who represents the University of the Republic of Uruguay and the National Agency for Research and Innovation, analyses decreasing employment in sectors linked to animal production (beef, wool, leather), which have been very important for Uruguay's rural areas and exports, and the population's growing interest in jobs in the IT sector and in services that are often provided in remote working. The economic transformation outlined by the author faces different crises, the most acute negative consequences having been caused by the Argentine monetary crisis and the most recent shock produced by the COVID-19 pandemic. In conclusion, Peluffo outlines the pandemic's main effects on the Uruguayan economy and describes the chief measures undertaken to alleviate them.

The quarterly's special issue presents a wide range of processes currently noticeable in the rural economy, discussing the varied factors and numerous consequences involved. The papers making up this volume reveal the various different experiences caused by transformations in rural markets in different parts of the world. The COVID-19 pandemic has been a catalyst for some of these

transformations, with many negative social and economic consequences and thus significantly increasing uncertainty about the future. The studies in this issue set out to describe these processes. We hope the articles in this issue serve as inspiration for new and fruitful debates and further interesting research projects.

Adam Czarnecki and Michał Dudek
Editors of the Special Issue

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David Freshwater

Major Forces Affecting Rural Regions in 2020

Abstract: Rural regions in OECD countries have always faced development challenges, resulting from their: reliance on natural resources, small labour forces, and long distances from markets, as well as the effects of globalization. Now, in addition, their development opportunities are further constrained by: climate change requirements, increased economic fragility resulting from COVID and the lingering effects of the 2008 recession, and the uneven impacts of the Internet economy. But, from a rural development policy perspective, perhaps the most important new challenge is the rise of rural populism. While rural areas and people have long been seen as distinct from their urban counterparts, in the last two decades these gaps have grown. Importantly, while the internet and information and communications technology (ICT) were initially seen as providing opportunities to improve social cohesion and link rural and urban people and places, instead they seem to have increased tensions. Because the core values of urban and rural people have grown so far apart, it is more difficult to establish the political compromises that are required to form effective policy. Absent some reconciliation of these social and political differences, it is difficult to see how national government policy can evolve to meet new challenges. Consequently, the likelihood of national governments being able to identify and implement coherent rural development policies is reduced.

Keywords: rural development, rural/urban divide, social conflict, rural policy, populism.

1. Introduction

The paper examines major forces that are likely to shape rural areas in OECD countries in current years. It builds upon a short paper on the future of rural America at the turn of the century that I was asked to write in 2000 (Freshwater 2000). In it I identified eight challenges that I believed would condition future

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rural prosperity. They were all commonly accepted macro forces that had already shaped rural economics in the United States, as well as in other OECD countries, and were expected to continue to remain important. Now, in 2020, although these eight challenges remain, there are new factors that I failed to anticipate. These are in many ways both more powerful and less subject to influence by conventional rural policy. This requires that they be shaped by a much broader set of national policies and social changes that will be more difficult for countries to implement, but are vital for the well-being both of urban and rural people. This has important implications for rural policy. While it is possible to identify rural specific policies that can address the forces identified in 2000, the new forces require comprehensive national, or multi-national responses, but ones that are sensitive to urban and rural differences.

2. New Forces for Rural Change

In 2020 we must now think about at least an additional four additional forces. First, we are now fully aware that climate change is having a major impact on the entire world, including rural areas. Second, the Great Recession of 2008-2009 had an important and continuing impact on global finance, and its long-term effects remind us that national economies remain susceptible to large-scale financial shocks despite the sophistication of banks and monetary authorities. Most recently, the COVID-19 pandemic has led to another global recession, albeit one that was induced by national governments as a response to the rapid spread of the virus, again demonstrating the power of major shocks. As a result, we must accept that large unforeseen shocks can radically reshape how our economies function, leading to a significant increase in economic fragility.

Third, as early as 1991, the impact of the internet on rural areas was evident (OTA 1991), and by 2000 the rural gaps in access to basic computer connectivity were apparent (Parker 2000). However, in 2020 the role of all forms of internet and wireless connectivity in our economy and society is astounding. And, while most rural areas have access to most electronically enabled services such as cell-phones, social media and e-commerce, this access remains slower, more expensive, less reliable and less useful in rural than in urban areas. Beliefs that the internet would result in the death of distance have largely been refuted (Weber and Freshwater 2016). Instead, the internet has enabled early adopters, typically located in large metropolitan regions, to dominate major new services, for example, social media, e-commerce, cloud computing, e-learning and tele-medicine. In particular, continuous rapid innovation in mobile phone technologies, both hardware and applications, are first introduced in urban areas and then slowly diffuse. While rural

people clearly benefit from these services, and may actually benefit more than urban residents do, the advances are largely conceived of, designed and implemented to serve urban customers.

But perhaps the most unexpected force has been a growing social divide between urban and rural societies in many OECD countries. Instead of increased economic integration and the widespread use of social media leading to societies that are more harmonised, it seems that these forces have contributed to increased economic inequality and social polarisation. One dimension of this is a growing tension between urban and rural people. Finally, globalisation, while not a new factor, continues to remain as important as it was in 2000, but in a very different way. In 2000 our expectations were that global integration would continue and that increasing trade flows would lead to a steady process of market liberalisation that would benefit all countries. In the last four years this view has been challenged by major disruptions to global trade in the form of tariff wars, increasing use of non-tariff barriers to protect domestic firms, and most recently a growing desire to increase the self-supply of food and essential medical supplies as a reaction to the pandemic.

2.1. Climate Change

Climate change is now largely accepted by most people. Rural areas experience the effects of climate change more directly because people remain more directly exposed to all forms of nature than is the case for urban populations. Agriculture is perhaps the clearest example of climate effects, including changes in precipitation patterns, shifts in seasonal temperatures and resulting changes in the spatial pattern of crop cultivation. But other rural activities are also affected, including forestry and tourism. In addition, rural areas are more highly exposed to efforts to mitigate climate effects. In particular, taxes on fossil fuels will have a disproportionality larger effect in rural regions because much of what they buy and sell involves long transport distances.

2.2. Economic Fragility

At the turn of the century there was a general consensus that while business cycles continued to exist, the chances of a major economic decline were small. But in 2000 the dot.com bubble burst, causing a sharp recession that wiped out many of the first wave of internet stocks. While this recession had limited impact on rural areas, in hindsight it was the first warning of a new economic fragility. The 2008–2009 recession had significant effects on rural areas because it was a financial crisis

that affected virtually all lenders. As a result, firms lost access to credit lines and loans became more difficult to obtain. For small firms, which make up the majority of businesses in rural regions, the consequences were especially severe. Such firms rely more on debt finance and have limited cash reserves relative to larger publicly traded corporations. A third major economic shock in 2020 triggered by the COVID pandemic makes it clear that, despite the efforts of central banks, economic stability can no longer be counted on.

For households, firms and governments in rural areas the consequences of higher levels of economic fragility are significant. Although interest rates may remain low for some time, lenders are more cautious about extending credit and many borrowers are reluctant to borrow because they fear another economic downturn. This should lead to lower rates of economic growth and fewer investments that can increase worker productivity. Because rural areas rely more on tradables then urban regions do, they are especially exposed to slower rates of growth and weaker investment (OECD 2016).

In 2020, while the initial impacts of the COVID pandemic were first felt in urban areas, they have now spread to rural areas, where they can be particularly onerous (OECD 2020). COVID disproportionately affects the elderly, those with pre-existing health conditions, and those with more limited access to healthcare facilities, and rural areas also have a higher percentage of individuals in these circumstances. Moreover, fewer rural workers are able to work remotely and a large share are employed in the tourism and hospitality sectors, which have been greatly impacted by shut-downs and falling demand.

2.3. The Internet Economy

In the last two decades the role of internet-based telecommunications has radically changed the global economy and our societies. In particular smartphones have displaced personal computers as the main means by which people access the internet. Mobile internet access allows people to be connected in multiple ways at any point in time. In most rural areas many of the main benefits of this connectivity are available, including weather information, commodity prices, news, social media feeds, etc. Internet shopping is at least as prevalent in rural areas as in urban areas, although the delivery process is significantly slower.

People and firms in rural regions now have more access to goods and services than ever before, because they are no longer restricted to what is locally available. Rural businesses with an internet presence now have the same opportunity as large urban firms to be visible to potential customers across an entire nation or multiple nations. For rural firms that serve spatially dispersed niche markets the benefits are

huge. But rural businesses now face significant external competition for customers. They are no longer protected by the barrier of distance (Weber and Freshwater 2016). An important social consequence of this broadened connectivity has been a weakening of ties within rural communities. While cities became the home of a wide variety of communities of interest a long time ago, people in rural towns and villages were largely bound together in a shared community of place, because they had limited access to the wider society. Social media now provides a way for people in even the smallest village to find and connect with people around the nation who have similar values, concerns and attitudes. And with social media it is easy for rural people to develop different ways of thinking than their proximate neighbours, and this can fragment communities.

Emerging technologies in distance learning, tele-medicine and internet-based government service delivery offer potentially large benefits for rural places, because they all address the challenges of long distance, low density and lack of scale that characterise rural regions. In most OECD countries nascent efforts to develop and implement these technologies in rural regions have recently been accelerated in response to the COVID pandemic. Because of the pandemic schools, medical care providers and local governments in urban areas are racing to find ways to deliver services to people remotely, even though they are located nearby (OECD 2020). This new urban demand for e-services may shrink as the pandemic effects weaken, but the new capabilities that are being created will continue to have major benefits in rural regions where they provide access that was unavailable through traditional delivery methods.

2.4. The Rural/Urban Divide

While we have always accepted that there are differences between urban and rural places, now there is a growing sense that these differences have increased to the point that they influence national politics. Historically, most countries recognised that rural places have a different economic function than urban ones and that place-based policies to mitigate differences in economic outcomes were appropriate. Even so, despite economic differences, there was a sense that rural and urban people shared a common society. As long as this was true it was possible to develop mechanisms to mitigate economic inequality.

Over time, economic differences seem to have been transformed into geographic differences, and from there into social differences. For example, in the United States the Joint Economic Committee of Congress released a report in 1986 on the Bi-Coastal Economy, which examined patterns of regional economic growth and concluded that growth was concentrated in a small number of states located on

either the Atlantic or Pacific coasts, and that most interior states had performed poorly (JEC 1986). In 2004 Thomas Frank examined why many people in Kansas, a largely rural state, had come to identify with the Republican party, whose core economic policies were clearly detrimental to their economic interests (Frank 2004). He concluded that, for these individuals, conservative social values were more important in making political choices than their economic interests were.

Initial analysis of the 2020 US election shows a strengthening of the divide since 2016 (Zitner and Chinni 2020). This year Biden won the largest 25 counties and 91 of the largest100 counties in the US. This, however, was only 17% of all counties, although these counties accounted for 71% of US GDP. Conversely, Trump won 83% of all counties, accounting for 29% of GDP. According to the authors, these results mark a continuation of trends going back to the 1980s. Counties voting for Biden tended to have a higher share of college-educated workers, higher average incomes, faster employment and population growth, and a greater share of white-collar workers. Consistent with Frank's assessment of Kansas voters, support for Trump was strongest among those counties that benefited the least from his economic policies, but arguably, were most in favour of his social policies.

2.5. Rise of Region-Specific Social Conflict

What was controversial in 1986 has now become common, with interior US states regularly referred to as "flyover country" or disparaged as being economically and socially backward. What is different in 2020 is that the divergence is more often framed as being between highly skilled, progressive, globalist urbanites who live in large prosperous cities, and conservative, low-skill, nativist rural people who live in declining small towns and who depend on government transfers. In the United States this gap is now often framed as a red-state vs. blue-state divide, with one political party being dominant in each case. Somehow what was initially described in terms of differences in regional economic performance has been transformed into a broad and corrosive fight between urban and rural people.

Other countries have experienced their own versions of regional differences being transformed into social differences based largely on a rural-urban dichotomy. In Canada tensions over petroleum development pit resource-dependent western provinces against an urban population in large cities in Ontario and Quebec who have little economic interest in supporting resource extraction. Brexit appears to have been driven by a rejection of the EU by people in the more rural and less-economically prosperous north and midland regions, while people in the more prosperous and highly urbanised south-east were mainly "remain voters". Poland is experiencing significant tensions between a more religious and conservative

rural populace and more progressive urban society in the large cities. In France the gilets-jaune demonstrations in 2018 were led mainly by people from more rural areas in response to proposed increases in gasoline taxes, which were mainly designed to reduce automobile use in large cities where mass transit is a viable travel choice (Zerofsky 2018). More generally, Euroscepticism is strongly associated with a non-metropolitan location (Schoene 2019).

2.6. Rural Populism in the Past

In all these cases some specific regional differences, typically of an economic nature, became transformed into a highly polarised fight between an "oppressed rural population" and a dominant "urban elite". It is this re-emergence of populism, which was thought to be a long dormant ideology, that is perhaps the most crucial challenge for rural development in the next decades. The classic populist model consists of two groups and a dynamic (Holmes 1990; Mudde and Kaltwasser 2017). The first group consists of people who believe they are the true base of society and embody its core values. The second group are an elite that controls the political process, but that has lost touch with the people and only acts in its narrow self-interest. The dynamic involves political organisation by "the people" to take back control of the government as a necessary first step to remove the power of the élites.

Populism as a political concept had its origins as a rural urban conflict in late 18th-century America, when farmers in the middle of the country believed they were being harmed by bankers, processors and railroads who made excessive monopoly profits. Moreover, they saw the national government as a tool of these urban elites. Only by seizing control of the government could they expect to break the monopolists' power. To do this required the construction of a new political force that could break the power of existing parties. But while farmers believed they reflected the core values of society they failed to persuade others to support their cause. Ultimately, while the populist farm movement made some progress in economic reform it failed to gain enough support to have much electoral success (Mayhew 1972). Notably, this was at a time when farmers were by far the majority of the rural population, and the rural population was still just under half the population of the United States. In reality farmers gained more in the early 1900s from the efforts of the subsequent progressive movement – a mainly urban coalition of people who wanted to overthrow corruption, reduce the influence of business on government and use government to improve social well-being (Filene 1970; Nugent 2009). Unlike the populists, who had a narrow political base and lacked financial resources and actual political experience, the progressives started by gaining control of local governments and delivering well-received results

enabling them to gain credibility and financial backing that in turn led to national electoral success.

2.7. The New Rural Populism

What might this history lesson suggest for rural people today? While the agrarian populists had legitimate complaints about the abuse of economic power by banks, processors and railroads, the full picture was more complicated and the low prices and high freight rates farmers experienced were often the result of actual market forces and not monopoly power (North 1966). More importantly, while America had been largely an agrarian nation, by the 1880s it was rapidly industrialising and the values of farmers were no longer the values of the majority of the American public. Although farmers believed they spoke for all the people, in reality they were only a particular interest group, albeit an important one. Crucially, farmers were a protest movement and lacked both a coherent reform strategy and the credibility and organisational capacity to support their agenda.

In OECD countries the rural population is now a minority. While it remains the custodian of most nations' cultural history, it no longer reflects the current values of the majority of the people. Because rural people live in relative isolation and have diverse socio-economic circumstances it is difficult for them to organise. And while social media have made it easier for all interest groups to connect with like-minded people, there is still a major challenge of bringing the people and sufficient resources into an effective organisation. Almost by nature, populists are defined by what they oppose, and lack a common sense of what they are for, especially when the movement is made up of many interests. Large populist movements today, for example the Five- Star party in Italy, bring people with diverse interests together and while this diversity provides a larger political base it greatly complicates the ability to govern if they achieve power. Similarly, the Tea Party movement in the US united around opposition to taxes, but members split on which government programmes should be cut as consequence of reduced revenue.

3. Reprise of the Eight Forces from 2000

This section summarises the argument of my 2000 paper, mainly to provide a context for the new forces. Rural areas continue to remain more dependent on the primary sectors – agriculture, fishing forestry, mining and energy – than do metropolitan regions. These tradables provide an important source of revenue but a shrinking share of employment and are subject to considerable price swings, which lead to booms and busts. In the last decade, price volatility has occurred for

both agriculture and energy when production exceeded demand. Ongoing market shifts and technological change can further exacerbate rapid shifts in revenue and employment, which make rural places more fragile. In addition, rural places have become more economically coupled to urban centres over time as transport costs continue to fall and globalisation has allowed a few manufacturing plants, often in China, to dominate the production of a wide range of goods. More recently, globalisation and enhanced electronic communication has extended the scope for off-shoring of services that in earlier times might have located in rural areas, for example call centres and back-office support centres.

Services now play a larger role in rural economies, but rural service delivery is challenged by high costs due to distance, low density and lack of scale (OECD 2010). In addition, rural services tend to be more limited in scope, with an absence of more specialised services and only one or two service providers being available, which limits competition and increases pricing power. While rural areas may have similar shares of workers in education or finance as urban regions, the rural workers in schools are unlikely to be in post-secondary education and in banking are unlikely to be in commercial lending or advanced financial services. As rural communities lose population while metropolitan regions grow, these gaps in the variety and range of services become larger.

Of the eight forces, globalisation has changed the most since 2020. In the last decade a steady shift to more open economies has slowed and may reverse. Shortages of medical equipment associated with the COVID pandemic have only increased questions about the cost of outsourcing key goods and services, especially when one country has become the primary, if not sole, supplier. Trade tensions have become common in the last few years, even among countries that share common values, and it is unlikely that they will disappear. What this means for rural regions in the OECD countries is uncertain. Those manufacturing jobs that left rural areas in the last part of the 20th century did so because China offered three key advantages – low-cost labour, a large home market and the ability to host very large facilities that could exploit economies of scale. While the risks associated with long supply chains and single suppliers are now more fully recognised, there will be limits on how much manufacturing will return to the OECD members, since China remains a formidable competitor and other developing counties offer significant locational advantages. Nevertheless, it may be possible to use a combination of new technologies and skilled labour to make smaller plants more productive, and this combined with a desire for self-supply or even multiple domestic suppliers for risk mitigation reasons could result in new rural manufacturing opportunities.

4. The Potential for a New Rural Policy

Most OECD countries continue to recognise the need for a rural policy, even as they struggle to identify effective ones (Freshwater and Trapasso 2014). While rural policy is widely recognised as being more than agricultural policy there is no consensus on the specifics. This lack of specificity can be explained by the diversity of the rural situation, with rural communities in the same country or region having very different circumstances and opportunities. Some of this diversity is captured by rural typologies that focus on distance from a metropolitan region as a way to understand rural differences (OECD 2016). But rural communities the same distance from the same metropolitan region can experience sufficiently different situations to make their opportunities dissimilar. Further, few national governments make even minimal efforts to develop policies that explicitly consider rural and urban differences. Examples are numerous. Countries impose gasoline taxes to encourage people to use public transit, but public transit is only available in urban areas. Countries allow school choice as a way to incentivise better school management, but in rural areas there is only one school available. Governments establish waste-water treatment policies that specify particular technologies that work well in an urban area, but are not practical in rural areas. National governments provide funding to local governments through a competitive grant process, but small communities cannot afford to hire a grant writer, cannot meet eligibility criteria, or do not meet the minimum funding criteria.

The idea of "narrow" and "broad" rural policy can be used to frame a way to think about rural policy. Narrow rural policies are targeted only at rural areas and are inherently place specific, for example farm support. Broad policies apply nationally and have no explicit place focus, for example judicial codes. Countries have largely relied on narrow policies, in sector-specific or place-specific forms, to address rural needs. But many broad policies, including healthcare, environmental standards and education, are applied uniformly in all places, even though they have different impacts for rural and urban areas. Recently, the idea of "mainstreaming" has been employed by some counties in the belief that rural and urban areas are no longer different enough to warrant a distinct rural policy (Hodge 2003; Overman and Gibbons 2011). Yet conditions today suggest that perceived differences are increasing.

What form does rural policy take in this world of a growing rural-urban divide? Clearly it has to be different from what we do now. A simple first step is to recognise that broad policies offering exactly the same programmes in rural and urban areas often lead to very different outcomes, in part because conditions are different but also because the expectations of people differ. Equal treatment may not be equitable

treatment if it systematically produces different outcomes, or produces a single outcome that is not wanted in some parts of a country. While narrow policies were reasonably effective when problems were largely economic, it is difficult to address social differences within a country by adopting place-specific policies. If populism is understood as a symptom of a significant part of society feeling that it is being treated unfairly by the economic or political structure, it is unlikely it will be appeased by minor improvements in standards of living.

More effective policy for rural areas is going to have to be "broadly" conceived, in that it will be conceptually "broad" in coverage, but allow some flexibility in how it is implemented in different places. Much of this policy will have to be social, rather than economic, because the divide is now as much driven by differences in social values as economic conditions. This is a far more complex challenge than integrating markets, but without efforts to rebuild a common set of values within a country the prospects for reductions in political tension are not good. And without political cohesion the prospects for economic development are also poor.

5. Conclusion

In 2000 I argued that rural development required ongoing investments in people, companies and infrastructure to overcome the eight challenges (Freshwater 2000, p.6). Twenty years later the situation still exists, and may be more crucial. Currently, interest rates are so incredibly low that such investments have low costs. Moreover, other reasons for making them are more important than a decade ago. These include the increased desire to reduce the risks of long supply chains, concerns that China is not interested in adopting the core values of OECD countries – a democratic government and a market economy, the need to replace an ageing workforce with a smaller number of better skilled and more productive workers, reflecting shrinking populations, and a sense that one form of the economic inequality that plagues our societies is lower opportunity and worse outcomes in rural regions.

Importantly, in 2000 there was a sense that, while urban and rural had differences, there was a strong and growing integration based on comparative advantage and increased social interaction (Champion 2007; Isserman 2001; OECD 2006; Schaeffer, Loveridge and Weiler 2014; Ward and Brown 2006). The main challenge for rural development was to find appropriate policy mechanisms that could better link rural and urban economies and improve the joint well-being of all citizens. The problems were largely seen as economic and could be addressed by improvements in markets and a modest income redistribution. Implicit in this was the belief that social and cultural differences within a country did not have

a strong rural and urban dimension, so it was possible to assume that rural and urban people wanted the same things.

Now it seems this is not so clear. To the extent that rural and urban people want a fundamentally different society, there are few options for government policies to mutually satisfy these different values. It is difficult for national governments to have different social policies in different parts of a country. These differences are increasingly exacerbated by social media, because it provides individuals with news and opinions that are constantly adjusted to reinforce personal preferences. Attitudes regarding the danger of COVID are part of the social divergence, as fewer rural residents believe stringent restrictions on personal behaviour are justified than is the case for urban areas. Similarly, addressing climate change will require adjustments in economic policies, but before these can be introduced there has to be a more complete acceptance of the need to make major adjustments.

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Główne siły oddziałujące na regiony wiejskie w 2020 r.

Streszczenie: Regiony wiejskie w krajach OECD zawsze borykały się z wyzwaniami rozwojowymi wynikającymi z: zależności od zasobów naturalnych, niewielkich zasobów pracy, dużych odległości od rynków, a także skutków globalizacji. Obecnie ich możliwości rozwojowe są dodatkowo ograniczone przez: wymagania wynikające ze zmian klimatycznych, zwiększoną niestabilność i „wrażliwość" gospodarczą – wynikającą z pandemii COVID-19, utrzymujące się skutki recesji z 2008 r. oraz nierównomierny wpływ gospodarki internetowej. Jednak z perspektywy polityki rozwoju obszarów wiejskich być może najważniejszym nowym wyzwaniem może okazać się wzrost populizmu na wsi. Mieszkańcy obszarów wiejskich od dawna są odmiennie postrzegani niż mieszkańcy miast, w ciągu ostatnich dwóch dekad różnice między tymi grupami wzrosły. Co ważne, chociaż początkowo postrzegano internet oraz technologie informacyjno-komunikacyjne (ICT) jako narzędzia, które mogą poprawić spójność społeczną oraz integrować różne obszary oraz ludność miejską i wiejską, to obecnie wydaje się, że zamiast tego spowodowały zwiększenie napięć między nimi. Ponieważ podstawowe wartości mieszkańców miast i wsi kształtowały się odrębnie, dlatego bardzo się różnią i trudno jest osiągnąć polityczny kompromis wymagany do stworzenia skutecznej polityki rządów krajowych. W konsekwencji zmniejszają się szanse na to, że rządy krajowe będą w stanie stworzyć i wdrożyć spójną politykę rozwoju obszarów wiejskich.

Słowa kluczowe: rozwój wsi, podział miasto – wieś, konflikt społeczny, polityka wiejska, populizm.

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New Approaches to Rural Development in Russia

Abstract: As many other countries, Russia suffers from fast depopulation of rural areas and decline of rural economy. For years, the state policy for mitigate negative consequences of these processes was considering agriculture as the main pillar of rural development and most of governmental finding was oriented to its support. Recently, the new state strategy for rural development was formulated, and in 2019 an ambitious national program approved. It assumes different options for rural territories to develop economy and achieve welfare, depending on natural and human resources availability, remoteness and other features. The paper presents a review of the current state of rural areas of the Russian Federation. It focuses on the main issues the countryside faces at the national level and also reveals regional differences in rural development. The study is based mainly on the author's analysis of national statistical data sources, including the Russian Agricultural census of 2016, and the results of conducted survey. Possible effects of the measures of the new state policy of rural development such as encouraging community-based initiatives and promotion of housing construction through preferential rural mortgage loans programs are analysed. Finally, the authors provide a brief description of impact of the COVID-19 pandemic on rural development in Russia and attempt to forecast its further implications.

Keywords: rural areas, social and economic development, state policy, COVID-19, Russia.

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1. Introduction

In modern Russia, 27% of population live in the rural areas. The rural population poorer, rural utilities and social infrastructure are less developed and their quality of life is significantly below the average for urban areas. Consequently, the most active population of working age tend to migrate to urban areas.

The modern era has changed the character of development of the rural areas. The modern agri-food sector in Russia is one of the most successfully developed sectors of the economy. Production of such agricultural commodities such as grain, oilseeds and sugar beet has reached historic records. The country, which used to be an importer of agri-food, has become one of their main global exporters. For the last decade, Russia has achieved success in food quality and safety. The level of state support for agriculture is consistently between the European Union and the US, although the support programmes are not efficient from the point of view of targets achieved (Shik, Serova and Yanbykh 2020). Basic indicators for the sector (economic efficiency, productivity of labour etc.) and the total factor productivity as well as the proportion of producers using modern technologies is growing. But the growth of production efficiency in the Russian agrarian sector along with urbanisation has in many cases resulted in the marginalisation of significant parts of rural areas; many villages have been abandoned. Both academia and political non-agrarian establishments consider this situation to be an inevitable pattern of socio-economic development. This view is officially documented in the Russian *Strategy of the Country Spatial Development* (RG 2019b).

The depopulation of rural areas means rewilding and degradation – although not everyone leaves these areas, the state neglects them. Such a situation is neither desirable nor logical for developed countries. World experience shows that about a quarter of the population in the most developed countries prefer to live in rural areas, as long as modern living conditions are guaranteed.

Until recently, the Russian authorities were trying to solve the problems of rural areas by supporting agricultural producers. Yet agriculture is no longer the main source of income in many rural areas. Consequently, public funds allocated to the agrarian sector are at best neutral in relation to the development of a given area, at worst they divert the population from alternative approaches to increase their income and thereby hamper rural development.

On the other hand, rural underdevelopment also becomes an obstacle to progress of agricultural production. The marginalised social environment causes risks to production; businesses cannot attract qualified workers for full-time employment so they opt for rotational work. Agribusiness companies are often forced to invest in the utilities and social infrastructure in their areas, which raises production costs, reduces revenues, and lowers competitiveness.

Thus modern rural development is not only a limiting factor of further growth of the agrarian sector, but also a serious social challenge to the development of the whole nation.

2. Depopulation of rural areas

Since 2009 the decline in the rural population in Russia has averaged 100,000 annually, since 2017, it has been over 200,000 per year, and since the beginning of the 21st century, due to depopulation and migration to cities, the rural population has decreased by 1.6 million (Figure 1).

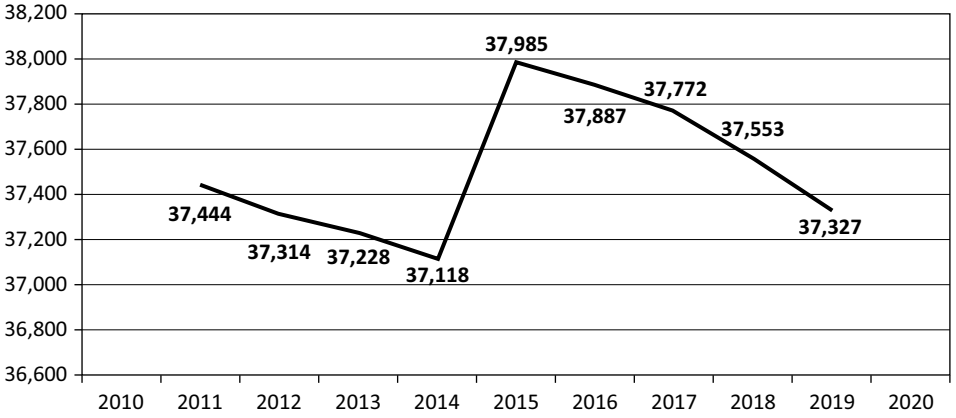

Figure 1. Russian Federation: rural population dynamics (as of January 1 of the corresponding year, in thousands)[1]
Rysunek 1. Federacja Rosyjska: dynamika ludności wiejskiej (w tysiącach, według stanu na 1 stycznia, rok do roku)

Source: Serova et al. 2020.
Źródło: Serova et al. 2020.

In rural areas, the birth rate has been falling since 2014, and for the first time in the history of the country, the total birth rate in rural areas was lower than in urban ones. At the same time, the mortality rate in rural areas invariably remains higher than in the cities (13.6 against 12 deaths per 1000 inhabitants). Thus the natural decline in population in rural areas exceeds the urban level (Monitoring 2020). The consequences of the natural decline of the rural population and the balance

[1] The increase in the rural population in 2013-2015 is related to the changes in administrative division in the country.

of migration to the cities in Russia is negative, reaching over 100,000 people annually (2018). This emigration is slightly mitigated by immigration, mainly from Central Asia and the Caucasus.

Numerous rural settlements have disappeared from the map, the backbone of civilisation has been drastically destroyed, historical traditions lost, and the cultural landscape shattered. Since 1959 the total number of villages – the most common type of rural settlement in Russia – has decreased by 141,000, or almost half (Rosstat 2019). According to 2016 Agricultural Census, 13% of all rural settlements in Russia did not have a permanent population, i.e. were abandoned (Rosstat 2016).

The population of rural municipalities – which include one or several rural settlements – is rapidly decreasing. At the beginning of 2019, the overall number of municipalities of this kind was under 17,500, with two thirds of them combining settlements with less than two thousand inhabitants (Monitoring 2020). A steady decline in the number of rural settlements has been observed almost all over Russia, with the exception of some regions of the southern and far eastern districts. The decrease in number of villages is especially significant in the central and north-western districts, where the rural population mostly lives in small communities. Depopulated rural settlements are losing their ability to perform administrative and other functions of local centres. The authorities usually respond simply by uniting several disappearing municipalities into the new ones. Almost everywhere in Russia, there is a polarisation of the pattern of rural settlement. In 2014–2018, total population in the smallest rural settlements (less than 500 people) increased. The total population of the largest rural settlements (more than 5,000 people) where almost 11.2 million people live – almost a third of the country's total rural population country – also increased (Monitoring 2020).

Based on the study of statistical data sources, we identify the following types of region according to the geographical features of the settlement of rural territories: 1) the Arctic zone, Far North and the mountains of south-eastern Siberia with an extremely sparse network of small rural settlements; 2) the northern European part of Russia and Siberia, where the average size of rural settlements is slightly higher; 3) central Russia, the Volga region, southern Urals and south-western Siberia with a relatively dense network of average-size settlements (up to 2.500 inhabitants); 4) the Southern and North Caucasus Federal Districts, with a relatively dense network of large rural settlements (only in one of these regions – in Krasnodar province[2] – are there 11 stanizy (Cossack settlements) each with a population of over 25,000, including the largest rural settlement in Russia – staniza Kanevskaya

[2] All the territorial units of Russian Federation furthermore in this paper are called 'provinces' although, in fact, there are different names used for these units, for instance 'oblast', 'kray', 'autonomous region', 'republic'. By calling them 'provinces' we attempt to simplify understanding for the reader.

(46,100 people); 5) the periphery of the largest cities, primarily capitals: Moscow, Yaroslavl, Tula, Leningrad and Sverdlovsk provinces, where the average population of rural settlements is relatively high, but their network is sparse; 6) the Astrakhan province and Primorsky province with the ribbon development of large rural settlements along the banks of Volga and in its delta and the border strip with China and on the Pacific coast. As shown on the map, most rural areas in Russia could be called a demographic desert (Figure 2).

Figure 2. Russian Federation: Density of village settlements by 1 thousand km^2 of the Federal subjects' territory (as of January 1, 2019)
Rysunek 2. Gęstość zaludnienia w miejscowościach wiejskich w tys. na km² terytorium podmiotów federalnych (stan na 1 stycznia 2019 r.)

Source: Serova et al. 2020; map prepared by I.N. Rubanov and A.S. Naumov.
Źródło: Serova et al. 2020; mapa autorstwa I.N. Rubanova i A.S. Naumova.

3. Rural poverty and poorer living standards

The development of rural areas in Russia has always lagged behind urban areas. This could be explained by the ancestry of prioritised industrial development in the Soviet past, but also by the decrease in human resources (Nefedova 2012) and loss of attractiveness of agricultural employment and rural way of life (E'fendiev and Bolotina 2002). Despite the fact that in the past two decades the state has taken steps to increase the standard of living in the countryside, the problem of rural

underdevelopment remains urgent. The income level in rural areas is noticeably lower – one in five of rural residents have incomes below the subsistence level. The unemployment rate is twice as high as in urban areas (8% and 4.3%, respectively) and twice as many inhabitants have a monetary income below the subsistence minimum (20% and 11.2%) (Monitoring 2020). Rural residents' lower incomes could be explained by specific patterns of employment (they primarily work in the public sector; agricultural labour is less skilled than in industry and services etc.) and with a less developed labour market. Given the demographic features of rural areas in many regions – the predominance of older residents, especially the large proportion of retirees – the disposable incomes of the rural population in 2016 was only two thirds of that of urban residents (Figure 3).

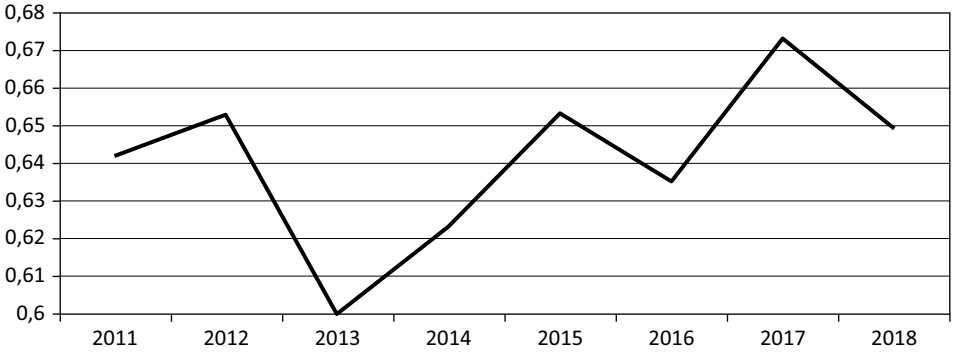

Figure 3. Russian Federation: Share of disposable income of rural population in disposable income of the urban population, in current prices
Rysunek 3. Federacja Rosyjska: udział dochodu do dyspozycji ludności wiejskiej w dochodzie do dyspozycji ludności miejskiej, w cenach bieżących

Source: Serova et al. 2020.
Źródło: Serova et al. 2020.

In recent years, certain results have been achieved in equalising the standard of living of the population in rural and urban areas in Russia. Housing construction in the villages, mainly individual houses, has increased sharply: per capita in the village there are slightly square metres of housing than in cities. However, housing amenities still significantly lag behind the cities (Figure 4). At the same time the countryside has already outrun small Russian towns in natural-gas supply; the number of sports facilities has also exceeded the urban level. The equipment of schools with computers in the villages and cities is at the same level. Other indicators of improvement of the situation in rural areas are no longer very far behind those in the cities (Monitoring 2020).

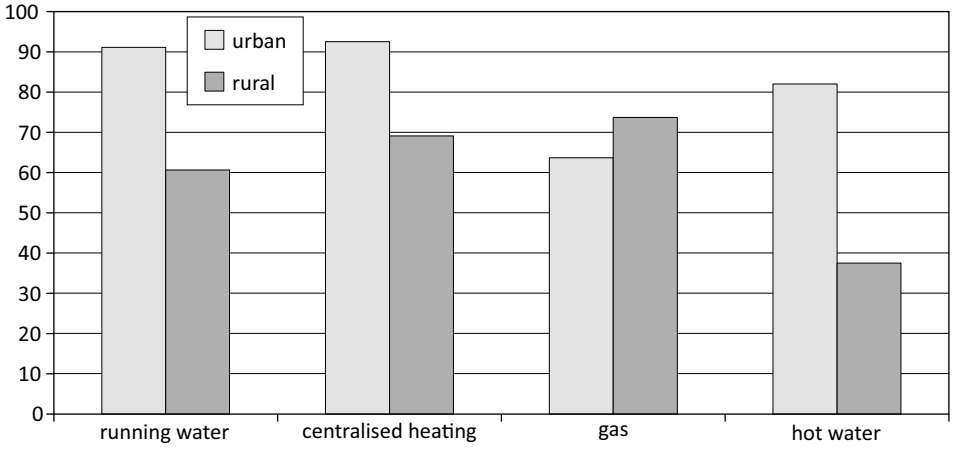

Figure 4. Russian Federation: Improvement of housing stock in rural and urban areas, 2018 (percentage of the total area of housing equipped with appropriate amenities)

Rysunek 4. Federacja Rosyjska: poprawa jakości zasobów mieszkaniowych na obszarach wiejskich i miejskich, 2018 (odsetek całkowitej powierzchni mieszkań wyposażonych w odpowiednie udogodnienia)

Source: Serova et al. 2020.
Źródło: Serova et al. 2020.

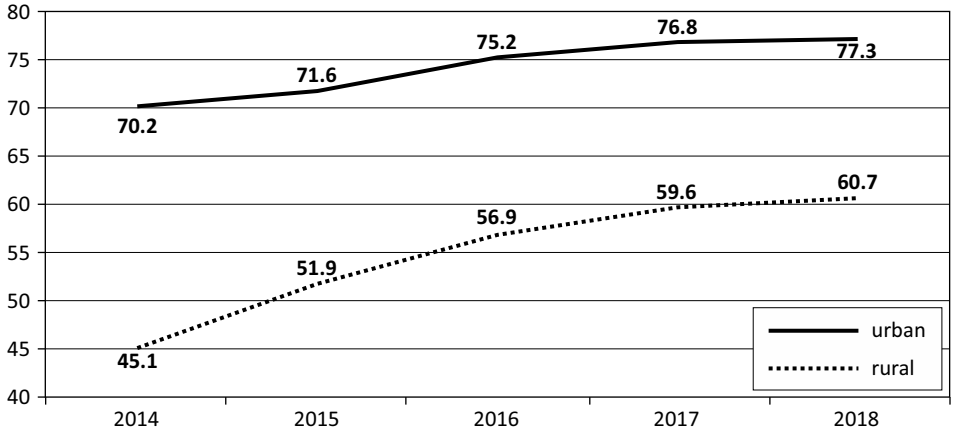

Figure 5. Russian Federation: percentage of households with broadband internet access

Rysunek 5. Federacja Rosyjska: odsetek gospodarstw domowych z dostępem do internetu szerokopasmowego

Source: Serova et al. 2020.
Źródło: Serova et al. 2020.

In modern world, access to the internet, which provides access to education, health services, trade, public services, entertainment, and social communication, is the most important indicator of welfare. In the Russian village, access to the internet has been growing more rapidly in recent years (Figure 5). Moreover, the *National Project on Digitalization of the Country*, launched in 2019, is intended to accelerate this process.

4. Role changes in sources of income and labour-force skills

Rural development has traditionally been associated with the development of agricultural production. There are stereotypes that development of the countryside can succeed only due to prosperous, strong agricultural enterprises, farms or at least subsidiary plots of the rural population. Thus until recently there was a belief that the main emphasis rural development policies should be on agriculture support.

However, global practice shows that the economically active population in developed countries is less and less engaged in agriculture. In Russia, agricultural employment has also tended to drop – from 19.1% in 1970 to 5.8% in 2018 (Rosstat 2019). This is happening despite the fact that the agricultural sector of Russian economy is one of the most intensively developing. Technological re-equipment, robotisation, digitalisation and modern chemicals are increasingly used in the industry. This modernisation does not require the mass labour of rural residents as it did before; on the contrary, it needs a much smaller number of highly skilled workers. With the modernisation of agriculture, the educational level of the employed rural population has been growing – the proportion of people with higher education employed in rural areas increased by 4.4 percentage points from 2011 to 2018. Yet there is a shortage of highly skilled workers, which is why many technologically advanced enterprises prefer shift workers, often bringing them from cities and even from abroad. The proportion of agriculture as a source of rural income is rapidly declining: in 2011, it amounted to 25.6%, in 2018, it was a little less than 20% (Monitoring 2020).

As to agricultural cooperation, which could become a pillar for community-based rural development, it is not widespread in modern Russia due to social fragmentation and the lack of legislation (Yanbykh, Saraykin and Lerman 2019).

In this regard, the development of rural areas in Russia demands the creation of activities to provide the rural population with alternative sources of income. This requires a fundamental transformation in the understanding of rural development policy, which in Russia, unlike other countries, has only recently emerged.

5. The New State Policy for Rural Development

Rural development issues have been the focus of the Russian government for many years. Until 2013, the main tool for development of rural areas was the state *Social Development of the Rural Territories until 2013*. Since 2014, there has been a federal target programme *Sustainable Development of Rural Territories for the period of 2014-2017 and until 2020*. In 2018, the federal programme *Sustainable Development of Rural Territories* was transformed into a sub-programme *Sustainable Development of Rural Territories* of the *State Programme on Agriculture Development and Regulation of Farm Produce, Raw Materials and Food Markets for 2013–2020*. Although these programmes achieved some results, there was no radical breakthrough in development issues. One may write this off to the lack of full-fledged funding, however, an objective assessment of the effectiveness of these programmes reveals that the main problem is the lack of an innovative approach, and the conventionalism of solutions.

In addition, the recently adopted national strategy for spatial development in Russia is based on the assumption that decline of rural areas is a natural process, and that two dozen megacities will become the unique driver of the country's socio-economic development (RG 2019b).

In contrast, we argue that Russia does not need to continue drawing the population into the largest cities, which, as the development of the COVID-19 pandemic has shown, are becoming life-threatening. On the contrary, reverse colonisation of rural areas is required, which, as many worldwide cases show, is possible primarily if qualitatively different living conditions are created in the countryside.

The development of modern agricultural technologies attracts young, highly educated specialists to villages. Representatives of creative professions: IT workers, downshifters, new urban farmers, etc. are creating cottage villages around cities, which are converted to places of permanent or seasonal residence. Further from the cities, eco-settlements are arising – refuges of adherents of a healthy lifestyle disillusioned in the city. The countryside is becoming popular for rest and recreation for the urban population, as more and more attention is paid to the environment and the solution of environmental issues. New standards of habitat quality are emerging: residents require a clean environment and high quality of management in the areas where they live.

The concept of rural development management is fundamentally changing, which implies overcoming the established presumption of the central government's priori knowledge of all the local needs of the rural population. To date, all state programmes for rural development in Russia have been based on "box patterns"

(ready-made patterns) developed in federal ministries. However, in OECD countries the approach to rural development is radically different – central authorities there look for local initiatives (Mantino 2008). Villagers should first determine their priorities for the development of their settlement. They actively participate in the project development and are ready to finance it at least partially, which indicates more or less active socio-economic life in the area, and therefore can serve as a justification for state support (EP 2011). What is also very important is that this approach contributes to the development of civic activity and to overcoming paternalistic sentiments. Rural areas thus become important objects of regional policy based on internal growth, promoting the use of local resources and unleashing the potential of local initiatives. Thus a community-based approach is vital to the success of rural development.

Such an approach implies that local communities, municipal governments, non-profit organisations, NGOs and businesses offer their local social development projects at a competition on co-financing terms. The very fact of the existence of a project implies that someone from the given rural settlement or area is interested in its development, that there is life there. It is no longer the state or a ministry in Moscow that determines whether the area is promising or not. This is decided by the locals. The readiness of such initiative groups and organisations to partially finance these projects themselves indicates the seriousness of their intentions and, ultimately, serves as a guarantee that there is the demand for a project. In other words, the key direction of state rural development policy should be based on local projects submitted by residents who are involved in local rural economy and life in general.

Such local rural development initiatives are already being implemented in various Russian regions. For example, in Mordovia province there is a project to train rural residents in emergency primary care. In Perm province,[3] the *Sodeystviye* (assistance) fund supporting social initiatives has been operating for more than ten years. It funds rural projects, including *Selskaya Ulochka* (rural street), *Zhivaya Voda* (living water), *Sportivnoye Selo* (sports village) and others. In Altai province, grants from the governor are issued to diversify the rural economy – to develop agritourism, local industries and crafts (*Altai Textile*); many projects have an environmental focus and imply the use of renewable energy, disposal of solid household waste, construction of water supply and sanitation systems for rural housing. In Arkhangelsk province there is a grant programme directed at rural local governments for the preservation of folk crafts, reconstruction of the museum

[3] All administrative units of the Russian Federation are subsequently called provinces, regardless differences in their official Russian titles ('kray', 'oblast', etc.).

of the peasant log cabin and blacksmithing, the construction of suspension bridges, and the establishment of memorial plaques for war veterans. Often such initiatives do not require significant funds, but they play a vital role in village preservation: without rural clubs, museums and gyms, the rural areas will very soon become empty.

Rural development is possible if is the area has sufficient transport, utilities and social infrastructure. While maintaining the role of centralised solutions at the federal level for the construction of expensive highways and other facilities (for example, the construction of a three-kilometre bridge over the Lena River in Yakutia worth more than 63 billion roubles, which should be completed by 2025), autonomous, smaller-scale solutions have so far received unreasonably little attention in Russia. Meanwhile, 21st-century technologies are often more effective than the mega-projects of centralised water, heat and energy networks, and education and health systems characteristic of the 1950s. Thus huge funds have been spent on creating a land-line telephone network in rural areas all over Russia, while there is still no sustainable comprehensive mobile and internet coverage (Figure 5). The quality of the medical service is traditionally measured by quantitative indicators such as the number of beds and paramedical and midwifery stations, but has anyone considered how these beds in small rural hospitals are functionally equipped, and how these small medical stations really work when a part-time paramedic on duty comes from the city only twice or three times a week? At the same time, telemedicine and distance education have been developing around the world, modern autonomous energy-supply systems are widespread. As numerous examples show, connection to the centralised natural-gas supply systems can result in a higher monthly heating costs for villagers than urban residents. At the same time, alternative energy possibilities, including the use of biogas (which simultaneously makes it possible to solve environmental problems), are barely used. There are also interesting examples of solutions to the transport problem: in some countries, such as Finland and the Czech Republic, remote villages, where regular buses are not economically profitable, are served by cheap internet taxis. This practice is also becoming common in Russia, for example, in villages in south Karelia province with mainly retired urban residents who are excluded from the regular municipal bus routes to the lack of a permanent population. In another region – Voronezh province – the local agrarian university has developed a system of distance education in rural schools. In Karelia and in Tyumen province, telemedicine systems are being created for rural areas. It is worth noting that that mobile preventive medicine teams are not new: in Australia, back in the 1920s, the Flying Doctor Service was launched for remote rural areas. Russia with its vast territory is still seeking a similar programme. In Yakutia province, the children

of reindeer herders assist "nomadic schools", which have recently been threatened with closure for bureaucratic reasons. When asked what they need most, retirees in Karelian villages answered: high-speed internet and good mobile coverage so that they could order food and communicate with children living in the city. In one of the rural settlements in Karelia, a poor internet connection almost sabotaged the application for a presidential grant for the development of minority populations, as it had to be filled in online. There are many similar examples throughout Russia.

In 2019, InAgRes (Institute for Agrarian Studies, Higher School of Economics in Moscow) conducted a survey of two thousand students of various universities in nine Russian regions. Two thirds of respondents did not associate their future life with the countryside, but a third considered they might move to villages after graduation (not all of them are rural by place of birth). According to the respondents, the main conditions for such a move included decent wages, own housing, work in their specialty and an internet connection. (Figure 6).

Similarly, results of the survey of more than 300 experts (representatives of government agencies and municipal administration, agribusiness, analysts and media) in eight Russian regions confirm that reverse migration is possible: only 2.1% of respondents believe that migration to anywhere in the countryside is impossible under any conditions. The experts highlighted the main factors of returning city-to-village migration as decent employment, housing and access to communication.

The Russian state programme *Comprehensive Development of Rural Territories* adopted on May 31, 2019 (RG 2019a), aims precisely at such re-colonisation of rural areas. A fundamentally new approach is proposed to radically change the direction of rural development and take account of the best world practices. The main new political priority is the creation of a favourable environment for human potential, the economy and social life development of rural areas through building infrastructure – transport, communications, utilities – support for rural residents' initiatives, small and medium-sized businesses, local government, and in this way to attract people to the countryside.

Another novelty of the programme is its approach based on local initiatives. Previous rural development programmes, unlike world practice, proceeded from the presumption that the state, represented by federal authorities and citizens' authorities better understands rural development needs. In addition to the inventory of initiatives already under way and the dissemination of best practices, the programme is beginning to stimulate as many new local rural development initiatives as possible.

Due to lower rural incomes, the *Rural Mortgage* preferential mortgage programme is to play a crucial role in improving their housing quality. In accordance with

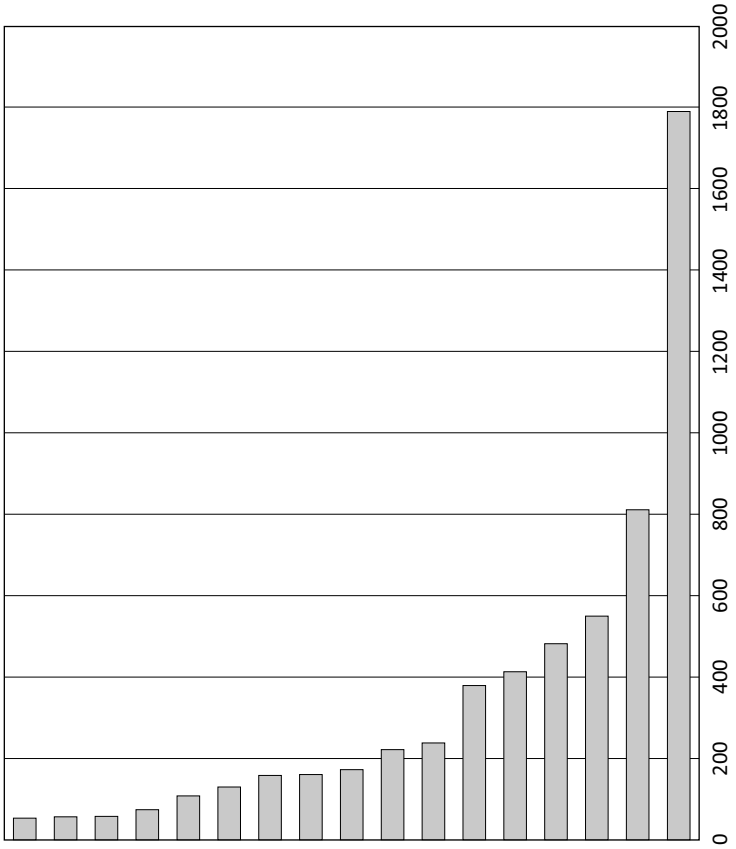

Figure 6. Russian Federation: distribution of student responses to the question about conditions for moving to the countryside, 2019 (2000 respondents in 9 regions)

Rysunek 6. Federacja Rosyjska: rozkład odpowiedzi uczniów na pytanie o warunki sprzyjające przeprowadzce na wieś, 2019 (2000 respondentów w 9 regionach)

Source: InAgRes 2019.
Źródło: InAgRes 2019.

this programme, since the beginning of 2020 the Ministry of Agriculture has allocated preferential loans through authorised banks with a maximum of 3% per annum for house purchasing and construction in the countryside.

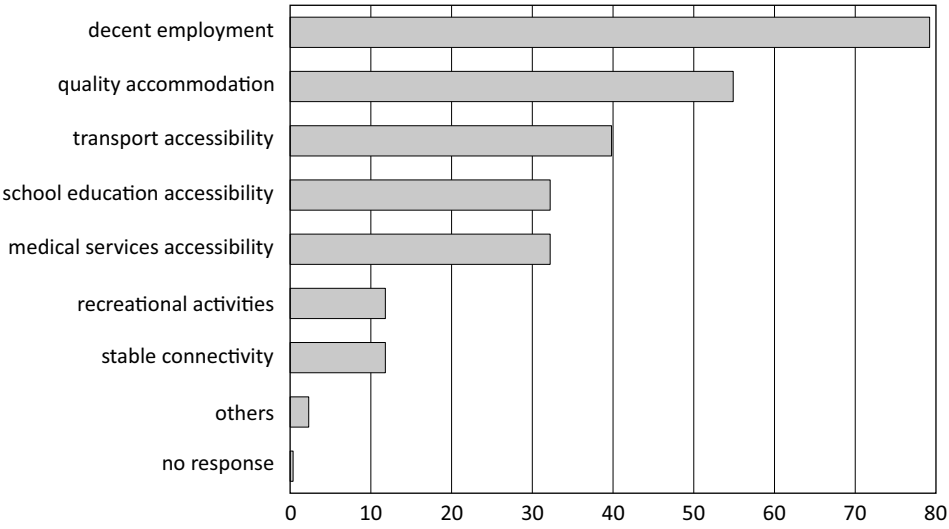

Figure 7. Russian Federation: distribution of expert responses to the question on the conditions of return migration to the countryside, 2019 (304 respondents in 8 regions), percentage of the total number of responses
Rysunek 7. Federacja Rosyjska: rozkład odpowiedzi ekspertów na pytanie o warunki sprzyjające migracji powrotnej na wieś, 2019 (304 respondentów w 8 regionach), procent ogólnej liczby odpowiedzi

Source: InAgRes 2019.
Źródło: InAgRes 2019.

This innovative Russian rural development policy may face certain risks. The first is the insufficient readiness of rural residents, local government bodies, NGOs and even business to put forward initiative projects and co-finance them. Unfortunately, civic passivity and distrust of the state. There are fears that federal and regional governments may replace local, "grassroots" initiatives with their projects or lobby for the most convenient initiatives from their point of view. In such cases, risk-mitigation measures should be provided. First, all possible participants' awareness of the events in the state programme and training in project development methods is growing. It is necessary to find and replicate positive examples of implementation of initiative projects. Finally, it is necessary to develop methodological materials on the selection and support mechanism of initiative projects.

Since the state programme is focused on supporting local initiatives, there is a risk of strengthening the differentiation of social development between the regions: greater project activity will manifest in the most developed regions, where potential participants have far more funds. Such a risk can be reduced by introducing different minimums of the projects' co-financing levels for Russian citizens, depending on the level of their socio-economic development. For example, for a wealthy Moscow region such a minimum, could be 50%, and for the depressed Pskov region – 10% or even 5%. This would allow a relatively even redistribution of the programme's funds between the regions.

The above state programme just started in 2020, and has already faced many problems related to the COVID-19 pandemic and the consequent economic crisis, and the federal budget deficit. It is not yet fully funded, as 2020 was the preparatory year only for training people in the regions and municipalities. In this regard, it is still difficult to estimate the programme's efficiency.

6. COVID-19 impact on rural development perspective

At the time of writing, the situation with the development of the pandemic in the world remains uncertain. Accordingly, while there is no accurate scientific research, it is not possible to identify any distinct trends so far. However, we make some general predictive conclusions.

The pandemic has shown that Russia's recent apparent trend towards the development of megacities, which are considered as drivers of economic growth in the state politics, the concentration of the country's population in large cities, mainly in the European part of the country, involves a number of social risks. Moscow, even within the enlarged area after 2011, is an urban territory with an extremely high population density. This inevitably leads to higher rates of the spreading of infectious diseases. The high density has other negative social and psychological consequences, which we will not touch upon in this article. However, as is already evident, rural self-isolation has less social impact than in large cities. During the quarantine, thousands of Muscovites moved to suburban cottages and even to remote villages, where it was much easier to survive restrictions. It can be assumed that after the pandemic, many urban residents who do not have second homes outside the city will start purchasing them, and many will move to the countryside permanently. The first data on the increase in the cost of real estate outside the cities have already appeared. The demand for the services of companies installing antennas for sustainable internet access in rural houses increased several times.

The self-isolation regime has shown that many types of work can be carried out remotely, without a daily presence in the office, which until recently seemed to

belong to a very distant future. Teachers give lectures and conduct classes remotely, TV journalists broadcast programmes and even government agencies increasingly provide services remotely. This means that one can live in rural areas and receive an "urban income". Many companies that have already faced the high costs for office space in larger cities are striving to move their offices to small cities or rural areas (this is a global trend – almost all major multinational companies have offices away from capitals), the vast majority of logistics companies and call centres are withdrawing from megacities. However, the pandemic will become a lever for further strengthening this trend.

Moreover, a significant part of the leisure industry has also switched to remote working – not only concerts, theatres and cinemas, but also fitness, and other forms of leisure. This leads to understanding that life in rural areas does not necessarily involve cultural isolation.

Finally, self-isolation has shown the possibility of transferring many social infrastructure services to remote access: schools can function remotely and telemedicine is very advanced. Online trade is booming, especially in food. Retail companies are fighting for customers, increasing coverage of the area served. In the months of quarantine, one after another Moscow food and other delivery companies began to expand their zones of operations: first in the immediate suburbs of Moscow, then beyond the beltway at a distance of about 40 km from the city, after that beyond 100 km, and finally to the regions neighbouring to Moscow province.

Of course, there still are failures, the internet and logistics are not reliable everywhere, there is a psychological barrier to switching to remote services, especially when such a transition happens suddenly, from necessity. However, what seemed fantastic yesterday has turned out to be fundamentally possible today.

Thus two groups of factors have converged in the pandemic. On the one hand, people have begun to understand that a high density in large cities is fraught with social consequences and that in this sense out-of-town life has advantages. On the other hand, remote access to income sources (work), services and leisure makes it possible to organise comfortable out-of-town life, almost like in the city.

All these factors make it possible to suggest that after the end of the pandemic a certain section of urban residents will want to move from the city to an extra-urban habitat. Some urban residents will share their life schedule between megacities and rural areas. In other words, the ratio between the urban and rural population typical of developed countries (70-75% to 25–30%) will shift slightly towards non-urban populations.

Another possible COVID-19-related trend is that the pandemic will be accompanied by a severe economic crisis and a corresponding drop in people's income. Migration to the countryside has become commonplace for such crises. In Russian

history, this happened during the civil war and World War II, after the collapse of USSR and at the start of the 1990s market reforms. People rush to the countryside, as it is cheaper to live there and easier to feed oneself. The above trend is slightly different. Usually, poor people flee to the village to escape economic ills and then return to the city when economic conditions improve, so this trend is usually short-term. The trend that we foresee in the near future will have a medium-term perspective and will affect more wealthy people who can acquire comfortable properties. Their relocation to the countryside will be a driver of its development, as they will attract investment in infrastructure, especially communications – roads, communications and services. We have already seen this from the example of the development of Moscow suburban areas, when over the last few decades exclusive residential areas have radically transformed the countryside several tens of kilometres from the metropolis.

As mentioned above, in 2019 a new and innovative State Programme for Comprehensive Development of Rural Territories was adopted, which will further support the trend. The government's co-financing of rural development projects and the rural mortgage will become obvious accelerators of the re-colonisation of rural areas. It is important that there are no residential restrictions on lending – they can be both rural and urban residents. In 2020, the state funds allocated for rural mortgages were doubled. In addition, Russia is implementing a large-scale *National Project on Digitalisation*, which provides for sustainable internet connections throughout the country. This project will become an important factor for the development of non-urban territories.

To conclude, we assume that one of the positive results of the crisis related to COVID-19 in Russia (and, possibly, not only in Russia) may be the beginning of a rehabilitation of the out-of-town area and the rural lifestyle.

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Nowe podejścia do rozwoju wsi w Rosji

Streszczenie: Tak jak wiele innych krajów, Rosja cierpi z powodu szybkiego wyludniania się obszarów wiejskich i upadku gospodarki wiejskiej. Polityka państwa w zakresie łagodzenia negatywnych skutków tych procesów od lat traktuje rolnictwo jako główny filar rozwoju obszarów wiejskich i większość decyzji rządu ma na celu jego wsparcie. Niedawno sformułowano nową państwową strategię rozwoju obszarów wiejskich, a w 2019 r. zatwierdzono ambitny program krajowy. Zakładają one różne możliwości rozwoju gospodarczego i dobrobytu ludności wiejskiej w zależności od dostępności zasobów naturalnych i ludzkich, stopnia peryferyjności i innych cech. Artykuł przedstawia przegląd aktualnego stanu obszarów wiejskich Federacji Rosyjskiej. Koncentruje się na głównych problemach, z jakimi boryka się wieś na poziomie krajowym, a także ujawnia regionalne różnice w rozwoju obszarów wiejskich. Opracowanie opiera się głównie na badaniach autorów w oparciu o analizę krajowych źródeł danych statystycznych, w tym Rosyjskiego Spisu Rolnego z 2016 r. Ukazuje

możliwe skutki działań nowej polityki państwa w zakresie rozwoju obszarów wiejskich, takie jak zachęcanie do inicjatyw opartych na społecznościach lokalnych i promocję budownictwa mieszkaniowego poprzez programy preferencyjnych kredytów hipotecznych na wsi. Na koniec autorzy przedstawiają krótki opis wpływu pandemii COVID-19 na rozwój obszarów wiejskich w Rosji i próbują przewidzieć jej dalsze konsekwencje.

Słowa kluczowe: obszary wiejskie, rozwój społeczno-gospodarczy, polityka państwa, COVID-19, Rosja.

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The Timeline of Poland's Rural Economy

Abstract: The paper presents some suppositions as to the future of Poland's rural economy, the development of which is intended to lead to an improved standard of living and general sustainable development in rural areas. The rural economy, shaped by factors involving human, physical and environmental capital, is presented on a timeline. These factors are mainly determined by the market and policy-making. The suppositions are based on a theoretical analysis of statistical data and research results from the literature. The main conclusion is that the trajectory of the rural economy's development will split into many possible paths in the future.

Keywords: rural economy, standard of living, timeline, agriculture.

1. Introduction

The aim of the paper is to present some suppositions as to the future of the rural economy in Poland. This economy is sketched along the timeline: past – present – future. The uniqueness of the timeline is that the development trajectory for the past is already set, while that for the present is a mixture of the continuation and decline of trends from the past and the germination of new ones, leading to a future of potential paths, but with no certainty as to which of them will become an actual trajectory. That depends on the current state and, above all, on the challenges and determinants of future development. The past was not kind to rural areas, the present is reversing some long-term trends, and as for the future – that is the question – made all the more difficult by the fact that the great diversity of rural localities means there will be many paths, because there is no single path appropriate for every rural locality. The strategic direction – or roadmap – of rural development should be spatially varied sustainable development. Such development is gaining in importance with the emergence of new challenges and circumstances. These include the progressive degradation of the natural environment, climate change,

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the threatened supply of public goods, growing pressure to reduce disproportions in the standard of living, the negative effects of excessive urbanisation, and the diminishing well-being of rural landscapes and cultural values. Rural areas have a special responsibility for shaping the conditions needed to fulfil the idea of the whole country's sustainable socio-economic development, if only because they account for over nine-tenths of the land area and are home to two-fifths of Poland's population.

The rural economy is of critical importance for the "to be or not to be" of rural Poland, because producing added value is the key to increasing the prosperity of rural residents, i.e. improving their standard of living or quality of life. This standard is expressed by the fulfilment of tangible and intangible needs, and by environmental and social conditions. Rural areas can achieve this aim by taking advantage of their fundamental resources, i.e. the natural environment and human capital, which, together with physical capital (assets), determine the level of income. The characteristics of capital and standard of living, in turn, determine the sustainable development of rural areas (the countryside),[1] which is an important political goal on account of rural residents' standard of living as well as – or perhaps even above all – its significance for the sustainable development of the entire country, including its developing metropolises. The economic development of the countryside is thus in everyone's interest, which means there is a need for a rational agricultural and rural development policy, taking into account a holistic and multi-sectoral approach, the countryside's ties to urban areas, and local authorities' cooperation with nongovernmental organisations, entrepreneurs and the rural community. Shaping civil society in rural areas assumes special importance, including the formation of various social organisations bringing people together in activities serving the local community's well-being.

The rural economy is shaped by market and political forces. The former are mainly based on the relationships between demand, supply and competition. They lead through the well-known mechanism of agricultural price scissors to the economic depreciation of agriculture and the diminishing importance of agriculture in food chains, which consequently weakens the rural economy. The latter serve the interests of the leading social strata (groups). This has always been the case, it is so today, and will likely continue. However, policy-making today cannot ignore the necessity to protect the natural environment or the countryside's role in supplying not just food and other raw materials, but also public goods as well as ecosystem services, for which there is a need but no demand. Such demand has yet

[1] Rural areas will be understood according to public statistics in Poland (GUS; Central Statistical Office) data, and the countryside as localities in areas outside towns and cities.

to be created through government intervention. At the same time, it turns out that the more the rural space shrinks, the more the countryside's values are appreciated.

The countryside is extremely varied not just in terms of the natural environment, but also the demographic and socio-economic situation, and this diversity is deepening. Quite often, the actual boundaries between rural and non-rural localities are fluid: mutual permeation occurs as towns sprawl into rural areas, and some rural localities are legally turned into towns as well. Furthermore, some rural localities that are *gmina*/commune capitals as well as those fulfilling recreational/tourism and health-related functions start resembling settlements and small towns. Considering the growing economic and social interactions between rural localities and towns/cities, it is hard to find precise criteria for separating rural from non-rural areas. In many cases, there are no grounds for a dichotomous division into urban and rural, and localities that are rural by name have to be placed on the continuous line between centre and peripheries, on which we find both strictly rural localities and many towns/cities.[2]

The present paper is based on public statistics, research results available in many publications (some of which are listed in the references), and the author's own studies and reflections.

2. The past: in the past

The countryside dominated development for millennia, whereas towns expanded slowly as agriculture increased its economic surplus over and above the needs of its own existence. This process accelerated, and very rapidly at that, as a result of industrialisation, whose progress was significantly served by agriculture and the countryside, mainly through satisfying the demand for labour, especially in industry, and the demand for food from the growing urban population as well as growing rural demand for manufactured goods for agricultural production, capital goods and consumer goods. It was in the interest of capital for both labour and food to be cheap. On the other hand, industry and other sectors had a growing influence on agriculture and the countryside. In the case of agriculture, the main issue was subordinating it to market-economy rules and launching the process of its industrialisation,[3] and in the case of the countryside,

[2] These issues have been discussed extensively in numerous publications, e.g. Bański 2014; Ekspertyza 2019; Halamska, Stanny and Wilkin 2019; MROW 2016; Stanny 2013; Wilkin and Hałasiewicz 2020; Zegar 2018.

[3] At the same time, the driving forces of agricultural development were moving out of the countryside: farming equipment production and food processing was taken over by industry, usually located outside rural areas, which caused the economic depreciation of rural areas due to the migration of jobs and income and

it meant agriculture being pushed to a more distant position in the socio-economic structure (deagrarianisation), the depletion of rural human and social capital, and the elimination of crafts and small-scale rural industry.[4] Operations involving lower productivity – less new added value – remained in rural areas. The progressive commercialisation of a growing number of areas of rural life as well as cultural changes, including a changed model of consumption, directed rural demand towards goods and services produced outside the countryside. Rural residents' money served ever less to create demand for goods and services produced in the countryside, and increasing amounts went to entities outside the rural locality. Drawn into the technological grind characteristic of agricultural industrialisation, and despite increased productivity and work efficiency, agriculture did not increase its produced added value, either; this was mainly due to changed relationships between the factors of production and agricultural price relations. Of course, this kind of money circulation undermined the economics of rural localities (local economics) to the detriment of local communities. This caused negative trends like excessive migration and the depopulation of many peripheral localities, ageing of the population, low labour productivity, low rural social capital, impeded access to places providing public services, education, culture and healthcare, the unsatisfactory condition of technical infrastructure etc. This set a vicious circle in motion: low population density → low level of business creation → fewer jobs → migration and population ageing → lower population density (see e.g., Halamska, Stanny and Wilkin 2019; OECD 2006; Zegar 2018). Meanwhile, the vitality of the countryside requires the development of social capital resources – other than the economy – for the preservation of customs, tradition, heritage, public services and infrastructure. To this we might add diminishing natural capital and consumption and lifestyle patterns becoming similar to those of urban residents, which grew increasingly attractive as a lifestyle model, pushing the traditional rural farmer culture from the stage. The impact of the market, deprecating agriculture and the countryside, was supported by policy-making that served the interests of capital.

The transformation of rural areas in Poland occurred in a similar manner to the countries of Western Europe, although it was slightly delayed by comparison. There were also some differences: migration from rural Poland chiefly only disposed of the surplus stemming from the relatively high birth rate, folk culture survived in better condition, and agricultural industrialisation was less advanced, which meant that the natural environment was preserved in better condition as well.

the transfer of added value from the countryside. This exacerbated the disparity of personal (disposable) income and payment for labour (wages).

[4] Industrially manufactured goods gradually replaced the products of rural trades and handicrafts, thus downgrading jobs and income-generating sources in the countryside, moving them to towns/cities.

3. The present: in the making

After World War II the development of industry and urban areas took place at the cost of agriculture and the countryside. This did not change during the period of political transformation after 1989, when the interests of agriculture and the countryside were subordinated to the interests of capital and towns/cities. We see proof of this in Poland's policies all the way to the country's accession to the European Union, especially during the time of "shock therapy",[5] a policy that assumed support for metropolises, from which positive impulses were meant to radiate to other areas, including peripheral ones. The political transformation lifted the restrictions hindering the action of market mechanisms, while EU membership provided funding for the development of agriculture and the countryside. In the case of agriculture, the industrial transformation of agriculture ("farmerisation") accelerated, undermining the vitality of peripheral rural localities, while in the case of the countryside the process of its divergence in relation to towns/cities was halted. The modernisation of the countryside accelerated, which was reflected in the structure of employment and sources of income, the technical and social infrastructure, and changes in rural human capital.[6] As regards employment, the trend involved a drop in employment in the countryside in agriculture to about 20%, for income it was a decrease in agricultural income to about 10%[7] and an increase to 48% for hired labour and over 7% for self-employment, and also a (temporary) decrease to 32% in income from social insurance benefits. According to national accounts reported by public statistics (GUS), the real-term disposable income in households overall and in the subsector of farm-owner households increased by 31% and 40%, respectively, in the years 2010–2019 (RS 2020, p. 729, table 23(583)).

The disparity of income between the rural and urban populations diminished after Poland's EU accession. The disposable income of the rural population accounted for 66% of the urban population's income in 2004 and 77% in 2018, which is not significantly different from the average for EU countries. The decrease in the disparity of rural income was largely due to transfers made to agriculture and

[5] The justification for this lay in the strategy for Polish agricultural development from 1990: "Rural development is indispensable to help the rural sector keep its population, develop employment, and relieve pressures on the urban sector until the latter adjusts to the new economy" (WB 1990, p. 1).

[6] This is well documented in numerous publications (Chmielewska and Zegar 2019; Ekspertyza 2019; Wilkin and Hałasiewicz 2020; Zegar 2018).

[7] This happened despite farmers' growing incomes thanks to CAP transfers, whose proportion in income from factors of production increased rapidly after EU accession and now oscillates around 40%. This contributed to a decrease in the disparity of income between farmers and hired workers in the period 2004–2019, from 31% to 9%, and between farmers and the self-employed from 42% to 23% (farmers were in the best situation in 2017, when the disparity in relation to these groups was 2% and 18%, respectively).

the countryside under the mechanisms of the common agricultural policy (CAP) and the EU's cohesion policy and social policy, supported by the developing labour market, migrations and other transfers of social policy funding. In the period 2004–2018, the per capita disposable income of rural residents increased by 158%, while for urban residents this was 119%. The stream of direct payments for farmers played a major role in the first years after EU accession; subsequent years saw the growing importance of the development of jobs in the countryside – also thanks to transfers of EU funding (EC 2017; Wilkin and Hałasiewicz 2020).

Indicators of the extent of poverty in the countryside are decreasing gradually, but are still higher than those for urban areas.[8] This is also reflected in rural residents' subjective evaluation of their financial situation: they continued to view it less optimistically than urban residents, but there was a noticeable decrease in the difference between these indicators. The percentage of households judging their financial situation as "very good" and "good" in 2018 was 46.3% in towns/cities and 39.3% in the countryside (2003: 15.2% and 8.2%, respectively); the figures for "rather bad" and "bad" were 7.7% in urban and 8.7% in rural areas (2003: 33.1% and 38.2%, respectively).

There has been relatively rapid improvement in the coverage of rural areas with technical infrastructure: roads, water supply, sewerage, gas supply etc. In the post-accession period, the length of the water-supply network and the number of mains connection points for residential buildings grew by over a quarter, while the sewerage network length and the number of connection points for residential buildings grew by almost a half; the length of the gas distribution and transmission network increased by a fifth, the number of connection points for residential and non-residential buildings grew by a quarter, and the number of mains-gas buyers by a third. However, the percentage of households equipped with "complete" water, sewerage and gas infrastructure is still lower than in urban areas, especially in terms of network connections. In rural Poland, more households use local systems and cylinder gas. Households are now better equipped with durable goods. The percentage of rural and agricultural households with access to the internet and satellite and cable TV has increased, as has the proportion of those fitted with new-generation durable goods (Ekspertyza 2019).

The development of infrastructure improves the comfort of living in the countryside and creates new development possibilities, including for operations

[8] In 2019, the percentage of people in households with spending below the relative poverty line stood at 8.0 in urban areas and 20.8 in the countryside (in 2010: 11.9 and 25.9, respectively), below the legal poverty line it was 5.1 in urban areas and 15.2 in the countryside (in 2010: 4.3 and 12.2, respectively), and below the extreme poverty line it was 2.1 in urban areas and 7.5 in the countryside (in 2010: 3.4 and 9.6, respectively) (RS 2020, p. 326, table 12(221); Wilkin and Hałasiewicz 2020, p. 144).

traditionally existing there, like agriculture and crafts, but also for new activity. The development of transport facilitates contacts with cities/towns and other rural localities, reducing the costs of moving goods and services and travelling to work. Electronic communication greatly reduces the cost of information flow and financial capital transfer, freeing them of barriers created by distance. Technological progress in communication gives rural communities a chance to overcome their geographic and informational isolation. Social infrastructure is essential for human capital development and quality of life, creating the material foundation for satisfying a wide range of needs; it is necessary for sustainable rural development and for civilisational progress in general.

The countryside has also preserved a great good in quite sound condition, namely the natural environment, which is also important for urban residents. This good is increasingly appreciated, forming an important component of social well-being and encouraging urban residents to settle in rural areas. This applies not just to "senior citizens" but also to professionals, whose move is facilitated by progress in electronic communication. This progress is reflected in the subjective assessment of life by rural and urban residents. The countryside is no longer *passé*; it is becoming an attractive place to live and often also to work, a trend supported by the spread of the internet, the development of remote working and e-services as well as the shift towards a more knowledge-based economy. Another relevant factor is the growing percentage of the elderly in the population and the need for senior care, which creates new opportunities for farms in the form of social farms (care farms). These are important "buds" that may yield fruit in the future.

Overall, there has been a significant improvement in rural residents' quality of life, and a reversal of a long-term (historical) trend of the economic and social deprivation of the countryside (Ekspertyza 2019; Zegar 2016). In this, there is significant spatial diversity across the whole country, not only regarding the environment, which is natural, but also in terms of the level of socio-economic development, and thus the standard of living of the rural population. This diversity is especially noticeable at the rural locality level[9] when considering the population size, natural environment values, functions fulfilled, residents' sources of income, wealth etc. For demographic reasons many of these localities are doomed to disappear in the nearer or more distant future, while some will evolve towards becoming small towns. One important element in the aforementioned diversity is how advanced the deagrarianisation process is depending on the distance from urban centres (urban, suburban and peripheral villages). This has been excellently captured by Monika Stanny, who has presented the varied levels of socio-economic

[9] Poland has 52,500 rural localities, including 43,100 villages (the rest are settlements and hamlets).

development of rural communes along the east–west and centre–peripheries axes (MROW 2016; Stanny 2013). At the same time, the urbanisation of suburban villages is intensifying, together with migration from urban areas to the countryside – the colonisation of rural localities by the incoming population (Sadura, Murawska and Włodarczyk 2017). This is followed by an increase in suburban populations, especially in Functional Urban Areas, and a decrease in the peripheries.

Other new factors of rural development are also manifesting themselves, related to the natural environment, landscapes, local food systems (previously as a necessity, now as a conscious choice), digitisation etc. The most important focus has to be on sustainable rural development with strong support from EU instruments.

4. The future: in the offing

The course towards sustainable rural development has been politically defined, but the paths of that development are highly uncertain and blurred due to new challenges and circumstances as well as the clashing of market and political forces. These forces determine how endogenic resources, especially human and environmental potential, are used, how added value is created and distributed, and also how closed circulation works in rural areas. We are witnesses to an incredible acceleration of time, of technological and cultural changes and innovations. We are talking about biological, ICT and satellite technologies and innovations, about production capital being replaced by knowledge, about values and growing planetary consciousness. All this creates opportunities, but also threats. It is uncertain whether the market will create greater opportunities or threats for rural economics. As for policy-making, it seems that policies need to be more focused than before on preserving environmental values directly and indirectly – through the internalisation of external effects in the economic calculation of businesses and households.

Demographics emerges as the leading factor in rural Poland's development. The ageing process also affects the countryside, its demographic trend following that of urban areas; the countryside is entering the stage of negative natural population growth. According to the GUS demographic forecast, within 30 years (2020-2050) the Polish population will drop from 38 to 34 million, i.e. by approx. 11% overall, by 17% in urban areas and by 1% in the countryside. This portends more than just great perturbations, all the more since the working age population will decrease by 27% overall (from 22.8 to 16.6 million), by 33% in urban areas (from 13.3 to 8.9 million) and by 19% in the countryside (from 9.5 to 7.7 million), whereas the post-working age population will increase by 44%, 30% and 70%, respectively. The number of people of working age per 100 people of non-working (pre- and

post-working) age will drop from 60 to 49 nationwide, from 59 to 47 in urban areas, and from 62 to 51 in the countryside.[10] Elements adjusting the labour market might include an increase in the activity of working age people, i.e. a growing employment rate, as this is relatively low in Poland, an extended working time for people going into (voluntary?) retirement, and the migration balance. Shortages of human labour might be alleviated by digitisation and robotisation. Nevertheless, there is a possibility that there will be an increase in the existing urban demand for the rural work force, especially from farming families. This is sure to have enormous consequences for the rural economy.

The rural economy will continue mainly to comprise three sectors: agriculture, operations linked to the natural environment, and other operations. Agriculture will remain important, and its significance for the rural economy may even increase, the reason being changes in the food system (Goszczyński 2014; Zegar 2018). These include trends such as the already begun downward tendency in meat consumption, growing consumption of organic products, the revitalisation of local markets and local agri-food processing, food purchases directly from producers, and changes in agricultural technologies (a move away from chemicals towards agrobiology). In addition, non-food sectors of the bioeconomy create virtually unlimited demand for agricultural biomass. On the other hand, threats are emerging in connection with competition from foreign producers (including threats caused by e-commerce), growing difficulties in finding hired labour (which runs contrary to specialisation), and increasing problems with farm succession due to a lack of natural successors and the growing aspirations of increasingly better-educated young people from farming families (Dudek 2016). The halting or even reversal of the trend towards agriculture's economic depreciation by the market following EU accession might be strengthened by the requirement to account for full production costs, i.e. including social costs, which also consist of environmental costs and payments for ecosystem services provided by agriculture.[11] Accumulating labour problems and economies of scale require growth of farming-related services, whether in the form of farmers' cooperation or through separate entities acting as service providers.[12] This is why we should expect the farmer's status to change towards that of a farm manager.

[10] These data, which have been rounded off, are based on RS 2020, p. 228, table 27(158).

[11] This has already been started by CAP instruments, but it is still a long way from full costs. The results of studies on the hidden costs of the system (especially those related to health and the environment) are astounding (FAO, IFAD, UNICEF, WFP and WHO 2020): these costs exceed the market value (FOLU 2019).

[12] For example, there is no economic justification for owning expensive specialist farming equipment. It is more economical to use third-party services.

Operations based on environmental resources are definitely appropriate for sustainable rural development, which can progress most successfully through the effective utilisation of rural assets, i.e. the resources and values of the natural environment – drawing benefits from natural resources and values (land benefits, natural benefits), developing local enterprise taking advantage of local natural, cultural and other resources.[13] We are thus talking about using local resources in such a way as to leave as many benefits as possible in a given locality, being guided by the needs and capacity of the local community, the local population's participation in development (the idea of a social economy), developing social capital (lower transaction costs and cooperation), and a territorial approach instead of a sectoral one. Favourable factors include growing demand for services related to rural recreation and tourism, including agritourism, usually involving taking advantage of local cuisine specialities, and other kinds of tourism: arts (handicrafts), hunting, nature and wildlife watching, recreation for older people (Davidova, Mishra and Thomson 2019).

In the longer term, renewable energy would have a promising and important place in the rural economy, being able to provide not just prosumer energy to rural residents but also contributing to supplying urban areas with renewable energy.

The countryside has a long small-business tradition, including crafts and small-scale industry. Improved infrastructure – transport links with towns/cities – and remote working (which has intensified due to COVID-19) increase the countryside's opportunities to undertake highly productive operations. This is also supported by the noticeable migration of professionals and managers to the countryside. Demographic forecasts suggest a growing number of elderly people in both urban and rural areas. More and more of them will require permanent or temporary care, since the percentage of multigenerational households and the number of family members are decreasing as the number of single-person households grows. More and more often, adult children do not provide care for their ageing parents, for various reasons. This means there is an emerging need to set up appropriate establishments like round-the-clock and day-care centres (nursing homes), medical care facilities and others. This also creates opportunities for rural families in the form of social farms (care farms) targeted not only at senior citizens but also at children with disabilities and people in need of rehabilitation or long-term care, and even people requiring resocialisation. For this, support from central and local government is needed, also to take advantage of the experiences of other countries (Ekspertyza 2019).

[13] Relying on external transfers or providing services at the expense of the environment (e.g. waste storage, setting up harmful industrial plants) would only be a short-term option.

A major role in the development of the rural economy is played by policy-making, including EU policies, especially as regards the role of rural areas in achieving the goals of the European Green Deal, i.e. implementing a strategy to build a climate-neutral economy and to separate economic growth from natural resources. This involves numerous local programmes and initiatives,[14] and especially the intensification of the CAP's "ecologisation" and the biodiversity strategy. With regard to the CAP, this is the "farm to table" strategy, which provides for new pro-environmental instruments (eco-schemes, strengthened conditionality, pro-environmental and pro-climate actions, having organic farming on 25% of arable land by 2030, and limiting the use of agricultural chemicals). This will be conducive to improving the quality of food and the environment, and will eliminate the causes of climate change and serve the protection of biodiversity.[15] When we add activities aimed at consolidating protected area networks and ecological corridors as well as continued infrastructure development, the result will be a new architecture of development for these areas, which will have a powerful impact on the organisation of rural space.

5. Conclusion

The historical process whereby agriculture was pushed to the margins of economic development, and the countryside to the peripheries, is a fact. However, there are signs of change, indicating a limit to the urbanisation process as well as a revitalisation of the countryside. Changing relations along the urban–rural axis are key to this process, as are new trends defining the potential possibilities of improving the economic well-being of rural communities in Poland, in particular by increasing added value. It turns out that, just as the countryside responded to urban demand for labour and cheap food in the period of industrialisation, today it can respond to the demand for quality (healthy) food and environmental and social services. At the same time, what once diminished the countryside's possibilities of creating added value, namely agriculture and rural crafts, can now be reversed by the necessity to change the model of agriculture as well as the renaissance of rural crafts in the form of small-business operations. If creating added value is the key to increasing rural prosperity, then taking advantage of all relevant opportunities is an essential issue. Rational agricultural and rural development policies are thus needed, covering new values related to the natural and cultural environments,

[14] Presented by Andrzej Hałasiewicz (Wilkin and Hałasiewicz 2020), among others.

[15] The biodiversity strategy assumes being on the path of recovery by 2030, and rebuilding and protecting all ecosystems by 2050.

which would create agricultural opportunities (organic farming and farm-related activities) and give freshly emerging operations a chance. This is also fostered by support from EU structural funds, including the CAP (RDP, AECS, LFA, HNV; LEADER – CLLD programme, Smart Villages concept).[16]

Besides the economy, sustainable rural development requires spatial chaos to be reduced and greater care to be shown for the aquatic environment (a need for retention in natural floodplains and marshes as well as artificial reservoirs, reducing water pollution), the air (reducing GHG emissions from agriculture by a change in technology, and from households by switching to RES), the soil (increasing carbon and organic-matter absorption), biodiversity (halting its reduction), and the rural landscape (preserving its values).

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[16] Other favourable factors include investment priorities financed from cohesion policy funds (entrepreneurship, green jobs, building R&D potential, digitisation of agricultural education) and the National Recovery Plan (e-services, agricultural consulting services, precision farming, support for the tourism sector's recovery, investments by agritourism farms, infrastructure projects, RES).

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Gospodarka wiejska w Polsce na osi czasu

Streszczenie: Celem artykułu jest przedstawienie supozycji co do przyszłości gospodarki wiejskiej w Polsce, której rozwój ma prowadzić do podnoszenia poziomu życia i do zrównoważonego rozwoju obszarów wiejskich. Gospodarkę wiejską kształtowaną przez czynniki kapitału ludzkiego, fizycznego i ekologicznego ujmuje się na osi czasu. Czynniki te są określane przede wszystkim przez rynek i politykę. Supozycje sformułowano na podstawie analizy teoretycznej bazującej na danych statystycznych i wynikach badań dostępnych w literaturze przedmiotu. Podstawowy wniosek sprowadza się do rozszczepienia się trajektorii rozwoju gospodarki wiejskiej w wiele możliwych ścieżek w przyszłości.

Słowa kluczowe: gospodarka wiejska, poziom życia, oś czasu, rolnictwo.

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The Impact of Climate Change on Agricultural and Rural Development by 2030

Abstract: Climate change is one of the greatest challenges of the modern world. In the long-term perspective, mankind must achieve climate neutrality in order not to lead to a breakdown in the development of civilization. This requires significant mitigation efforts to reduce greenhouse gas emissions. Over time, when the climate change is more affecting human life, adaptation measures are also needed. Some countries, including members states of the European Union, are making efforts to achieve the goal of climate neutrality. It involves a significant financial and organizational effort. The aim of the article is to indicate changes in agriculture and rural areas that may take place in the perspective of 2030 as a result of the climate change and the application of mitigating and adaptation policies. The article was written on the basis of the available literature.

Keywords: climate change, agriculture, rural development, future studies.

1. Introduction

The world is in the period of transition. Change is a concept that is virtually an integral part of contemporary times. The pace of technical progress and related opportunities is so high that, in many cases, we cannot keep up with the changing circumstances. What is more, it is estimated that these processes will mark the upcoming decades on a global scale.

In literature, the contemporary times are defined as a civilisational turning point comparable to the early ages of the industrial revolution (Kleer 2018; Toffler 1984). However, currently the impact range and speed of the changes are much higher. In practice, we can distinguish two overlapping turning points (Kleer 2019). In highly developed countries, we observe a transition from industrial civilisation to a new form, whose name is not clearly defined but is often described as post-industrial civilisation or the civilisation of knowledge. Meanwhile, in the developing

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countries, we observe a transition from agricultural to industrial civilisation with elements of post-industrial civilisation. These two processes are causing very serious changes that concern not only the technology of production, methods of trade or institutional changes, but also make us completely rebuild our thinking about the world, additionally causing a change in mentality and social relations. In practice, both transitions significantly affect agricultural production.

At the same time, such deep processes feature a long period of changes and the absence of a clear development path. If we talk about the transitions currently being observed, we probably deal with processes that will last for decades, and we are unlikely to precisely indicate where they can lead us. For example we cannot predict the institutional changes that will result from the processes of integration and globalization. We cannot also predict even major changes in economy. On the one hand, some decisions indicate that highly developed countries are turning towards sustainability and greater care for the environment, and on the other hand, we are observing an increase in consumerism. These two trends contradict each other in the long run. We are not able to estimate which one will be stronger.

There is no doubt that one of the principal forces of contemporary progress lies in technological changes related to information and communication technologies. In addition, the environmental factors are becoming more and more important, especially climate change, which considerably affects the quality of human life, the availability of natural resources, and the stability of ecosystems. Contrary to the common opinion that human life is separate from environmental conditions owing to universal electrification and mechanisation, it is becoming clear that the local and even global pressure of humans on the environment is so strong that it is destabilising the conditions of human life, forcing us to adapt to changes (Conway 2012; Martenson 2011). For many years, this approach has been denied (von Weizsäcker and Wijkman 2018), and the issue has been put off to be solved by subsequent generations, but currently the changeability of environmental conditions is so great that, in many cases, we can notice it with a naked eye without having to conduct any specialised research. The impact of the environment, particularly the climate, is and will be noticeable in various areas of human activity, and will affect people regardless of whether they live in urban or rural areas. An important issue here is a close relationship between agriculture and environmental conditions, which makes rural areas considerably more exposed to the effects of environmental changes than it seems.

In this paper, the author raises the issue of climate change as the most important of the environmental factors mentioned above, and attempts to indicate the principal changes which this may cause to agriculture and rural areas in Poland. The deliberations take the perspective of the upcoming ten years, that is until

2030. It is only a segment of mentioned period of civilisational turning points, so long-term trends are difficult to notice, but certain symptoms of those changes already seem clear.

2. Climate changes in Poland by 2030

The contemporary climate changes are anthropogenic and caused by increasing concentration of greenhouse gases (GHGs) in the air (IPCC 2007). For this reason, our priority is to reduce the emissions of those gases. However, emission reduction should not be expected to solve the problem of climate change. Even an immediate implementation of climate neutrality[1] (which is impossible in practice) will only result in greenhouse gas concentration remaining at current levels, which means that temperature will slowly continue to rise (IPCC 2013). We should also remember that climatic processes feature a high level of inertia. Processes that are started now will have effects in many years to come. Some of these processes may remain unnoticed in the perspective of the ten years under analysis (IPCC 2013).

In practice, even the most optimistic long-term projections predict a further increase in atmospheric GHG concentrations and increasing rates of climate change (IPCC 2013). The differences between different scenarios arise from the estimation of greenhouse-gas emissions.

From the climate point of view, a ten-year perspective is a very short time. Given the probability of annual or even multi-annual anomalies, forecasts for such a period may deviate from the determined average. For this reason, climate change is usually projected for several decades. Such scenarios, prepared by the Institute of Environmental Protection – National Research Institute, have been used in this study. They were prepared as part of the Klimada 2.0 project (2020).

These projections are presented as two scenarios: RCP4.5 and RCP8.5. The moderate RCP4.5 scenario assumes "a further increase in CO_2 concentrations to 540 ppm in 2100, and a radiation force input of 4.5 W/m^2, while the extrapolation scenario (RCP8.5) corresponds to CO_2 concentrations increasing to 940 ppm in 2100, and a continued increase in radiation force input to 8.5 W/m^2" (Strużewska et al. 2020, p. 10).

No abrupt climate change is expected in the upcoming decade, but current trends should be maintained.[2] Historical data show that the average annual temperature in the 21st century was higher than the average in 1981–2017 (Strużewska et al.

[1] The concept of climate neutrality means that the level of GHG emissions in a given area is equal to the capacity to absorb them.

[2] This approach depends on how the climate change is perceived. On the one hand, scientists claim that the current rate of climate change is the fastest one known to mankind, and on the other, from a human

2020). In that period, the number of hot days rose (from several to more than ten per year), and the number of frost days decreased, by 25 days on average. The total rainfall rate has also increased.

The forecasts of key climatic factors are shown in Table 1. The results lead to interesting conclusions. First, there is no significant difference between the scenarios during the period under analysis. This will continue until more or less 2040. Many results acquired within scenario RCP8.5 will even be lower than those for RCP4.5. This means that the change will be slower than in the milder scenario. The differences may be caused by the assumptions made in each scenario. Nevertheless, we should emphasise that they will be irrelevant in the 2030 perspective.

Table 1. Climate-change projection for Poland in 2021–2030 as per scenarios RCP4.5 and RCP8.5
Tabela 1. Prognoza zmian klimatycznych na terenie Polski w latach 2021–2030, wg scenariusza RCP4.5 i RCP8.5

Indicator	RCP4.5		RCP8.5	
	Quantity	Change compared to 2006–2010	Quantity	Change compared to 2006–2010
Annual average temperature [°C]	9.082	+0.637	9.070	+0.471
Number of frost days with a minimum temperature below 0°C	88.56	-8.78	90.01	-7.92
Number of days with a temperature above 30°C	9.86	+2.73	8.24	+1.46
Number of vegetation days with an average annual temperature above 5°C	248.21	+7.24	246.67	+7.72
Annual precipitation [mm]	730.0	+22.1	726.2	+11.7

Source: Own study based on Klimada 2.0 project (Klimada 2.0 2020).
Źródło: Opracowanie własne na podstawie projektu Klimada 2.0 (Klimada 2.0 2020).

In general, the changes observed in this period are not great, but they continue the current trends. Increasing temperatures will cause longer vegetation days, more hot days, and fewer frost days. For Poland, it is assumed that for the year 2030 compared to 2000 this will be extended by 16 days (MŚ 2013). This implies that winters will be milder, while in summer extreme weather phenomena will be more likely. However, these changes do not exclude anomalies – even during a mild

perspective, the processes are too slow to be noticed by the naked eye. In addition, projections show that the rate of climate change will accelerate after 2040 (IPCC 2013).

winter, there may be short periods of severe frost, and a summer may be cooler than usual (Meehl et al. 2007; Westra, Alexander and Zwiers 2013).

In terms of water availability, it is noticed that the annual rainfall and the number of days with rainfall are rising (Konca-Kędzierska 2019). This is only apparently positive, as at the same time it has been observed that the greatest increase in precipitation will occur for heavy rainfall, i.e. with a daily precipitation rate higher than or equal to 20 mm (Strużewska et al. 2020). Such rains are damaging for the economy and, in particular, for agriculture. A sudden rainfall implies a rapid subsurface runoff, which can be accompanied by water erosion and does not cause any significant soil irrigation, as water quickly flows down to lower areas and does not have time to soak into soil. The increasing rainfall will therefore have a moderate impact on agriculture. Given the simultaneous rise in temperature with its side effect being increased evaporation, the availability of water for agriculture may actually fall. Observations within the Agricultural Drought Monitoring System show that in recent years problems with water availability have been increasing. In the last decade, agricultural drought in Poland was recorded five times, i.e. in 2015, 2016, 2018, 2019 and 2020 (IUNG 2020).

3. Agriculture versus climate change

Given the scale of its direct impact and the indirect effects it produces, climate change is deemed to be the greatest contemporary environmental challenge. In consequence, it is not only the problem of rising temperatures but of a number of factors that affect climatic conditions in a given region. Climate change, for instance, has an impact on air humidity, the number of vegetation days, water availability, and the occurrence of extreme meteorological phenomena (droughts, hurricanes, floods). These phenomena profoundly change ecosystems, which causes even more serious adverse effects.

In the context of agriculture, climate change affects not only the conditions for plant vegetation (Wypych et al. 2017), but also indirectly brings changes in other key agricultural production factors, i.e. soil and water. In addition, climate change leads to the degradation of biodiversity, which affects areas such as the availability of pollinators, organisms that are essential for allogamous plants to produce food (FAO 2011). It is estimated that around 35% of food produced in the world depends on pollination by insects.

In the case of Poland, climate change entails a longer growing season and a higher plant growth rate. Both factors cause an increased demand for water. The information provided shows that the amount of rainfall, as the main source of water supply for agriculture, will increase. However, this will not improve water

conditions for agriculture. Data shows that there will be more violent meteorological phenomena, such as downpours or even floods (Konca-Kędzierska 2019). This is due to a faster subsurface runoff and a lower water absorption by soil. In addition, warmer winters imply a lower capability to store water in the form of snow, so there will be less water in the spring when it is required. Water availability may affect water management on farms and the choice of crops.

The extension of the growing season increases the risk of pests. Until now, the emergence of pests (mainly insects) has been correlated with the migration of their predators (mainly birds), which has allowed us to maintain a relative equilibrium. Accelerated vegetation of plants resulting from increasing temperature may cause earlier activity of pests. At the same time, the migrating predators feeding on them may not have sufficient time to reach the country (Thackeray et al. 2010).

Climate change may result in accelerated soil erosion (Sharratt et al. 2015). This can be both water erosion (as a result of increased runoff during rainstorms) and air erosion caused by the increasing risk of high winds or even hurricanes. Winds may also cause damage to farming infrastructure, including buildings. It is anticipated that this could lead to increased costs of construction and insurance.

The effect of increasing temperature on crop yield is dubious. On the one hand, we observe a decline in the yield of many crops (Abrol and Ingram 1996; Hatfield and Prueger 2015; Wang et al. 2011), and on the other, shifting climate zones will increase the availability of new agricultural land, mainly in northern countries, and above all in Canada and Russia (IPCC 2013; Randers 2012).

Climate change is also a problem for livestock production, affecting it both directly and indirectly. Changes in ambient temperature have a direct effect on factors such as animal metabolism (Babinszky, Halas and Verstegen 2011). The effect of increased temperature may also slow down growth, reduce milk productivity, conception rates and appetite, and even cause rising mortality (Cho et al. 2011). Indirect effects include difficult access to water on pasture land, increased costs and availability of feed and the cost of maintaining adequate temperature in buildings (Nardone et al. 2010).

4. Counter-measures to changing circumstances and the future of rural areas and agriculture

The magnitude of climate change generates an urgent demand for remedial measures. Nowadays, it is believed (IPCC 2014) that these should be of two different types: mitigation (reduction of GHG emissions) and adaptation (adjustment to the anticipated changes). Both processes should be implemented simultaneously; however, we must emphasise that without effective mitigation the problem of

climate change will not be solved and the change will even accelerate. Adaptation should therefore be treated as a subsidiary process that is only effective if we reduce GHG emissions. However, it is necessary, given that climate change is progressing.

Experience shows that pure market forces cannot overcome the challenge. Even if the number of climate change deniers is decreasing, the will to make changes and pay the associated costs is still low. In addition, bottom-up actions are usually taken only in the area of adaptation and not in the area of mitigation. For this reason, institutional intervention that uses various mechanisms to enforce emissions abatement is necessary.

Agriculture is one of the major sectors responsible for greenhouse-gas emissions. Globally, its share is estimated at around 20% of total emissions (FAO 2020; IPCC 2019). In Poland, at 14% (Eurostat 2020), the agriculture, forestry, hunting and fishing sectors together were the third largest GHG emitter in 2018. Only the energy (41%) and industry (18%) sectors emitted more. This makes the agriculture very important for climate policy.

If we take the perspective until 2030 and the agricultural changes in Poland, it seems that environmental policy, in particular climate policy, will be a contributor to the largest changes. Poland is a signatory to the 2015 Paris Agreement (UNFCCC 2015), which imposes an obligation to achieve climate neutrality in the long term. The European Union, of which we are a member, has begun to implement these provisions and announced its target to achieve climate neutrality by 2050. Moreover, in strategic documents it has considerably intensified the work on the implementation of sustainable development principles to the economy, in particular to agriculture. This is proved by the new development strategies of the European Union, i.e. the "European Green Deal" (EC 2019), "From Farm to Fork" (EC 2020a), and "Bringing nature back into our lives" (EC 2020b) – Biodiversity Strategy by 2030.[3] The new structure of the Common Agricultural Policy, which now gives more importance to environmental objectives, also shows a significant change in thinking about agriculture, the aim of which is no longer only to ensure adequate food supply but also to care for sustainable development of rural areas. A new European Union Climate Strategy is also in the pipeline, which provides for intensified activities. This is evidenced by the creation of a new Community law section, the European Climate Law, which should be enacted in mid-2021.

These activities are part of the civilisation turning point mentioned in the introduction. The European Union's ambitious goals for 2050, i.e. to achieve climate neutrality and build a sustainable economy, show this very clearly (EC 2018). Jerzy

[3] The objectives assumed in these strategies and the related challenges are discussed in more detail in the article (Wrzaszcz and Prandecki 2020).

Wilkin (2020) claims that these actions are giving rise to a new green revolution. It is difficult not to agree with him. The decisive steps defined in the strategy documents for the next decade are revolutionary. Their implementation will be a great challenge not only for agriculture in Poland. However, the changes are required to keep humans safe.

In short, the European Union aims to build a new economic architecture with the goal of building a modern, resource-efficient and competitive economy that will reach zero net greenhouse-gas emissions in 2050, and economic growth will be decoupled from the use of natural resources (EC 2019). This general goal shows that climate policy will play a leading role and that agriculture, as one of the main sectors responsible for greenhouse-gas emissions, will have to make fundamental, revolutionary changes.

The philosophy behind these changes is set out in the strategy titled "From Farm to Fork" (EC 2020a), which, taken together with the Biodiversity Strategy by 2030 (EC 2020b), is a central point in the concept of the "European Green Deal". The aim is to create a fair, healthy and environmentally friendly food system where any food produced should be safe, nutritious, of high quality, and produced with environmentally safe and climate-neutral methods. The aim is to promote sustainable farming based on family farms, to reduce the use of artificial fertilisers and plant protection products. An important component of the EU's new approach to development is the high integration of strategic documents. In practice this means that, for agriculture, the goals to be achieved in 2030, included in the strategies mentioned are equal. This does not cause any problems with the interpretation of regulations, and at the same time it forces us to think about agricultural production as a component of a complex system.

From the Polish point of view, the most ambitious targets result from changes in climate policy. In this regard, specific solutions still remain unknown. Moreover, there is an ongoing discussion about the shape of climate policy. So far, it has rested on two pillars: the market and politics. The market pillar is formed by the EU Emissions Trading Scheme (EU ETS), which covers large economic operators. This is the main tool for reducing emissions in the EU, but does not cover agriculture, where reduction is based on a system known as non-ETS. Under this framework, decisions are made on the basis of political agreements between member states, and emissions are reduced mainly through administrative rather than market-based solutions. The new shape of climate policy is not yet agreed (as of January 2021), but one of the proposals being discussed is to spin off a third pillar that would include the agriculture sector and LULUCF (Land Use, Land Use Change and Forestry) (EC 2020c). It is unknown whether this will be implemented, but the mere discussion on the subject shows the importance of the role of agriculture

in climate policy and the seriousness of the changes in that sector in the context of climate policy.

What is already known is the GHG emissions reduction target for the period up to 2030. On 11 December 2020 the European Council (EUCO 2020) agreed that a new 55% reduction target for greenhouse-gas emissions compared to 1990 would replace the current target of 40%. This objective is only general, and it is not yet clear how it will be distributed among individual mechanisms. It can be assumed that the EU ETS sector will set a more ambitious target, while the non-ETS sectors will show a lower emissions abatement. In addition, the Council decided to introduce a carbon tax that would be levied on goods imported to the European Union, with the aim of levelling out the rules of competition and preventing carbon leakage outside the EU.

The existing reduction target was 40% compared to 1990, which for the non-ETS sectors meant that emissions had to be reduced by 30% compared to 2005. The target has not yet been distributed evenly across countries, which follows from the reduction potential and the advancement level of a given sector. In the case of Poland, the target was a 7% reduction by 2030. It was widely accepted that it was very ambitious for Polish agriculture. The current increment in the main target must entail increasing the reduction targets for each sector. It is estimated that for non-ETS the reduction could be 48%, and for Polish agriculture, even 16% (CAKE 2020). Such changes are revolutionary, especially if we consider that until 2020 Poland was entitled to increase emissions in the agricultural sector.

A new approach to agriculture as part of an integrated policy of sustainable development requires not only the implementation of ambitious targets, including reduction targets for GHG emissions, but above all a change in mentality and the way of thinking about the environment. Convincing the rural population that agriculture is an element of a larger entirety, which is the ecosystem of planet Earth, will require a major effort, as it will often involve changing agricultural practices that have been used for decades and are therefore already part of the agricultural tradition. An example of this is grass burning in spring: although banned for many years, cases of this irrational activity still occur.

In Poland, the implementation of European climate goals will be hampered by the dispersed structure of agriculture, i.e. a large number of entities and relatively small farms. This requires not only the implementation of specific solutions aimed at such small entities, but also an appropriate system for monitoring and reporting changes in emissions. Due to the method adopted, the present reporting system does not practically take into account the efforts made on farms. The new Common Agricultural Policy requires member states to show measurable effects of their

actions, which will have to be correlated with reports at the level of greenhouse-gas emissions.

As indicated earlier, adaptive processes are easier to carry out, as they are a response to the immediate threats. For this reason, these actions will be taken on an individual basis, i.e. implemented mostly bottom up by individual farmers or their associations. Larger infrastructure projects will be implemented by local governments or even central authorities, but we should expect that the scale of such solutions will not be large, given the budgetary limitations and the priority of mitigation activities. Interest in adaptation measures will increase slowly along with the growing awareness of the risks and the nuisance they cause. It is reasonable to assume that these processes will begin to develop in the second half of the projected decade.

Agriculture is still the important source of income in rural areas, hence its importance, including the importance of environmental factors for rural development. However, this may not be the only reason of the actions forced by climate change in rural areas. For example, developments in rural areas are scattered, which implies greater exposure to extreme meteorological phenomena, mainly hurricanes, which tend to reach higher speeds and destructive force in open areas. This contributes to potentially higher property losses, and construction will have to be adapted to the growing risk of such events. Similarly, reduced water availability may cause the demand for new, deeper water intakes.

Unlike in urban areas, in rural areas local cooperation and development based on common goods will be of greater importance. In cities, infrastructural changes are largely dependent on local and central authorities, which are required to undertake various types of tasks. For rural communities, a limitation will be the budgetary capacity of local governments and their ability to respond to changing circumstances. For this reason, various types of solutions to adapt to changing conditions may depend on bottom-up initiatives taken by residents. One such action may be the return to small retention in the form we know from several decades ago, i.e. the construction of local storage reservoirs accessible to the entire community. In the second half of the projected decade, we can also expect a more dynamic use of renewable energy sources in rural areas. The solutions will be both individual and collective, i.e. intended for communities. Their importance will grow given the increasing risk of interruption or deterioration of transmission networks, which already cause many problems with the proper operation of advanced equipment.

5. Conclusions

Climate change in Poland will cause threats noticeable in a perspective that is much longer than ten years. We can already see the first adverse effects of these processes. It seems that they will force farmers to take certain adaptive measures. However, if climate issues are to be addressed effectively, mitigation and adaptation activities must be taken in parallel.

Actions to reduce GHG emissions are taken based on institutional arrangements. Poland, as a member of the European Union, is also required to make efforts aimed at emission reduction, which in the sphere of agriculture in Poland is to be implemented for the first time in the 2030 perspective. Climate targets are part of a broader policy covering sustainable agricultural development, implemented through a number of Community strategies. Their scope is such that we should speak of a new green revolution, with agriculture becoming part of a larger integrated entirety, and production objectives being treated equally as environmental objectives.

Such a change requires not only a number of actions aimed at developing and implementing new, low-emission agricultural practices, but also at building a system of education, monitoring of agricultural emissions, and related reporting. In the case of Poland and its large number of small farms, the construction of such a system is very complex but necessary to achieve the objectives assumed.

Furthermore, we should bear in mind that the targets for 2030 are only part of a larger reform which is to last until mid-century. This means that the efforts will be intensified in the coming decades.

The reforms introduced will induce a revolutionary change in rural areas, whose most important element will be a change in our mentality. Rural residents will have to accept that agriculture is not just about producing food but also about caring for the Earth's ecosystems and being responsible for the proper functioning of a number of environmental services, including the ability to absorb greenhouse gases. On the other hand, the changes introduced should aim at rewarding rural residents for the work they put into providing these services at the expense of their income. CAP reform is heading in this direction, and it should be assumed that it will intensify changes in the following years, i.e. in the second half of the decade.

To conclude, we can say that actions in agriculture, initiated by the need to counteract climate changes in the period exceeding the assumed ten years, may lead to far more complex transformations, taking into account social and economic relations on a scale defined as a civilisational turning point. The last two decades have shown symptoms of entering this new path of development. These were mainly limited to political declarations and gradual, subtle actions. The rapid acceleration

observed in the last two years allows us to conclude that the present decade may be different and more decisive, not only in Poland but also across Europe.

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Wpływ zmian klimatu na rozwój rolnictwa i obszarów wiejskich w perspektywie roku 2030

Streszczenie: Zmiany klimatyczne są jednym z największych wyzwań współczesności. W długookresowej perspektywie ludzkość musi osiągnąć neutralność klimatyczną, aby nie doprowadzić do załamania rozwoju cywilizacyjnego. Wymaga to podjęcia znacznego wysiłku mitygacyjnego, aby ograniczyć emisję gazów cieplarnianych. Jednocześnie wraz z upływem czasu i postępującymi zmianami klimatycznymi konieczne są również działania adaptacyjne, które pozwolą ludziom dostosować się do zmieniających się warunków. Niektóre kraje, w tym te należące do Unii Europejskiej, podejmują wysiłki, aby osiągnąć cel neutralności klimatycznej. Wiąże się to ze znacznym wysiłkiem finansowym i organizacyjnym. Celem artykułu jest wskazanie zmian w rolnictwie i na obszarach wiejskich, które mogą mieć miejsce w perspektywie roku 2030 oraz zastosowania polityk mitygujących i dostosowawczych. Artykuł został napisany na podstawie dostępnej literatury.

Słowa kluczowe: zmiany klimatyczne, rolnictwo, rozwój obszarów wiejskich, studia nad przyszłością.

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New Corona Virus, Food Security and Identifying Policy Options

Abstract: Achieving food security for all has long been a major objective in public policy around the world, and even globally as enshrined in the contemporary UN Sustainable Development Goals. The onset of the COVID-19 pandemic of 2020 creates additional challenges to food policy-makers and the paper charts some key elements of response to these challenges.

Keywords: pandemic, COVID-19, food security, supply chains, policy.

1. Introduction

As of late-2020, the COVID-19 pandemic has sickened millions of people worldwide and is pushing the world economy into a depression comparable in severity to the Great Depression of the 1930s or World War II of the 1940s. COVID-19 has severely negatively impacted China, Europe and North America and, of particular concern in this paper, is spreading through Africa, Latin America, South Asia and South East Asia. Most governments in these regions are reacting by

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closing borders and enforcing social distancing. This is creating severe difficulties for the food security of billions of people.

As is elaborated below, the primary concern in this paper is ensuring that food markets remain open and functional, in spite of the obstacles and challenges imposed by social distancing requirements. Secondary concerns include: (a) enhanced provision of food assistance and social safety net protection, and (b) elimination of disruptions and export bans in international trade.

The objective here is to present information that governments can use to try to reduce the immediate and long-term cost of corona-virus policies on food security and resilience. The paper addresses policy options to reduce the impact of COVID-19 on:

1) Food access, supply chains, and agriculture,
2) Employment, income, and poverty,
3) Nutrition and health, and
4) Resilience and rebuilding.

2. Current public health policies that are widely used to prevent the spread of COVID-19

The major policies (e.g., FAO 2020a; Swinnen and McDermott 2020; Torero 2000a) involve imposing rules that reduce contact between infected people and those not yet infected. This happens at various levels, such as closing international borders to prevent the spread of people who are infected with the virus. Nationally, internal barriers are being introduced to prevent the movement of people and the disease from hotspots of infection. At local levels policies have sought to introduce requirements for social distancing of people to slow the spread of the disease. There is a continuum of social distancing policies from bans on large crowds to shelter in place. The bans on large crowds typically include no big sports events, political rallies or religious gatherings, closing schools and universities or restricting them to distance teaching, restricting the number of people in supermarkets and restaurants, at informal markets, and large factories. Shelter-in-place policies generally are intended to restrict all but "essential" movements to ease access to food and medicine.

As well as such distancing measures, policies have variously encouraged or obliged use of personal protection equipment such as face masks, so that the infected keep the virus to themselves better, and the uninfected are less likely to inhale aerosol organisms from others. The effectiveness of these policies naturally depends on individuals' willingness to comply as well as the quality of the devices and the adequacy of their installation.

Many governments are also pursuing other policies to respond to a possible food-security crisis, such as managing government food stocks (procurement and distribution), in some cases assisted by the World Food Programme. Direct intervention in the health sector is also a major policy thrust, such as investments in rural and urban health information and infrastructure. While surely necessary, this likely has the effect of diverting scarce government human, financial and physical capital for agricultural development to a short-term coronavirus response.

3. Food supply chains and impacts on components

The framework for this analysis of the impact of the pandemic on food security is the system of food supply chains (FSCs) that provide access to food, and jobs and income for business owners. The work of Reardon et al. (2019) emphasises three stages in the development of FSCs: traditional, transitional and modern. Such chains can also be divided in many other ways, such as into FSCs for staple commodities and for high-value commodities.

Today most urban and rural consumers now depend on markets. In contrast to the common conception of subsistence agriculture economies as largely comprising smallholders who produce their own food, today some 80% of food (by value) is purchased, even in low-income countries such as India and Senegal (Reardon et al. 2019). Modern FSCs that are dominated by large processing firms and supermarkets, capital intensive, with relatively low labour intensity of operations constitute roughly 30%-50% of the food systems in China, Latin America, and South East Asia, and 20% of the food systems in Africa and South Asia. Transitional FSCs stretching from rural to urban areas are fragmented and dominated by thousands of labour-intensive small and medium-sized enterprises (SMEs). *Transitional* FSCs dominate food systems in the developing world, with 50%-80% of the food supply in economies of developing Asia and Africa. *Traditional* FSCs make up only some 10% of food supply in Africa and South Asia.

Because of the dominance of SMEs, this discussion of COVID-19's impact on transitional FSCs is focused on the SMEs that will be most adversely affected. They "tend to be found in clusters such as dense sets of food processing SMEs, scores of meal vendors at truck stops, and dense masses of wholesalers and retailers in public wholesale markets and informal markets." (Reardon, Bellemare and Zilberman 2020). These are precisely where governments will target their social distancing policies. In addition, the city and regional barriers to movement of people, food and agricultural inputs will affect transitional FSCs, both because taken together that segment has a bigger share of the food and inputs, and because far more people depend on it for employment.

The supply chains for staples (e.g., wheat, maize, soybeans and oil seeds) and high-value foodstuffs (e.g., fruit, vegetables, fishery, poultry) are also affected differently by COVID-19. Torero (2020b) focuses on modern FSCs but has useful insights into how labour issues affect supply chains. Modern staple commodity production is generally rather capital-intensive even in most developing countries and the labour shortage issue resulting from the coronavirus-related restrictions on movement has less impact on production. However, the logistics to distribute the commodities are affected, hampering food transportation across cities, provinces, regions and countries.

The high-value commodities require a large amount of labour to produce. So they are substantially affected when employees get sick or local and migrant labourers are not able to travel due to lockdowns. Logistical barriers that disrupt the food supply chains affect the high-value commodities even more because of their perishability. The high-value supply chain includes food processing plants, which also tend to be labour intensive. Until recently, many of the sorting and packing lines did not comply with most of the recommended social distancing requirements.

In summary, the real threat to food security is the disruption to food systems that are increasingly complex. There are several effects to watch out for, including: (a) disruption in the operations of rural (no longer subsistence) and urban markets due to social distancing restrictions, often exacerbated by consumer behaviour, from crowding to hoarding; (b) disruptions in the supply logistics of bringing food to both rural and urban markets; (c) disruptions in food systems employment, livelihoods and SME business viability either directly from illness or indirectly from restricted operations; (d) possibly increased rural food demand as international and domestic migratory workers return to their villages of origin. These have different implications for rural and urban mitigation policy, and different effects for storable grains and pulses versus cold chain and fresh perishables. These are due to: (i) differences in supply chain operations and therefore the impact of disruptions, (ii) differences across food groups in their dietary roles, and (iii) differences in policy options to mitigate disruption.

4. Rationale for the choice of policies

This section offers some reasoning behind the policies advocated below.

4.1. Maintaining open international borders for food and medicines

Closed borders due to COVID-19 is a particularly difficult challenge for small countries in which imports play a large role in food consumption and farmers

depend on imported inputs. Towards mid-2020, most borders in developing countries were closed to the movement of people but were open to the movement of goods. Some countries also restricted imports and exports of some goods but make exceptions for essential commodities such as food, medicines and medical equipment. Even when the trade in goods is allowed, movements are slowed because the truck drivers may be detained or prohibited from travelling with their vehicle. Ports can also be closed or slowed, through social distancing, lockdowns and worker illness. The diverse specifics of particular country situations are illustrated in the several cases included in Swinnen and McDermott (2020) and for brevity no attempt is made here to detail such specifics.

If trade in food is restricted (because of lockdowns, export bans or disruption through illness-induced labour shortages), there are risks of food shortages and high food prices for importing countries, losses of income from exporting, losses of jobs in marketing and logistics. Closed borders can reduce the availability of some agricultural inputs such as fertiliser or seed, which may result in lower production in future growing seasons. It can also reduce the availability of farm labour, which is of growing importance in many places, including much of African farming.

Closed borders reduce the incomes/jobs of women and men involved in informal trading (including cross-border trading). Disruption of labour mobility means losses of jobs for farm labourers who cannot get to their usual jobs across the borders. The desired situation would be to maintain the cross-border movement of essential commodities such as agricultural inputs, food products and medical supplies. Additionally desirable would be opening the movement of healthy farm labour across borders as early as is safe and possible.

The policies required to keep the market chains for food, agricultural products, agricultural inputs and medical equipment all moving could also involve removing or reducing tariffs and non-tariff barriers to imports. In addition, ideally, export bans would be eliminated by countries with a surplus of essential commodities, and export taxes on these commodities would be reduced or scrapped. Various initiatives could be considered to facilitate the movement of farm labour, including group-specific visa programmes and investment in facilitating initiatives such as screening would-be worker temperatures and conducting diagnostic tests for the corona virus. This can readily be done by the private firms involved, as they work to comply with the requirements of the relevant health authorities.

4.2. Maintaining open internal/national borders for food and medicines

The internal barriers to movement of people, trade and transport between regions constitute perhaps the most important immediate source of economic

problems during a coronavirus pandemic because of the importance of transitional FSCs, as described in section 3. Regional officials block borders to prevent the spread of the virus. If regions have excess food, they may hoard it to protect their local food supply. Often "green" channels officially exist for agricultural goods and inputs, but barriers to movement of people also restrict movements of goods and agricultural labour. Enforcing social distancing (see below) can lead governments to close down crowded but essential markets along the supply chains. Fear of infection can stop merchants and truckers from going to hot spots of the virus. Women who work in informal trading, women-owned small businesses (e.g., food shops) and women who care for the afflicted (families and in the health sector) are especially vulnerable.

One essential response of governments is to develop "green" essential commodity channels for the movement of food, inputs and medical supplies. But, in the face of the challenges mentioned above, governments will need to identify bottlenecks in the supply chain and then intervene in specific markets. Bottlenecks caused by regional government decisions will have to be monitored and negotiated or eliminated by the central government with the help of the police or army as necessary to ensure movement of essential commodities. The government logistics corporations and army transportation can, with proper protection from the virus, make up for some of the reluctance of (or constraints on) private drivers to supply food in infected areas. Examples include actions in China to feed Wuhan (Zhong 2020), those of the Indian government to move food and essential goods across state borders by issuing e-passes and setting up service platforms such as KisanRath,[1] and Rwanda's efforts to get agricultural inputs, including fertilisers, to the rural areas where they are needed (AGRA 2020).

Financial support for small marketing, storage and logistics businesses with some of the funds earmarked for women entrepreneurs can be useful for keeping these transitional FSCs open. In India, besides providing guarantees to commercial banks to support their SME lending, there is also enhanced direct lending to SMEs.[2] In South Africa the Business Growth or Resilience Facility aims to enable continued participation of SMEs in supply value-chains, in particular those who manufacture (locally) or supply various products that are in demand due to COVID-19 pandemic.[3]

[1] https://www.financialexpress.com/industry/technology/kisan-rath-mobile-app-features-benefits-of-app-to-help-farmers-during-coronavirus-lockdown/1933220/

[2] https://www.bbc.com/news/world-asia-india-52640807

[3] https://home.kpmg/xx/en/home/insights/2020/04/south-africa-government-and-institution-measures-in-response-to-covid.html

5. Social distancing

Social distancing policies, which are really policies intended to have people maintain a safe physical distance from others who may be infected, are being implemented in nearly all countries in Africa. Schools and universities are closed or have moved online. Big sporting events, political meetings and religious ceremonies are mostly closed. Governments try to limit the number of people at or even close to informal markets, wholesale markets for agricultural inputs and outputs, restaurants and bars. Some informal markets and supermarkets have to remain open but operators must be required by local governments to make rules and provisions for safe functioning. This will mean that operators ensure that the number of customers is limited and also that all staff in public areas are obliged to wear breath-filtering masks. All such novel arrangements are especially challenging when such markets are informal and many of the operators are unregistered. Local police departments will need urgent training as well as ample personal protective equipment (PPE) to be able to enforce such emergency restrictions on small businesses.

The desired policies are to keep markets safe and open and, when possible, move to mobile groceries/markets/direct marketing/food cooperatives and more e-commerce for agricultural inputs. Introducing novel arrangements for delivery of foodstuffs from retailers to households may be facilitated by having appropriately trained extension workers equipped with mobile phones and knowledge of masking requirements and relevant distancing practices to assist SMEs to hire or equip new and existing delivery services. Government should designate employment in agriculture, food and logistics as *essential* jobs and focus on safe management practices, preventive masks and gloves, and health services for these groups. It is important to ensure limited closures of small processing and food service businesses and get them back in business quickly through financial support for SMEs where possible.

Possible policy interventions include training and provision of infrastructure for e-commerce, which includes e-commerce for buying and selling crops and livestock, improved e-commerce trading of agricultural inputs and provision of advice to agrodealers and strengthening electronic banking for commerce, but also providing unemployment benefits when these can be made available. The expansion of government supply of food in safe conditions with limited crowding will be useful where stocks and arrangements are in place, such as with the Public Distribution System (PDS) in India. Finally, as mentioned, it will be important to enable loans or grants to preserve SMEs and get them back in business, with a substantial amount of funds reserved for women.

6. Imposing Distancing: Shelter in Place

Shelter in place is the most extreme form of social distancing. It forces the whole society to stay at home except for workers in industries that provide essential commodities such as food and medicine, and for consumers who need to buy these commodities. This creates severe economic problems for poor day labourers and SMEs in the food chain. Agricultural labourers are not supposed to work and cannot move to locations where planting or harvest is underway, which reduces food production as well as labourers' income. Many kinds of non-farm rural and urban labourers in food markets and the logistics industry will lose their jobs, at least temporarily, and this will add to the difficulty of getting access to food for many where social protection schemes are inadequate. However, in countries with strong ICT, e-commerce will grow rapidly, creating jobs in preparing goods for delivery and delivering them.

Ideally perhaps, governments could supply people who cannot go to markets with food from their food stocks. They would ensure masks, testing and a healthy work environment for workers in essential jobs. For labourers who cannot move back to their homes, the government may have to provide safe, possibly temporary, housing. The government should help identify essential jobs in the FSCs and provide transport for people who need to move to meet labour shortages in essential industries. Government could also perhaps provide financial support for SMEs, and possibly specially focused arrangements for women entrepreneurs. Government support for ICT infrastructure would be important for expanding e-commerce, e-finance and monitoring government shelter in place and government food policies.

7. Managing government food stocks

In normal times, managing stocks of food is a normal activity in FSCs for the many actors involved, including the final consumers themselves who cannot afford to visit markets to provide each meal and thus must manage their household stocks sensibly. In some countries public agencies have been created to manage strategic stockpiles of key food commodities such as food grains that help to backstop the stocks normally held by private traders, and are typically released through national food distribution programmes, such as that managed by the Food Corporation of India. Over the years there has been much heated discussion of the management of such stocks: size of holdings, waste, cost, effectiveness of targeting food assistance, and parameters such as the Minimum Support Price that farmers receive when their harvests are acquired by the government. These debates are not

reviewed here, because of space considerations (but see, e.g., Saini and Kozicka 2014).

In abnormal times such as during a pandemic all the issues surrounding stocking at all levels come into play. Some involve policies developed by retailers to restrict the size of transactions in order to avoid hoarding by households. Others involve government policies on the release of strategic stocks and details of intended targeting, as well as replenishment of depleted stocks. Delivery to target populations clearly faces all the constraints to effective mechanisms noted in other market access challenges discussed above, as well as the fiscal challenge of supporting operations while scarce fiscal resources are deployed on other aspects of pandemic response. To the extent that replenishment of public or private stocks will involve importing materials, foreign assistance might prove to be helpful and perhaps even necessary.

8. Investment in soft and hard health infrastructure

Immense efforts have been underway on both the "soft health infrastructure", such as providing advice on personal hygiene such as hand-washing and safe behaviour such as masking and distancing, as well as on the "hard" elements of infrastructure such as PPE and ventilators in hospitals and, in some cases, even new emergency hospitals. The focus of this discussion is on food security rather than on the mainstream health infrastructures that are receiving the bulk of attention.

On the "soft" aspects of food systems supporting health, a major theme is provision of sound nutritional information to help people make wise choices in their personal dietary decisions in their quest for household food acquisition, and those people concerned with providing direct food aid or food in institutional settings (e.g., Masters et al. 2018). These choices are more challenging than is usual, as food consumers struggle with the added constraints in markets imposed by the pandemic and the various policy and supply-chain responses discussed above. For commodities that are relatively labour-intensive, such as fruit and vegetables, increasing prices that are likely to be experienced will make dietary choices more critical and important to be nutritionally sound. Agricultural extension services must ensure they have cogent information to share with their clients and seek ways to do such sharing widely and effectively (especially engaging women managing household food "delivery"), using multiple media and ICTs (e.g., Anderson 2020; FAO 2020b).

On the "hard" side of the good health-support infrastructure, a key element of good practice is provision of clean water, not just for human intake and food preparation but for hygiene and especially handwashing, at home and also in and around food markets. Such water supply provisioning is tragically deficient in many

parts of the developing world, and water insecurity is strongly associated with food insecurity (e.g., Brewis et al. 2020).

9. Preserving human, financial and physical capital for agricultural development

Scarce development-assistance resources have long been devoted to creating and maintaining capacity of the knowledge system supporting the agricultural sectors of developing countries. In a time of increasing fiscal stress it is important to ensure the effective maintenance of what has been created, in order to sustain the ability to provide the services needed to underpin future growth of productivity in national food systems. Effective maintenance has many dimensions, from the continued health and safety of students studying in agricultural disciplines as well as their instructors, to avoiding interruptions in such multiple-year and season programmes such as crop improvement, including maintenance research to keep ahead of evolving plant pathogens and adapting to increasing heat and drought stresses. This amounts to recognising that investment in agricultural research is not only providing a service that has been found to be highly valuable in the past (e.g., Alston et al. 2009) but also an "essential" service going forward in the agricultural and food system.

Preservation of the human and physical capital must be achieved through pandemic times at both national and international levels. Effective preservation will necessarily involve much innovation in work practices, such as novel methods of teaching in remote modes and substitution of much travel by ICTs, such as video-conferencing. Such will add to the case for seeing reliable provision of internet access as another "essential" service to be protected and supported strongly, especially during pandemics.

10. Conclusion

Food security is a continuing challenge for humanity in areas rural and urban. Dealing effectively with it during a pandemic is a yet unresolved challenge in which cogent information may still be in too short supply. At the time of writing, in the absence of effective vaccines being available, many challenges persist, especially in provision of healthcare and welfare. Food insecurity issues have surely increased during the pandemic but the policies invoked have been remarkably effective in limiting these food-related impacts. This set of considerations has been assembled to provide an interim contribution to the on-going policy evolution of 2020 as nations struggle to respond. The rise of digital solutions during the pandemic has clearly been helpful and seems likely to be a significant contribution to welfare

even once the pandemic subsides. Policy responses have necessarily evolved during the pandemic and must continue to do so as it continues, and as its successors bide their time.

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Nowy koronawirus, bezpieczeństwo żywnościowe i identyfikacja wariantów polityk

Streszczenie: Osiągnięcie poziomu bezpieczeństwa żywnościowego obejmującego wszystkich ludzi od dawna jest głównym celem polityki publicznej w każdym kraju. Jest to także wyzwanie w skali globalnej, zgodnie ze współczesnymi celami zrównoważonego rozwoju ONZ. Początek pandemii COVID-19 w 2020 r. ujawnił dodatkowe wyzwania dla decydentów w dziedzinie polityki żywnościowej. W niniejszym artykule opisane zostały niektóre kluczowe elementy tych wyzwań i odpowiedzi na na nie.

Słowa kluczowe: pandemia, COVID-19, bezpieczeństwo żywnościowe, łańcuchy dostaw, polityki.

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A Look at a Small Southern Country: Uruguay

Abstract: In this work we take a look at a small southern country in Latin America: Uruguay, located between two large neighbors: Argentina and Brazil. In the paper some socio-economic features and historical facts about Uruguay were presented. Historically, the agricultural sector and export specialisation have been quite important for the country's economic growth. Recently, services have become important too. The second part of the paper is entirely dedicated to the present situation, namely from March 2019, in which it was described how the COVID-19 pandemic has been dealt with in terms of the health and economic measures. Finally, some questions about the future of the pandemic and the country's economy were posed.

Keywords: Latin America, emerging economies, country studies, COVID-19, Uruguay.

1. Introduction

Uruguay's economy is based on the country's natural resources, a highly literate population, and a strong state presence. The population of nearly 3.5 million are mostly descendants of European inmigrants. The country is located between the two biggest Latin American countries: Brazil and Argentina. Although production was historically mainly based on the agricultural sector, in recent decades the weight of other economic sectors has grown considerably. As in most developed and emerging economies, the rural population has decreased drastically in the last 50 years. The objective of this work is thus to describe some of the country's features, its evolution and the situation when the pandemic broke out and how it was tackled. Finally we pose some questions about the future and how to resume the path of growth and economic equity.

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2. Some features of the Uruguayan economy

Uruguay has abundant natural resources and it prospered due to its agrarian activities. Economic growth was thus initially supported by agricultural exports along with a strong international demand. By the last decades of the 19th century Uruguay had achieved similar or higher levels of per capital income to those of several European economies (Sandonato and Willebald 2018). The next challenge for the Uruguayan economy was to change from a settler society, highly specialized in commodities, to more diversified production. According to Maddison (2008), in 1900 a period with an evolution of per capita GDP much higher and with faster growth than that of the other countries such as Spain and other European countries such as England and France began. This period ends in 1912. During those years Uruguay consolidated its democracy and reached high levels of well-being. This period also included the nationalization of some banks.

In the early 1930s Uruguay adopted an inward-oriented policy aimed at industrializing the country by the substitution of imports to foster growth and economic development. Like most countries in Latin America, the manufacturing industries in Uruguay were developed in the context of import-substitution policies, which implied a high level of protection for domestic production. The manufacturing sector increased, reaching one third of GDP. In the decade following WWII the country experienced rapid growth based on manufacturing until the end of the 50s, when a long period of stagnation and high inflation started (Sandonato and Willebald 2018).

This situation continued until 1970, when new economic measures were implemented based on a gradual opening of the economy, increasing financial liberalization and regional trade agreements. In 1973 there was a military coup followed by a dictatorship but the economic liberalization and trade openness continued. Since 1974 Uruguay has experienced a continuous reduction in the tariff barriers that had protected domestic production (Peluffo 2016). In the 1980s and 1990s, along with the liberalization process, the manufacturing sector drastically declined. During these decades the economy underwent two deep crises, one in the 1980s and the other in the 2000s. In the 1990s regional integration, and financial liberalization policies were implemented. In 1991 Uruguay signed the Asuncion Treaty aimed at creating the Southern Common Market (MERCOSUR) with Argentina, Brazil and Paraguay, which implied a deepening in the liberalization process, though so far it is still an imperfect customs union. Between 1999 and 2002, the economic crisis and the Argentinean corralito (freezing of bank accounts) also affected the Uruguayan economy, 40% of the population fell below the poverty line, and there was a financial collapse. From 2003–2004 until 2019 Uruguay experienced a long

expansion cycle based on high rates of fixed capital formation, due to foreign investment in the agro-industrial sectors and export growth supported by higher volumes and prices (Bertola, Isabella and Saavedra 2014).

The Uruguayan economy has continued to specialize in commodities and services based on natural resources, which comprise 70% of total exports (Paolino, Pittaluga and Mondelli 2014). The expansion has mainly been driven by agriculture, which experienced important increases in productivity, technological change and transport activities, along with public policies directed at the sector. From 2005 to 2015 the Uruguayan economy grew at an unprecedented rate along with high prices of agricultural goods and a strong demand from China. After 2015, the growth rate slowed but the economy continued to grow until 2019. This economic growth, along social policies aimed at helping the poorest segment of the population would be due to Uruguay's political stability, the historical intervention of state welfare policy, and high prices for exports. Furthermore, the development of trade relations with China helped to promote exports, enhancing economic growth.

Regarding to the productive structure of the country, sheep and cattle are the most important production activities. Meat, wool, leather and other by-products have always been the main exports. Sheep farming is concentrated in the north, in the departments of Artigas and Salto, although, to a lesser extent, it is also found in the rest of the country. Cattle are farmed throughout the country, though predominantly in the south and on the west coast.

From the beginning, one of the most important export industries was beef and wool. Beef exports have increased since Uruguay joined the Mercosur agreement in 1991 and the country has been able to access more distant, Asian markets. While wool exports have fallen in recent years, suffering from competitors in such as New Zealand, and fluctuations in demand during the 2007/08 recession in the developed world. Recently, timber processing has also developed and forestry has become a growth industry.

Uruguay has a per capita income of USD 17,029 (GDP per capita at nominal prices) and USD 23,581 in PPP in 2019 according to Banco Central de Uruguay (BCU). Historically production was mainly based on the agricultural sector, in recent decades the weight of other sectors has grown considerably. In 2019 agricultural activities represented 6.31% of GDP, manufacturing 11.74%, construction 9.74%, commerce 13.58%, transport 5.40%, and the rest 53.23%. Agricultural goods are very important as a proportion of total exports. According to Uruguay XXI, the government agency in charge of the promotion of trade and foreign investment, Uruguayan exports, including those from free-trade zones, recorded an increase of 0.7% in 2019, reaching a total of USD 9.146 billion. In a year marked by trade tensions between the main markets (China and United States) and a relative

slowdown in the world economy, Uruguay's export performance was similar rhythm to the rest of the region. The growth in soybean exports by volume and beef exports by value boosted external sales in 2019 and managed to compensate for the fall in exports of live cattle and forestry products (cellulose and wood), which faced a more negative impact in 2019.

Similarly to the previous year, China was the main trading partner in 2019, representing 31% of exports, at USD 2,872 million and a significant growth compared to 2018. This is followed by the European Union (17%), Brazil (13%), the United States (7%), Argentina (4%) and Mexico (3%). The agricultural sector is thus quite important in the country's export basket. Imports, excluding oil and derivatives, reached USD 7.2 billion, representing a 7% contraction with respect to 2018. The main imports were vehicles, clothing, plastics, telephones and chemicals.

Mineral resources are largely untapped, but the industry has grown thanks to imports of fuel and raw materials. In the north (Artigas) the extraction of agate and amethyst is being developed. In recent years the software industry in Uruguay has shown significant dynamism, reflecting a steady growth in exports. Today, the Uruguayan software industry represents 5.7% of the country's total exports. The Uruguayan software industry has a clear orientation on the development of commercial products and experience in development and marketing. Throughout history Uruguay has based its economy on livestock production, although in the last two decades the software industry has boomed, achieving considerable exports. Meanwhile, teleworking is experiencing a not insignificant level of activity, which has yet to be quantified.

The characteristics of the Uruguayan population are: low presence of the indigenous population, many descendants of European immigrants, high urbanization rates, high concentration of power and population in the capital contraction and low birth rates. Traditionally, Uruguay has had high levels of education, social welfare and healthcare, ranking 55 out of 189 countries, according to the Human Development Index (HDI), valued at 0.804, published by UNDP in 2012 (Lavalleja and Rosselat 2018). In the 2011 census the total population was 3,086,686 (95%) and the rural population was 164,840 (5%). Unlike other Latin American countries, Uruguay has a very low fertility rate, which fell from 2.6% in 1985 to 2.4% by 2000. The birth and death rates are equally low, and life expectancy is 79 years for women and 70 years for men. Uruguay has a marked urban composition, a phenomenon that began early – in comparison with other South American countries – at the end of the 19th century and was reinforced from the middle of the 20th century with the country's industrialization process. It currently has the largest share of urban population in Latin America (Instituto Nacional de Estadistica; FAO 2003).

3. The context when COVID-19 broke out

As mentioned above, the Uruguayan economy grew steadily from the 2002 crisis up to 2019. After this period of growth, 2019 ended with a small variation in the Gross Domestic Product (GDP), 0.2%. At the end of 2019, the growth prospects for 2020 were auspicious, with a projected growth rate of 1.75% of GDP, according to the Central Bank of Uruguay (BCU). Nevertheless, there was an important fiscal deficit of approximately 5% of GDP and increasing unemployment, which were two important concerns for the government. In early February the Uruguayan economy began to feel the first effects of the global health crisis caused by the COVID-19, with a fall in exports, especially to China, which, in addition, had a strong downward effect on the price of beef, the main Uruguayan export.

The economic crisis caused by COVID-19 is an unprecedented event and internationally probably the most disruptive since World War II, or even since the Great Depression. The crisis will have significant consequences on production and employment, generating disruptions in global supply and payment chains. Moreover, since the impacts are, asymmetrical it is likely that poverty will increase and will exacerbate existing inequalities.

The COVID-19 transmission channels are external and internal. There are two main external transmission channels through which the effects of the global health crisis impact on the Uruguayan economy: commercial (goods and services) and financial. In both cases, the impacts have already begun to manifest themselves in the domestic economy, although the first may be aggravated in tourism in view of a prolongation of the pandemic in the coming months.

Regarding tourism, which is an export of services, a major blow is expected as a result of the current health situation. However, it is difficult to gauge its impact, as uncertainty regarding the duration of lockdown economies – including border closures – will continue to be high given the non-economic nature of the shock and the importance of Argentinean tourists for the country.

Financially, like other emerging economies, Uruguayan exchange rates and risk premiums suffered as a result of the "flight to quality". For the exchange rate, the depreciation has been one of the most intense so far this year, although it is important to bear in mind that Uruguay had been lagging behind in terms of its exchange-rate correction. Although Uruguay's risk has increased in recent weeks, in line with what has happened in the rest of the emerging countries, the proper management of public debt in recent years has allowed the development of a solid financial profile and reduced the risk associated with this transmission channel.

4. The appearance of COVID-19 and the measures taken

On 1 March 2020 a new administration took office and on 13 March four people were diagnosed as the COVID-19 positive. This quickly triggered a number of measures such as a decree on a State of Health Emergency and the adoption of social distancing measures that seek to limit the rate of spread of the virus. The new government urged the maintenance of physical distancing, frequent hand-washing and the use of face masks. There was an exhortation to work from home, and to avoid gathering and meetings.

The physical distancing measures included:

1) Mandatory 14-day quarantine for people from countries declared to be at risk or symptomatic.
2) Closing of borders with Argentina and Brazil and suspension of flights from Europe.
3) Suspension of travel outside the country for tourism for Uruguayan citizens and foreign residents.
4) Suspension of shows, campsites and public vacation centers.
5) Closure of shopping centers and reduction in public transport.
6) Suspension of classes at all educational levels.
7) Extension of special construction license until April 13.
8) Transfer of elderly homeless people to shelters on a permanent basis.
9) Public servants over 65 years of age should not attend work. Encouraging dependent workers in private activity to do the same in this period.

Furthermore, as mentioned above, the government has exhorted the population to reduce their journeys as well as their daily social contact – both at work and for leisure – to the indispensable minimum, though without making it mandatory. The population took the government exhortation to use "freedom with responsibility" and adopt a sort of generalized quarantine during the first month seriously. Also the Public University closed its doors and fostered teleworking and virtual teaching.

The rapid response to implement these measures is remarkable, since it has helped to reduce the risk of contagion. On the other hand, there is no doubt that economic activity in Uruguay has been particularly affected by these measures. The confinement of people, paralyzes activity, and has a severe economic impact, which is essential to contain COVID-19, so the government is faced with a very hard trade-off, particularly in emerging countries.

Interesting measures were adopted, such as the development of a mobile-phone software app to detect if a person has been exposed to someone else with the virus and the help of a group of renowned scientists for the government to take the most effective and suitable measures to deal with the virus. By the end

of April, after the sudden halt in economic activity had slowly has returned to the "new normality". In a way, a new contract between the government and academia emerged due to the outbreak of COVID-19 and the importance of science started to be acknowledged by the population.

The health crisis will affect the lives of many people around the world. As well as every country defining a different health scheme to deal with the pandemic, more or less following World Health Organization (WHO) guidelines, in economic matters, governments have been instituting different strategies. The economic measures have focused on three main objectives: financing health expenditure, reducing the negative impact of the pandemic on commercial and productive activity, and, mitigating the effects on household income (Lanzilotta, Merlo and Mordecki 2020).

Uruguay's measures to reduce the negative impact of COVID-19 on the commercial and productive activity include:

- The government established new subsidized credit lines with state guarantees with emphasis on small and medium-sized enterprises.
- Postponement of maturities and subsidies to micro and small enterprises.
- Extension and flexibility of the unemployment insurance regime. Furthermore, a form of "partial unemployment insurance", which provides for the possibility of the worker to cut the working day by half or reduce the days worked so the company pays half of the salary and the other half is paid by the state insurance, was added to the existing system. Workers are also allowed to enter the system for periods of less than a month.

The measures to soften the impact on household income and homeless people were a doubling of payments and delivery of food baskets. People vulnerable to COVID-19 were moved to permanent residence in hotels. Moreover, a subsidy was introduced for formal workers over 65 years of age who must remain at home because of illness.

Most of these measures have been further extended during recent months. Measures to avoid job layoffs by a flexible insurance and a devolution from the state to enterprises that rehire workers has also recently been designed.

To fund these measures as well as others associated with diagnosing the virus the country has resorted to loans from multilateral institutions such as the Inter-American Development Bank (IADB) and the World Bank (WB). The government proposed the creation of a "Covid Fund" supported by international loans, the profits of the national bank (BROU) and the Comisión Nacional de Desarrollo (CND) of 2019, and a new two-month tax on the wages of public servants and politicians with salaries over 120,000 Uruguayan pesos. This will affect 15,000 civil servants and has raised nearly $12 million, which is clearly insufficient to fund the emergency.

From the above, it seems that, as in many emerging countries, the main source of financing for the country will be loans from multilateral organizations. Fortunately, Uruguay has the financial backing to address this, as (since at least 2010) it has several pre-approved credit lines for negative contingencies, for more than $2,500 million (from organizations such as the IDB, CAF and FLAR (MEF 2020), to which the WB and the International Monetary Fund (IMF) would add). In this way, the country's debt-to-GDP ratio will also rise.

Regarding GDP, Mordecki (2020) shows the fall in production and trade in the second trimester of 2020, followed by a recovery in economic activity in the next trimesters.

Official government figures show that the cost of the health emergency is $768 million, and the fall in GDP for 2020 is estimated at 3.5%, with a rise of the fiscal deficit to 6.5%. Uruguay's fiscal effort is thus 1.6% of GDP. The informal economy is lower than in other Latin American countries, and formal workers in Uruguay are protected by a security system with insurance. There is also national health insurance for the whole population.

The prediction from official sources as well as some consultant offices, is thus that the Uruguayan economy will go through a recession in 2020, there will be a real depreciation of the peso and higher inflation. All of this will have negative effects on employment, income, poverty and inequality. While the measures taken so far are in the right direction in light of the experience and the restrictions that the country faces, they are still insufficient to compensate for the activities affected and to mitigate the impact on the most vulnerable population.

The big issue is how to recover economic activity and employment. Regarding the economy, gradually and with the advice to the government from the Group of Scientific Counselors (*Grupo de Asesores Honorarios Cientificos*), several activities have been resumed, starting by construction and schooling in rural areas, and the most recent activities resumed by the end of August were public shows, but complying with strict protocols.

The general strategy has been one of progressive opening, regulated, constantly monitored and, if possible, based on evidence, which seeks a balance between some central elements, such as optimal control and management of the disease individually and collectively and the restoration of functioning in the transition to the "new normality".

It seems that the success of the measures taken has been due reacting very quickly based on scientific advice to the government. Furthermore, the Institute Pasteur and the University of the Republic have developed two diagnostic kits. One at the beginning of the pandemic, and the most recent approved by the end of August.

In the period since the COVID-19 hit the country until 31 August, 1,595 people were infected, 1,409 recovered, and 44 died.

Nevertheless, it will not be easy to recover, and increase the level of activity and employment. In 2014 while the level of activity continues increasing, employment has slowly been falling. Employment was already an issue when the COVID-19 first broke out.

During the health emergency, almost 220,000 people were covered by unemployment benefits. Meanwhile, 13,931 workers have fallen out of insurance and have no activity registered in the Banco de Prevision Social (BPS).

The Banco de Prevision Social received 44,100 unemployment requests between August 1 and 18. Of the total, 18,897 requests were for unemployment benefits, 5,328 (41.3%) for suspension, 4,948 (38.4%) for reduction and 2,621 (20.3%) for dismissal. Thus, although there has been a recovery in activity and employment, the impact is still important.

5. The regional context

Uruguay is located between two big countries: Brazil and Argentina. When COVID-19 broke out these countries were going through major economic crises. Nevertheless, they took quite different measures. Brazil, led by the president Jair Bolsonaro, has denied the importance of the virus for human health and sought to keep the economy working. On the other hand, the Argentinian president Alberto Fernandez implemented a compulsory quarantine even though the economic situation was even worse than in Brazil.

Nevertheless, this quarantine was ineffective and the number of people infected and fatalities is quite high. By 31 August, there had been 8,500 fatalities in Argentina due to COVID-19 and the longest quarantine in the world (six months compulsory quarantine). With different measures in Brazil and Argentina we have the same result: high infection and death rates. This poses an important danger for Uruguay, mainly from the land border with Brazil, since infected people cross the border every day. To tackle this issue customs controls were reinforced and a strict protocol was implemented.

Unlike Argentina, there was no compulsory measures but a call to use freedom with responsibility. When the virus broke out there were very few diagnostic kits. Thus an important effort, mainly by the Institute Pasteur in Uruguay and the University of the Republic, was carried out to make the diagnostic kits available at a low cost. When an infected person is identified there is also epidemiological monitoring of all their contacts and swabs to identify infected persons. In addition, all contacts are quarantined. There is an important effort to increase diagnosis and

following the epidemiological thread to reduce the spread of the contagion. There were some outbreaks mostly in the health system and imported from Brazil.

6. Some final remarks

Today the situation is relatively stable, with some COVID-19 outbreaks, but this equilibrium can be easily disturbed by inappropriate behavior and by infected people coming into the country and not complying with the health protocols. In recent days bilateral agreements between Uruguay and Brazil have been negotiated to care for and benefit the population of both countries. Epidemiological monitoring is being carried out and each outbreak is subject to careful control. Most activities have slowly resumed, beginning with construction and following with rural schools, but with strict protocols regarding physical distance and sanitization, and in recent days extending to public shows.

Nevertheless, we still do not know how long the pandemic will last, and when a safe vaccine will be available. This affects the possibility to return to full economic activity. Thus the question remains: when and how we will return to economic growth and employment? Perhaps the most difficult issue will be to recover full employment. Currently, the national budget is being discussed by the new administration. It emphasizes a tight budget to reduce the fiscal deficit and facilitate private investment in order to recover growth and employment, and good management of the public enterprises. Thus the big question is what will happen in the coming months and whether this good record remains or shows signs of changing.

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Spojrzenie na niewielki południowy kraj: Urugwaj

Streszczenie: Praca została poświęcona Urugwajowi, niewielkiemu państwu położonemu w Ameryce Łacińskiej, między dwoma dużymi sąsiadami: Argentyną i Brazylią. W artykule przedstawiono wybrane informacje społeczno-ekonomiczne i historyczne. Szczególną uwagę poświęcono sektorowi rolnemu i specjalizacji eksportowej, które są od dawna ważnymi czynnikami wzrostu gospodarczego kraju. W ostatnim czasie podobną rolę zaczęły odgrywać usługi. Druga część artykułu w całości poświęcona jest obecnej sytuacji, związanej z pandemią COVID-19, która rozpoczęła się w marcu 2019 r. W artykule przedstawiono sposoby radzenia sobie z pandemią w dziedzinie zdrowia i ekonomii. Artykuł kończy się pytaniami o prespektywy zakończenia pandemii i dalszego rozwoju gospodarczego kraju.

Słowa kluczowe: Ameryka Łacińska, gospodarki wschodzące, badania krajów, COVID-19, Urugwaj.

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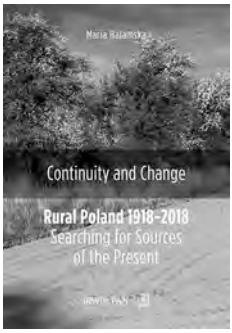

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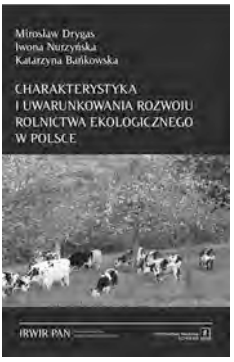

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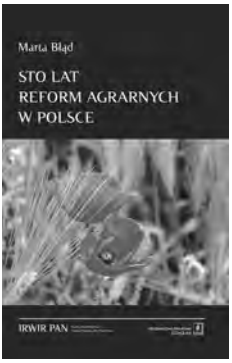

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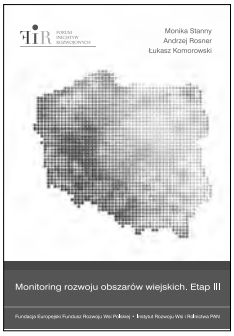

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