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Dear Readers,

We hereby commend the latest issue of *Argumenta Oeconomica Cracoviensia* to you. The journal publishes original contributions in the fields of economics and finance which are of a theoretical, empirical or methodological character. Our approach is a response to the global trend in economics and finance scholarship, especially pronounced since the financial crisis, towards the search for, and explanation of, the relationships and dependencies between phenomena and processes occurring in the financial sphere and in the real economy. Despite intensive research and lively international academic debate, there are no unequivocal conclusions as to the causes and consequences of the divergence between the real and financial spheres of the economy. Moreover, country-specific and international regulatory action have not reduced the powerful role of the financial sector. This could signal the beginning of another financial, economic, and social crisis. The unabated interest of speculative capital (investment funds, private equity funds, etc.) in the housing market (real estate) remains a cause for concern, and elevated house prices as a consequence of speculation are restricting part of the population's access to housing, a basic good. This is a major social problem. Speculation on the real estate market is encouraged by a worrying increase in income and property inequalities.

New research challenges are emerging in economics and finance related to the phenomenon of globalisation, which seems to be at a crossroads in the face of the rising contradictions between the world's superpowers and the temptation to return to protectionist practices. The COVID-19 pandemic, whose current and long-term effects are difficult to predict, has opened up a new research perspective. These new cognitive and practical challenges are accompanied by phenomena such as population ageing, climate change, digitalisation, the fourth industrial revolution, and artificial intelligence, whose implications for the economy and society are not yet fully understood. The economic and social consequences of these phenomena are likewise

hard to predict, although they are expected to provide sources of economic and social progress.

Some of the challenges mentioned above are directly or indirectly addressed in the articles contained in current issue of our journal. The papers make reference to the current clash of doctrines: further liberalisation of the global economy on the one hand, and protectionist tendencies on the other.

The issue opens with Kalim Siddiqui's article, "Can Global Imbalances Continue? The State of the United States Economy", in which the author argues, on the basis of literature research and available empirical data from international financial institutions, that global imbalances are exacerbated by inefficient resource allocation. An external symptom of this is the US current account imbalance, which is destabilising the global economy. According to the author, this negative phenomenon is the result of the excessive financialisation of the economy, made possible by the still dominant current of neoliberal economic thought (doctrine). The paper also deserves attention because the author offers an early assessment of the effects of the pandemic not only on the American economy, but – due to the role and reach of the US – on the global economy too.

The paper by Eliza Frejtag-Mika and Tomasz Mika, "Protectionist Practices as a Method of Restoring the Trade Balance", is closely related to the issues discussed above. In recent years, for various reasons, seemingly anachronistic recommendations for the application of protectionist policies by individual countries have been revived. This phenomenon, which before the pandemic was a result of, among others, the trade war between the United States and China, has now taken on a wider dimension in the context of the pandemic. This is understandable to a degree, as meeting the demand of health care systems in various countries has been hampered. The production of many goods connected with the fight against COVID-19 and with food distribution has become more and more strategic in the face of interrupted supply chains. It is also worth noting that the customs and other restrictions imposed by the US administration are a symptom of the struggle for global dominance. Therefore, considerations of a strictly political nature do not necessarily have a positive impact on the economy and international trade, and undermine the benefits of the international division of labour. In this paper, the authors attempt to demonstrate that protectionist practices (customs barriers, non-tariff barriers) are an ineffective means of restoring the balance of payments equilibrium. The use of protectionist tools by one country tends to lead to retaliatory action by the other country, which in the long run is not conducive to restoring equilibrium in the current

account balance and trade balance. A customs war gives impetus to a trade war, which diminishes the benefits of international trade, and is thus short-sighted.

Research on the strategy and consequences of monetary policy in countries where systemic change has taken place is still intriguing, not least because such countries have little experience of an economy which functions according to the business cycle and in which monetary policy is conducted by trial and error. For this reason, the research findings presented by Viktor Shevchuk in his paper entitled "Monetary Policy Transmission Mechanisms in the Central and Eastern European Countries" may prove interesting. Using a structural vector autoregression (SVAR) model, the author estimates the macroeconomic effects of monetary policies pursued by selected countries outside the euro area. The obtained results differ significantly across the analysed countries in terms of the strength and direction of changes in the business cycle (GDP) and inflation. In the research, changes in macroeconomic figures as a result of monetary policy responses take into account the classic channels of transmission of monetary decisions, i.e. the exchange rate and the fiscal channels. This article may serve as an inspiration for further in-depth research.

Dominika Polko-Zając's paper, "A Comparative Study of the Power of Parametric and Permutation Tests for a Multidimensional Two-sample Location Problem", is of a methodological character and concerns statistical inference. The originality of this work lies in the fact that the author presents a permutational, complex procedure for assessing the overall achieved significance level value. She carries out a simulation study to determine the size and power of the test under normal conditions. A Monte Carlo simulation allows her to compare the empirical power of this test with that of Hotelling's T^2 test. The advantage of the proposed method is that it can be used even when samples are taken from any type of continuous distribution in a population. The paper may be of interest to researchers of economic and social phenomena using statistical methods.

The issue of trust in broadly-understood financial institutions is becoming more important in line with the ongoing financialisation of economic and social processes, the use of increasingly sophisticated financial instruments, and the remote handling of clients of banks and financial institutions. Although the issue of trust in the activities of banks was present in research and in the subject literature long before the recent financial crisis, the scale and depth of the crisis has significantly undermined public confidence in these institutions. The impact of trust on the development of financial

institutions was finally recognised by the banks themselves. These issues are addressed in Grażyna Szustak and Łukasz Szewczyk's article, "Public Trust – a Bank's Non-financial Capital", in which the authors attempt, on the basis of surveys, to determine the importance of public trust and ethical attitudes both from the point of view of customers and stakeholders, and from the point of view of the banks themselves in the context of their current operations and development prospects. The research findings are interesting in that irrespective of the paradigm of the bank as an institution of public trust in academic debate and in banking practice, the main factor that protects customers' interests is the law, i.e. regulations. The authors rightly draw attention to the uncomfortable situation of banking staff and to the factors that foster unethical behaviour. Among the latter is the pressure to implement the sales plan, which plays the most important role. Incidentally, it may be noted that while it is relatively easy to perceive the ethical or unethical behaviour of banks, this is much more complicated in the case of other financial institutions, especially investment banks. The need for research on these institutions and forcing them to behave ethically is an even greater challenge. Despite the crisis of the financial sector in the first decade of this century, the sector has recovered relatively quickly, and its practices, as exemplified by the role of financial institutions in the real estate market mentioned above, cast doubt on whether its behaviour is ethical. Given the use of sophisticated financial instruments and operations which even people with a high level of economic knowledge find difficult to understand, assessing the behaviour of financial institutions from an ethical standpoint is made more difficult as the border between traditional banking and investment banking becomes blurred. And in the case of non--bank financial institutions, it is also – unfortunately – more difficult to apply effective regulation.

An economically and socially important topic is discussed in Przemysław Pluskota's article, "The Use of Microfinance to Mitigate Financial Exclusion". In view of the increasing financialisation of social life, citizens' access to financial services is important. This is significantly more difficult in less developed countries (regions). Where the development level is low, profit-oriented big financial institutions are not interested in investing in infrastructure. For this reason, too, the author's presentation of the importance of the emergence and development of local microfinance institutions focused on serving the poor should be seen as a valuable contribution. Social exclusion does not necessarily lead to financial exclusion, thanks to the products (services) offered by microfinance institutions that

are tailored to the needs of poorer people. Also noteworthy is the author's attempt to define financial exclusion, since this concept is still interpreted in different ways.

While commending the present issue to our readers, we would also like to invite contributions in the form of original texts, information about important academic events, and reviews of outstanding books. Texts in the field of economics and finance will be treated as most relevant to the journal's profile.

Prof. Stanisław Owsiak
Editor-in-chief

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Kalim Siddiqui

CAN GLOBAL IMBALANCES CONTINUE? THE STATE OF THE UNITED STATES ECONOMY

Abstract

Objective: This study investigates the issue of global imbalances by exploring, in a historical context, the interconnections between the United States current account imbalances and the processes underlying allocative inefficiency, financialisation and austerity politics.
Research Design & Methods: A comprehensive review of published studies is the research methodology used in this article. Published secondary data from both governments and international institutions are presented and discussed.
Findings: The study find that the deep nature of the current imbalances and economic crisis in the United States could adversely affect the rest of the world. Although the IMF and other institutions of global governance have now questioned the effectiveness of neoliberal policies, the severe measures the IMF advocates in response to current account deficits could presage yet another era of anti-growth austerity measures in the United States.
Implications/Recommendations: There are features of the current account US imbalances situation that have the potential to exacerbate negative trends and to further fuel adverse economic and political outcomes. The study suggests that a coordinated, US-led international response to a future global recession could be even more deficient than the current response to climate change.
Contribution: The paper makes a contribution to the literature on the failures of global governance and critically examines the economic risks of the current situation that are being compounded by the political approach of the Trump Administration, which

Kalim Siddiqui, University of Huddersfield, The Business School, Department of Accounting, Finance and Economics, Queensgate, Huddersfield – HD1 3DH, UK, e-mail: k.u.siddiqui@hud.ac.uk, ORCID: https://orcid.org/0000-0002-7952-4573.

characterises US trade partners as adversaries in need of coercion through tariffs and strident rhetoric.

Keywords: current account imbalances, neoliberalism, financialisation, The United States.
JEL Classification: E50, 60, F30, G15.

1. Introduction

This article examines the current deficits of the United States (US) by focusing on the long-term structural causes of this imbalance. Evaluating whether this current account imbalance is good or bad for the global economy requires an understanding of the underlying characteristics of the US as an advanced capitalist economy which sucks-in saving from surplus countries (Wade 2017). This could not continue forever, and in fact is seen by the critiques as causing uncertainty and hindering growth in the global economy (Wolf 2008a).

The US has been showing deficits on its current account for the last nearly twenty-five years. For instance, the current account deficit was much less during the Clinton Administration, but soon after, under the George W. Bush Administration, it began rising and has been moving upward since. The IMF's External Sector Report (2018b) estimates that 40–50% of global current account imbalances are now excessive, with the largest excessive deficits being concentrated in the US and the UK. The IMF defines "excessive" as "not explained by countries' fundamentals and desirable policies (emphasis added)".

It is said that if a country runs a current account deficit, this means that it must sell assets to the rest of the world to pay for its imports. The IMF (2018a) warns that, "because of the risk that foreign lending dries up, deficit countries face greater pressure to balance their international accounts than surplus countries do to balance theirs. But when the adjustment comes, both debtor and creditor countries lose. The adjustment in the aftermath of the global financial crisis is a not-too-distant reminder of that". The policy approach recommended by the IMF to deficit countries includes fiscal consolidation, reducing the generosity of pension systems, and market reforms to labour costs – measures that seem likely to be politically inflammatory in countries already long subject to relative stagnation (or decline) in incomes, demographic ageing, growing private household debt, and decline in the quality of basic infrastructure.

Unsurprisingly, after years of austerity measures of the type the IMF recommends, the capacity of the capitalist system to achieve stability, prosperity and peace through self-regulation is being called into question by both professional economists and the public at large (Wolf 2008a).

We will also discuss the impact of the COVID-19 pandemic on the US economy. In order to analyse the impact of the pandemic on an advanced capitalist economy like the US, there is a need to look at its effect on different industries and sectors. For instance, in the US, consumption makes up 70% of GDP, but in the last six months, consumption has fallen due to business closures and private consumers postponing major purchases as they worry about their jobs and incomes. Private investment makes up 20% of GDP in the US, but investors are postponing future investment as they are not sure about COVID-19. Other economic sectors, which are important in terms of jobs and incomes, namely services such as tourism, entertainment, music, clubs, sports, hotels and restaurants constitute 4.2% of GDP, with restaurants, clubs and cinemas being closed and an other important sector, manufacturing, which constitutes nearly 11% of the US total output, being disrupted mainly due to closures or working below capacity in anticipation of reduced demand.

The global recovery from the COVID-19 recession still remains uncertain. There is some patchy recovery across economies, but it is faltering in some sectors and countries, as in some countries the restrictions on people and economic activity are stalling, while in others they are going into reverse. This means that the international economic rebound is also uneven across sectors, with services continuing to experience crisis. For example, the recent IMF Report forecasts that the US economy will shrink by more than 8% by the end of 2020 compared with a reduction of 7% in the European Union and 5% in Japan, while others claim that by the end of 2020 the US economy will be witnessing a reduction in annualised second--quarter decline of nearly 40%.

The governments of advanced economies such as the US, Japan, Germany and the UK have made trillions of dollars available to businesses and households, along with reducing interest rates to minimise the adverse impact of the COVID-19 crisis. For example, the UK has begun an employment retention programme, where the government would pay up to 80% of workers' wages. Since the government programme was launched, more than 400,000 companies have applied to pay nearly 3.4 million people through furlough payments, which could cost the government £ 2.5 billion by the end of September 2020. There is also other government programme to

support over 5 million self-employed workers. But still, despite such beneficial schemes in a time of recession, many more will not be covered by such plans.

This research intends to discuss global imbalances, and because the US remains the largest economy in GDP terms, it is crucial adopt a historical perspective to better understand the current situation. First, we note that these global imbalances have been defined as "external positions of systemically important economies that reflect distortions or entail risks for the global economy" (Brake *et al.* 2010). This definition, which accords with the view of the IMF, outlines important features of global imbalances and indicates that the inner disequilibria of large advanced economies could have an impact on the world. It has been argued that the US current account deficit cannot be remedied through a temporary nominal deflation of the US dollar alone and that it will also require some strong policy measures to address the domestic imbalances in the US economy (De Cecco 2012).

Mainstream economists argue that current account imbalances should not be seen as a crisis and a matter of concern but rather as the result of emerging economies' aims to increase accumulation through export-led growth (Taibbi 2018, De Cecco 2012). It is said that after the 1997 East Asian financial crisis, these economies wanted to increase their US dollar reserve holdings sharply to combat any potential financial crisis. As a result, there was an increase in demand for US dollar reserves due to allocative inefficiency through net transfers being made from low- to high-income countries. This phenomenon is known as the Lucas Paradox.

Under this economic situation, Keynes (1980) said that in fact surplus countries should take greater responsibility: "The objective of the new system must be to require the chief initiative from the creditor countries, whilst maintaining enough discipline in the debtor countries to prevent them from exploiting the new ease allowed them in living profligately beyond their means" (Keynes 1980, p. 30). Keynes emphasised in his book *The General Theory of Employment, Interest and Money* (1973) that the policy aim for the government should be to take capitalism out of the "Great Depression". Therefore, under such circumstances, government economic policy should be to regulate the market. The aim must be to raise investment and consumption in the economy, and if private investment is low then the government must take the initiative through the use of fiscal policy to fill this gap. Keynes was in favour of government regulation of financial institutions. He pointed out that the main cause of the economic crisis was lower investment in the economy. If capitalists increased the level of investment, leading to an increase in GDP, then recession could be averted.

The increased financialisation of the past three decades and stagnation in the labour share of national income in the advanced economies are together largely responsible for rising inequality in income distribution because they decouple improvements in the personal income of households from improvements in macroeconomic performance (ILO 2015). However, in an era of declining investment in the real economy, as result of rapid growth in speculative financial investment, higher levels of debt are required and demanded from households (Armstrong & Siddiqui 2019).

The global financial crisis of 2008 illustrated the inability of capitalism driven by neoliberal policies to resolve the contradictions of this new economic environment. In the name of more innovation, the greater freedom given to financial institutions has led to global financial instability and has ultimately adversely affected the global economy. For emerging economies, who were encouraged to rely on exports and foreign capital inflows for their economic growth, the COVID-19 pandemic and slow-down in the advanced capitalist economies have aggravated the crisis. In fact, the inability of the global reserve system to provide sufficient international liquidity during the crisis pointed to those economies' vulnerability to economic forces beyond their control (Patnaik & Patnaik 2016, World Bank 2017).

The research question is why in recent years the US economy has witnessed a rise in current account deficits. The methodology of this study has been chosen carefully in order to answer the research question. The research method is based on analysing the data provided by the international institutions and published reports and also intends to critically examine the relevant studies in order to answer the research question.

The adoption of neoliberal economic policies and the rise of the financial sector in the US since the 1990s saw households increase their debt rapidly in order to finance their consumption. As summarised by Martin Wolf: "Any country that receives a huge and sustained inflow of foreign lending runs the risk of a subsequent financial crisis because external and domestic financial fragility will grow (…) Cheap money encouraged an orgy of financial innovation, borrowing and spending". This is, however, an incomplete account because the mortgage-backed securities and the derivatives based on them, which were the ultimate cause of the 2008 financial crash, were dependent on higher levels of indebtedness by "miserable victims" who largely "turned out to be poor, non-white, and elderly" (Taibbi 2018).

In fact, the easy availability of credit encouraged consumers to borrow, but there were other forces influencing their spending and consumption decisions. Marketing, in particular, began to use the brand names of big

corporations, which played an increasingly important role in expanding sales. In order to promote their business operations and sales, many global corporations allocated huge amounts of money for marketing and promotion. As Baran and Sweezy (1966) noted under monopoly capitalism more than half a century ago, price competition is replaced by the increased use of marketing and product differentiation to build a loyal consumer base. Multinational corporations spend large amounts of money on advertising, marketing and the development of ranges of different products. At the same time, capital came to depend on the support of its country of origin in order to defend its interests and provide help against its rivals. According to Baran and Sweezy, the growing interdependence of states and capitalists has given rise to an intensification of geo-political rivalries that could lead to armed conflict. The recent clash between the US and France over the latter's plan to tax Google, Amazon and other tech giants is illustrative (*US Launches Inquiry...* 2019).

The constant bombardment through marketing and advertising increases the psychological and social pressures on people to buy more. It is widely accepted that consumer demand is not endogenous but influenced by exogenous institutional processes and especially by corporate advertising. Indeed, although rational choice theory has not been abandoned, the relatively new discipline of behavioural economics has placed much more emphasis "on the ways in which consumer decision-making may not be fully rational and how firms can exploit such consumers" (Fatas & Lyons 2013). Moreover, under oligopolistic markets, such as those we find in US tech industries, intense rivalry and competition can easily lead to high investment in product innovation and differentiation.

The period of relative global stagnation and instability in which advanced capitalist countries found themselves even prior to the COVID-19 pandemic is evidenced by slow growth rates in the last ten years. In fact, the international economy has been increasing at 3.3% per year since the 2008 financial crisis, compared to 4.5% in the earlier decade. Much of the global growth between 2009 and 2018 was due to growth in China, which was stimulated by government investment in infrastructure (Siddiqui 2020a, Sahoo, Dash & Nataraj 2010). Indeed, the Chinese economy has emerged in last ten years as the second global economic power, while the US and European countries have witnessed relatively little growth.

A recent study by Bullard, Silvia and Iqbal (2017) argues that although the US economy is still the world's biggest, between 2008 and 2016 there was a 20% annual shortfall in fixed capital investment, which has adversely

impacted GDP growth and output. Despite this relative lack of growth, the United States is still the major source of demand in the world economy, and its growth in therefore crucial for the world economy. In fact, for nearly the last four decades, the current account deficit of the US has risen gradually to very high levels. This has no doubt benefited China, India and other emerging economies (Siddiqui 2018a).

It seems that capitalism in the advanced economies has failed to deliver economic stability and prosperity for nations, and at the same time persistent attacks against trade unions together with an unbalanced fiscal policy have reduced workers' bargaining power (Siddiqui 2019c). In the US, 24% of adult workers now derive income from the gig economy and for 44% of those individuals such work is their primary source of income (Edison Research 2018). It is not an exaggeration to claim that the creativity of early capitalism has been superseded by a new era typified by insecure employment, private debt, financial speculation, declining innovation, stagnant aggregate demand, and government-assisted asset price inflation.

2. The Political Crisis of Global Capitalism

The question arises as to whether the United States will remain the leader of global capitalism after the current political and economic crisis has run its course. It appears that Donald Trump's orientation toward protectionism will be constrained by the global production chains of US corporations and that high technology industries will very likely escape the effects of tariff adjustments. There are, however, other considerations.

China has become the world's second biggest trading nation and fastest growing economy. At present, its economy accounts for more than one fifth of incremental demand worldwide. Furthermore, China's ability to use its economic power to bring about transformations in global governance has become a serious research endeavour within Chinese academia (Xueliana & Lu 2016). Moreover, some other fast growing and developing economies have also boosted global demand and these countries are similarly questioning their future role in the global order vis-á-vis both the US and China (Beeson & Zeng 2018, Siddiqui 2016).

During the last twenty-five years of increased globalisation, modern capitalism has transformed itself hugely, as evidenced by the rise of foreign capital investment and the economic integration of East Asian economies. In this recent international financial system, despite the existence of national capital, a new transnational capitalist class has risen to dominate globally.

As a result, competition occurs between global corporations and not between nations: "As nation states are captured by transnational capitalist forces, they tend to serve the interests of global over local accumulation processes" (Robinson 2004, p. 17). In fact, advanced capitalism has the intrinsic need to export capital in order to cut costs and seek higher profits (Patnaik & Patnaik 2016). These capital exports also lead to increased competition among nations. The multinational corporations can operate in different countries, but still they link to their home country so they expect to receive government help and support (Kobrin 2009).

3. The US Economy and Global Imbalances

The US current account deficit, which is the ultimate cause of key global imbalances, has been said to be due to overspending in the US, though some blame "policy exchange rates" adopted by surplus countries to prevent currency appreciation. Figure 1 shows the US current account balances for 2011–2020. According to this alternative view, under a flexible exchange rates regime, countries with surplus currencies would appreciate against US dollar until the imbalances were eliminated and blame surplus countries for the rise in the US deficits (Siddiqui 2020d). Two-thirds of all foreign exchange reserves are still kept in US dollars and due to the global demands for US dollars, the United States is still able to run large current account deficits, which makes it difficult to maintain the stability of the global capitalist system in the face of internal dysfunction, climate emergency, and renewed competition for global economic, political, and military hegemony (Willett & Chiu 2012).

Former Chair of the US Federal Reserve Ben Bernanke's "saving-glut" theorem emphasises that US high spending is the reason behind the US trade deficits (see Figure 2), due to this money flowing back into the US economy from the rest of the world. This leads to credit expansion and by keeping lower interest rates to attract borrowers and as a result US household consumption increases global demand (Siddiqui 2019d, Wade 2017).

The rise of inflow of capital into the US economy from overseas induces asset price inflation, while excessive reserve accumulation overseas is due to efforts by the East Asian economies to self-ensure against possible speculative currency attacks (Siddiqui 2019a). The emerging economies are cautiously guarding against a sudden fall in investment, capital flight or domestic currency appreciation as these could have a negative impact on export competitiveness and economic growth.

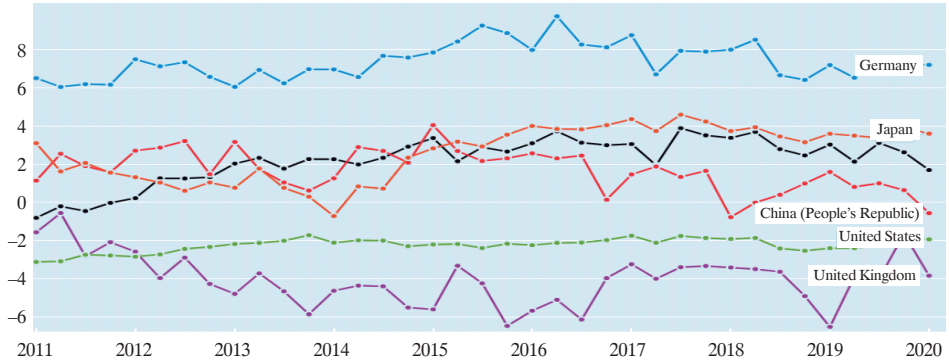

Fig. 1. Current Account Balance – Total, in % of GDP, Q1 2011–Q1 2020

Source: OECD, https://data.oecd.org/trade/current-account-balance.htm#indicator-chart (accessed: 18 July 2020).

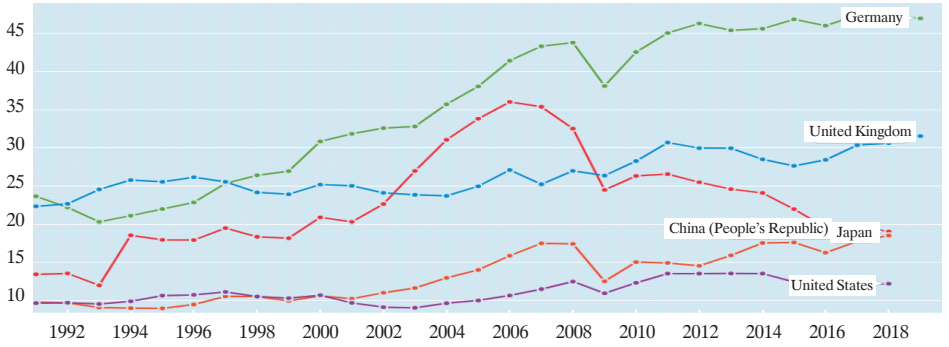

Fig. 2. Trade in Goods and Services, Exports as % of GDP, 1992–2018

Source: OECD, https://data.oecd.org/trade/trade-in-goods-and-services.htm#indicator-chart (accessed: 18 July 2020).

Historically, very large current account deficits are in fact sustainable for very long periods of time. In the late 19th century, there was a very large and sustained current account imbalance in the UK, which was then exporting a huge amount of capital to Argentina, Australia and Canada. The critics said that UK investors were lending and exporting capital while neglecting domestic markets and, in fact, this capital was exported from the UK primarily because of the lack of higher returns in the domestic economy.

Factor income was very important before the First World War, when Britain was called a nation of rentiers. At this time, Britain's current account

was dominated by foreign dividend inflows, which were the yield of past investments. In the 1920s, Britain became a deficit country and its huge foreign investments were used to pay for war supplies imported from the US. By then, the US was the main surplus country and also held most of the world's gold.

In 2017, economic growth in the US was lower than that of other major economies, with a rise of 2.3%, while the average growth for EU countries was 2.5%, and China's was much higher at 6.9%. In the previous year, i.e. 2016, US GDP growth was 1.5%, while EU growth was 2% and China's growth was 6.7%. Past US experience indicates that there is a strong correlation between GDP growth and the percentage of net fixed investment, which means that fixed investment is crucial to achieving higher growth rates. In the absence of net fixed investment, it is simply not possible for the US economy to accelerate growth rates in the long term. For instance, during the post-war economic boom in 1966, US net fixed investment was 11.3% of GDP, but in 1978 it was 10.5%, in 1984, 9.2%, in 1999, 8.3%; in 2006, 7.9%; in 2017, 4.2% and in 2018, 5.1%. Currently, US fixed capital formation is far lower than in the two decades of the post-war economic boom (OECD 2020).

Donald Trump's tax cuts for US corporations and the wealthy, which have coincided with a reduction in government fiscal spending, have further increased the US budget deficit. If other things remain the same, such policy discourages US domestic savings and therefore reduces savings to finance investment. Under such circumstances, the federal deficit will rise and will push up bond yields to attract foreign buyers. However, although the US share of global GDP has declined, but is still currently estimated to be 20% lower than a decade ago, US-based multinational corporations control nearly half of the world's assets (Siddiqui 2019c, Bello 2006).

There is no doubt that the US has a less powerful global position in exports and productivity than ten years ago (Siddiqui 2020c). However, US-based multinational corporations are still successfully transferring the greater part of the economic surplus created in the developing countries back to the US. They do so thanks to the global military and financial hegemony of the US (Siddiqui 2019c). The continuation of US financial dominance depends on the survival of the dollar as the hegemonic currency. Currently, the rise of Chinese economy poses a challenge to the US dollar, but even so the US has by far the largest defence spending and military power in the world. The US has continued to maintain global dominance mainly through the role played by its defence sector in technological advancement and the

presence of military bases all over the world, but it will be very expensive to maintain such large military expenditure due to the relative decline of its economic position in the world. However, a smooth transition to a multi--polar world is far from guaranteed, and tensions between rivals are evident. In the last century, political and economic instability in the capitalist world economy gave rise to wars and fascism.

Despite these developments, the recovery in the US in 2018–19 was fragile because it was backed by the expansion of the global financial system of the previous decades. It has been seen in the past that, as capital develops, money cannot find a ready outlet and moves into interest-bearing capital. Since early 1990s, due to financial de-regulation, interest-bearing capital has grown sharply as it receives vast interest payments.

Financialisation could be explained in terms of the dominance of finance over industry (Wien 2010). This does not mean that finance fully controls or dictates to the industrial sector (Siddiqui 2019d). In fact, studies have shown that multinational corporations depend far less on the financial sector to fund their operations. For instance, US-based non-financial corporations are themselves increasingly moving into financialization and are thus deriving a share of their profits from their financial rather than from their productive activities. As Martin Wolf has described it, "the US itself looks almost like a giant hedge fund. The profits of financial companies jumped from below 5 percent of total corporate profits, after tax, in 1982 to 41 percent in 2007" (Wolf 2008b).

However, even with the existence of high levels of sovereign debt in the US, no country has yet shown any initiative to challenge the US dollar as the international currency (Siddiqui 2020d). Patnaik (2009) stresses that any possible alternative to the US dollar as an international currency will require a country to challenge the prevailing international financial system. He points out that the fall in the value of the dollar in terms of oil could lead to the decline, and finally replacement, of the US dollar. It seems that, currently, no advanced economy has tried and no serious attempt from the major dollar holders been made to seek an alternative. At present, the major creditors to the US, namely China, Germany, Japan and the rich Arab countries, rely heavily on US markets to prop up their own domestic demand. In the US, since the global financial crisis of 2008, real average wages have declined, but domestic consumer demand has continued to rise along with household borrowing.

The neoliberal model has thus failed to validate the opinion that "we must have more globalization". This current COVID-19 crisis could be a chance

to reform economic policy, which means the redistribution of wealth and power and benefitting some previously marginalised classes and sectors through a more active fiscal policy. For instance, the national independence of former colonies became possible after the two World Wars weakened the European powers and made it impossible to control them militarily. And on the domestic front, negotiations between employers and employees became the norm, with trade unions playing a greater role in wage negotiations.

Since the early 1990s, in the name of efficiency and competition, the gradual de-regulation and capital liberalisation of the financial sector led to a dramatic expansion of this sector. As a result, the US witnessed the reversal of its post-war gains, especially on the issue of income inequality. For example, in the US, the income share of the top income group (1%) declined from 29% in 1929 to 8% in 1970 and stayed the same until the end of the 1970s, while the poor and middle income group witnessed a greater rise in their incomes. By contrast, the neoliberal regime adopted since the late 1970s has reversed the earlier redistributive income and wealth policy, which has widened the gap between rich and poor to very high, historically unprecedented levels. For instance, in the US, the income share of the top 1% rose very sharply to 23% by 2008 (Wade 2017). Between 1991 and 2010, economic growth was linked to the sharp in rise in real-estate prices. However, by 2006 these prices had began to stagnate and reached a plateau. Soon after 2007, housing markets plunged into a deep fall in prices, resulting in the sub-prime financial crisis and global economic recession (Kotz 2018).

It seems that early in this decade the economic recovery in the US was linked to debt-financed consumer spending, which was very difficult maintain in the long run (Siddiqui 2019b). The growth occurred at a time when consumer spending rose while investment in the economy slowed; government spending contracted in real terms over the period, resulting in a slow-down in overall growth. US trade imbalances grew further as imports rose faster than exports. These developments clearly indicate that the largest contributor to US economic growth in recent years is household spending, which contributed to 81% of the increase over the 2014–17 period. Investment slowed to 2.1%, contributing to only 16% of GDP growth over the same period. Moreover, the US government's and firms' foreign debts exceeded foreign assets by the equivalent of 30% of its GDP as early as in 2004 (Kotz 2018, Glyn 2005).

The crucial question is whether the current Trump administration's tariff protection measures are justified. In order to answer this, we must first analyse the long-term view regarding the external payments situation of the

US. Figure 3 presents a summary of US external payments between 1970 and 2017. During these thirty-seven years, trade rose uninterruptedly, but for the last two decades it has grown remarkably at historically very high levels. This coincided with the period when China became a member of the World Trade Organisation, which the US elites used as an excuse to blame China for its trade deficits. The US trade deficit with China and other countries is shown in Figures 4 & 5.

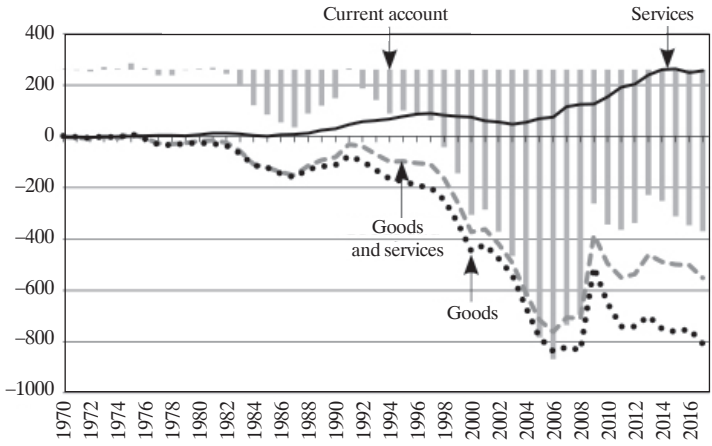

Fig. 3. The United States' External Payments (in billion USD), 1970–2017
Source: IMF (2018b).

The official US figures for trade in goods between the US and China indicate (see Figure 4) that the US has experienced a trade deficit with China since 1991, which has since risen to a much higher level. For instance, the amount of trade deficit in 1990 was very small, i.e. USD 10 billion, but by 2000 it had reached USD 100 billion; by 2005 it had risen further to USD 200 billion, by 2012 it was USD 315 billion, and by 2017 it further rose to USD 376 billion. The sharpest increase was since 2001, which also coincided with China joining the World Trade Organisation (WTO). After the joining the WTO, China had greater access to the US market. As a result, China's exports to the US rose from USD 125 billion to USD 505 billion, while during the same period US exports to China rose from only USD 19 billion to about USD 130 billion.

Figure 5 clearly shows that China is an important trading partner for the US, but when we analyse US trade deficits with its other trading partners, we find that China has less than half of the US's overall trade deficits.

For instance, in 2017 the US's trade deficit with China was USD 375 billion; however, its overall trade deficit was USD 775 billion. This means that if the US were to remove its trade deficit with China, its trade imbalance problems would not disappear in relation to other trading partners.

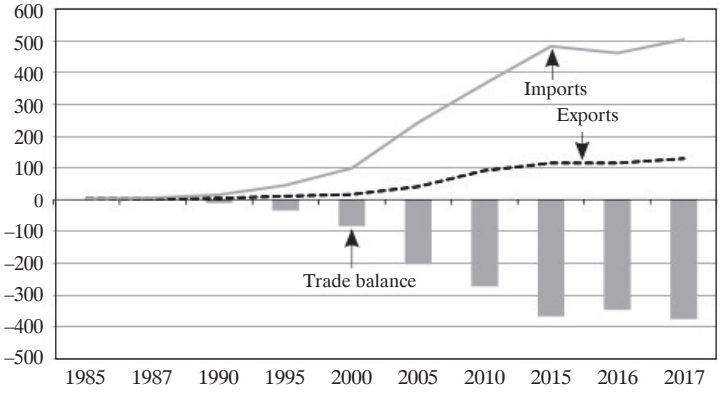

Fig. 4. United States – China Trade in Goods (in billion USD), 1985–2017

Source: The US Department of Commerce (2018).

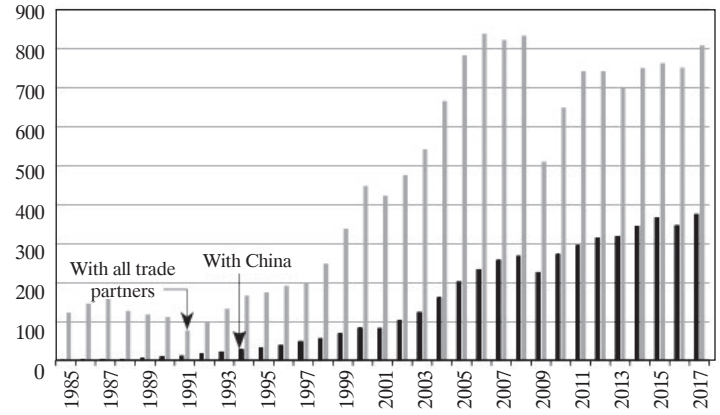

Fig. 5. United States' Trade Deficit (in billion USD) with all Trading Partners, 1985–2017

Source: The US Department of Commerce (2018).

It seems that the US's trade imbalances over the last three decades are largely due to its own economic policies. The US needs to critically examine

its own domestic economic policies towards big corporations rather than blaming others. Trade deficits (i.e. imports exceeding exports) reflect the saving-investment gap in terms of national income, which is associated with low levels of domestic saving (Siddiqui 2018b). Mainstream economists have either ignored or not taken this issue seriously, namely why consumption has risen while saving rates have declined or otherwise remained low. For instance, the US domestic savings rate was never higher than 24% between 1950 and 1969, but since the early 1990s it has steadily declined and is now below 17% (McBride 2017). In fact, personal savings as a proportion of disposable income in the US declined from an average of 10% between 1975 and 1985, to nearly 5% by 1995, and further declined to a very low 0.7% in 2010. During the same period, US household debt rose dramatically.

To compare the prevailing US economic situation with that of the UK soon after the First World War: Britain was forced to sell most of its foreign assets and had attempted to bring back the Gold Standard without sufficient gold reserves and with a weak current account. The attempt to reintroduce the Gold Standard was bitterly opposed by the country's trade unions and it only deepened the economic crisis. But US policy-makers choose to forget that there are crucial differences between 1920s Britain and the current US position.

The US has decided to have a strong currency, the US dollar, as did Britain in the 19th century, in order to reduce inflationary pressures, to attract foreign assets, and to boost the country's financial markets. Due to higher costs and strict environmental regulations in the US, the US-based multinational corporations – especially in labour-intensive industries – have decided to relocate to other countries where wages and taxes are low. As a consequence, within the last three decades, imported manufactured goods have gradually replaced domestically produced ones, resulting in the imbalances discussed in this paper.

4. COVID-19 and the US Economy

In order to analyse COVID-19's impact on the US economy, we need to examine the pandemic impact on different industries. In the US economy, consumption comprises nearly 70% of total GDP. However, the current pandemic crisis has sharply reduced consumption as business operations have stopped or are working far below capacity levels to be profitable and as households have cancelled major consumer purchases as they are uncertain about their finances and employment. The other important macroeconomic

factor, namely investment, which is one-fifth of GDP, has reduced as uncertainty increases and businesses postpone investments. Another crucial sector of the US economy, i.e. manufacturing, accounts for nearly 11.2% of GDP. However, most production has been disrupted because global supply chains have been affected by business closures and delays in the supply of raw materials.

Unemployment is shooting up much faster than it did during the 2008 global financial crisis and economic slowdown, a sign that the economy is headed towards a deep recession. The most pertinent question is how long the COVID-19 slump likely to last.

It seems that the ongoing coronavirus pandemic will haunt the US economy for a decade, wiping close to USD 8 trillion off economic growth, according to new projections released by the Congressional Budget Office (CBO) in mid-July. Since the pandemic hit the US, trillions of dollars have been poured into the economy via government stimulus programs and actions by the Federal Reserve. However, such measures have still not stopped unemployment soaring to levels unseen since the 1930s. By early July of this year, nearly 40 million people had lost their jobs, and it is expected that the unemployment rate may reach 20% by the end of July, up from 15.3% in June, rising from 4.4% in March. It is estimated that by the end of July 2020, world output will have a yearly projection of –4.9% (IMF), –5.2% (World Bank) and –6% (OECD). In the worst case scenario, the latter two organisations foresee contractions of –8% and –7.7%, respectively. The International Monetary Fund anticipates that the United States will contract by –8.0% while China will record growth of 1.0%. The Eurozone and Latin America are to contract by –10.2% and –9.4%, respectively.

With the deepening economic crisis, the neoliberal policy imperative of "fiscal austerity" has vanished. Businesses are asking for government spending and the portentous preachers of the "free market" rush to the TV screens to plead for increased public spending. The pandemic hit after four decades of neoliberalism, which had depleted state capacities in the name of the "superior efficiency" of the market and fostered deindustrialisation through the "globalisation" of production.

Recently, the IMF warned that the world economy was experiencing its longest and worst recession since the Great Depression of the 1930s, with output likely to fall sharply by as much as 7% by the end of 2020. Gita Gopinath, the IMF's chief economist, presented very bleak future growth forecasts for the world economy. According to her, COVID-19 could reduce global output by as much as USD 9 trillion (£ 7.2 trillion) within the next two

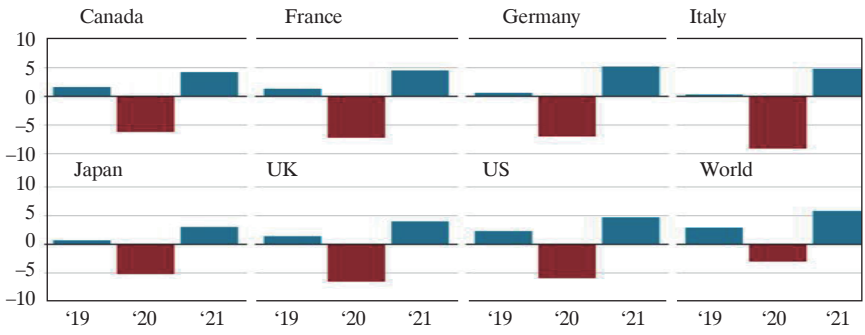

Fig. 6. Annual Growth of GDP in Major Advanced Economies, in %

Source: IMF, https://www.bbc.co.uk/news/topics/c77jz3mdmxxt/international-monetary-fund-imf (accessed: 12 May 2020).

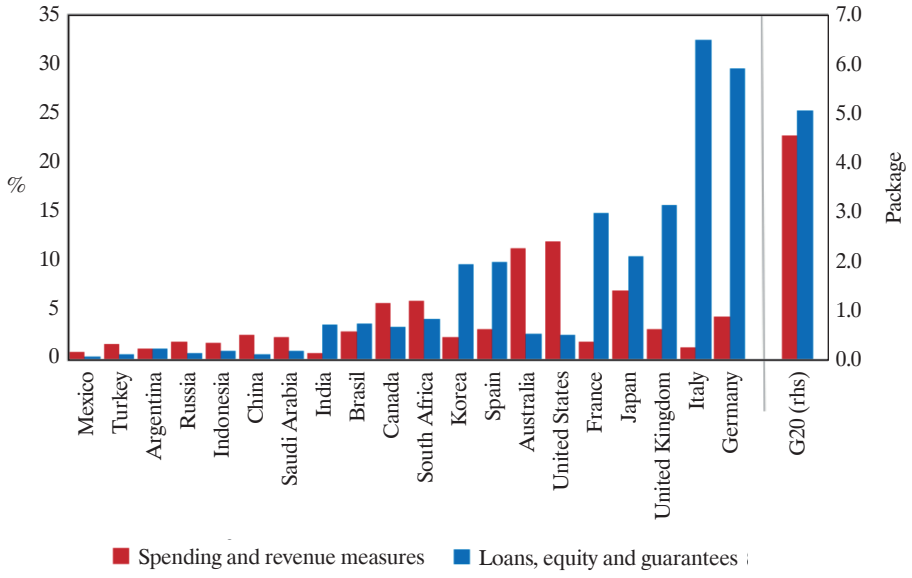

Fig. 7. Fiscal Measures Announced in G20 Economies, in % of GDP

Source: IMF (2020).

years (see Figures 6 and 7). Her warning reminds us of the Asian Financial Crisis of 1997 and brings back stark memories of currency crashes, property prices tumbling, millions out of work, and the wealth that was built up in decades disappearing in a matter of months. All indicators suggest that the

impact of the COVID-19 pandemic will be far greater than either the global financial crisis of 2008 or the Great Depression of the 1930s (Siddiqui 2020b).

5. Conclusion

This historical account indicates that a high current account deficit is not necessarily intrinsically harmful. There are, however, features of the current situation that have the potential to exacerbate negative trends and to further fuel adverse economic and political outcomes. The US current account deficit stems in part from growth of the financial sector and from its creation of complex and unstable financial derivatives built on risky forms of private debt. Furthermore, this "financial innovation" has itself been a response to the low growth and low profitability of the domestic productive economy (Northfield 2012). Despite the clear warnings provided by the 2008 banking and subsequent sovereign debt crises, US corporate debt is at an all-time high and in 2017 "the value of securities issued based on car loans, credit card debt, student loans and various other unsecured debt exceeded commercial and residential mortgage-backed securities combined" (Blakeley 2019).

The economic risks of the current situation are being compounded by the political approach of the Trump Administration, which characterises US trade partners as adversaries in need of coercion through tariffs and strident rhetoric. So far these policies have succeeded only in further depressing the profitability of US business (Amiti, Redding & Weinstein 2019). Additionally, Trump's rejection of the post-war liberal international order in favour of "transactional bilateralism" (Stokes 2018) suggests that a coordinated, US-led international response to a future global recession could be even more deficient than the current response to climate change.

The COVID-19 pandemic has suddenly caused the sharpest and deepest reduction of GDP in the history of capitalism as globalisation has gone into reverse. International supply chains, which were once the exemplars of organised production and hailed as the backbone of trade, have collapsed. Some countries and their policy-makers have begun to talk about the importance of the national economy. Overseas travel and tourism have almost entirely halted, and within the last six months tens of millions of workers have been laid off and millions of small businesses and their suppliers have closed down (Siddiqui 2020b).

Finally, although the IMF and other institutions of global governance have now questioned the effectiveness of neoliberal policies (Ostry,

Loungani & Furceri 2016), the severe measures the IMF advocates in response to current account deficits could presage yet another era of anti-growth austerity measures in both the United States and the United Kingdom. The burden of these will undoubtedly fall on those least able to bear the strain, nationally and internationally. The possibility that harsh and anti-egalitarian measures could further inspire aggressively nationalist and generally anti-progressive political movements in these countries – and throughout the world – should not be discounted. In the meantime, surplus and deficit countries alike must navigate the uncertain terrain between the current global hegemonic power, its potential rival, and global institutions that function on principles designed for an era of capitalism that ended in 2008.

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Tomasz Mika

PROTECTIONIST PRACTICES AS A METHOD OF RESTORING THE TRADE BALANCE

Abstract

Objective: This paper is an attempt to examine protectionist practices, illustrated using the example of the United States, as a means of establishing equilibrium in the trade and current account balance, especially under competitive conditions in pursuit of economic and world leadership.
Research Design & Methods: The research offers conclusions based on an analysis of the literature on the effectiveness of protectionist practices in economic relationships between countries and presents the reasons for the widening trade and current account imbalances. It also describes the results of a simulation on the implementation of punitive tariffs (by both parties) achieved using numerical models.
Findings: Protectionist practices are ineffective instruments for handling trade deficits. Moreover, they undermine international trade principles, lead to conflicts between the countries, and instigate symmetric retaliatory actions.
Implications/Recommendations: Apart from the overall ineffectiveness of protectionist practices in terms of optimising the trade and current account balance, there are adverse implications which may be beneficial to certain domestic groups of stakeholders while, on the international level, protectionist practices signify an attempt to weaken the position of other competitors in pursuit of world leadership.
Contribution: The paper shows that protectionist practices pursued by countries are ineffective instruments for handling trade deficits. Their application restricts technology transfer, deflates the efficiency and effectiveness of an economy and reduces

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welfare. Building actual civilisational and economic supremacy requires economic development in the real economy and cannot be achieved by administrative means.

Keywords: free trade, protectionist practices, trade deficit, world currency, rivalry for world leadership.
JEL Classification: F13, F4, F47.

1. Introduction

The scale and dynamics change in the modern world is giving rise to a prevalent sense of plunging into chaos and instability, both geopolitically and economically. The international standing of the US as the only political hegemon and key economic power worldwide is questioned increasingly often, mainly due to the incredibly rapid economic development of China, whose trade and currency practices and military steps are undermining relations between the existing leader and the new pretender. Punitive and retaliatory tariffs, imposed by America's trade partners, are among the instruments employed by the US in this confrontation.

This paper attempts to examine the economic rationale for a customs war as a means of reducing trade imbalance. The conclusions, formulated by specialists and based on economic experience and the effects of protectionist practices simulated by renowned analytical and research firms, make relative the ostensible objectives of non-economic state policies, intended to revise the current arrangement of international global relations, particularly in the long term.

The objective is explained by addressing a range of issues. Presentation of the aims of the study and its topical nature is followed by a discussion of customs and other forms of trade protectionism. Consideration of the consequences of punitive tariffs and trade partners' responses is inspired by current theoretical debate. The causes of persistent trade and current account imbalances are identified, namely, the practice of offshoring and economic policy errors in the face of an escalating economic confrontation between the superpowers. The state of imbalance is illustrated with statistics concerning the US economy. The possible effects of a customs war are shown in a simulation using the GIMP model. The paper ends by offering some conclusions.

2. Trade Protectionism

Trade protectionism encompasses a range of forms of state interference with principles and conditions of international trade in goods and services

intended to bolster the status of domestic at the expense of foreign manufacturers in a given industry by imposing higher import duties, cutting costs of local production or obstructing access of foreign suppliers to an internal market. Such means comprise (Abboushi 2010, p. 387; Anusz 2005):

– additional (punitive) import duties, including anti-dumping duties, in contravention of WTO agreements,

– quantitative quotas on imports of foreign products to restrict their flow into a local market and to raise their prices, including voluntary export reductions,

– subsidies and compensatory instruments for domestic manufacturers in the form of tax reliefs or direct cash transfers,

– administrative barriers, that is, imposed standards, specifications, fees, certificates, obligatory contributions of domestic manufacturers, and other technical and sanitary barriers,

– restrictions on access to foreign currency to make foreign products more expensive and domestic products cheaper.

Advocates of protectionist measures also resort to arguments involving: national defence, trade deficits, employment, reliefs for new industries, and free trade. Those reasons, though apparently attractive, are usually wrong. Their political discourse appeals to populist sensibilities and emotions. Thus, although national defence requirements may substantiate more restrictive policies on the transfer of military technologies, they require subsidies to research and produce more advanced military equipment rather than restrictions on military imports due to the range of links between states and military concerns as part of military blocs.

3. Effects of Punitive Tariffs in Theory, Empirical Studies, and the Practice of International Trade

Economics textbooks (Bowden & Bowden 2002, p. 748) usually illustrate the consequences of customs duties visually with the aid of charts. Within a system of coordinates denoting production volume and prices, for intersecting supply and demand curves for a given commodity, as the price of a product increases depending on the scale of tariff hikes, the volume of the commodity in the market shrinks, manufacturers record greater surpluses, more tax is collected, and consumers experience losses. The latter outweigh the benefits to domestic manufacturers.

Specialist literature also contains a number of empirical technical (statistical and econometric) studies of the effects of tariff impositions

intended to limit trade deficits, which generate similar results. A review of this research, including of their own studies, is provided by Kaempfer, Tower and Willett (2002). It shows that import restrictions reduce exports without bringing permanent and desired changes to the trade balance. Such protectionist policies lead to the ineffective allocation of resources and fail to reduce the deficit. The authors propose policies of budget deficit restriction as the most effective instruments for limiting current account deficits as such policies anticipate reductions in trade deficits. Limiting imports is not recommended as it cuts potential GDP (Lester 2016).

Arguments against trade protectionism other than economic ones are voiced increasingly often as the latter are often inspired by populist political assumptions intended to satisfy particular interest groups and win the approval of the electorate. Research demonstrates that customs duties are a costly negative-sum political game rather than a positive tool that can help maximise welfare owing to interactions, interchangeability and the effective use of capital.

Protectionist tariffs played an especially sinister role in the aftermath of the Smoot-Hawley Tariff Act in 1930, which exacerbated the Great Depression. Under pressure from influential interest groups, duties were levied on more than 20,000 commodities. It was only the repeal of the law in 1934 and the adoption of a new policy of trade agreements based on mutual respect for partners' interests which in time helped to lay the foundations of the global trade system. GATT (the General Agreement on Tariffs and Trade – 1947) and its descendant – the WTO (World Trade Organisation – 1995) were established as a result.

The relations between overall tariff rates and rates of GDP growth in the US between 1990 and 2015 indicate a negative correlation of (–)52% (Penlington 2017). If a 3-year lag of the impact of tariffs on the economy is taken into account, it rises to (–)73% for a 3-year moving average. Figures relating to the European Union in the same period do not affirm a correlation and even exhibit a negative correlation of (–)20% assuming a 3-year moving average.

The impact of trust and confidence in future policies on international trade is corroborated by earlier research into anti-dumping tariffs (Crowley, Song & Meng 2017). It has shown China joining the WTO has largely relieved Chinese fears of anti-dumping tariffs and contributed to the growth of Chinese exports to the US. A study of Chinese business entering external markets under conditions of imminent anti-dumping tariffs, conducted in 17 countries in 2001–2009 and based on Chinese customs transaction

figures, has demonstrated that 1399 manufacturers and 319 trading companies did not decide to enter new markets for that reason.

4. The Debate on the Consequences of Punitive Tariffs for the Trade Balance

A dispute concerning the theses in P. Krugman's brief analysis of the expected effects of a possible general tariff hike by the US (Dorman 2016) has evolved into a debate on the rationale for punitive tariffs. The author points out that increasing a country's current account deficit is balanced by capital inflows (increased debt) in its capital account. Capital flows are affected by returns on investment offered, while real rates of exchange ensure the balancing of both streams: current account deficit and capital transfer. The author proceeds to claim that appreciation of the currency, which helps to restore the earlier equilibrium with lower volumes of imports and exports, is the initial effect of raising import duties given a trade deficit. This is, however, at the expense of the reduced attractiveness of financial assets of the country increasing its tariffs as export receipts in the exporting country diminish. Pressure is generated, therefore, to weaken the rate of exchange and thereby reduce the trade deficit, which can turn into a surplus. This effect arises without recourse to protectionist practices since the attractiveness of a country's capital assets depends on its future exports. Trade deficits (insufficient exports) require persistently weakening currencies in order to attract investment (depreciation of domestic assets), which sooner or later leads to trade surpluses. Krugman believes, meanwhile, that the restoration of the necessary trade equilibrium by protectionist means requires a more thoroughgoing asset depreciation to trigger flow shifts in conditions of a less open economy compared to the option of allowing matters to run their course – he is unequivocally against protectionist practices as a result.

Countering this argument, Dorman points out that Krugman, like many other authors, wrongly treats the expression: "the total of current and financial account balances is zero" as an equation, and not as an identity. This distinction is necessary in order to note this is not a cause-and-effect process: a current account deficit is not equal to an automatic surplus in the capital account, since these are two methods of measuring the same quantity. This is because a buyer's expenditure on a commodity manufactured domestically is income for its manufacturer (supplier) and, domestically, it means an identity, not a process balancing both sides of the transaction.

In the case of a foreign commodity, a domestic buyer's expenditure corresponds to the foreign supplier's income. Savings fall domestically, and a foreign debt arises from the transaction. An identity occurs instantly and is always true. It does not mean, in particular, that a deficit is balanced with a capital transfer later on along the time axis. A country's balance of payments is a result of many microeconomic decisions to purchase domestic or foreign products, trade in portfolio assets or even manipulate rates of exchange. A single factor cannot be distinguished at the level of balance of payments where another results from a certain cause-and-effect process arising from the former factor. In practice, the balance of payments is affected by a number of factors, most commonly operating in a variety of directions; its volume is hard to anticipate in actual conditions. This does not undermine the ever-applicable identity of a current account deficit and capital account surplus. Krugman's other assumption is related to the impact of the reduced openness of an economy on attracting foreign investment. The prospect of repatriating capital income and profits is the pull factor. A continuing deficit/surplus in the balance of payments is unsustainable in the longer term. The equilibrium is restored by depreciation of the national currency. As the depreciation is expected, income denominated in the importer's currency becomes less attractive to the exporter. Shifts in the balance of payments from deficit to surplus, caused by the dynamic cycle of deficit escalation and liquidation, require empirical verification. There are no countries that experience, by turns, deficits and surpluses in their payment balances. Countries tend to maintain chronic surpluses; those are raw material exporters who prefer an export-based model of development: Asian and some European countries. Another group consists of countries maintaining long-term deficits. Heavy international competition at the micro level and mobilisation of savings at the macro level are factors in this differentiation.

5. Mechanism of the US Trade Imbalance. Economic Rivalry of the US and China

5.1. General Remarks

The trade imbalance of the US is a result of that country's de--industrialisation caused by an excessively widespread relocation of manufacturing abroad (offshoring) and defective economic policies that risk loss of intellectual property and undermine the national interest in the name

of short-term economic gains. These policies are bolstered by the dollar's status as the global accounting currency and the practice of maintaining persistent export surpluses by key trade partners of the US.

5.2. Offshoring

America's trade turnover with China has persistently shown very high deficits. It should be remembered, however, that this is largely due to exports of goods made in China by American concerns. The process of locating production abroad, known as offshoring, is motivated by a desire to obtain the benefits (premium) of cheaper labour and compliance costs. Offshoring has generated more profits, more management bonuses, and capital gains for shareholders. Roberts (2018) reports that the US lost 54,621 manufacturing plants in the first decade of the 21st century, only partly due to bankruptcies by their own fault, and industrial employment fell by 5 million. More than 40% involved plants with staff of more than 500. Losses of jobs previously performed by the middle class caused incomes to decline and jeopardised the economic prospects of the middle class, municipal finances, the solvency of pension funds, and the provision of public services. The Fed, chaired by Alan Greenspan at the time, adopted a policy of stimulating consumer credit (debt), due to the stagnant incomes of workers losing their US jobs, in order to generate economic growth. The disappearance of the consumer market, as manufacturing of consumer goods was offshored, mainly to China, caused a loss of competitiveness in these sectors and lowered standards of living.

The policy of credit expansion led to overheating of the real estate market and, as the Glass-Steagall Act was revoked and an extensive market in MBS (mortgage-backed securities) emerged, it became the cause of the credit crunch in 2007–2008. In response, the Fed proceeded to rescue the big banks, rather than let them fail, by redeeming debt instruments (bonds). It offered to purchase them at the real market price, not the notional price set by market players without the regulator's interference. This policy of purchasing, also referred to as quantitative easing (QE), brought interest rates down virtually to zero or, if inflation is taken into account, below zero. This helped to improve the valuation of the assets of banks at risk and assured their solvency. The policies of cheap money and forceful offshoring have made all segments of the economy (consumers, government, and businesses) heavily indebted. The absence of a sufficiently robust consumer market has stifled economic growth, which requires the support of monetary (credit) and fiscal (taxation) policy measures.

It should be added, as an aside, that the defence of the value of dollar as the global reserve currency is key to maintaining the US's status as an economic and military power.

5.3. De-industrialisation of the US in the Case of Steel- and Aluminium-making Industries

The collapse of American metallurgy, which has turned an industrial region into a "rust belt" of earth, reaches as far back as the 1950s (Pozhidaev 2018). In 1950, 88 million tonnes of steel were produced out of the Mesabi Iron Range, relying on cheap labour. Production was based on open hearth furnaces at the time. As the deposits neared depletion and steel-makers went on a long strike in 1959, major imports of steel, chiefly from Japan, were initiated. They soon outweighed domestic output. Foreign, mainly Japanese and European suppliers switched to innovative forms of manufacturing: oxygen convertors and continuous casting. Steel was still made using outdated methods up until the late 1970s. As modernisation was attempted by opening small mills and demand for steel declined owing to the greater use of non-metallic materials and state-of-the-art technologies, particularly in the motor and construction industries, the share of imports fell. More steel was produced in the 1980s as a result of protectionist steps in response to price rises. It reached 88.2 million tonnes following the 2008–2009 crisis (2014), falling back to 81.6 million tonnes in 2017, compared to imports of 34.6 million tonnes, mainly from Canada, Brazil, and Korea. Currently, imports account for approximately one third of the domestic market. Thus, American metallurgy is behind its foreign competitors, who produce cheaper and more innovatively.

The circumstances of the aluminium-making sector are even grimmer. At their peak in the 1980s, the US produced approximately 5 million tonnes of aluminium per annum. In 2017, it made a mere 0.84 million tonnes, with 90% of internal demand being met by imports, chiefly from Canada, Russia, and the UAE. It became unprofitable to produce aluminium in the US.

Thus, the real reason for resorting to protectionist measures is the relative technological gap in steel- and aluminium-making, insufficient and usually late modernisation efforts, and tolerance of national security risks through excessive dependence on foreign supplies. It remains to be seen whether the imposition of duties on steel and aluminium, which has already hiked their prices in the internal market, will significantly increase the share of domestic output in their consumption and cut the trade deficits in these materials.

5.4. Economic Rivalry between the US and China

The US and China have had an intensifying dispute about market access, respect for intellectual property rights, and the size of the trade deficit (Bremner 2018). The dispute is accompanied by military actions, which are beyond the scope of this paper. What we are witnessing is a conflict between superpowers for global influence. China has achieved impressive economic success at a record-breaking rate, matching the US in the manufacture of high-technology products, including robotics, telecommunications, military production, and artificial intelligence (AI). This is a war of civilisations for the choice between the market economy model and the state-controlled market economy model. A tariff war, initiated by the US to impose steel and aluminium import duties of 25% and 10%, respectively, was followed by two-staged 25% tariffs on Chinese goods worth USD 50 billion (34 and 16 billion) and a promise of more measures against Chinese imports worth USD 200 billion, particularly if the new higher American tariffs are met with Chinese counter--tariffs. The US claims the tariffs have been imposed in response to "the theft of American intellectual property". Steel and aluminium tariffs will largely not affect China as these metals contribute little to Chinese exports. China has announced, however, that it will introduce its own retaliatory tariffs "of the same scale and intensity". The duties will be levied on soya, grain, beef, poultry, fish, dairy products, and vegetables. To begin with, China will restrict purchases of American soya, which it largely re-exports, and increase soya imports from other countries, principally Brazil and Argentina. Trade relations may become very tense if both the parties yield to jingoistic rhetoric. Other, predominantly Asian countries may suffer from the punitive tariffs as they supply components for goods China exports to America. As much as USD 20 billion of goods, out of USD 34 billion subject to the higher duties, are estimated to originate from other countries, including the US.

The US accuses China of various protectionist practices: enforced exports as part of maintaining persistent export surpluses, subsidising exports, manipulating rates of exchange, and administrative restrictions on access to its own market. The US believes that China makes access to its market conditional on technology transfer without paying the latter's full price. Many figures from the worlds of business, politics, and science advocate abandoning links with Asian networks and severing supply chains in high technology sectors or even relocating American suppliers who have been

manufacturing in China, such as Intel, Apple and Microsoft, to production parks in the US. The Americans maintain their technological advantage in the fields of space exploration, aviation, chemicals, and biotech. US exports to China mainly comprise means of transport, chiefly air transport, computers, electronics, and chemical products. Trade between the US and China in 2017 was heavily imbalanced. The US regards the expansion of such high technology businesses as Huawei Technologies, ZTE Corporation, and China Mobile in the American market as a threat to national security and considers introducing restrictions on Chinese firms in the aviation, space, and robotics industries.

It has been demonstrated above that tariff wars stifle international trade in goods and services and slow the development of national economies. Other remedies are also proposed to limit China's protectionist policies that breach good business practices. A complaint to the WTO is a possibility. This path is taken by countries affected by punitive American tariffs, although it is time-consuming and usually ineffective.

6. The US Trade Balance, Current Account Balance, and Balance of Payments

6.1. General Remarks

Populist politicians stress the need to reduce current account deficits especially strongly. The rationale for this idea is the mistaken belief that a current account deficit is in itself harmful to an economy. Studies of international trade fail to corroborate this thesis. A deficit in the current account, which obviously comprises trade balances of goods, services, net primary income (net direct investments, other financial assets, income from reserve assets and from wages) and net cash transfers (private transfers, government grants, pensions, insurance transfers), is identical with a positive balance in the financial account of the balance of payments. These balances, adjusted for the capital account balance of the current account, are not equal as a rule. The difference is constituted by a balance of omissions and errors. The balance also encompasses the capital account including transactions in non-production and non-financial assets.

6.2. The Trade Balance of the US in 2017. The Current Account Deficit

The trade deficit in goods and services totalled USD 552.4 billion in 2017, given exports of USD 2,329 billion and imports of USD 2,895 billion

(the numbers are not seasonally adjusted) – Kimberly (2018). Key exports are (in billion USD): investment goods (533.3), production materials and components (464.7), consumer goods (197.7), vehicles and car parts (157.7), and food, animal feed, and beverages (132.7). Investment goods (640.6), consumer goods (clothes and footwear, mobile phones, TV equipment and pharmaceutical products – 601.9), production materials and components (507.3), and food, animal feed and beverages (137.8) prevail among the imports. Thus, cheap imported consumer goods make the greatest contribution to the trade deficit and constitute a substantial part of spending by less well-off American consumers.

As far as commodity trade by countries is concerned, trade with China totalled USD 636 billion with the US deficit of USD 375 billion (below: 636/375), followed by Canada – 582/18, Mexico – 557/71, Japan – 204/69, and Germany – 171/65. Approximately two thirds of the goods deficit is accounted for by China, therefore.

The US can boast a surplus of USD 245.1 billion (below: in billion USD) in service trade, including trade in intellectual property (licence fees) – 77.1, travel services – 75.7, computer and business services – 52.1, and financial and insurance services – 48.1.

The volumes and structure of the initial current account of the US are illustrated in Figure 1, where the numbers are provided distributed (ranged) over quarters of the year.

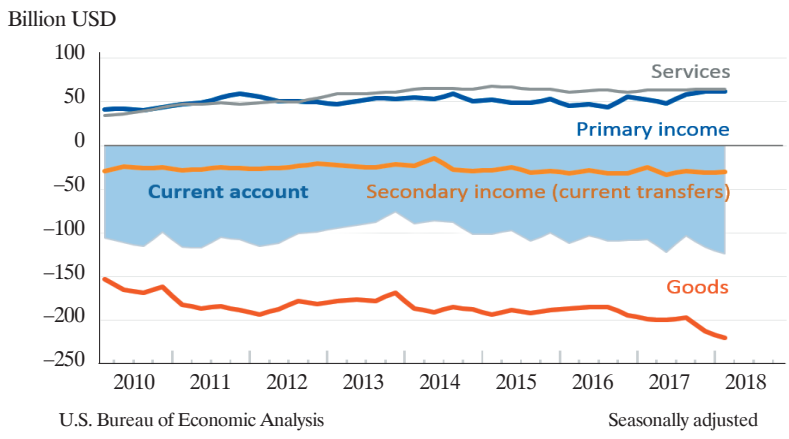

Fig. 1. Quarterly US Current-Account and Component Balances, 2010–2018

Source: SCB (2018).

The systematic increase in the commodity trade deficit, services balance surplus, surplus primary income, and deficit of cash transfers are noteworthy. Substantial current account deficits are also clear during the financial crisis of 2007–2008. The current account deficit in relation to American GDP in 2017 was 2.4%; in 1980–2017, it had averaged 2.64%. It reached a record level of –6.0% in 2006 (*United States…* 2018).

6.3. The US Balance of Payments in 2017

The balance of payments of the US in 2017 (USD billion, revised; the numbers are seasonally adjusted, possible rounding errors) totalled –424.4, including the trade balance (–552.3), the balance of commodity exports (–807.5), and balance of services (+255.2). The current account including the balance of primary income and cash transfers (103.1) totalled –449.2. The capital account's balance totalled 24.8, and the financial account balance was –331.9 given a balance of statistical differences due to errors and omissions equal to 92.5. In Q1 2018, the trade deficit was 155.6, the current account balance –124.1, the capital account 0.0, and the financial account –180.6, with a balance of statistical differences of –56.5.

The escalating customs and trade war between the US and the rest of the world may prove dangerous to the American economy itself. Tariffs and counter-tariffs undermine confidence in international trade, traditional relations, and readiness to make investments, giving rise to uncertainty regarding long-term capital allocation decisions. In the circumstances, customs and trade policies become inconsistent and unpredictable.

The current economic performance of the US is exceptionally good, owing, *inter alia*, to tax cuts. GDP growth in Q2 is estimated at 4.5%, compared with 2.2% in the 1st quarter. Pushing for a trade war is tempting as the initial position of the US appears stronger, since the American economy relies on its internal, highly absorptive market to a larger extent than its competitor economies, particularly China, Japan, and Germany. US exports account for 12% of American GDP, whereas they constitute 20% in China and 43% in the EU (Miller 2018). Countries affected by US tariffs may resort to a number of countermeasures, including: retaliatory duties at symmetrical levels, delayed customs clearance, tax auditing and more stringent administrative regulations, disputes at the WTO, devaluation of national currencies, and reduction of dollar denominated currency reserves. The depletion of China's extraordinarily high surpluses in its trade with the US, given high liabilities in the American currency, may force financial authorities to cut Chinese strategic reserves by selling out American

bonds. This would in turn force the FED to offer higher rates of interest when issuing new bond tranches. Most measures and countermeasures are obviously double-edged.

As a result of a tariff war, multinationals will produce locally, relocate their manufacturing to their native countries that provide great sales markets or to countries of local fiscal jurisdictions.

7. Simulated Effects of Punitive Tariffs Levied on Imports into the US

The impact of customs duties on overall demand is unequivocal. Raising tariffs means higher domestic prices, thus improving the position and revenue of domestic manufacturers, while consumers (households) and other manufacturers using imported goods as raw materials for their own products lose. Budget revenue grows as well, although dispersed across an entire economy. Thus, profits and losses evolve in a variety of ways and their influence on overall demand seems to be determined by the scale and extent of tariff hikes. Analysis of the impact on aggregated demand is not applicable to the Keynesian approach, which assumes fixed pricing and rates of exchange (Davies 2018). It should be also remembered that growing tariffs mean losses for exporters. Robert Mundell (after Obstfeld 2016) has demonstrated that new commodity import tariffs in conditions of variable exchange rates tend to improve the trade balance yet also strengthen the real rate of the dollar. The growth of the dollar's real value will prove to be the key influence on the US economy, causing a general decline in production and employment in spite of the relatively weaker positive effect of a reduced trade deficit. The overall decline of GDP and employment (*ceteris paribus*) will ultimately exacerbate the trade deficit. The effect will be greater at zero rates of interest as the issuing bank is unable to effectively counteract the adverse impact of tariff rises by means of fiscal policy. The effects of increasing tariffs are illustrated in the following figures. They show the response of real economic quantities (GDP, rate of exchange – Figure 2; import and export – Figure 3) in the US after duties on imports from the emerging East Asian countries are raised by 20%. It is also assumed that the Fed's rate of interest is zero and the rate of interest of the exporting countries is other than zero. Were the Fed's rate positive, the effect of the tariffs would be more limited. The figures present the consequences for two assumptions: a) exporters fail to impose counter-tariffs (fail to respond), b) exporters apply retaliatory measures. The figures were prepared using a forecasting and research tool employed by the IMF – the Global Integrated

Monetary and Fiscal Model. Figure 2 shows that US GDP falls by between 0.5% and approx. 1.2% under both scenarios within 5 years, that is, as the full impact of the tariff manoeuvring is felt. The dollar's rate of exchange increases by 2% to more than 5%.

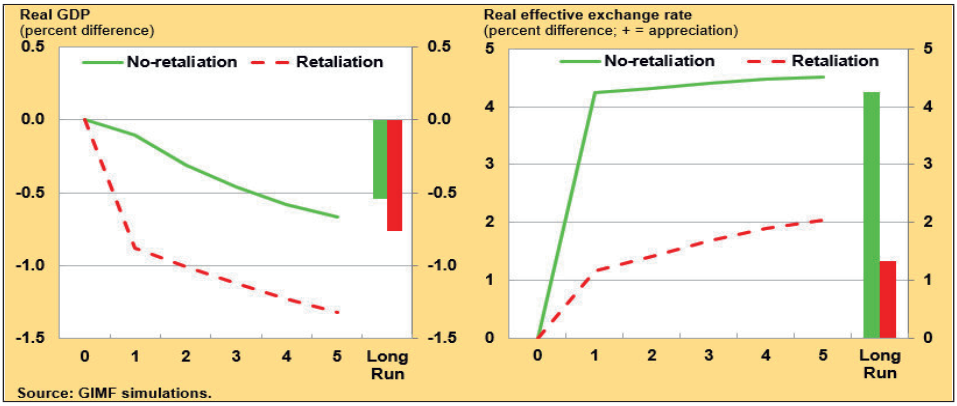

Fig. 2. Macroeconomic Impact in the United States from Imposing Tariffs on Imported Goods

Source: simulations using the Global Integrated Monetary and Fiscal Model (Obstfeld 2016).

Figure 3 shows that tariffs depress imports by more than 6%; exports fall faster (up to –6% in the first year and more, up to –8%, later. The dollar, stronger owing to the tariffs, makes imports from alternative sources more attractive (subsidises greater imports) while charging (taxing) US exports. This affects the trade balance, since exports diminish relatively faster than imports, and GDP and employment decline as well. Consumers may derive certain benefits then, as real consumption climbs owing to imports made cheaper by the dollar's higher exchange rate; these are rather broadly dispersed and insignificant, however, without recompensing the job losses. It should also be pointed out that domestic jobs do enjoy protection in the initial period of higher tariffs, to be eroded, though, due to the market's response (falling exports).

There is an entrenched conviction in economic theory that raising tariffs leads to reduced volumes of international trade, restricted technology transfers, and consequently to lower (increasing more slowly) work efficiency and welfare.

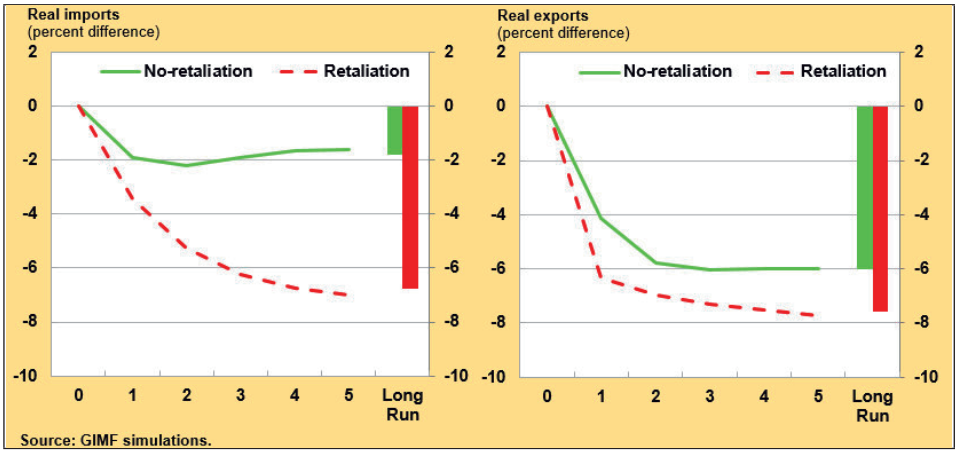

Fig. 3. Impact on United States' Trade from Imposing Tariffs on Imported Goods
Source: simulations using the Global Integrated Monetary and Fiscal Model (Obstfeld 2016).

Both economic theory grounded in Ricardo's concept of comparative advantage and extensive economic practice point to benefits of international trade. This is because expanding trade reduces costs per unit of production, forcing manufacturers to keep making their products more attractive in cost and functional terms and boosting consumption. These benefits are reaffirmed by a range of technical research. For instance, a World Bank study of 1963–1973 (Abboushi 2010, p. 386) shows that the growth of economies with the most liberal principles of trade averaged 6.9%, compared to 1.6% in countries applying restrictive policies. The price of restrictions is high. Hufbauer (after Abboushi 2010, p. 389) examined 31 cases of domestic industry protection and found that the price was more than USD 100 million in 25 cases and USD 27 billion a year in the textile and clothing industries. What is more, maintaining a single workplace cost more than USD 100,000 in the majority of cases.

The current US administration's use of punitive tariffs, mainly in trade with China, is an attempt to exert economic pressure in their multidimensional dispute over world leadership. The economic and geopolitical status of the US has been gradually eroded by the unprecedented, rapid economic rise of China and other countries. This process is well illustrated by the fact that the US economy produced a half of global GDP in 1950 compared with a little more than 20% at present. There is a clear and sharp conflict of interest among world leaders.

Protectionist measures will encounter resolute resistance, though. Opponents of the US are interested in maintaining free trade principles. China, like India, Germany and other countries, cannot develop only by forcing internal consumption; they would in effect be developing at the expense of exports. International financial institutions are against protectionism as well.

Retaliatory tariffs have introduced uncertainty to global politics. A genuine threat has emerged that chains of cooperation (added value creation), extended over decades, will be severed. Protectionism will break those chains, and the growth rates of countries engaging in the tariff war will decline. Protectionism is always a zero-sum game: no one wins (Raghuram 2018). A trade war is a relatively straightforward way of abolishing contradictions (conflict) if it is limited to a customs war only. Its consequences may be far graver if it is followed by manipulation of exchange rates, the most powerful weapon of protectionism.

The steps taken by the US are calculated to win approval of the electorate, workers of factories that have moved abroad, engineering staff, and the impoverished middle class. The earlier fall in employment was caused by uncontrolled offshoring that has resulted in the US losing its position in the competitive war; large swathes of the US economy have been de-industrialised, and investment in IT technologies, the digital economy, and artificial intelligence is insufficient (Gajva 2018). A return to full industrialisation of the US is impossible without conflict, whereas continued de-industrialisation is unacceptable.

8. Conclusion

Both economic theory and the practice of international economic relations are quite clear about treating tariff increases as ineffective instruments for handling trade deficits. Their application restricts technology transfer, deflates the efficiency and effectiveness of an economy, and reduces welfare (GDP). Research into the rationale for applying tariffs should be considered in their broader connection with recommendations implied by strategies for renegotiating trade agreements and with game theory.

The relative attractiveness of customs duties as import restrictions is prone to the temptation of populist appeals to protect domestic industry and local workplaces and does not serve the needs of an economy as a whole. It usually serves the temporary purpose of winning political support and

mobilising public opinion in defence of slogans such as "Make America Great Again". In the international dimension, it enhances an economic and military power's standing in its rivalry for global leadership by (briefly) weakening its opponents.

National economies develop vigorously owing to free trade. They grow rapidly after spot-on investments in areas of maximum added value, which require adequate institutional support and substantial investment in fixed assets.

The US dollar is the leading global currency of accounting. Reserves are saved predominantly in this currency. This builds excessive pressure to obtain the American currency by means of export surpluses, to be invested in the American treasuries, which helps the US balance its profound current account deficits. This pushes up domestic consumption at the expense of rocketing foreign (external) debt. This process is unlikely to continue *ad infinitum* and will probably end by undermining the role of dollar as the underlying world currency and, in time, the status of the US as a world power.

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Viktor Shevchuk

MONETARY POLICY TRANSMISSION MECHANISMS IN THE CENTRAL AND EASTERN EUROPEAN COUNTRIES

Abstract

Objective: The aim of this study is to examine monetary policy transmission mechanisms in four Central and Eastern European countries (the Czech Republic, Hungary, Poland and Romania), in the presence of fiscal and exchange rate effects.
Research Design & Methods: We implement a structural vector autoregression (SVAR) approach for modelling the interdependencies between monetary and fiscal policies, output gap and consumer price inflation (CPI). In our six-variable model, which includes the budget balance, the output gap, CPI, the central bank reference rate, the lending rate and the real exchange rate (RER), short-run restrictions on the contemporaneous structural parameters imply that the budget balance responds to changes in the output gap and lending rate, while the central bank reference rate is a function of output and inflationary shocks.
Findings: The results of our research show that the effects of an increase in the central bank's short-run interest rate on inflation, output gap and the RER are quite heterogeneous across the CEE countries. As the monetary policy response to inflation seems to be significant and rather uniform across countries, though with a different time pattern, there is no evidence of its reaction to the output gap (except for Romania in the long run). Among other results, budget surplus has a strong anti-inflationary impact in all countries but at the expense of a short-lived output slowdown (except for Hungary). The RER undervaluation is likely to stimulate output (Romania) or depress it (Poland), with a neutral stance in the two other countries. As expected, an increase in the lending rate is followed by a fall in output on impact, while there is no significant effect on inflation.

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Implications/Recommendations: Our study argues in favour of a much stronger response of the central bank reference rate to the output gap in the CEE countries. As suggested by the experience of Poland, an immediate response of the central bank to inflation could explain the lack of the price puzzle when an increase in the reference rate is associated with a sustained increase in consumer prices. An anti-inflationary monetary policy stance should be strengthened by fiscal tightening, while in a recession a higher budget deficit is likely to boost output and prevent a deflationary spiral.
Contribution: The article presents the application of the extended IS-MP-IA model to the modelling of monetary policies by the central banks of the CEE countries that practice a floating exchange rate regime.

Keywords: inflation, output gap, budget balance, central bank reference rate, Central and Eastern European countries.
JEL Classification: C5, E5, H6.

1. Introduction

Since the beginning of the 2000s, exchange rate flexibility has become a distinct feature of the monetary policy framework in the Central and East European (CEE) countries (the Czech Republic, Hungary, Poland and Romania). However, the free floating regime does not guarantee that an efficient interest rate policy will attain the inflationary target at the natural level of output. Running counter to the earlier perception of free floating as a precondition for independent monetary policy, monetary policy transmission mechanisms become more complicated in the presence of exchange rate effects on price and output dynamics. In a recent study of 19 inflation-targeting emerging economies, Pourroy (2013) finds that the probability of those countries having a perfectly flexible arrangement as developed economies do is 52%, while the probability of having a managed float system with foreign exchange market intervention is 28%, and that of having a rigid exchange-rate system (similar to those of pegged currencies) is 20%. In this context, it is reasonable to consider monetary policy outcomes in connection with exchange rate effects. On the other hand, monetary policy transmission mechanisms can be modified in the presence of fiscal policy constraints, which is a quite realistic assumption for the CEE countries. For example, Crespo-Cuaresma, Eller and Mehrotra (2011) state that monetary policy in the CEE countries usually offsets domestic fiscal expansion, while fiscal policy can be used to accommodate interest rate shocks. The importance of combining monetary and fiscal policy mechanisms in empirical studies has been recently highlighted in a study on Poland's economy (Haug, Jędrzejowicz & Sznajderska 2019, pp. 15–27).

As interest rate decisions made by the central bank are universally discussed in terms of Taylor rules, which describe policy rates as responding to inflation and some measure of the output gap (Cúrdia *et al*. 2015, pp. 72–83), attention is drawn to the macroeconomic effects of the central bank (CB) reference rate. As implied by the IS-MP-IA (or Taylor-Romer) model, the inflation target can be achieved by setting the CB policy rate at the level of the natural rate of interest, with both output gap and expected inflation accounted for. However, there are findings of a positive correlation between the CB reference rate and inflation known as a "price puzzle" (Hanson 2004, pp. 1385–413; Cochrane 2016), which cannot but complicate monetary policy. In a similar fashion, evidence is not lacking that it is an increase in the interest rate that leads to output growth (see, for example, Lee & Werner 2018, pp. 26–34). Also, monetary transmission mechanisms used to be dependent upon exchange rate effects, with fiscal policy also playing its part.

The aim of this study is to examine monetary policy transmission mechanisms in four CEE countries in the presence of fiscal and exchange rate effects. We implement a structural vector autoregression (SVAR) approach for modelling the interdependencies between monetary and fiscal policies, output gap and CPI.

The rest of the paper is organized as follows: Section 2 provides a brief outline of analytical issues. Section 3 reviews relevant empirical studies. Section 4 describes the data and outlines the structure of the SVAR model. Section 5 discusses empirical results and Section 6 offers some concluding remarks.

2. Analytical Framework

As proposed by Romer (2000, pp. 149–69), the IS-MP-IA model is considered a simple but informative tool applied in the analysis of the inflation--output relationship and monetary policy effects by focusing on the interest rate rather than on money supply. While traditional IS and Phillips curves are retained, the LM curve is replaced with a Taylor-type interest rate (Taylor 2000). When extended by fiscal variables (Bofinger, Mayer & Wollmershauser 2006, pp. 98–117), the modelling framework enables analysis of the fiscal policy effects as well. In the case of open economies, it is suggested that the real exchange rate (RER) be included in the reaction function (Ball 1999, pp. 127–56; Caporale *et al*. 2018, pp. 306–19; Heipertz, Mihov & Santacreu 2017, Nojković & Petrović 2015, pp. 577–95), but such an approach is also

criticised (Leitemo & Söderström 2005). As the RER affects both aggregate demand and inflation, it further complicates the monetary policy.

The extended IS-MP-IA model is presented below:

$$y = \alpha_0 - \alpha_1(1 - p^e) - \alpha_2 b + \alpha_3 q, \quad (1)$$

$$i = \bar{r} + p^e + \gamma_1(p - \bar{p}) + \gamma_2 y + \gamma_3 q, \quad (2)$$

$$p = p^e + \beta_1 y + \beta_2 q, \quad (3)$$

where y is the real output gap, q is the RER gap (an increase in the value of q means undervaluation of the real exchange rate), b is the budget surplus, i is the CB reference rate, $\bar{r}$ is the "natural" rate of interest, p and p^e are actual and expected inflation rates, respectively, and $\bar{p}$ is the inflationary target.

The first equation is the IS curve, characterizing the inverse relationship between the CB reference rate (in real terms) and output. The budget surplus and the RER overvaluation are expected to be contractionary. Equation (2) presents a Taylor-type monetary policy rule that implies the response of the CB reference rate to the inflation, output and RER gaps. Although accounting for the exchange rate is not required in the case of developed economies, it might be of importance in emerging economies (Caporale *et al*. 2018, pp. 306–19). In equation (3), the aggregate supply is given by the positive short-run open economy Phillips curve. Lags of the variables entering the model could be added.

The monetary policy reaction to an expansionary demand shock and further developments are explained in Figure 1. Initially, higher government deficit or exchange rate depreciation lead to an increase in output above its equilibrium level, with a rightward shift of both IS and AD schedulers. In response to a positive output gap, there is a gradual increase in the inflation rate, especially if the demand shock is caused by the RER undervaluation. As implied by the Taylor-type monetary policy response, both the output gap and acceleration of inflation are followed by an increase in the CB reference rate. The higher interest rate plays an instrumental role in closing the output gap. If the demand shock is not reversed, the economy shifts to a new equilibrium with higher levels of both inflation and interest rate. In order to return to the initial equilibrium at p_0 and i_0, fiscal austerity or exchange rate appreciation are necessary.

As the fiscal deficit is expansionary in the IS-MP-IA model, there is an ambiguity with respect to the exchange rate effects. On the surface, nominal (real) exchange rate depreciation is expansionary when it is neutral with respect to the interest rate. However, exchange rate depreciation

can be contractionary even if there is no increase in the interest rate. By incorporating the Marshall-Lerner condition and disposable income into the net export function, Shieh (2006, pp. 65–70) demonstrates that currency devaluation may improve the trade balance and depress domestic economic activity without the assumption that the sum of export and import price elasticities should exceed unity. It is argued that the modified model can be viewed as an important alternative to the short-run international macroeconomic model.

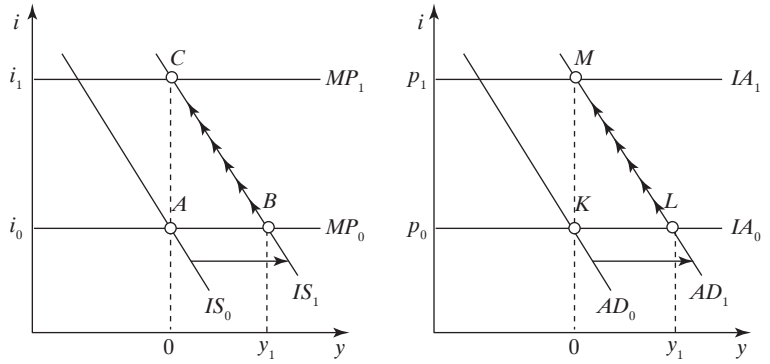


Fig. 1. Macroeconomic Adjustment for an Expansionary Demand Shock

Source: elaborated by the author.

As demonstrated by an open-economy model with external habits, pre--announcement of the rate of expected currency appreciation by taking into account inflation and output fluctuations can outperform the standard Taylor rule in terms of welfare, regardless of the policy parameter values (Heipertz, Mihov & Santacreu 2017). Exchange rate instability can help reduce price volatility (Ball 1999, pp. 127–56) or lead to welfare gains (Heipertz, Mihov & Santacreu 2017). However, this approach is also criticised. For example, it is argued that the Taylor rule without exchange rates seems to be more robust in modelling uncertainty in the open economy (Leitemo & Söderström 2005, pp. 481–507).

3. Survey of Relevant Empirical Studies

The policy implications of the IS-MP-IA model in general and the Taylor rule in particular are extensively empirically tested. For the CEE countries, a clear shift in interest rate setting towards targeting inflation is found in the Czech

Republic, Hungary and Poland, with somewhat weaker results for Slovenia and Romania (Frömmel, Garabedian & Schobert 2011, pp. 807–18). Similar results have been obtained more recently in several other studies (Arlt & Mandel 2014, pp. 269–89; Căpraru, Moise & Rădulescu 2015, pp. 91–102; Feldkircher, Huber & Moder 2016, pp. 8–27; Ryczkowski 2016, pp. 363–392; Wang *et al.* 2015, pp. 665–85). Recently, no "price puzzle" has been found for monetary policy in Poland (Haug, Jędrzejowicz & Sznajderska 2019, pp. 15–27). Some studies suggest that the central banks in the CEE countries react more strongly to upward deviations from the inflation and output thresholds (Klose 2019, pp. 31–49; Paez-Farrell 2007, pp. 1–11), but such an outcome can be country-specific (Vašiček 2012, pp. 235–63). However, there are empirical results which show that the dominant monetary policy regimes in the Czech Republic, Hungary and Poland are characterized by little response to inflation and output gap developments (Mackiewicz-Łyziak 2016, pp. 133–52).

There is empirical evidence that central banks in the Czech Republic, Poland, Hungary and Serbia react to the RER gap, while in Romania and Albania there is a response to the changing rate of RER (this implies that only accelerated RER developments affect policy decisions concerning the interest rate, while the constant rate of change does not trigger any policy shifts) (Nojković & Petrović 2015, pp. 577–95). The orientation of central banks in the CEE countries towards stabilization of the exchange rate and real economic activity is supported by other studies (Popescu 2014, pp. 1113–1121). While a dominant monetary reaction to inflation is found for the Czech Republic and Poland, Hungary seems to be more exchange rate-focused (Orlowski 2010, pp. 148–59). A recent study has shown that nominal exchange rates in the CEE countries are not disconnected from the macro-fundamentals implied by the Taylor rule-based model (Dąbrowski, Papież & Śmiech 2018, pp. 2273–96). In several emerging countries (Indonesia, Israel, South Korea, Thailand, Turkey) the exchange rate has an impact on the reaction function of monetary authorities under a high inflation regime but not under a low inflation regime (Caporale *et al.* 2018, pp. 306–19). However, the majority of empirical studies for the CEE countries do not reveal monetary policy reactions to exchange rate developments (Frömmel, Garabedian & Schobert 2011, pp. 807–18).

In a wider context, exchange rate pass-through and commodity price effects are used to explain a "price puzzle", when a positive interest rate shock brings about an immediate increase in the inflation rate (Hanson 2004, pp. 1385–413). In general, empirical evidence suggesting that raising

interest rates lowers inflation is weak, with the more plausible result that monetary tightening is associated with lower output (Cochrane 2016). It is argued that anti-inflationary actions must combine fiscal and monetary policies. Within the IS-MP-IA modelling framework, results in favour of exchange rate depreciation as a pro-growth factor are found for South Korea (Clark & Hsing 2005, pp. 297–11), with the opposite outcome for the Czech Republic (Hsing 2004, pp. 339–45), Poland (Hsing 2005, pp. 44–50) and Serbia (Hsing & Morgan 2017, pp. 24–30). As obtained in the process of testing the theoretical predictions of the IS-MP-IA model, deficit spending is expansionary in the Czech Republic (Hsing 2004, pp. 339–45), Serbia (Hsing & Morgan 2017, pp. 24–30) and South Korea (Clark & Hsing 2005, pp. 297–311). For the Southeastern European economies (Albania, Bosnia and Herzegovina, Macedonia and Serbia), it is exchange rate appreciation and fiscal prudence that stimulate output (Apostolov & Josevski 2015, pp. 131–57). Similar conclusions are drawn in a wider study of 13 CEE and former Soviet countries (Josheski & Eftimoski 2016, pp. 5–13).

4. Data and Statistical Model

All the data samples for the Czech Republic (2001Q1:2017Q3), Hungary (2001Q1:2017Q3), Poland (2001Q1:2017Q3) and Romania (2004Q1:2017Q3) were obtained from the IMF International Financial Statistics (IFS) online database. The quarterly series used in the SVAR are the CB reference rate (%), i_t, lending rate (%), rl_t, CPI (%), p_t, the budget balance (% of GDP), b_t, the cyclical components of real output (index, 2010 = 100), y_t, and RER (index, 2010 = 100), q_t. Both y_t, and q_t are calculated as the difference between the current and trend values given by the Hodrick-Prescott filter. All output series were seasonally adjusted using the Census X12 procedure. Both the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) stationarity tests indicate that most of the macroeconomic variables are stationary at the 5% significance level (not reported).

Structural VARs enable us to separate out systematic responses to changes in interest rates from exogenous monetary policy shocks. Omitting the details of a general specification for the economy described by a structural form equation of a linear, stochastic dynamic form, our SVAR presents as follows (in terms of the contemporaneous innovations):

$$b = u_1 + a_{12}y + a_{15}rl, \tag{4}$$

$$y = u_2 + a_{24}i + a_{26}q, \tag{5}$$

$$p = a_{31}b + a_{32}y + u_3, \tag{6}$$

$$i = a_{42}y + a_{43}p + u_4, \tag{7}$$

$$rl = a_{53}p + a_{54}i + u_5, \tag{8}$$

$$q = a_{61}b + a_{62}y + a_{63}p + a_{64}i + a_{65}rl + u_6. \tag{9}$$

All variables in equations (4)–(9) represent the first stage VAR residuals. It is assumed that the budget balance responds to changes in the output gap and lending rate (equation (4)). As implied by the IS curve, the output gap is influenced by the CB reference rate and the RER gap (equation (5)). Inflation in the current period is affected by fiscal policy and the output gap (equation (6)). Thus, it is assumed that monetary policy exerts its inflationary effects through its impact on the output gap. As argued by Giordani (2004, pp. 1271–96), using the output gap instead of the level of real output helps to avoid the price puzzle when monetary tightening does not bring about a deceleration of inflationary dynamics.

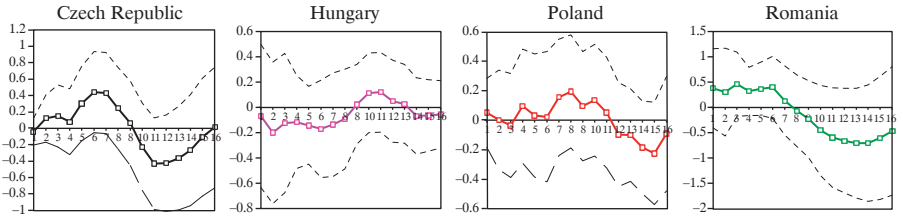
The CB reference rate is a function of output and CPI shocks (equation (7)). The lending rate reacts to changes in inflation and the CB reference rate (equation (8)). It is presumed that the correction of RER misalignment is not among central bank priorities in the short run. Finally, the RER gap is influenced by all other endogenous variables in the current period (equation (9)).

Among exogenous variables, our SVAR includes a dummy variable to control for the financial turmoil of 2008–2009. In the estimation, we use five to six lags of each endogenous variable, as implied by most of the lag length criteria. It is worth mentioning that using the London Interbank Offer Rate (LIBOR) as an exogenous variable does not significantly change the results.

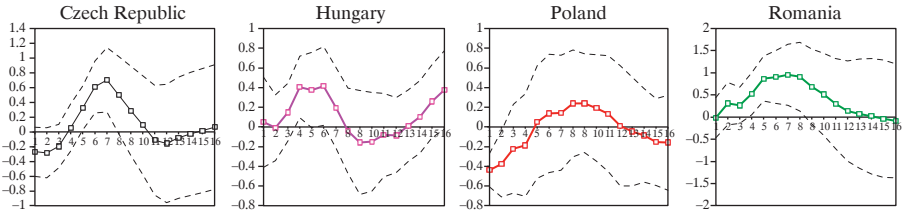
5. Estimation Results

The impulse response functions to an unexpected increase in the CB reference rate are presented in Figure 2. The confidence bands are generally large enough, but it is possible to draw several conclusions. Poland is the only country with a statistically significant, albeit short-lived anti--inflationary effect of a higher CB reference rate. In the Czech Republic inflation declines on impact, but there is a significant rebound of consumer prices with a 5-quarter lag. Hungary and Romania do illustrate the "price puzzle", as central bank rate hikes lead to a higher inflation rate in a year, with no price decreases in the short run. Obviously, our results do not reject the incidence of the "price puzzle" on a country-specific basis, even if one

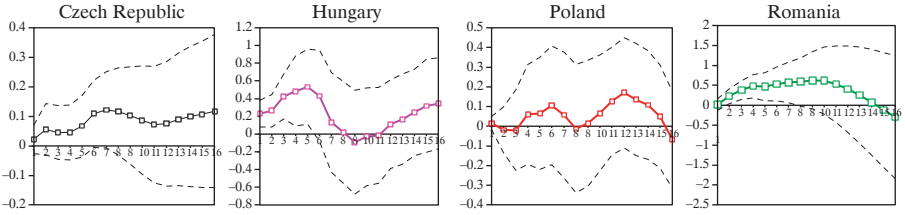
controls for exchange rate and fiscal policy effects. Among other factors that used to be considered in the context of the "price puzzle", commodity prices are left to future research.



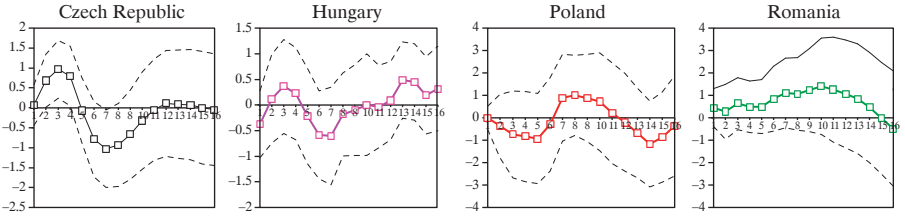
a) on the output gap



b) on consumer price inflation



c) on the lending rate



d) on the RER

Note: The solid lines are the point estimates of the impulse-response mean. The dashed lines are the point estimates ± 2 standard deviations.

Fig. 2. Monetary Policy Effects

Source: author's own calculations.

The output gap does not react to a tightening of monetary policy in Hungary and Poland, with a counter-intuitive expansionary effect observed in the Czech Republic and Romania. As expected, an increase in the central bank reference rate is followed by a strong response of the lending rate in Hungary and Romania, while similar developments in the Czech Republic are much weaker. For Poland, the money market rate seems to be neutral with respect to central bank interest rate policy.

Monetary tightening is likely to bring about RER appreciation in the Czech Republic only, following a short-lived depreciation of the RER on impact. Romania is an example of a lasting depreciation effect. Developments in the RER in Hungary and Poland seem to be neutral with respect to the central bank interest rate policy.

The forecast error variance decomposition (FEVD) indicates that monetary shock is responsible for up to 50% of inflation volatility on impact in Poland, but in a year the fraction of i_t declines to 20%. In Romania it is just the opposite, with the initial share at 6%, gradually increasing to 46% in two years. A similar pattern is observed in the Czech Republic. In Hungary the share of i_t in changes of p_t does not exceed 18% at any horizon. The share of i_t in changes in the output gap is much smaller, ranging from 8% in Hungary to 25% in Romania. As expected, the interest rate is most affected by the CB reference rate in Hungary (40%) and Romania (34%). The contribution of i_t to the RER gap is at the lowest level in Hungary (8%) and Poland (17%) and at the highest in the Czech Republic (35%).

The monetary policy reaction to endogenous shocks is presented in Figure 3. The response to the output gap is rather weak, especially in the short run. For Poland, Romania and the Czech Republic (to a lesser extent), there is weak evidence of a pro-cyclical decline in the central bank reference rate on impact, running counter to the standard Taylor rule. However, this policy is reversed in the long run in Romania. No reaction to the output gap at all is found for Hungary. Based on our estimates, it is possible to agree with Darvas (2006, pp. 140–55) that monetary policy is most powerful in Poland and is least powerful in Hungary, while the strength of monetary policy in the Czech Republic lies in between.

Monetary response to inflation is immediate and significant in Poland. A similar pattern of the response function is observed in Hungary, though with a somewhat slower but stronger reaction to the price shock. For the Czech Republic and Romania, an increase in the CB reference rate is persistent but rather weak. While it is possible to confirm the findings of Mackiewicz-Łyziak (2016, pp. 133–52) that there is a rather weak monetary

policy response to the output gap in the CEE countries, this is not the case with the response to inflation. Our results are in line with the majority of previous studies that report high preferences for targeting inflation in interest rate setting, for example Frömmel, Garabedian and Schobert (2011, pp. 807–18), Arlt and Mandel (2014, pp. 269–89), and Wang *et al.* (2015, pp. 665–85).

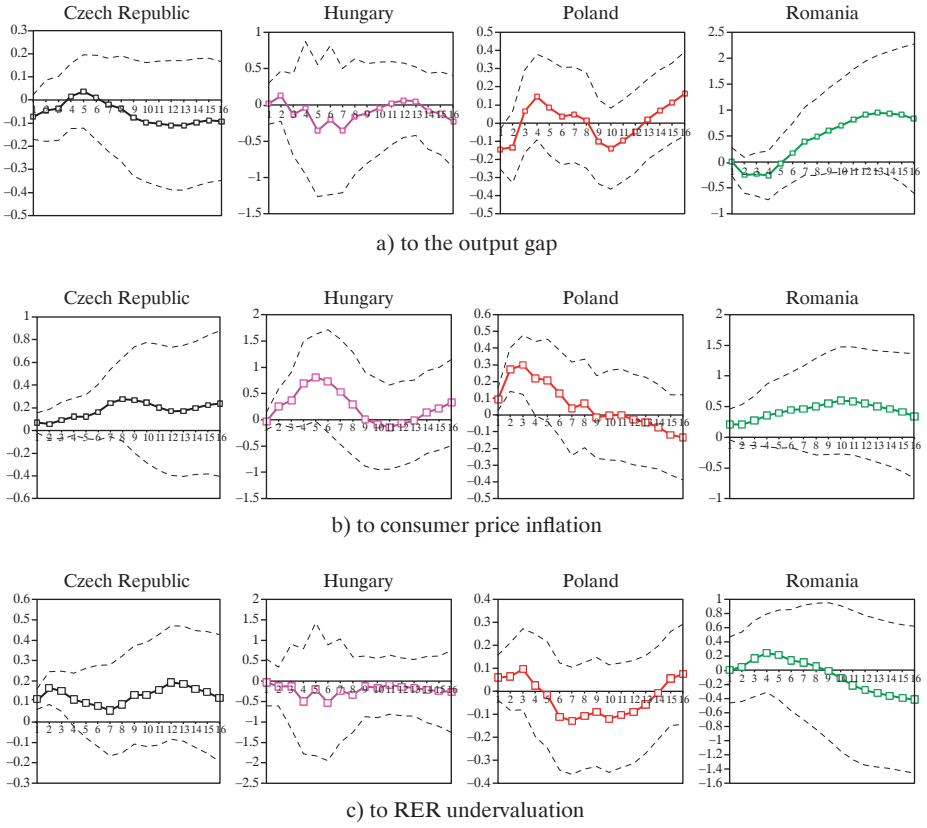


Fig. 3. Monetary Policy Reaction to Macroeconomic Shocks

Source: author's own calculations.

Monetary policy reaction to RER undervaluation is found for the Czech Republic only. It runs counter to the results of several studies that imply a central bank response to exchange rate fluctuations, for example Nojković & Petrović (2015, pp. 577–95), Popescu (2014, pp. 1113–21) and Orlowski (2010, pp. 148–59). In the spirit of the findings by Caporale *et al.*

(2018, pp. 306–19) for several emerging economies, it is possible to argue that a weak reaction of monetary policy to exchange rate fluctuations results from success in attaining a low inflation.

The FEVD confirms that the contribution of both inflation and output gap shocks to the CB reference rate is very strong in Poland – 50% and 32%, respectively. In the Czech Republic and Hungary price shock determines 26% and 35% of changes in i_t, while the share of the output gap is much smaller at 14% and 5%, respectively. Romania is the only country where the output gap shock is more important than the price shock, with the share in the FEVD of i_t at 35% and 20%, respectively. The Czech Republic is the only country with a significant share of the RER in the FEVD of i_t at 46%. For all other countries, the RER gap determines no more than 11% of changes in the CB reference rate at any horizon.

The output gap is associated with inflation in Poland, with the share of y_t in the FEVD of p_t at 18% (Figure 4). Undervaluation of the RER contributes to inflation in the Czech Republic and Romania (to lesser extent), with the share of q_t in the FEVD of p_t at 45% and 18%, respectively. No effects are noticed in Hungary and Poland. There is no difference between CEE countries in that budget surplus brings about a decrease in inflation, though at different time horizons. The fiscal variable determines up to 48% of inflation in the Czech Republic and 43% in Hungary, in both countries with a significant lag of 7 to 8 quarters. For Poland and Romania the fraction of changes in inflation explained by the budget balance is at a maximum of 24% and 17%, respectively. Among other results, an increase in the lending rate is anti-inflationary only in Poland and neutral with respect to price dynamics for other countries. Inflation is inertial in the short run for all CEE countries, except for the Czech Republic.

As seen in Figure 5, the budget surplus is contractionary on impact in all countries, except Hungary. In the case of expenditure cuts or tax increases, this can be a problem for the Czech Republic, where the share of bd_t in the FEVD of y_t is as high as 70% on impact, then declining to 49% at longer horizons. An expansionary effect of fiscal prudence is likely to materialize in the long run for Romania. It is worth noting that empirical testing of the IS-MP-IA model for the CEE and former Soviet countries is rather inconclusive, as deficit spending can be either expansionary (Hsing 2004, pp. 339–45; Hsing & Morgan 2017, pp. 24–30) or contractionary (Apostolov & Josevski 2015, pp. 131–57; Josheski & Eftimoski 2016, pp. 5–13).

Inflation seems to be expansionary in the short run in Hungary and Poland, with a contractionary effect in Romania (a neutral stance is

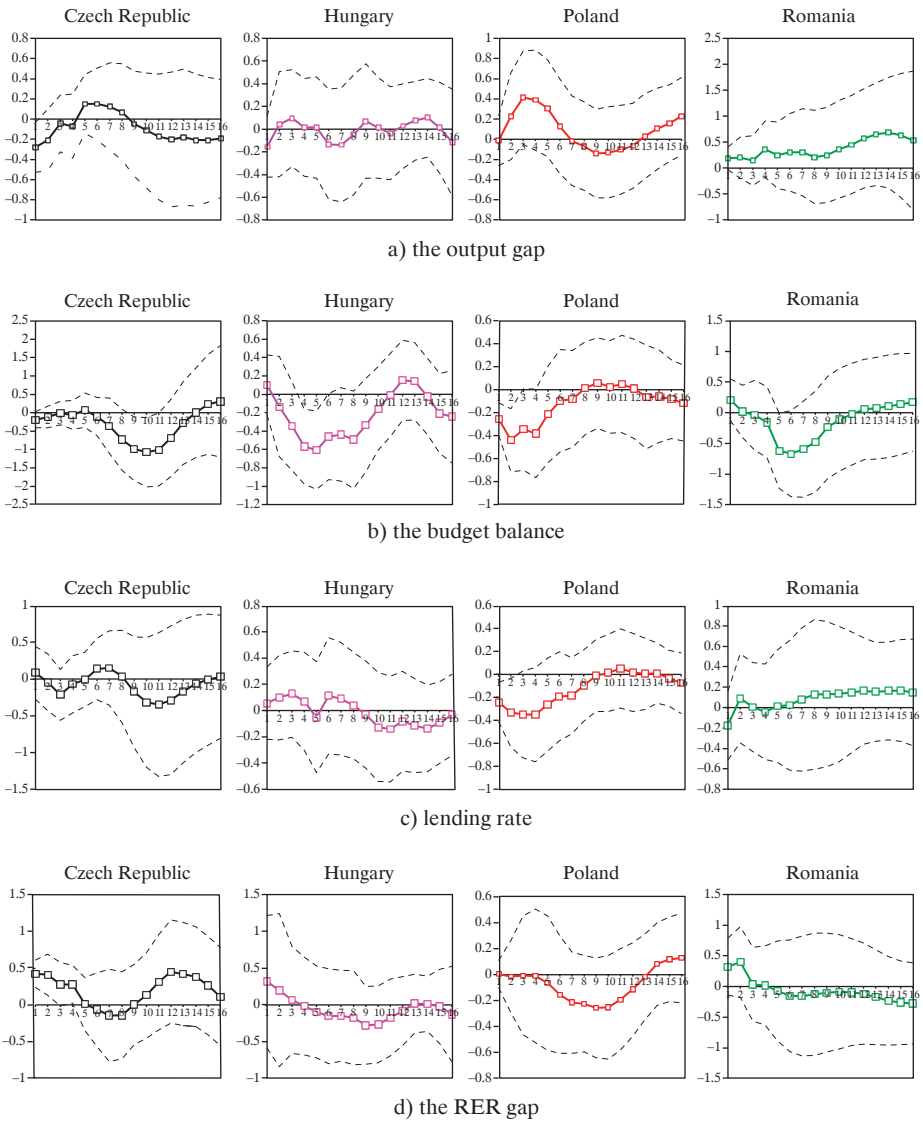


Fig. 4. Selected Non-monetary Determinants of Inflation

Source: author's own calculations.

observed in the Czech Republic). Assuming that price dynamics explains about 45–64% of changes in the output gap in Hungary and 50% in Poland, price incentives are very important for the business cycle in both countries.

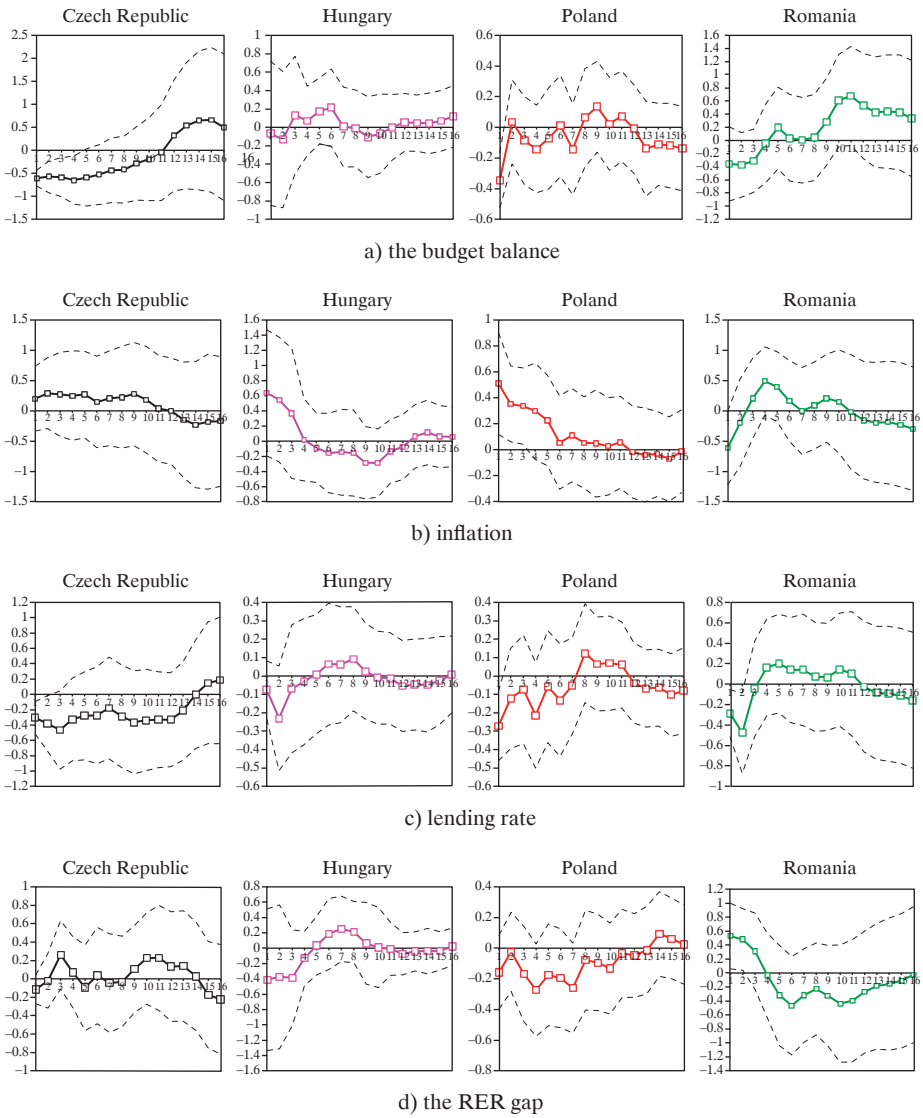


Fig. 5. Selected Determinants of the Output Gap

Source: author's own calculations.

An increase in the lending rate is expected to produce a contractionary effect, with the share in the FEVD of y_t ranging from as low as 4% in Hungary to 25% in Romania.

Undervaluation of the RER stimulates output in Romania (a fraction of y_t explained by changes in q_t gradually declines from 25 to 12%), with a weak contractionary effect in Poland and no effect in the Czech Republic and Hungary. In general, our results reflect the ambiguous policy implications of exchange rate depreciation in the IS-MP-IA model, and can be compared with quite heterogeneous findings in other studies (Clark & Hsing 2005, pp. 297–311; Hsing 2004, pp. 339–45; Hsing 2005, pp. 44–50; Hsing & Morgan 2017, pp. 24–30).

6. Conclusions

The IS-MP-IA model implies that the inflation target can be achieved with the response of the CB policy rate to the output gap and inflationary pressure. Our findings demonstrate that there is a strong response to the acceleration of inflation, though with a different time pattern. The reaction of the central bank appears to be almost immediate and short-lived in Poland and Hungary (to a lesser extent), with a downward correction in two years, while Romania and the Czech Republic are characterized by a more persistent but less significant response. On the other hand, there is no evidence of the central bank response to the output gap (except for Poland in the middle run and Romania in the long run). The reaction of inflation to an increase in the CB reference rate seems to be immediate and conventional in Poland, while the price puzzle is observed in all other countries. Real output increases over a year in the Czech Republic and Romania but then tends to fall below the trend in the long run (no output effects in Hungary and Poland). Except for Poland, an increase in the CB reference rate leads to a higher lending rate. Monetary tightening is associated with quite persistent RER undervaluation in Romania, while in the Czech Republic a short-term RER undervaluation is reversed in the middle-run. Among other results, it is worth mentioning that budget surplus has a strong anti-inflationary impact on all CEE countries but at the expense of a short-lived output slowdown (except for Hungary). As expected, an increase in the lending rate is followed by a short-lived fall in output, while there are no significant effects on inflation. Finally, RER undervaluation is likely to stimulate output (Romania) or depress it (Poland), with a neutral stance in the two other countries.

Our study implies that the response of the CB reference rate to the output gap should be much stronger. As suggested by the experience of Poland, the immediate response of the central bank to inflation could explain the lack

of the price puzzle. An anti-inflationary monetary policy stance should be strengthened by fiscal tightening, while in a recession a higher budget deficit is likely to boost output and prevent a deflationary spiral. For future studies, it is of particular interest to identify possible changes in the monetary policy transmission mechanism in the present period of extremely low interest rates that potentially diminish the power of CB reference rate policy.

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A COMPARATIVE STUDY OF THE POWER OF PARAMETRIC AND PERMUTATION TESTS FOR A MULTIDIMENSIONAL TWO-SAMPLE LOCATION PROBLEM

Abstract

Objective: A comparison of multidimensional populations is a very interesting and common statistical problem. It most often involves verifying a hypothesis about the equality of mean vectors in two populations. The classical test for verification of this hypothesis is the Hotelling's T^2 test. Another solution is to use simulation and randomization methods to test the significance of differences between the studied populations. Permutation tests are to enable statistical inference in situations where it is not possible to use classical parametric tests. These tests are supposed to provide comparable power to parametric tests with a simultaneous reduction of assumptions, e.g. regarding the sample size taken or the distribution of the tested variable in the population. The purpose of this study is a comparative analysis of the parametric test, the (usual) permutation test, and the nonparametric permutation procedure using two--stage *ASL* determination.
Research Design & Methods: The study considered the analysis of multivariate data. The paper presents theoretical considerations and refers to the Monte Carlo simulation.
Findings: The article presents a permutational, complex procedure for assessing the overall *ASL* (achieved significance level) value. The applied nonparametric statistical inference procedure uses combining functions. A simulation study was carried out to determine the size and power of the test under normality. A Monte Carlo simulation made it possible to compare the empirical power of this test with that of Hotelling's

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T^2 test. The most powerful test was the permutation test based on a two-stage *ASL* determination method using the Fisher combining function.
Implications/Recommendations: The advantage of the proposed method is that it can be used even when samples are taken from any type of continuous distributions in a population.
Contribution: The proposed test can be used in the analysis of multidimensional economic phenomena.

Keywords: permutation tests, comparing populations, power of test, Monte Carlo simulation, R software.
JEL Classification: C30, C150, C880.

1. Introduction

Population comparisons most often involve a comparison of characteristics in these populations. If it is assumed that population distributions differ only in a location, there are various parametric and nonparametric tests to verify this hypothesis. Many authors examine both the power and size of tests for the significance of differences between means or medians in two or more populations using for this purpose the simulation methods based on bootstrap or permutation tests (Janssen & Pauls 2005, Chang & Pal 2008, Kończak 2016, Anderson *et al*. 2017).

In a situation where a statistical test for certain measurable variables is conducted in several multidimensional populations, the hypothesis about an equality of mean vectors in these populations may need to be verified. A special case is the study of differences in means of variables ${}^1X, {}^2X, \ldots, {}^PX$ in two populations. The problem is to test the hypothesis about an equality of mean vectors of a P-dimensional random variable in the first and the second population, respectively, in the form of:

$$H_0: \boldsymbol{\mu}_1 = \boldsymbol{\mu}_2, \tag{1}$$

against the alternative hypothesis:

$$H_1: \boldsymbol{\mu}_1 \neq \boldsymbol{\mu}_2. \tag{2}$$

The parametric test for verification of this hypothesis (1) is Hotelling's T^2 test. The method using the T^2 test was proposed by Hotelling (1931, 1947) and Mahalanobis (1930, 1936) and is a generalisation of the Student's t test for many variables. To use the test, the assumption that the samples were taken from a population with multidimensional normal distributions is made (Rencher 2002).

In Hotelling's T^2 test, two populations are considered from which two samples are taken independently from the distribution $N_p(\boldsymbol{\mu}_1, \boldsymbol{\Sigma}_1)$ and from

the distribution $N_p(\boldsymbol{\mu}_2, \boldsymbol{\Sigma}_2)$. Assuming that covariance matrices are unknown but the same ($\boldsymbol{\Sigma}_1 = \boldsymbol{\Sigma}_2 = \boldsymbol{\Sigma}$), in order to verify the null hypothesis (1) on the equality of the mean vectors, this statistic can be used:

$$T^2 = \frac{n_1 n_2}{n_1 + n_2}(\bar{\mathbf{x}}_1 - \bar{\mathbf{x}}_2)^T \mathbf{S}^{-1} (\bar{\mathbf{x}}_1 - \bar{\mathbf{x}}_2), \tag{3}$$

where:

$$\mathbf{S} = \frac{1}{n_1 + n_2 - 2}\left(\sum_{i=1}^{n_1}(\mathbf{x}_{1i} - \bar{\mathbf{x}}_1)(\mathbf{x}_{1i} - \bar{\mathbf{x}}_1)^T + \sum_{i=1}^{n_2}(\mathbf{x}_{2i} - \bar{\mathbf{x}}_2)(\mathbf{x}_{2i} - \bar{\mathbf{x}}_2)^T\right).$$

If the H_0 hypothesis is true, the statistic (3) has a Hotelling's T^2 distribution with P and $n_1 + n_2 - 1$ degrees of freedom, where P is the number of variables (dimensions) examined and n_1, n_2 are the sizes of samples taken from populations. It is also possible to determine the critical values for this statistic using a statistic of the form (Krzyśko 2009):

$$F = \frac{n_1 + n_2 - P - 1}{(n_1 + n_2 - 2)P} T^2, \tag{4}$$

which has a Snedecor's F distribution of P and $n_1 + n_2 - P - 1$ degrees of freedom.

Hotelling's T^2 test can only be used if variables in each population have a multidimensional normal distribution. The article presents a method for testing a difference between two vectors of mean values that can also be used when the assumption regarding the occurrence of a multidimensional normal distribution in populations is not met. A simulation, randomisation approach was proposed to investigate a significance of differences occurring between the studied populations. The aim of this research is to compare tests for the equality of mean vectors in two populations under multidimensional normality: the parametric test, the (usual) permutation test and the nonparametric permutation procedure using two-stage *ASL* (achieved significance level) determination. A simulation study to determine the size and power of the tests was carried out in the R statistical computing environment (R Core Team 2016).

2. Nonparametric Combination Procedures

It is assumed that there are two samples ${}^1X_1, \ldots, {}^pX_1, \ldots, {}^PX_1$ and ${}^1X_2, \ldots, {}^pX_2, \ldots, {}^PX_2$ independently taken from the population with distribution F_1 and F_2. These populations have continuous, P-dimensional

distributions F_i for $i = 1, 2$ with unknown parameters. A null hypothesis is verified claiming that two samples were taken from populations with identical distributions in the form of $H_0: F_1(x) = F_2(x)$. Data taken from two populations can be noted (Marozzi 2008).

$$\underline{\underline{X}} = \begin{bmatrix} {}^1X_1 & {}^1X_2 \\ \vdots & \vdots \\ {}^pX_1 & {}^pX_2 \\ \vdots & \vdots \\ {}^PX_1 & {}^PX_2 \end{bmatrix} = \begin{bmatrix} {}^1X_{11} & \cdots & {}^1X_{1n_1} & {}^1X_{21} & \cdots & {}^1X_{2n_2} \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ {}^pX_{11} & \cdots & {}^pX_{1n_1} & {}^pX_{21} & \cdots & {}^pX_{2n_2} \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ {}^PX_{11} & \cdots & {}^PX_{1n_1} & {}^PX_{21} & \cdots & {}^PX_{2n_2} \end{bmatrix} =$$

$$= \begin{bmatrix} {}^1X_1 & \cdots & {}^1X_{n_1} & {}^1X_{n_1+1} & \cdots & {}^1X_n \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ {}^pX_1 & \cdots & {}^pX_{n_1} & {}^pX_{n_1+1} & \cdots & {}^pX_n \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ {}^PX_1 & \cdots & {}^PX_{n_1} & {}^PX_{n_1+1} & \cdots & {}^PX_n \end{bmatrix} = \begin{bmatrix} {}^1\underline{X} \\ \vdots \\ {}^p\underline{X} \\ \vdots \\ {}^P\underline{X} \end{bmatrix},$$

where ${}^pX_{ij}$ indicate the i-th $(i = 1, \ldots, n_j)$ sample for the p-th variable $(p = 1, \ldots, P)$ in the j-th $(j = 1, 2)$ population and ${}^p\underline{X}$ is the combined sample for the p-th variable.

The problem of testing equality of means in multidimensional populations can be considered in accordance with the Pesarin (2001) proposal. Pesarin initiated the approach to the nonparametric testing problem. He considered (Pesarin 2001) reducing the scope of the null hypothesis by splitting it into several partial hypotheses. This nonparametric approach is to perform some reasonable tests for each individual partial hypothesis and combine their results with a chosen combining function.

When the study deals with a problem of comparing the P means in two populations, partial P hypotheses are taken into account. The null hypothesis about the identity of the means vectors is in the form of:

$$H_0: \bigcap_{p=1}^{P} {}^p\mu_1 = {}^p\mu_2, \tag{5}$$

against the alternative hypothesis:

$$H_1: \bigcup_{p=1'}^{P} {}^p\mu_1 \neq {}^p\mu_2. \tag{6}$$

The study considered test statistics in the form of:

$${}^pT = {}^p\bar{X}_1 - {}^p\bar{X}_2. \tag{7}$$

The decision was made using the empirical distribution of the test statistic obtained on the basis of permutation of the data set. A nonparametric, complex procedure was used to assess the overall *ASL* values. In the first stage of separate testing of each of the *P* partial hypotheses considered, the *ASL* values are determined in accordance with the usual permutation method used during verification of the hypothesis for one-dimensional data, i.e.:

1. The significance level α is determined.
2. The statistics values are calculated on the basis of the sample data $({}^{p}T_0)$.
3. Perform a permutation of data *N*-times, then calculate the statistics test value (T_k).
4. Based on the empirical distribution of statistics, the *ASL* value for each of the compared variables is estimated according to the formula:

$$A\hat{S}L_{{}^{p}T}\left({}^{p}T_0\right)=\frac{0{,}5+\sum_{k=1}^{N} I\left(\left|{}^{p}T_k\right|\geq\left|{}^{p}T_0\right|\right)}{N+1}. \tag{8}$$

The method of permutation of multidimensional data is shown in Figure 1.

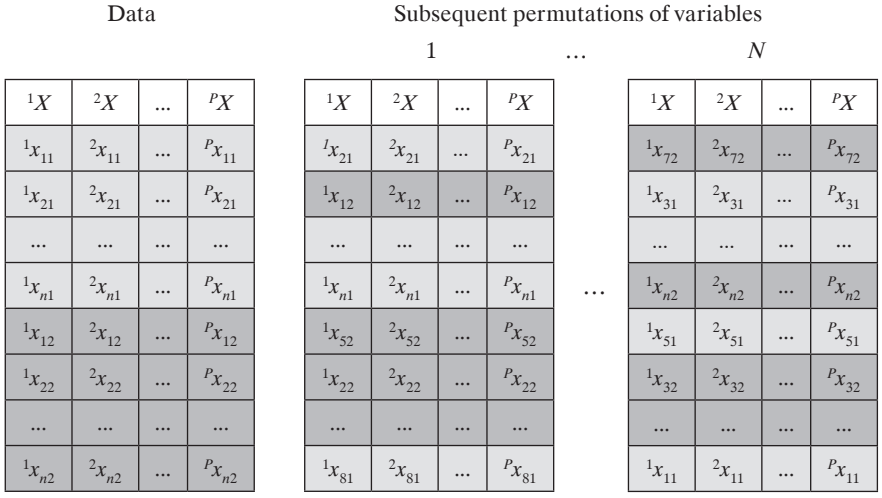

Fig. 1. Scheme of Permutations of Data

Source: author's own work.

The second stage of the nonparametric statistical inference procedure involves the determination of the overall *ASL* value using combining functions (Pesarin 2001):

$$_{\varphi}T = \varphi(ASL_{1_T}, \ldots, ASL_{p_T}).$$

There are many forms of combining functions for determining an overall *ASL* value. However, authors most often point to the following functions:

– the Fisher omnibus combining function (Fisher 1932):

$$C^{(F)} = -2 \cdot \sum_{p=1}^{P} \log(\hat{ASL}({}^{p}T)),$$

– the Liptak combining function (Liptak 1958):

$$C^{(L)} = \sum_{p=1}^{P} \Phi^{-1}(1 - \hat{ASL}({}^{p}T)),$$

where Φ denotes the standard normal distribution function,

– the Tippet combining function (Tippet 1931):

$$C^{(T)} = \max\{1 - \hat{ASL}({}^{1}T), \ldots, 1 - \hat{ASL}({}^{P}T)\}.$$

The observed statistic value for the sample data using Fisher combining functions can be determined as:

$$\underline{T}_0 = -2 \cdot \sum_{p=1}^{P} \log(\hat{ASL}_{{}^{p}T}({}^{p}T_0)), \tag{9}$$

whereas the distribution of this statistic is determined on the basis of the same permutations as in the first step, for example for *k*-th permutation:

$$\underline{T}_k = -2 \cdot \sum_{p=1}^{P} \log(\hat{ASL}_{{}^{p}T}({}^{p}T_k)). \tag{10}$$

The overall *ASL* value for the test under consideration is estimated using the formula:

$$\hat{ASL}_{\underline{T}} = \frac{\sum_{k=1}^{N} I(\underline{T}_k \geq \underline{T}_0)}{N}. \tag{11}$$

If $ASL < \alpha$, the hypothesis H_0 is rejected, otherwise there is no basis for rejecting the H_0 hypothesis.

3. Monte Carlo Simulation

Considering the nonparametric procedure based on the Fisher combining function, the size and power of the test were estimated by a simulation study. A Monte Carlo analysis was carried out allowing comparison of two populations with three-dimensional normal distributions with parameters: $\boldsymbol{\mu}_1 = [0,0,0]$, $\boldsymbol{\Sigma}_1 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ and $\boldsymbol{\mu}_2 = [x,x,x]$, $\boldsymbol{\Sigma}_2 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$, where $x \in (-1,1)$ with the increment 0.2. In the simulations, samples of sizes (n_1, n_2) = (10, 10), (20, 20), (30, 30), (50, 50), (100, 100) were generated. The results of the simulations carried out to determine the size and power of the tests are presented in Table 1 (small sample sizes) and Table 2 (large sample sizes). For comparative purposes, the tables also include results obtained for the parametric Hotelling's T^2 test and its permutation equivalent. A procedure for conducting each test included 1,000 Monte Carlo simulations and 1,000 permutations of data and the assumed level of significance was $\alpha = 0.05$.

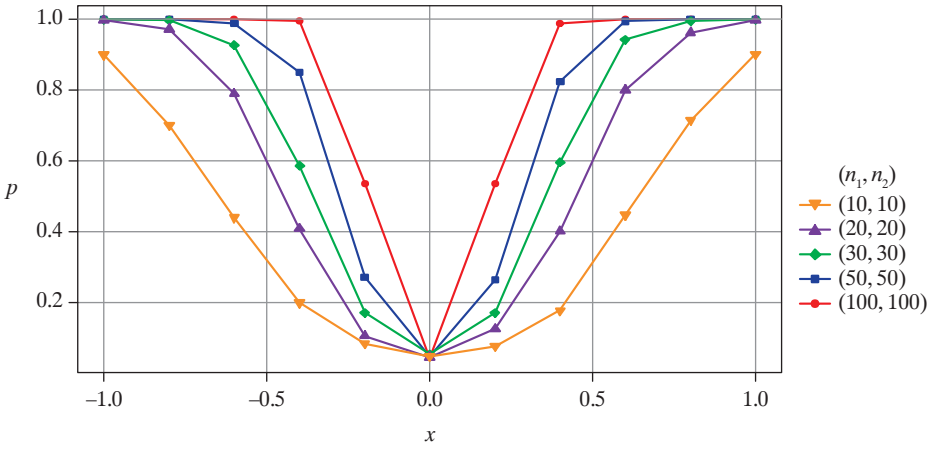

Fig. 2. Graphs of the Empirical Power of the Permutation Test $\underline{T}$ for Different Sample Sizes

Source: author's own work in the R programme.

In the case of analysis of multidimensional, equinumerous samples, the sizes of the presented tests are close to the assumed level of significance. The values of estimated probabilities of rejecting the hypothesis H_0, when it was true only slightly differed from $\alpha = 0.05$. The three considered tests

Table 1. Hotelling's T^2 Test Power and Estimation of Permutation Tests' Power (Small Sample Sizes)

Test Statistic			
x	T^2	T^2 (*perm*)	$\underline{T}$
(10, 10)			
–1.0	0.828	0.829	0.900
–0.8	0.632	0.628	0.701
–0.6	0.381	0.387	0.440
–0.4	0.187	0.193	0.199
–0.2	0.079	0.079	0.083
0	0.048	0.046	0.048
0.2	0.075	0.077	0.076
0.4	0.157	0.155	0.177
0.6	0.389	0.385	0.447
0.8	0.629	0.625	0.715
1.0	0.846	0.843	0.902
(20, 20)			
–1.0	0.996	0.995	0.998
–0.8	0.958	0.957	0.972
–0.6	0.747	0.753	0.790
–0.4	0.390	0.394	0.408
–0.2	0.102	0.105	0.105
0	0.045	0.043	0.045
0.2	0.117	0.119	0.125
0.4	0.373	0.380	0.401
0.6	0.760	0.759	0.801
0.8	0.947	0.948	0.963
1.0	0.996	0.996	0.998
(30, 30)			
–1.0	1.000	1.000	1.000
–0.8	0.998	0.997	0.998
–0.6	0.913	0.911	0.927
–0.4	0.548	0.556	0.586
–0.2	0.158	0.160	0.170
0	0.055	0.059	0.054
0.2	0.160	0.160	0.170
0.4	0.552	0.560	0.596

Table 1 cnt'd

Test Statistic			
x	T^2	T^2 (*perm*)	$\underline{T}$
0.6	0.916	0.917	0.943
0.8	0.992	0.992	0.995
1.0	1.000	1.000	1.000

Source: computer simulations in the R programme.

Table 2. Hotelling's T^2 Test Power and Estimation of Permutation Tests' Power (Large Sample Sizes)

Test Statistic			
x	T^2	T^2 *(perm)*	$\underline{T}$
(50, 50)			
–1.0	1.000	1.000	1.000
–0.8	1.000	1.000	1.000
–0.6	0.987	0.987	0.989
–0.4	0.835	0.836	0.850
–0.2	0.255	0.258	0.271
0	0.045	0.049	0.048
0.2	0.257	0.257	0.264
0.4	0.805	0.805	0.825
0.6	0.992	0.993	0.995
0.8	1.000	1.000	1.000
1.0	1.000	1.000	1.000
(100, 100)			
–1.0	1.000	1.000	1.000
–0.8	1.000	1.000	1.000
–0.6	1.000	1.000	1.000
–0.4	0.997	0.997	0.997
–0.2	0.528	0.528	0.536
0	0.044	0.044	0.041
0.2	0.520	0.528	0.535
0.4	0.986	0.986	0.988
0.6	1.000	1.000	1.000
0.8	1.000	1.000	1.000
1.0	1.000	1.000	1.000

Source: computer simulations in the R programme.

reached comparable assessments of the probabilities of rejecting the H_0 hypothesis when it was false. In the majority of analysed cases, however, the most powerful test was the permutation test based on a two-stage *ASL* determination method using the Fisher combining function.

The probabilities of recognising differences between means vectors increased as the differences between the considered three-dimensional models of the populations increased. Analysing the graphs of the empirical power of the permutation test depending on the sample sizes taken from the populations (Figure 2), it can be seen that for 10 observations the differences in means at level 1 are detected with a probability of around 0.9 by the permutation test. For samples with 50 observations, this probability was obtained for the difference in means of around 0.5.

4. Conclusions

The aim of the simulation research was to determine the ability of the presented permutation test to maintain the nominal probability of committing the type I error and the ability to obtain a high probability of rejecting a false null hypothesis in the conditions of changing distribution parameters in populations from which samples were taken. A simulation study to determine the size and power of the tests was carried out.

The results obtained in the simulation confirm the effectiveness of the permutation procedure and the possibility of its application in order to infer differences between vectors of means in two populations with multidimensional normal distributions. All testing procedures (under normality) ensured control of the type I error at the assumed level of significance. The higher power of the presented tests was achieved thanks to the use of a nonparametric combination procedure that uses Fisher's combining functions to evaluate the overall *ASL* value. The advantage of the presented method is that the method can be used even when samples are taken from any type of continuous distributions in a population. In the further research other forms of combining functions can be considered and a simulation study that takes into account various distributions of the studied variables can be performed.

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PUBLIC TRUST – A BANK'S NON-FINANCIAL CAPITAL

Abstract

Objective: The article is devoted to an important determinant of a bank's success, which is public trust and the bank's ethics in relation to employees and external stakeholders, especially customers. The aim of the article is to analyse the concept of the institution of public trust – with particular emphasis on business ethics and critical verification of the legitimacy of assigning this feature to banks – in the context of a diagnosis of the level of trust towards banks and the reasons for customer attachment in the banking sector.
Research Design and Methods: A review of the subject-literature and various reports is conducted in order to identify the dimensions of public trust as a factor which determines a bank's activity. In order to examine opinions about the ethical behaviour of banks operating in Poland, the authors conducted a survey among students of the University of Economics in Katowice in May 2020. The survey was addressed to full--time and part-time masters degree students from all faculties.
Findings: The most important conclusion from the study is that the factors which have an impact on a bank's ethical behaviour are diverse. The most important among them are connected with the new role of banks in the economy and legal regulations affecting their behaviour. Factors that foster unethical behaviour were also identified, with the pressure to create a sales plan playing the most prominent role.
Implications/Recommendations: Customer trust in conventional and remote forms of contact with banks has not been addressed, although it certainly has an impact on trust

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in banks and on the durability of the customers' relationships with banks. This opens up the possibility for broader research in the future.
Contribution: The article gives a specific perspective on the issue of trust in banks. It looks at the issue from a perspective of students, who are generally seen as economically aware and who have a high level of knowledge about the behaviour of banks.

Keywords: institution of public trust, banks' social corporate responsibility, bank ethics, banking sector.
JEL Classification: G21, G28, G29.

1. Introduction

Each bank has two types of capital that allow it to continue operating on the financial market. One of them is financial capital (own and foreign), and the other, which is much more important as it allows competitive advantage to be gained, is knowledge-based non-financial capital, also called intellectual capital. In measurable terms, intellectual capital is the difference between the bank's market value and its book value (Perechuda & Chomiak-Orsa 2013, p. 307). It consists of human, relational and structural (organisational) capital (Kaczmarek 2005, p. 320). As we know, a bank is made up of people: the owners, the supervisory board, the management and employees. Therefore, their attitude, decisions and actions have the greatest impact on the level of public trust placed in the bank by customers (or more broadly by external stakeholders) as well as on the quality of the bank-customer relationship. Edvinson (1997), on the other hand, defines intellectual capital as intangible assets that are not explicitly included in a bank's balance sheet, but have a positive impact on its financial results. Nowadays, a source of economic value and wealth is not only the products offered by the bank, but also its intangible assets, including intellectual capital (Ozkan *et al*. 2017, p. 191).

The aim of the article is to analyse the concept of the institution of public trust – with particular emphasis on business ethics and critical verification of the legitimacy of assigning this feature to banks – in the context of a diagnosis of the level of trust in banks and the reasons for customer attachment to the banking sector.

2. The Bank as an Institution of Public Trust

A bank is by definition considered to be an institution of public trust. This means that a bank which enjoys public trust will not deceive its customers and the information it provides will always be true. Furthermore,

the bank's skills and knowledge will be properly used in the interest of both the bank and its stakeholders (Radziszewski 2013, p. 10; Gradoń 2014, p. 62). Looking at the example of Poland, it should be noted that the term "institution of public trust" does not derive from the Constitution, which refers only professions (exercised by individuals) "in which the public repose confidence". It is likewise not a statutory concept, hence it has been shaped by case-law and is applicable in the doctrine. At the same time, the activities of institutions of public trust are subject to legal regulations. There are a number of restrictions on their activities, and protective mechanisms are in place (Pitera 2007, pp. 145–7, 7, 150). Therefore, there are guarantees which strengthen public confidence – legal guarantees (e.g. arising from the provisions of the Banking Act regarding, for instance, the establishment of banks and banking secrecy) and institutional guarantees (e.g. the activities of institutions such as the Financial Supervision Authority (KNF), the Bank Guarantee Fund (BFG) and the central bank), which often function in parallel, financial supervision being one example (Radziszewski 2013, pp. 13–7, 29).

In the case of banks, the characteristics of institutions of public trust include:

– the specifics of the business and its economic, financial and social importance, primarily from the point of view of maintaining the stability of the financial system, which is considered a public good,

– being subject to legal regulations (e.g. limiting access to market operations, including a formalised method of licensing banks) and prudential restrictions,

– striving to maintain operational security (optimisation, not maximisation, of profit generated at an acceptable level of banking risk),

– reliable management of entrusted goods (the savings of a very large group of customers),

– deposit and credit brokerage in order to put business growth on a healthy footing,

– professionalism, diligence, a business-like approach, transparency and predictability of actions,

– development based on the best knowledge,

– compliance with banking secrecy, personal data protection,

– authority (e.g. anti-money laundering),

– the institution of the bank agreement and banks' liability for damages,

– accepting arbitration clauses (arbitration),

– financial supervision over banks,

– guaranteeing the deposits of customers, primarily non-professional customers, which should ensure protection of the public interest,

– social responsibility (Dąbrowski 2017, pp. 137–8; Półtorak 2011, Pitera 2007, pp. 145–62).

The social responsibility of the banking industry, although last in the above list, is a very important feature of institutions of public trust. It allows a bank to build relational capital, understood as its internal relational resources and its relations with stakeholders (Perechuda & Chomiak-Orsa 2013, p. 307).

This is because commercial banks as well as the central bank exert a tremendous influence over customers and other citizens, so their actions must not conflict with important social values. Corporate social responsibility (CSR) is understood as the expectations (economic, legal, philanthropic, etc.) of a society, at a given time, in relation to business entities and therefore also banks (Nowacka 2016, p. 61). According to the European Commission, CSR is the voluntary consideration by economic entities of the social aspects of their business as part of relations with stakeholders (Nowacka 2016, p. 61). There are more definitions of CSR, which means that there is no single, universally applicable approach to this problem, but the existing definitions have many common features. Commercial banks combine commercial and social goals, which include fair advertising, selling services, undertaking initiatives for the local community and building good relations with employees. The Polish central bank sees social responsibility as part of its mission, as defined in the Constitution, the Act on the National Bank Poland (NBP) and the Banking Act. It implements social responsibility by ensuring the stability of money and low inflation, issuing money, conducting analytical and research work, facilitating access to financial services, carrying out public information and educational campaigns, financing postgraduate studies, organising competitions, mitigating risks, and even cooperating with Teatr 21, famous for the fact that the actors are people with Down syndrome, etc. Regional branches of the NBP support local initiatives, cooperate with schools and youth organisations, champion environmental protection and pursue many other valuable local social initiatives (*Dbamy o wartość*… 2016, pp. 7, 16, 50, 71, 72).

Yeung (2011) defines the key elements of CSR in the banking sector, which include: the need to understand the complexity of financial services, risk management, strengthening ethics in the banking sector, implementing strategies in the event of a financial crisis and broadly understood customer protection (Belas 2012).

What undermines the notion of an "institution of public trust"? There are many factors, the most important being: moral hazard, populism, "hurray-optimism", intentional information asymmetry, abusive clauses in bank agreements, participation in banking scandals or money laundering, financing of terrorism, dishonesty and unreliability (Półtorak 2011). One can add to this list such factors as discrimination and mobbing of employees. Unfortunately, these features are not alien to some modern banks and their clients (but also bank employees), yet banks still remain the most important financial institutions on the global financial market. Why is this happening? The answer is simple: most customers perceive banks as institutions of public trust for the lack of a better alternative. By depositing and investing financial surpluses, customers do not favour profit and do not prefer it to the safety of money and the predictability and reputation of a financial institution (Radziszewski 2013, p. 11). Ennew and Sekhon (2007) identify 5 factors which determine the level of trust in financial institutions: customer orientation, honesty, competence, compliance with universal values and transparency. Practice shows, however, that many banks (in the past and nowadays) do not deserve such trust, and obviously it is not possible to treat all banks and banking sectors in individual countries equally, automatically subjecting them to not always justified criticism, which will be discussed more broadly later in this article.

The dominance of banks (bank assets) can be seen by analysing the structure of the financial sector (in the countries selected for analysis), but above all by observing the ratio of bank assets to GDP, as presented in Figures 1 and 2. Obtaining such a competitive advantage would obviously not be possible if banks were not accepted as institutions of public trust by many of their customers (which is not to say that customers are oblivious to the unethical behaviour of banks, but most likely they do not consider it a threat to their savings deposits).

As at the end of 2018, the assets of monetary financial institutions had the highest share in the assets of the financial system in other European countries too: Germany, Spain, the Netherlands, Belgium, Austria and Finland (*Rozwój systemu finansowego…* 2019, p. 12). Therefore, the assets of investment, pension and insurance funds had a significantly smaller share in the assets of the financial system.

As can be seen in Figure 2, the banking sectors of the EU-15 and euro area are much more developed compared to those that have joined the EU since 2004. The dilemma of developed banking sectors, however, is that they are difficult to manage. It is difficult to save the banking sector, which is

stronger than the economy (as demonstrated by the financial crisis of the 21st century). This can reduce confidence in banks in the eyes of those customers who are aware that the phrase "too big to fail" does not correspond to reality. In addition, the balance sheet structure of the banks of the new EU countries is more traditional, generating lower risk due to the dominance of loans (assets) and deposits (liabilities) in the balance sheets, which builds customer confidence in the sector.

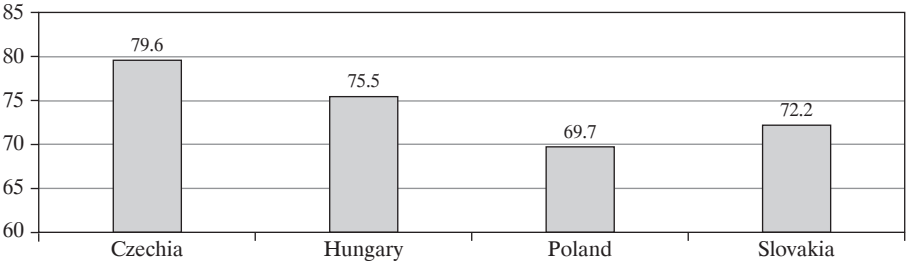
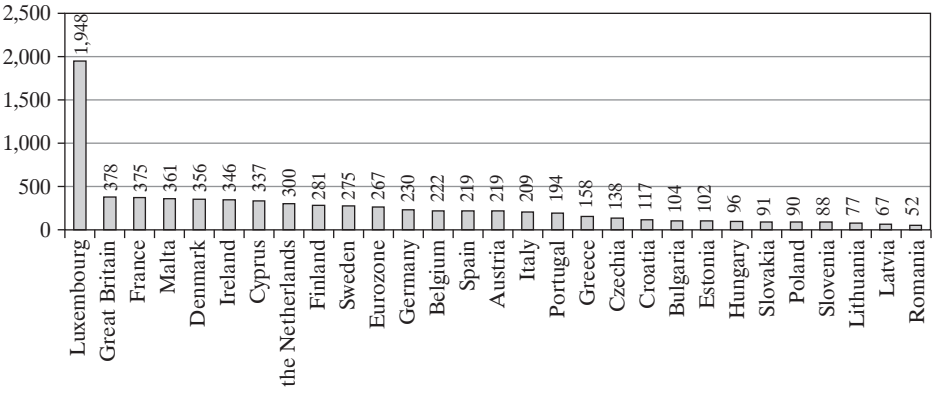


Fig. 1. The Share of Assets of Credit Institutions in the Total Assets of the Financial Systems of Selected Countries at the End of 2018 (in %)

Source: *Rozwój systemu finansowego…* (2019, p. 15).



The data for Luxembourg and Finland are from 2017.

Fig. 2. The Ratio of Bank Assets to GDP of EU Countries and the Euro Area at the End of 2018 (in %)

Source: *Raport o sytuacji ekonomicznej…* (2019, p. 116).

Every year, the Association of Polish Banks (ZBP) analyses the public's trust in banks operating in Poland. The survey carried out in 2019 shows that 72% of respondents declared confidence in the sector (9 percentage points

more than in 2018). Similar results were obtained by the CBOS survey – 74% of respondents trust Polish banks (*Wzrasta zaufanie Polaków…* 2019). These indicators mean that one cannot speak of a crisis of confidence in banks in Poland. In addition, the trust index for banks compares well with public trust in other selected institutions (Figure 3).

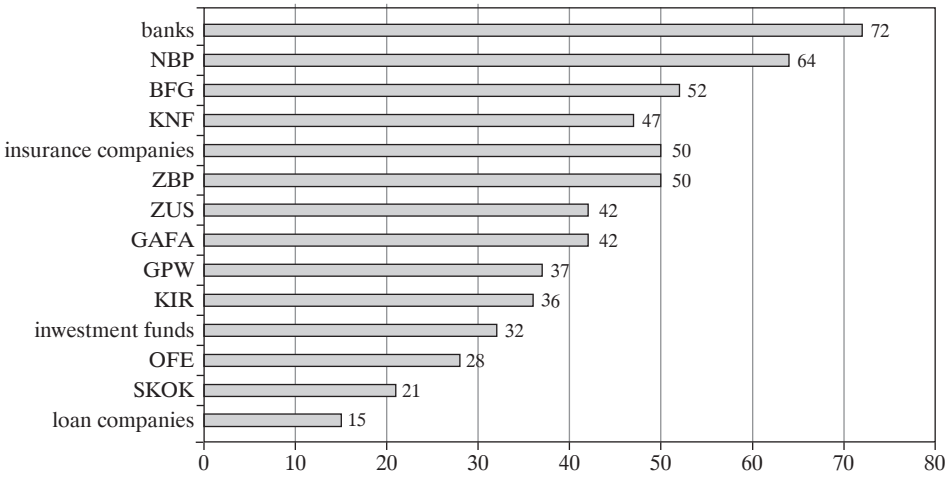


Fig. 3. The Trust Index for Selected Polish Institutions in 2019 (in %)
Source: *Wzrasta zaufanie Polaków…* (2019).

Clearly, there remains the question of whether trust in banks strictly depends on the banks themselves, their activities and their relationships with customers, or whether this favourable result is mainly due to systemic solutions that bank customers consciously or subconsciously identify with the banking system, its security and stability, and as a result place high confidence in the banks. One should mention at this point the role of legal regulations in strengthening the banks' image, including regulations on client protection in the financial services market and prudential regulations limiting banking risk, as well as the existence of institutions which strengthen the credibility of banks in the eyes of clients, principally the Bank Guarantee Fund, which guarantees deposits of up to 100,000 EUR in the event of bank going bankrupt, but also other institutions that oversee the security and stability of the Polish banking sector (NBP, KNF and ZBP). Another issue is customer awareness of the actual utility of certain solutions. Deposit guarantee systems are a good example here too, as they are able to perform the guarantee function assigned to them in a stable

banking sector, where from time to time problems of individual, often not very large, banks arise. In the event of a collapse of the financial market and a large number of bank failures, no deposit guarantee system can meet such challenges without public assistance[1]. Whom depositors trust – whether the banks, the BFG, or (perhaps rightly) the State – is a topic for a separate article.

3. Ethics – an Essential Feature of Banks as Institutions of Public Trust

To the long list of positive features of banks as institutions of public trust, one should definitely add one more important feature, which was intentionally not included in the previous section: ethical behaviour, without which a bank's activities will ultimately not be successful and without which there is no institution of public trust. It is argued that ethical behaviour can be seen as a competitive advantage helpful to expanding a bank's business and its customer base (Fetiniuc & Luchian 2014, p. 93). Banking ethics are also closely related to social responsibility, and these jointly build a bank's relational capital. Therefore, ethical values are a necessary complement to market mechanisms and the features of institutions of public trust, together being desirable determinants of bank activities. Banks with a tarnished reputation have a better chance of rebuilding it through ethical behaviour, which applies to the bank as an institution, its partners, management and employees. Ethics can be defined as the set of judgements and moral norms adopted by a given community at a given time, the object of which, from a moral point of view closely related to work, is the theory of right and wrong (Drzeżdżon 2013, pp. 22–3). It can also be defined as trustworthy rules of conduct (Zaleska 2013). Therefore, business ethics builds a system of norms and standards of conduct that refer to the desired values of business organisations acceptable to their stakeholders (Stachowicz-Stanusch 2016, p. 84). By adopting ethical codes, an ethical bank is guided in its activities by law, supervisory recommendations, the resolutions of institutions representing the banking industry, and good business practices. Thanks to socially responsible activities, innovation and social education, and observing the legitimate interests of stakeholders, a bank contributes to the development of the country, the wealth of its clients and the wealth of other citizens (*Kodeks etyki bankowej…* 2013, p. 3). A bank employee's professional ethics, in turn, are expressed through standards of conduct, which include:

[1] For more on the public confidence paradigm, see Zieliński (2013, pp. 673–83).

specific ethical requirements (recognised by a given professional group), a hierarchy of values, and a recognised method for resolving ethical conflicts (Drzeżdżon 2013, pp. 25–6). However, it should be remembered that employees' ethics are affected (improved, but also distorted) by the business environment (Milic-Czerniak 2012, p. 45).

The behaviour of banks and bankers is regulated by ethical codes, which, as already mentioned, are one of the most important written bases upon which banks operate. A code of ethics is a strategic document containing the principles, assumptions, rules of behaviour and conduct of, for example, banks towards internal and external stakeholders. In other words, it is a set of operating standards required of the management and employees of a given financial institution or enterprise, helping them to behave ethically (Polok 2005, pp. 131–2). The codes of ethics applicable to the Eurosystem, the ECB, and employees and high-level bodies of the ECB are summarised in Table 1. Importantly, members of the key bodies of the ECB, i.e. members of the bank's management board, the governing council and the supervisory board, are now subject to the same uniform rules for practicing the profession and are obliged to strictly comply with them. These principles were developed by the bank's Ethics Committee, which published them in a 2019 document entitled "The Code of Conduct for high-level European Central Bank Officials". Table 1 also lists the codes of ethics applicable to employees of the central bank, commercial banks and banking supervision authorities in Poland.

In Poland, the body which assesses the observance of banking ethics by banks, their partners and their employees in relations with other banks (in terms of compliance with the principles of fair competition) and with customers is the Banking Ethics Committee, which has 20–45 members appointed by the General Meeting of the Polish Bank Association from among persons bproposed by the banks. The Committee also prepares reports, one of which is "Report on relations between banks and their stakeholders" (Uchwała nr 9/2019 XXXII Walnego Zgromadzenia… 2019). The equivalent of the Polish Committee is the Ethics Committee established by the ECB.

The most important dilemmas of banking ethics, usually included in the codes, are presented in Table 2. The codes refer primarily to the rules of conduct of bank employees and the attitudes of banks towards their stakeholders, both internal and external.

Table 1. Ethical Regulations in the Activities of the ECB and the Eurosystem as Well as Codes of Ethics Applicable to Banks and the Supervisory Authority in Poland

Specification	Legal Acts Introducing Ethical Standards in the Activities of the ECB
ECB	– Code of Conduct of the European Central Bank (2001/C 76) – The ethics framework of the ECB (2015/C 204/04) – Decision (EU) 2015/433 of the European Central Bank of 17 December 2014 concerning the establishment of an Ethics Committee and its Rules of Procedure (ECB/2014/59) – Guideline (EU) 2015/855 of the European Central Bank of 12 March 2015 laying down the principles of a Eurosystem Ethics Framework and repealing Guideline ECB/2002/6 on minimum standards for the European Central Bank and national central banks when conducting monetary policy operations, foreign exchange operations with the ECB's foreign reserves and managing the ECB's foreign reserve assets (ECB/2015/11) – Code of Conduct for high-level European Central Bank Officials (2019/C 89/03)
ZBP (Poland)	– Code of Banking Ethics (Principles of Good Banking Practice) – Resolution No 9/2019 of the XXXII General Meeting of the Polish Bank Association regarding the adoption of the Regulations of the Banking Ethics Committee – Recommendation of the Banking Ethics Committee at the Polish Bank Association on shaping ethical culture in banks (2019)
KNF (Poland)	– Principles of Corporate Governance for Supervised Institutions – Code of Ethics for Employees of the Polish Financial Supervision Authority – Canon of Good Financial Market Practices
NBP (Poland)	– Rules of Ethics of Employees of the National Bank of Poland (effective from January 2015)

Source: authors' own work.

A large number of banks also publish their own declarations of ethical attitudes, which, in principle, are of course identical to the Code of Banking Ethics developed by the Polish Bank Association. For example:

– PKO Bank Polski developed the "Code of Bank Ethics",

– Santander Bank Polska applies the "General Code of Conduct" developed for the entire Santander group,

– ING's principles of professional ethics are based on ING's Values and Behaviours,

– The BNP Paribas Group has a "Code of Conduct for the BNP Paribas Group",

– the Bank Millennium Group operates on the basis of its own code of ethics.

Table 2. Ethical Dilemmas – Key Areas

Dilemmas of Banking Ethics	Analysis
Employee rules of conduct	Confidentiality of information, honesty, high quality and work culture, diligence, raising professional competences, non-discrimination of clients, compliance with the law and ethical principles
Bank relations/attitude towards employees, management staff and external stakeholders (clients, other banks) – so-called responsibility towards stakeholders	Honesty, responsibility, professionalism, innovativeness, loyalty, the proper handling of complaints, respect, non-discrimination of employees, staff training, attractive promotion paths, motivation, corporate culture, absence of mobbing, mutual trust, fair competition, confidentiality of information, respect for intellectual property rights, social responsibility, rule of law

Source: Czechowska & Zatoń (2016, pp. 113–31).

Some banks do not create their own rules but simply comply with the Polish Bank Association's Code of Banking Ethics.

If banking ethics are examined in terms of written policies, it can be said with absolute certainty that the banks conduct their business ethically. But are ethical precepts always faithfully reflected in banking practice and always applied – the answer is: unfortunately not, which will be argued in the next section.

4. Banking Ethics – Are They Always in Line with Written Standards?

Nowadays, the first and probably best-known argument that the activity of banks is not always ethical was provided by the financial crisis. Banks were not its only culprit, but they cannot deny that they provided uncontrolled mortgage loans for profit, knowing as professionals that borrowers without assets, work and income would not be able to service those loans, and that the houses they bought for a price resulting from a speculative bubble created on the real estate market did not provide genuine collateral for the repayment of the debt. The sale of credit receivables, together with the mortgages securing them, is of course allowed, but it is difficult to consider as ethical the sale of non-recoverable receivables in the full knowledge that they would be used to issue asset-backed securities, the value of which depended on the quality of the previously granted mortgages. Without

a word of protest, the banks looked at the AAA ratings given to asset--backed securities by rating agencies, knowing about the quality of loans, the quality of mortgage collateral established on revalued real estate, and issue insurance.

The question also arises as to whether, as a consequence of the crisis, it was ethical to bail out the banks, rather than their customers, using public money. The answer to this question is unclear. However, one can agree with with M. Zaleska, who argues that governments, in line with taxpayers' expectations regarding, for instance, social protection, did not increase fiscalism. They financed budget deficits by issuing treasury bonds, which were in large part purchased by banks. Therefore, one may conclude that the earlier laziness of governments and taxpayers resulted in the later necessity to save the banks, precisely at the expense of taxpayers harmed by the crisis, who were at the same time the clients of banks, pension and investors (*Bankowe błędy…* 2018).

One of the most important examples of unethical behaviour was the coordination of activities and exchange of information by dealers working for several of the largest banks aimed at manipulating the LIBOR and EURIBOR interest rates. For this collusion, which is contrary to EU law, a fine of 1.7 billion EUR was imposed on the following American and European banks: Citigroup, Deutsche Bank, Royal Bank of Scotland (RBS), JP Morgan, Barclays and Societe Generale. In a similar case, the European Commission accused eight banks of coordinating investment strategies on the European sovereign bond market in 2007–2012 (*Kolejna bankowa afera*... 2019, *Afera LIBOR*… 2013).

Certainly, money laundering, which is familiar to some global banks, is not ethical. Nordea Bank, ING Group, Credit Agricole, Raiffeisen Bank and Deutsche Bank were all accused of legalising dirty money. Without going into detail, French and German banks received fines of several billion dollars in the US for violating anti-corruption law or bypassing international sanctions against dictatorships (Cheda 2019). Banks are also forbidden from providing financial services to organisations considered terrorist, and unfortunately such charges have been levelled against certain banks.

As for banks in Poland, many borrowers who took out mortgages denominated in Swiss francs accuse the banks of not informing them properly about the likelihood of exchange rate increases and their effects, and also about the problem of spreads (*7 grzechów banków*… 2016).

There are many more examples of unethical behaviour, for instance by employees who increase a bank's operational risk and damage its image

in the eyes of customers. Misunderstandings (e.g. regarding risk) have taken place in discussions with customers aimed at convincing them to take up a bank's offer. Also dubious is the practice of making changes to fees after a contract has been signed. Bank employees have themselves also expressed dissatisfaction with their employer's behaviour. In Poland, in August 2019, the Independent Trade Union of Banking and Services Employees ("Dialog 2005") submitted a letter to the Chief Labour Inspector on behalf of employees of certain banks, setting out demands in relation to wage inequality (bonuses), overtime pay, gender pay discrimination, group layoffs and unrealistic sales plans (*Potrzebna inspekcja pracy…* 2020).

5. Banking Ethics in the Opinion of Students – Survey Results

In order to examine opinions about the ethical behaviour of banks operating in Poland, the authors conducted a survey among students of the University of Economics in Katowice in May 2020. The survey was addressed to full-time and part-time masters degree students from all faculties. A total of 222 people took part in the survey, of whom 98.6% are bank customers and only 1.4% do not use banking services. The purpose of the survey was to show how an economically aware bank customer perceives the compliance of the bank or banks' ethical standards with the services they actively use.

The first question was to find out the opinions of respondents in the area of general issues related to the problem of trust in the banking sector and banking ethics. The respondents most fully agreed with the proposition that banking should be based on trust, transparency and confidentiality (89.5%). For most respondents, regulation of the issue of ethics in banks and the granting of competences in this area to such institutions as the National Bank of Poland and the Polish Financial Supervision Authority are also significant. The issue of statutory regulation of ethics in the banking sector also remains important. For most respondents, the lack of professional training for bank employees and lack of reliable control of ethical behaviour have a major impact on the higher incidence of fraud. It is also significant that nearly half of the respondents (43.6%) completely agreed with the statement that in recent years banks have raised their ethical standards (Figure 4).

The respondents mentioned new expectations regarding the role banks should play in the economy (60.7% of respondents) and changes in banks' corporate policy among the factors with a high or very high impact on

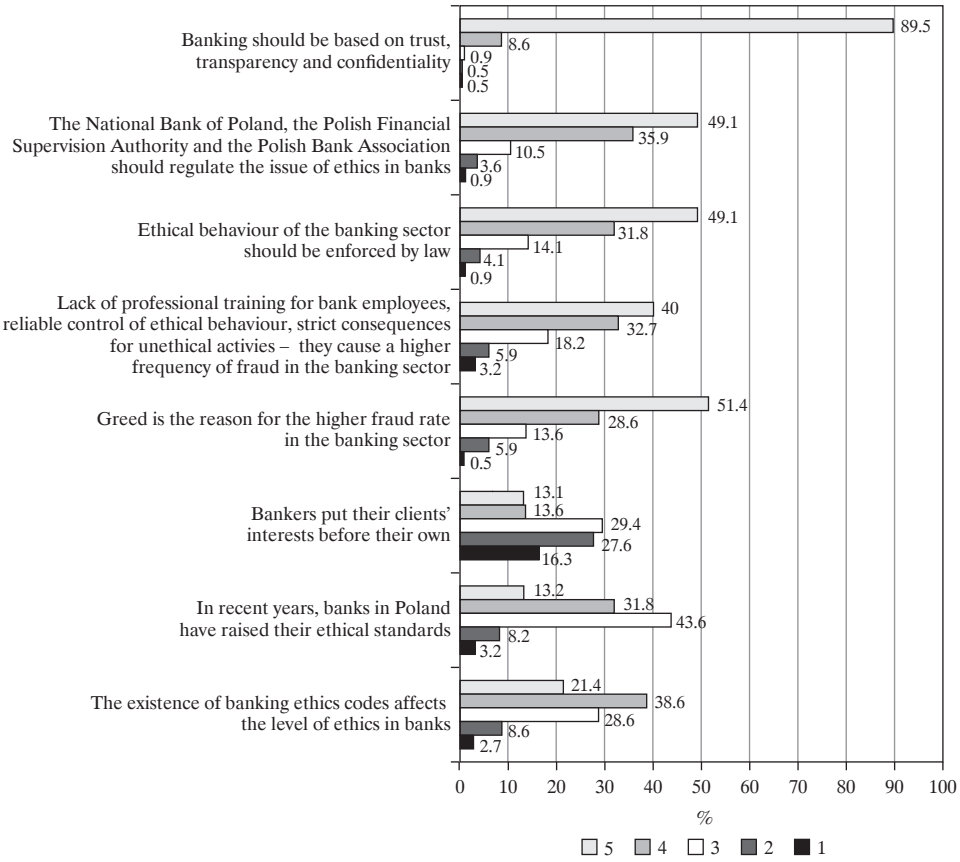


Fig. 4. Please Indicate to What Extent You Agree with the Following Statements (1 – Completely Disagree, 5 – Completely Agree) (% of Respondents' Answers)

Source: authors' own work.

the ethical behaviour of banks. Other very important elements include the issue of legal regulations (86.8% of respondents) and increased interest in the problem of ethics among bank customers (63.3% of respondents) (Figure 5).

The respondents also indicated factors which in their opinion play an important role in fostering unethical behaviour in banks. According to them, factors resulting from the need to increase sales of banking products and from the implementation of sales plans have the greatest impact on unethical behaviour on the part of bank employees (67% of respondents). Profit pressure (66.1% of respondents) came second, which naturally affects

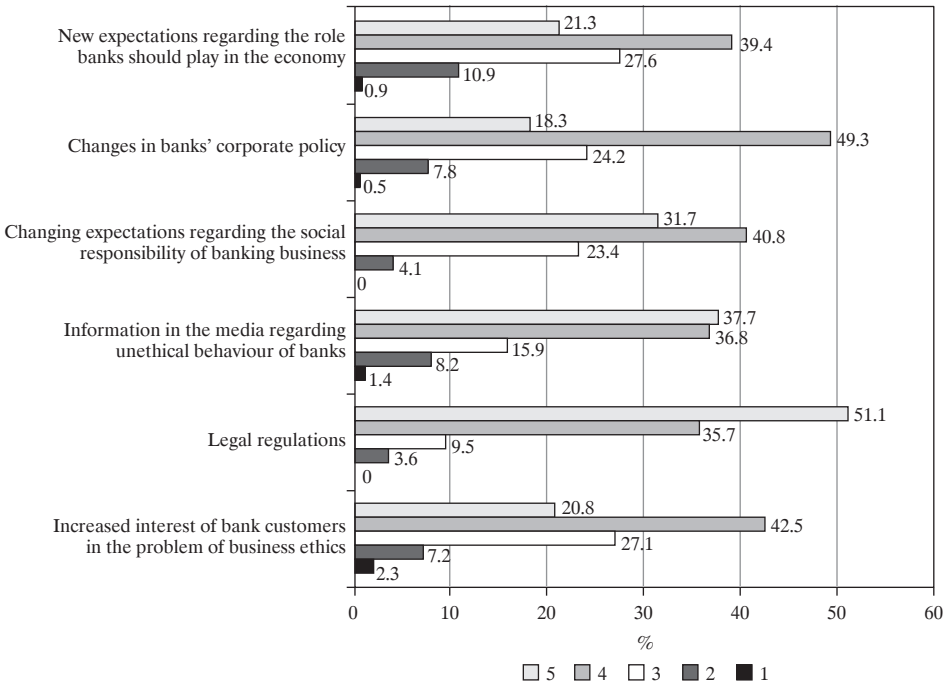


Fig. 5. Impact of Specific Factors on the High Ethical Standards of Banks (1 – Very Low Impact, 5 – Very High Impact) (% of Respondents' Answers)

Source: authors' own work.

employee behaviour and is associated with the need to focus on maximising sales. The current economic situation in the country has less impact on unethical behaviour (27.1% of respondents). Undoubtedly, however, the economic situation is a factor influencing the effects of banks' activities in various areas, including their revenues, due to the possibility of declining interest in banking products and deterioration in the quality of loan portfolios (Figure 6).

In the respondents' opinion, the factors that most affect the unethical behaviour of bank employees include the vision of financial gratification and pressure from the management board related to the need to increase sales revenues. The attitude of direct superiors is also important, which undoubtedly affects the attitudes of their subordinates to clients. On the other hand, the general perception of ethical issues in society is less important (Figure 7).

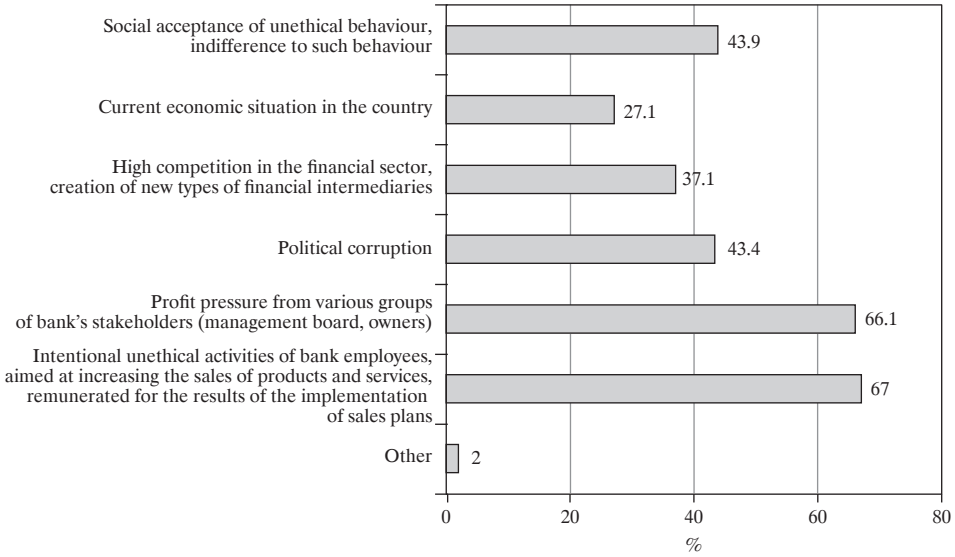


Fig. 6. Factors that Play an Important Role in Fostering Unethical Behaviour in Banks (% of Respondents' Answers)

Source: authors' own work.

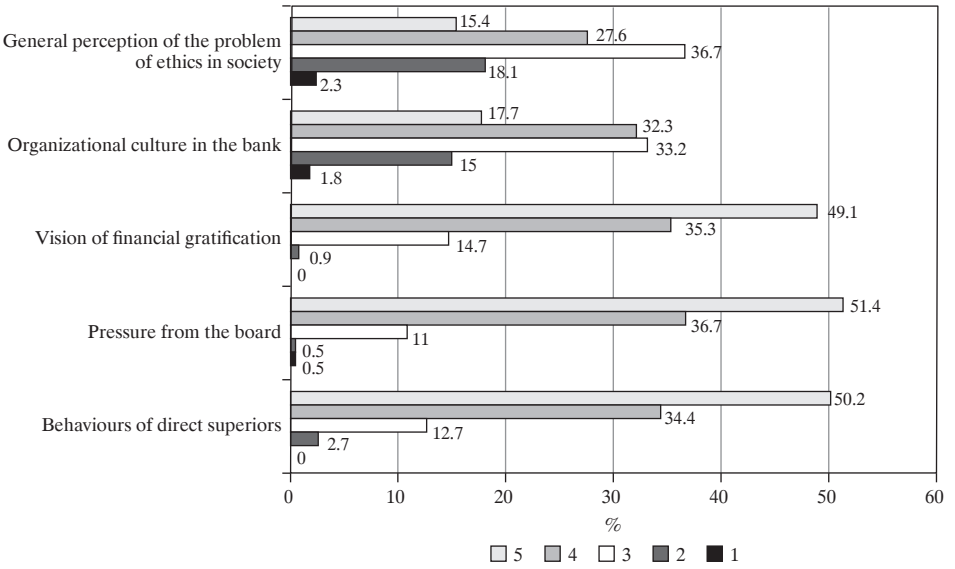


Fig. 7. Impact of Specific Factors on the Unethical Behaviour of Employees (1 – Low Impact, 5 –Very High Impact) (% of Respondents' Answers)

Source: authors' own work.

The respondents also indicated which unethical behaviours they had encountered in their dealings with banks. They most frequently mentioned over-selling (71.8%) and exaggerating the benefits a given banking product (73.1%). These factors are undoubtedly related to the pressure exerted on employees to increase the bank's sales and revenues. On the other hand, the refusal of bank employees to submit full product documentation to the customer is of little importance (Figure 8). Another issue, however, is the problem of understanding the provisions of contracts, which involves the need to have specific knowledge about a given financial product. It seems that, in this area, improving the general financial education of society is needed.

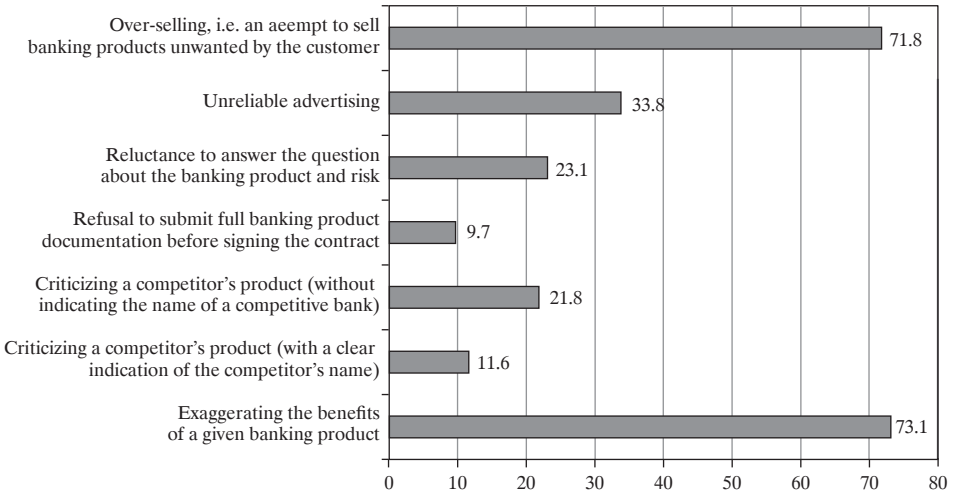


Fig. 8. Unethical Behaviour of Banks as Identified by Respondents (% of Respondents' Answers)

Source: authors' own work.

The unethical behaviour of banks gives rise to specific attitudes among their clients. The most frequent answer in this regard was a decrease in trust in the bank, but not resulting in cooperation being terminated (55.5% of respondents). This may be due to the fact that many customers are tied to a bank on account of having a certain financial product with them (usually a loan), which makes it more difficult to change the bank. Only 13.6% of respondents indicated that they did not judge a bank's behaviour in this regard and were indifferent to it, which may indicate that the issue of

banking ethics is important for the majority of customers and affects their behaviour and perception of a given bank (Figure 9).

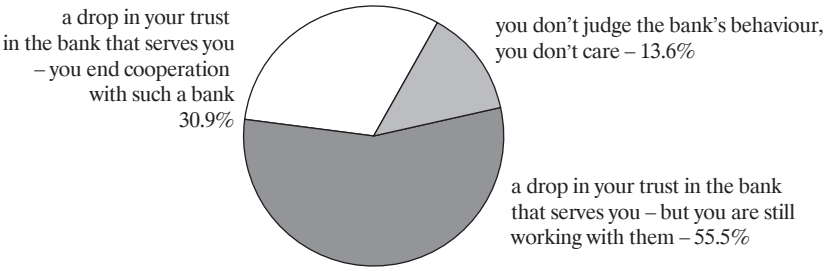


Fig. 9. Attitudes of Respondents towards the Unethical Behaviour of Banks (% of Respondents' Answers)

Source: authors' own work.

In addition, in the opinion of most respondents, banks should be treated as institutions of public trust, and thus it can be assumed that the issue of banking ethics should be of great importance (Figure 10). For most respondents, the issue of banking ethics is treated rather seriously, although 40% of respondents had a different opinion. It is significant that as many as 10% of respondents did not have an opinion on this issue, which suggests that evaluating this problem is not an easy task (Figure 11).

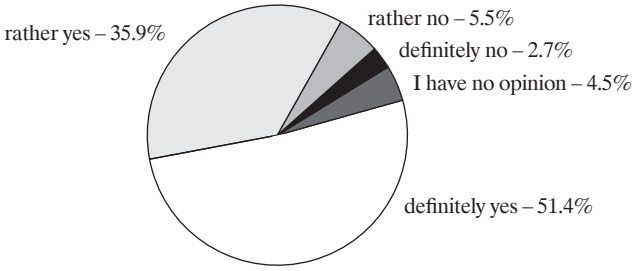


Fig. 10. The Need to See a Bank as an Institution of Public Trust (% of Respondents' Answers)

Source: authors' own work.

On the other hand, the majority of respondents indicated that the bank whose services they use definitely behaves, or rather behaves, in an ethical manner (85% of respondents). Therefore, they positively assesses their

bank's activities in this area, while 9.5% of respondents had no opinion on this issue (Figure 12).

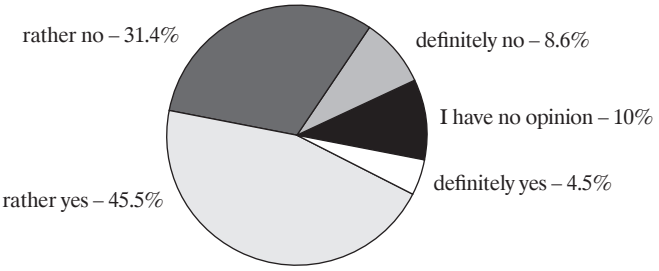


Fig. 11. In Your Opinion, Is the Issue of Ethics Treated with Due Seriousness in Banks in Poland? (% of Respondents' Answers)

Source: authors' own work.

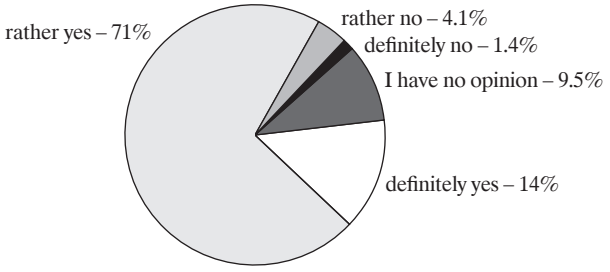


Fig. 12. In Your Opinion, Does the Bank Whose Services You Use Act in an Ethical Manner? (% of Respondents' Answers)

Source: authors' own work.

In the opinion of 76.9% of respondents, however, banks are more ethical compared to para-bank institutions (Figure 13). This may be due to the fact that the para-bank sector, in particular loan companies, is perceived as less honest and operating outside the control of supervisory institutions. Undoubtedly, the conditions attached to products offered by loan institutions, which are significantly less favourable than the conditions offered by banks, may also contribute to this assessment. The problem of security in the use of services offered by para-bank institutions is also very often raised in the media, which further affects the way this sector

is perceived by potential customers. The survey also showed that the vast majority of respondents definitely have, or rather have, confidence in the banking sector in Poland (76.5% of respondents), which is only slightly higher than the results already mentioned in the article published by ZBP and CBOS (Figure 14).

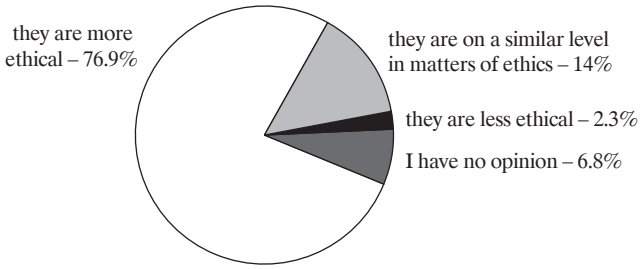


Fig. 13. Bank Ethics Compared to the Ethics of Para-bank Institutions (% of Respondents' Answers)

Source: authors' own work.

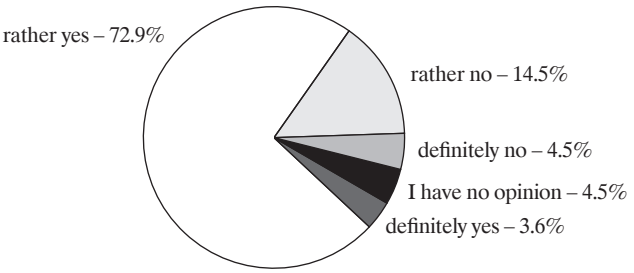


Fig. 14. Do You Have Confidence in the Polish Banking Sector? (% of Respondents' Answers)

Source: authors' own work.

Respondents also indicated the actions that should be taken by banks to make them more ethical. Most frequently mentioned was the need to:

– use simpler language in communication with customers,

– introduce more restrictive legal provisions regarding banks' information obligations towards customers,

– take broader actions in order to promote ethical behaviour,

– conduct training for employees in the field of ethics,

– use understandable terms in contracts,
– promote financial education in society,
– abandon sales plans or limit their significance,
– remunerate employees regardless of sales plans,
– reliably inform customers about the conditions under which banking products are offered,
– focus more on assessing a customer's creditworthiness rather than selling the product at all costs.

At the same time, respondents pointed out that it is impossible to completely avoid unethical behaviour in banks, and that the banks themselves are taking a range of actions aimed at building mechanisms that will allow unethical behaviour to be identified and eliminated.

6. Conclusions

Public confidence in banks is difficult to build but easy to lose. One of the most important features of a bank as an institution of public trust must be compliance with the applicable principles of banking ethics, which has been shown to be the most important determinant of acquiring and retaining customers, but also qualified bank employees. The examples of unethical behaviour presented in the article show that there is still a lot to be done when it comes to compliance with ethical principles and that not all banks deserve the honourable title of institutions of public trust. On the other hand, the unethical and at times criminal behaviour of certain banks should not affect the assessment of domestic banking sectors taken as a whole. It is worth emphasising that in Poland the problems in this regard are not big, though this does not mean that the banking sector is functioning perfectly.

The survey also allowed key issues related to the problem of ethical behaviour in banks to be identified. The respondents indicated many important factors determining the ethical and unethical behaviour of banks. It seems that the significant value of the survey lies in the fact that respondents indicated a number of changes which, in their opinion, should be introduced by decision-makers with the purpose of exerting a positive impact on ethics in the banking sector. The authors are also aware that the survey was directed at a specific group of recipients. By design, students of economics faculties, mostly young people, have greater financial knowledge and awareness than other social groups. The authors therefore plan to continue research in this area.

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Przemysław Pluskota

THE USE OF MICROFINANCE TO MITIGATE FINANCIAL EXCLUSION

Abstract

Objective: The problem of financial exclusion is closely correlated to the development of the financial market, also in the regional aspect. In less developed countries ignored by commercial financial institutions, the only chance for the community lies with local financial institutions focused on the implementation of social goals. These can be, for example, microfinance institutions focused on serving poor and socially excluded people. Currently, microfinance institutions run their operations all over the world, in the richest countries and in poor ones. The aim of this article is to define and present the problem of financial exclusion and to examine microfinance as a way of mitigating the problem. Microfinance helps to mitigate financial exclusion, enabling social inclusion for many people via financial products tailored to their needs.
Research Design & Methods: The research offers conclusions based on analysis of data and reports published by microfinance institutions and deductive and inductive reasoning.
Findings: The research results show that financial inclusion plays a vital role in economic development and poverty alleviation. In order to improve access and usage of banking products, it is also necessary to increase financial awareness and knowledge. MFIs should strive to achieve social goals.
Implications/Recommendations: Microfinance institutions all over the world should strive to achieve social goals through a wide range of microfinance products, and not only through microcredit. In order to increase the impact of microfinance institutions and achieve social goals, a scenario for the functioning of MFIs was proposed. This scenario assumes co-implementation of social and commercial goals, which is a condition of retaining the idea of microfinance.

Przemysław Pluskota, University of Szczecin, Faculty of Economics, Finance and Management, Mickiewicza 64, 71-101 Szczecin, Poland, e-mail: przemyslaw.pluskota@usz.edu.pl, ORCID: https://orcid.org/0000-0001-7951-065X.

Contribution: The article presents the proposed model of microfinance activity which takes into account social goals and the digitisation of activities.

Keywords: financial exclusion, microfinance institutions, microfinance, poverty.
JEL Classification: D14, G21, G23, I32.

1. Introduction

According to World Bank data, half of the global adult population does not have access to financial services. The worst situation is found in developing countries. Very often, financial exclusion is related to poverty, which is a serious problem in Africa and South and Southeast Asia in particular.

The issue of financial exclusion is connected with financial market development and is correlated to the overall development level of any given region. In less developed regions ignored by commercial financial institutions, the only chance for the community lies with local financial institutions focused on the implementation of social goals. An example of such activity is microfinance, which gained popularity thanks to Muhammad Yunus and his Grameen Bank initiative. Currently, microfinance institutions run their operations all over the world, in the richest countries and in poor ones.

The aim of this article is to define and present the problem of financial exclusion and to examine microfinance as a way of mitigating the problem. The following hypothesis has been formulated: "microfinance and microfinance institutions mitigate the problem of financial exclusion". The analytical part of the article is preceded by a literature review and presentation of the relevant research results.

2. The Concept and Extent of Financial Exclusion

According to the dictionary definition, the term "exclude" means "to prevent or restrict the entrance of; to bar from participation, consideration, or inclusion; to expel or bar especially from a place or position previously occupied". This is the general meaning of the term, and it refers to all aspects of functioning, regarding both individuals and economic entities. Still, it reflects the main idea of exclusion as a phenomenon, i.e. expelling a person from a group to which the person previously belonged.

Financial exclusion is most often defined as a process in which individuals encounter obstacles in accessing financial services in order to meet their needs, which prevents them from functioning properly within society (*Financial Services Provision…* 2008). Iwanicz-Drozdowska *et al.* (2009),

citing Anderloni, Braga and Carluccio (2007), define exclusion as encountering difficulties in using any financial services that are necessary for everyday functioning in society, and those affected are usually low--income people and people with low social standing. The organisations of microfinance institutions such as the Microfinance Centre (MFC), European Microfinance Network (EMN) and Community Development Finance Association (CDFA) define financial exclusion as lack of access to appropriate forms of indispensable financial services not only for individuals and households, but also for groups of people and microenterprises (*From Exclusion to Inclusion…*2007, p. 12). The causes of the lack of access to basic financial services most often include high costs of access, low income or no income, lack of acceptable security, no credit history or insufficient credit history, and high costs of contract enforcement (Diriker, Landoni & Benaglio 2018, p. 9).

Very often, financial exclusion was equated with the problem of the geographical accessibility of financial services, being the result of the closure of bank branches. In line with the development of research studies related to this problem, the definition has also evolved to include difficulties in accessing all kinds of financial services (loans, savings, insurance) as well as modern payment services. In the late 1990s, the definition of "financial exclusion" was expanded to cover individuals' limited access to major financial services (*Financial Services Provision…* 2008, p. 9). Financial exclusion is considered to be part of a much broader problem: social exclusion, which affects some groups of people who do not have access to basic services such as a workplace, a place to live, education and healthcare (Fila 2018, p. 534).

The academic literature describes at least two approaches to defining the financial exclusion phenomenon (Anderloni, Braga & Carluccio 2007, pp. 7–8). The first approach is broad and focuses on financial needs and impediments to using financial services by low-income individuals of low social standing. Such financial services include having a bank account and the possibility of making cashless payments, access to loans at a "reasonable" interest rate, and the possibility of making some (even if small) savings. Moreover, low-income individuals should have access to appropriate life, health, and property insurance. The second approach is more restrictive and emphasises access to more specific services that do not affect the household budget, but at the same time constitute an important element of an individual's life, survival, security, and participation in social and economic life.

The reason for financial exclusion in developing countries is most often poverty, whereas in developed countries it is the excessive indebtedness of households, which is an effect of falling into a debt spiral as a result of recklessly taking out loans, losing one's job, a business failure, or – mainly in the case of the homeless – lack of ID documents or a fixed address (Gostomski 2009, p. 314). The reason may also be a limited range of bank branches, when it is not possible to access the bank account online. An available, efficient, and reliable financial infrastructure decreases the cost of financial intermediary services, making financial products and services available to a greater number of citizens. Financial inclusion is connected with the development of (both stationary and mobile) financial infrastructure, based on modern technological solutions, and the institutional and legal environment (Ardic, Imboden & Latortue 2013, p. 36).

Apart from the above-mentioned impediments, there are also financial and non-financial barriers (Beck, Demirgüç-Kunt & Martinez Peria 2008, pp. 398–99). The former include: bank fees, the cost of operating a bank account, and the requirement to deposit a certain amount of money in the account. The non-financial barriers most often include the need to present a complete set of specific documents.

Examining the problem of financial exclusion, the European Commission distinguished (*Financial Services Provision…* 2008, pp. 11–14):

– banking exclusion – individuals' wages, salaries, old age or disability pensions or other benefits are not transferred into their bank accounts, they have no possibility of making savings in a bank account or transactions via a bank account, they cannot avail themselves of electronic forms of contact with the bank or basic transaction services,

– savings exclusion – lack of funds to enable saving, no habit of saving, no contacts with banks due to limited trust in banks,

– credit exclusion – no contracted loans, no credit cards, overdue payments, no creditworthiness, declared bankruptcy,

– insurance exclusion – no life or property insurance policies taken out.

Some research studies show a wider range of financial exclusion, including access to pension and investment products, at the same time differentiating between products for individuals and for business entities (*Financial Inclusion* 2013, p. 15). According to Adamek (2010), financial exclusion should be examined together with social exclusion and poverty, as these phenomena may be the cause and result of one another. Access to and use of basic services rendered by financial entities operating in the mainstream financial sector may be (and are) a decisive factor in social integration, self-

-esteem, family and social relationships, and the possibility of employment. On the other hand, social alienation determined by various factors, e.g. unemployment, low income, poverty, low education level, discrimination on the basis of gender or race, is directly mirrored in the range of access to and consumption of, among others, financial services. Social exclusion means a lack of opportunity for individuals to participate in various aspects of life, marginalisation in the area of employment and income, few possibilities to participate in social networks and decision-making processes, and a low quality of life. Other factors affecting social exclusion include: gender, age, place of residence, ethnic identity, and immigrant status (Fila 2013, p. 27). There are also interactions between financial exclusion and poverty. Summing up, financial exclusion is closely related to social exclusion and poverty, and is not limited to any specific region or country – like the two latter phenomena, financial exclusion is a global problem (Adamek 2010, pp. 17–20).

There are 2.5 billion adults around the world who don't have access to a bank account. However, the level of financial exclusion is diversified (Figure 1). The Middle East and Sub-Saharan Africa are the regions where the situation is the worst, whereas the highest numbers of adult bank account holders can be found in developed countries. This clearly shows the dividing line between developed and developing countries.

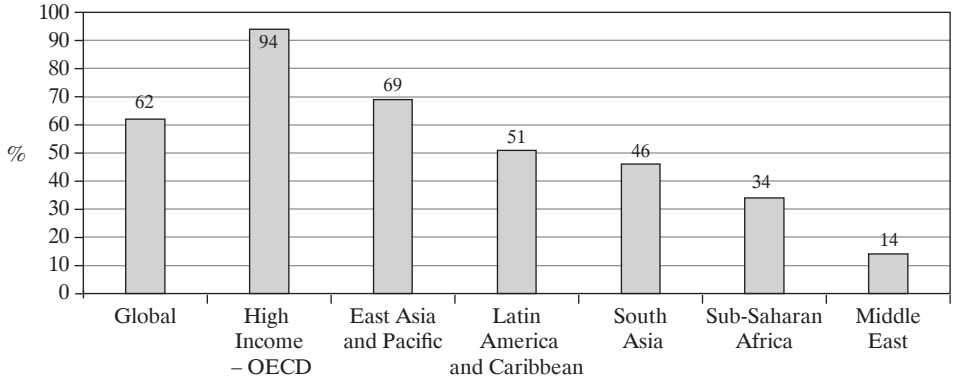

Fig. 1. Percentage of Adults with Bank Accounts

Source: Patwardhan, Singleton & Schmitz (2018, p. 11).

There are many factors that contribute to the process of reducing financial exclusion, but the most important one is financial education

(Maison 2013, p. 200), which should start with employees of financial institutions, as only then will they be able to ensure services of value to the customer. The level of financial knowledge among customers should also be increased, as it will help them to move about the world of finance more efficiently. Individuals with a higher level of economic knowledge are more likely to avail themselves of various financial offers and products that facilitate everyday life.

A concept closely related to financial exclusion is financial inclusion, which consists in including business entities in the group of users of financial services. It is a multi-dimensional concept that is reflected in a wide range of financial products, starting with payments and savings, though loans and insurance policies, to pensions and investment products (*Financial Inclusion* 2013, p. 15). Making use of financial services and accessing them is also conditioned by various factors affecting the extent to which indispensable financial products are used.

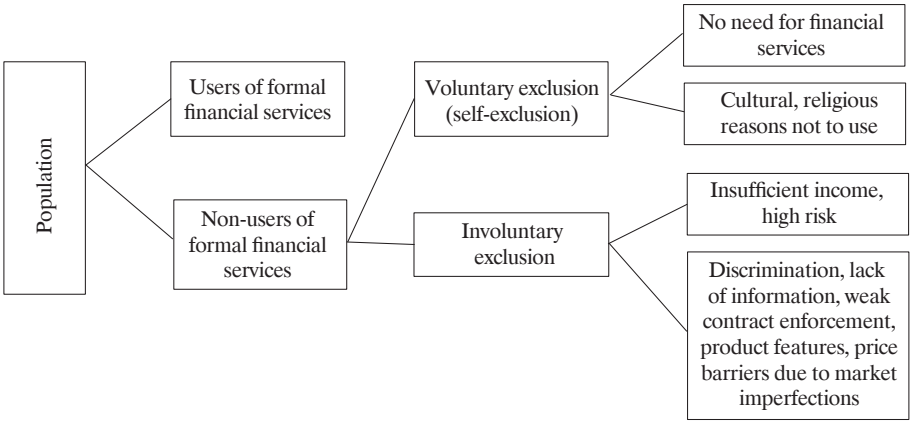

Fig. 2. Use of and Access to Financial Services

Source: *Financial Inclusion* (2013, p. 16).

When determining financial inclusion, it is necessary to distinguish between making use of financial services and having access to them (*Financial Inclusion* 2013, p. 16; *Financial Services Provision…* 2008, p. 14). Some individuals have access to financial services, yet exclude themselves from the financial market. Others have indirect access via the possibility of using somebody else's account. There are also those who do not use financial services due to high risks, insufficient income, price barriers, no possibility of enforcing contractual conditions, or market imperfections (Figure 2).

Financial inclusion makes it possible to gain advantage over excluded persons, making use of opportunities such as investment in education, saving for one's future pension, securing oneself against risks. However, not all financial products are appropriate for everyone. This in particular refers to loans involving a risk of excessive indebtedness. Therefore, financial inclusion should not mean making use of a bank product (loan) at any cost.

The problem of financial exclusion is very important from the point of view of the economic growth of a country or region. There is a positive correlation between financial system development and GDP (Beck, Demirgüç-Kunt & Levine 2004, p. 29; *Financial Inclusion* 2013, p. 44). The most important conclusion that can be derived from this study is the moderate to strong correlation between the extent of financial product usage and GDP per capita in individual countries (Chaia *et al.* 2009, pp. 7–8)[1]. This shows that it is possible to increase the level of financial integration (i.e. mitigate financial exclusion) by establishing an effective regulatory system, effective legal environments, and favourable conditions for financial inclusion.

The correlation between economic development and access to financial services is also confirmed by Beck, Demirgüç-Kunt and Martinez Peria (2008)[2]. According to them, any minimum balance required to open a bank account, bank fees for operating a bank account, the number of documents required to open an account, minimum amounts of loans (taken out for consumption or business purposes), the number of days required to prepare a loan application – all these factors are negatively correlated to GDP per capita, whereas the number of places where it is possible to submit a loan application, being an indicator of lower barriers that restrict access to loans, is positively and significantly correlated to GDP per capita. Factors such as fees for granting loans to consumers and businesses, the cost of international bank transfers, fees for using ATMs, and the availability of places where deposit accounts may be opened, are not significantly correlated to the economic and financial development of a given country (Beck, Demirgüç-Kunt & Martinez Peria 2008, p. 415).

Thus, financial system development, defined as the increased availability of financial services, makes it possible to effectively alleviate poverty and to reduce its level in society, which may have a positive effect on the life of the poorest.

[1] The GDP per capita of 94 countries (out of 102 included in the study).

[2] In the years 2004–2005, they examined 5 major banks in 115 countries.

3. Financial Exclusion and Poverty in the European Union

Over the past five years, financial exclusion and poverty in the European Union have been decreasing. According to Eurostat data, in 2017 nearly 113 million people (22.5% of the population) were at risk of poverty or social exclusion (Table 1). This group includes people with incomes below the poverty line adopted in the various countries, who are at risk of poverty due to their living conditions or affected by persistent material deprivation[3].

The greatest decrease in poverty (by 11% of the population) since 2008 was found in Poland, where the number of people at risk of poverty fell to ca. 7.3 million, which means a decrease of 4 million people. The greatest increase was recorded in Greece (by 6.7%), which was a consequence of the financial crisis (Figure 3). As analysis of the percentage of the population at risk of poverty shows that the worst situation in this regard is in Bulgaria (38.9%), Romania (35.7%), and Greece (34.8%), where more than one third of society is at risk of poverty. The opposite is the case in the Czech Republic (12.2%), Finland (15.7%), and Slovakia (16.3%).

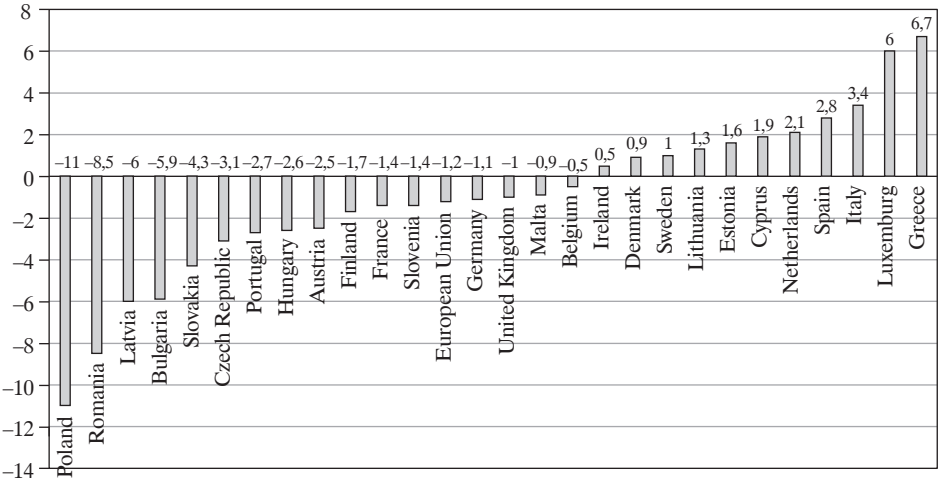

Fig. 3. Change in the Risk of Poverty and Social Exclusion in the European Union in 2017 Compared to 2008

Source: *Downward Trend…* (2018).

[3] Persons affected by persistent material deprivation are those who are not able to pay their utility bills, who have paid work for less than one fifth of a year, and who cannot afford a one-week annual holiday away from home.

Table 1. People at Risk of Poverty or Social Exclusion in the EU in 2008 and 2017

Country	% of total population		In thousands	
	2008	2017	2008	2017
European Union*	23.7	22.5	116,070	112,917
Belgium	20.8	20.3	2,194	2,296
Bulgaria	44.8	38.9	3,421	2,767
Czech Republic	15.3	12.2	1,566	1,167
Denmark	16.3	17.2	887	980
Germany	20.1	19.0	16,345	15,516
Estonia	21.8	23.4	291	305
Ireland	23.7	24.2	1,050	1,135
Greece	28.1	34.8	3,046	3,702
Spain	23.8	26.6	10,786	12,236
France	18.5	17.1	11,150	10,771
Croatia**	–	27.9	–	1,159
Italy	25.5	28.9	15,082	17,407
Cyprus	23.3	25.2	181	215
Latvia	34.2	28.2	740	544
Lithuania	28.3	29.6	910	843
Luxemburg	15.5	21.5	72	126
Hungary	28.2	25.2	2,794	2,465
Malta	20.1	19.2	81	83
Netherlands	14.9	17.0	2,432	2,864
Austria	20.6	18.1	1,699	1,563
Poland	30.5	19.5	11,491	7,273
Portugal	26.0	23.3	2,757	2,399
Romania	44.2	35.7	9,115	7,040
Slovenia	18.5	17.1	361	345
Slovakia	20.6	16.3	1,111	856
Finland	17.4	15.7	910	849
Sweden	16.7	17.7	1,528	1,765
United Kingdom**	23.2	22.2	14,069	14,359
Iceland	11.8	12.2p	36	40p
Norway	15.0	16.1	701	841
Switzerland	18.1	17.8	1,333	1,460

* data for 2008 exclude Croatia, data for 2017 are estimates; ** 2016 instead of 2017; p – provisional data.

Source: Eurostat, http://appsso.eurostat.ec.europa.eu (accessed: 12 January 2019).

4. The Idea and Significance of Microfinance

Increasing the availability of financial services makes it possible to effectively fight poverty and reduce its level in society, which may have a positive effect on the life of the poorest. One of the major tasks is therefore to establish institutions that are willing to serve low-income individuals who, despite having considerably smaller financial resources and needing significantly lower loan amounts, are able to pay much more for the loan than customers in developed countries. Due to lack of credit history, lack of loan security, and financial status, the commercial banking sector is not interested in cooperating with this group of customers. On the other hand, the poorest are unable to accept the commercial conditions of cooperation.

The solution to increasing the availability of basic financial services is microfinance – a recognised tool for fighting social and financial exclusion as well as poverty in the world. This view is shared by the European Commission, which has promoted microfinance as an effective tool for fighting these problems, and by Armendariz de Aghion and Morduch (2009), who consider microfinance to be a tool for supporting social transformations.

Microfinance is associated with financial services for poor or low-income people, and involves institutions that grant small, unsecured loans, often on the principle of group liability, along with obligatory savings. Microfinance is also defined as the tools to offer the poor basic access to financial services in the form of loans, savings, money transfers, and microinsurance. However, nowadays microfinance also includes services aimed at improving the living conditions of the poorest – programmes that improve health care, education and training, and support social enterprises. The target groups can break the vicious circle of poverty thanks to microfinance offers that are tailored to their needs.

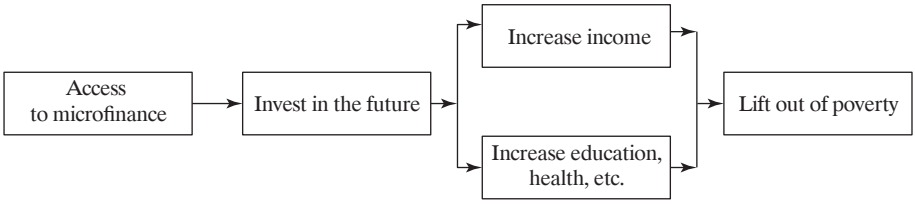

Fig. 4. A Simple Causal Chain from Micro-credit and Micro-savings to Poverty Alleviation

Source: Stewart *et al.* (2010, p. 39).

According to Alińska (2008), the clients of microfinance customers are individuals from diversified social and occupational groups. It is virtually impossible to indicate a specific range of potential customers representative of the demand. Moreover, this would not make sense, as it depends on numerous elements and phenomena that take place in the economy on the national, regional, and local levels. Indicating uniform categories in relation to the whole microfinance movement is also impossible due to the differences in the economic development across countries. Nevertheless, it is possible to identify several major categories of people who are to the greatest extent representative of the demand for microfinance services: the unemployed, individuals at risk of social exclusion and poverty, individuals who cannot or will not use the services of traditional financial institutions, women, young people at the start of their careers, immigrants, farmers and people living in rural areas, and the smallest business entities which have been functioning for a short period of time or are only just starting their activity.

At the end of 2017, there were 139 million customers of microfinance institutions (+5.6% compared to 2016), 83% of whom were women; 62% of the borrowers were farmers. The portfolio value of the 981[4] institutions amounted to USD 114 billion (+15.6% compared to 2016) (Microfinance Barometer 2018). In order to increase the range and strength of effect, microfinance institutions have, to an increasing extent, been using modern technologies to reach their potential customers and offer them their services. Also, most of them have been implementing alternative distribution channels (ATMs, mobile phones).

Microfinance has been developing and evolving not just in the poorest regions of the world. The microfinance movement is an important element of the financial market in the more developed countries too. This is because microloans are needed not only by people in Asia, Africa, and Latin America, but also by people in the EU. Microfinance products are likewise necessary in industrial and developing countries where commercial banks are not interested in performing small transactions (loans or deposits) for impoverished people. The customer profile of microfinance institutions looks different in wealthier countries, but the purpose remains the same regardless of a country's level of economic development: a better life for the borrower and their family. The target groups are also similar. MFIs focus their attention mainly on women, socially excluded individuals, the unemployed, and microenterprises.

[4] This number includes the MFIs which submit their data to MIX Market.

The institutions operating in the poorest countries and in those characterised by a higher level of social and economic development are quite diversified, both in terms of the form and scale of their business, and their market position. The differences are the result of divergent internal conditions, the most important of which are (Alińska 2008, pp. 177–78):

1. The scale of poverty as well as social and financial exclusion, which is shown by the share of the poor in the total population (the more people there are in this group, the greater the need for microfinance products).
2. The scale and form of social assistance received from the state, which reduces the readiness to take up new challenges and hinders entrepreneurial attitudes.
3. The willingness of entrepreneurs to start new businesses due to legal regulations, market capacity, and competition.
4. The attitudes and strategies adopted by traditional financial institutions, resulting mainly from the possibilities of financing higher-risk customers.

The diversity of microfinance is manifested by the wide spectrum of institutions falling into this category which offer microfinance products. In the European Union, microfinance services are offered by specialised institutions operating in the banking sector (cooperative, commercial, microfinance, and savings banks) and outside the banking industry (financial cooperatives, non-for-profit organisations, NGOs) (Diriker, Landoni & Benaglio 2018). The institutions may also be classified from the point of view of target customer groups. Banks mainly serve start-ups and microenterprises, while non-banking institutions focus mainly on financially excluded individuals, even though there are exceptions (*The Regulation of Microcredit in Europe…* 2007, p. 9).

The data presented in Table 2 show not only the diversity of microfinance, but also the countries which are affected by poverty and financial exclusion. Microfinance institutions have the most clients in South Asia (India, Bangladesh, Vietnam), whereas the portfolios of the greatest value can be found in Latin America. The global microfinance sector is developing, as evidenced by the increase in the number of customers everywhere apart from Eastern Europe and Central Asia (the greatest increase in the number of customers was in the Middle East and in North Africa: +11.4%) as well as by the increase in the portfolio value (most significant in East Asia and the Pacific region: +18.1% compared to 2016).

Table 2. Top Ten Countries by Number of Borrowers

Rank	Country	Number of borrowers in 2017 (mln USD) / change compared 2016	Loan portfolio (bn USD) / change compared 2016
1	India	50.9 (+5.8%)	17.1 (+26.3%)
2	Bangladesh	25.6 (+3.5%)	7.8 (+17.0%)
3	Vietnam	7.4 (+2.8%)	7.9 (+18.9%)
4	Mexico	6.8 (–3.8%)	4.4 (+5.5%)
5	Philippines	5.89 (+16.3%)	1.3 (+17.5%)
6	Pakistan	5.7 (+25.9%)	1.8 (+39.6%)
7	Peru	5.1 (+9.5%)	12.6 (+17.0%)
8	Brazil	3.5 (+1.1%)	2.6 (+2.7%)
9	Colombia	2.8 (–0.7%)	6.3 (+5.6%)
10	Cambodia	2.4 (–4.7%)	8.1 (+21.6%)

Source: Microfinance Barometer (2018).

In the European Union, microfinance business is most often run by NGOs (40%) and non-bank financial institutions (29%), and every fifth institution surveyed by the European Microfinance Network and Microfinance Centre runs its business on a financial cooperative basis. The purpose of microfinance institutions' operations in the European Union is mainly financial inclusion and job creation (Figure 5), and their main targets are low-income persons, the unemployed, young people, immigrants, and social welfare beneficiaries (Diriker, Landoni & Benaglio 2018, p. 30). The main difference between MFIs operating in the EU and in less developed countries is the smaller share of women in the customer group. As for financial products, most of the analysed entities offer business loans (80%), personal microloans (50%), and loans for SMEs (37%). The microfinance products that are gaining more and more popularity are substitution products such as microinsurance, microleasing, and mortgage loans. Among European entities there are two dominant types of microloans: business microloans granted to businesses and personal microloans granted to natural persons. Both products differ in terms of value (EUR 8,913 and EUR 3,098, respectively) and maturity (45 months vs 31 months). In 2017, nearly two-thirds of the microfinance institutions also offered non-financial products that were supplementary to their offer.

In 2017, European microfinance institutions had almost one million customers (8% more than in the previous year), of whom ca. 30% were

women. The institutions disbursed over 660 thousand microloans totalling more than EUR 2 billion (Table 3).

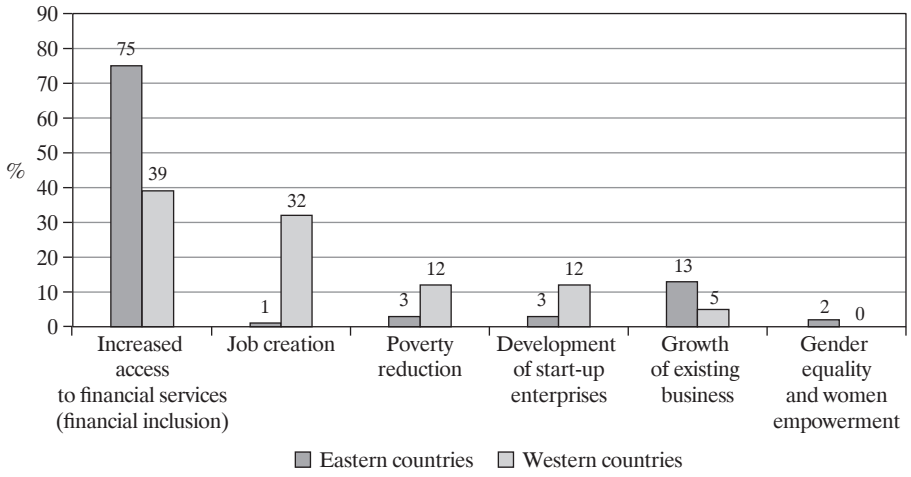

Fig. 5. Primary Mission of Microfinance Institutions by Region
Source: Diriker, Landoni & Benaglio (2018, p. 29).

The data presented in this study show the substantial diversity of microfinance institutions, both in terms of products and the institutions themselves. Microfinance entities also have other goals, but there is one goal shared by all of them: financial inclusion. Regardless of the size of the institution or its place of business, microfinance entities do their best to enable as many people as possible to have access to financial services, even the most basic ones that meet the fundamental needs. In parallel to financial integration, microfinance institutions offer education to the extent that it enables the rational and conscious use of financial products.

5. Conclusion

Compared to developed countries, developing countries encounter more problems with access to basic financial services. The research results have shown that financial inclusion plays a vital role in economic development and poverty alleviation. In order to improve access to and usage of banking products, it is also necessary to increase financial awareness and knowledge. A way to mitigate the issue is microfinance, which, according to Muhammad Yunus, makes it possible to handle the problems effectively.

Table 3. Overview of Microloan Portfolio Indicators

Specification	Total			Business microloans			Personal microloans		
	2016	2017	Growth rate (%)	2016	2017	Growth rate (%)	2016	2017	Growth rate (%)
Number of active borrowers	912,952	988,457	8	385,659	406,715	5	527,742	581,742	10
Number of active female borrowers	324,600	347,779	6	140,308	146,686	5	184,292	199,093	8
Value of microloans disbursed during the year (in million EUR)	1.859	2.070	11	932	1.071	15	927	999	8
Number of microloans disbursed during the year	629,330	660,330	5	246,431	285,534	16	383,216	374,796	–2

Source: Diriker, Landoni & Benaglio (2018, pp. 33–34).

Microfinance institutions all over the world should strive to achieve social goals through a wide range of microfinance products, not only through microcredit. Financial inclusion through microfinance is increased not only by means of microcredit, as nowadays microfinance is equated with a wide range of products, not only financial products, and also with much-needed financial education. Informed use of financial services will avoid many of the problems associated with excessive debt (Grazioli *et al.* 2020). However, financial inclusion does not mean credit for all at any price. This is a challenge that the microfinance industry faces in times of economic hardship. Digital financial solutions can leverage the business of MFIs and increase the range of their activity, also in financial inclusion. Modern solutions should be used by all MFIs. However, the range and level of those solutions should depend on the region, customers, and the macroeconomic environment. The new model requires collaboration between MFIs and the banking sector (including the central bank), the government, and other capital donors, which can have an impact on improving the financial capability of MFIs and financial inclusion. However, financial profits ought not to be the primary goal. They should cover operating costs and be oriented towards achieving social goals. All participants of the financial market will benefit from such an approach.

In order to increase the impact of microfinance institutions and achieve social goals, a scenario for the functioning of MFIs was proposed (Figure 6). This scenario assumes co-implementation of social and commercial goals, which is a condition of retaining the idea of microfinance. In the mixed model, capital may be sourced from public funds and from donors, but also from the financial market (optionally) or commercial microfinance institutions. However, the main source of capital is the funding provided by public institutions, and the objective of such an entities is to provide help to the most impoverished people. This may be the reason why external commercial investors show little interest in this model. There is a risk that any entities that intend to continue their microfinance operations will strive towards commercialisation, which will lead to the implementation of the commercial scenario. However, the possibility of implementing social goals, which helps to establish and nurture a positive image, should incline the commercial sector to fund entities of this type. This model appears to be the most viable one, as it is able to meet the expectations of both the public sector and, in part, the private sector, and at the same time bring many benefits.

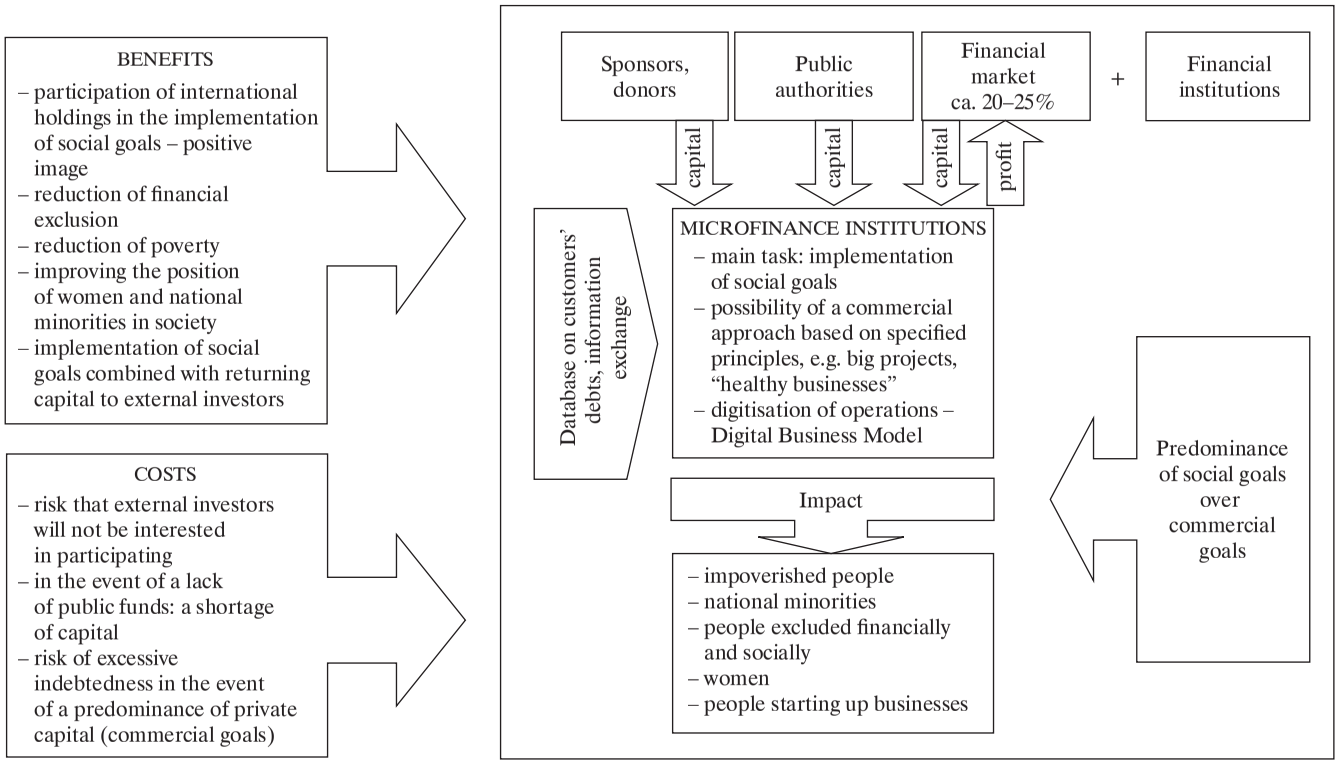

Fig. 6. Mixed Scenario of the Development of Microfinance Institutions

Source: author's own work.

Thanks to microfinance, financial inclusion is increased not only via microloans, as nowadays microfinance encompasses a wide range of financial products which are accompanied by essential financial education. The conscious use of financial products will help avoid many of the problems related to excessive indebtedness. Modern technological solutions can increase the availability of financial products to society, but this process will be hindered without appropriate knowledge. If financial inclusion is to have positive results, it must be promoted in a responsible manner. Financial integration will not mean loans for anybody and at any cost.

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