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THE INTERNATIONAL ROLE OF THE EURO AND THE COVID-19 PANDEMIC – CRISIS EXPERIENCE AND OUTLOOK FOR THE FUTURE

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Purpose: The main study objective is to examine the impact of the COVID-19 crisis on the euro's international position, primarily in comparison with the financial and debt crisis, against the backdrop of the overall evolution of the euro.
Design/methodology/approach: In accomplishing this objective, a critical study of international economics and finance literature was carried out, followed by an analysis of mainly the European Central Bank data characterizing the euro as an international currency, against other international currencies. To confirm the main research hypothesis - *the COVID-19 crisis caused a decline in the euro's importance as an international currency* - an analysis of the composite index of the euro's international role was conducted.
Findings: In the eurozone authorities' response to the COVID-19 crisis, crucial to mitigating the effects and facilitating economic recovery were the mutually reinforcing stability-oriented fiscal and monetary policy instruments. Indicated is that the above instruments impacted positively the international role of the euro in some of its functions, and contributed to the growth of its composite index in 2020-2022. The main research hypothesis was therefore not confirmed. During the global financial and debt crisis, the euro area was hit by asymmetric shocks, to which its authorities failed to react appropriately. This led to deep economic, social and political divisions, and consequently to a decline in the composite index between 2009 and 2016. Although not all crises are equally severe, the eurozone authorities can adapt to them easily. The prerequisite entails a joint, swift and decisive response with the right policy tools, often contributive to the international role of the euro. Faced with new shocks since 2022, such as Russia's invasion of Ukraine, the euro area authorities should intensify their commitment to fostering the common currency's development. To strengthen its internationalization, steps should be taken to complete the *Capital Markets Union*, complementing it with, first and foremost, a European *safe asset* and a *fully-fledged banking union*, along with the adoption of a *central bank digital currency*. The target audience here is the eurozone's policy makers and institutions.
Originality/value: The article highlights the euro's weaknesses, particularly against the U.S. dollar, which prevent its international role from increasing, and formulates a set of recommendations aimed at breaking this deadlock.
Keywords: euro; currency internationalization; coronavirus crisis.
Category of the paper: Research paper.

1. Introduction

The common euro currency, functioning as an international currency, is attributed with particular features distinguishing it from other global currencies. The most salient of these features is the divergence between monetary sovereignty and fiscal sovereignty. By adopting the euro, the respective countries transferred their key national monetary policy powers to a supranational level, while retaining control over their public finances. Concerns about the feasibility of the common currency project have therefore persisted from the outset. Even since prior to its adoption, discussions regarding the currency's sustainability have been raised, drawing on the roots (Sayuri, 2024, p. 5), namely the theory of *optimum currency areas* (OCA) (for more, see Mundell, 1961, pp. 657-665). Many point out that neither the euro area (EA) fulfills the criteria of this theory nor have adequate mechanisms been adopted to compensate for these shortcomings. Consequently, skepticism persisted that without fiscal and political integration, the common currency could in future face a crisis it would not be able to overcome. Despite persistent doubts, European integration - the cornerstone of the euro - has deepened, mostly as a result of crises (Sayuri, 2024, p. 5) which forced the eurozone authorities to reform the system of economic governance. The debt crisis that unfolded in some EA countries in 2010-2012 (De Grauwe, 2022b, p. 275) in particular exposed its institutional weaknesses (Sayuri, 2024, p. 6), both structural and functional. These indirectly contributed to the decline of the international role of the euro throughout 2009-2016, while just a few years earlier, it had been growing significantly (see Giżyński, Wierzba, 2018, pp. 183-201). It should be remembered that the euro's internationalization has been a derivative of its internal *success* (for more, see Skopiec, 2017, pp. 180-187).

The rapid outbreak of the coronavirus pandemic in March 2020 initially raised concerns over a potential debt crisis within the Economic and Monetary Union (EMU), also known as the euro area. The first wave of the pandemic severely affected such EA member states as Italy and Spain, characterized at the time by high levels of public debt. Although these countries were, due to their high tourism dependency, much more vulnerable to the economic consequences of the pandemic, their limited fiscal space impeded effective policy action. This fact exacerbated the economic difficulties faced by these countries and raised renewed concerns that the euro area would once again suffer a debt crisis (Sayuri, 2024, p. 6), translating into a decline in the currency's international importance.

In view of the above, the main research hypothesis put forward in the article has been formulated as follows: *the COVID-19 crisis caused a decline in the euro's importance as an international currency*. To confirm this hypothesis, an analysis into the formation of the composite index of the international role of the euro was carried out. The article is structured in seven parts, starting with an introduction and ending with research conclusions. Section two presents selected theoretical aspects relevant to international currency, including the benefits

involved in issuing such a currency, as well as the risks it poses to the economy, especially in times of crisis. Sections three, four and five address the evolution of the euro's international position. Part three outlines the currency's position between 1999 and 2019, with a focus on analyzing the impact of the financial and debt crises on this position. Parts four and five analyze and assess the impact of the COVID-19 crisis on the internationalization of the single currency, comparatively in relation to the aforementioned crises, which constitutes the main objective of the present article. The fourth section covers the year of the pandemic outbreak, i.e. 2020, followed by the fifth, focusing on the period of recovery, i.e. 2021-2022. These parts include an analysis of stabilization instruments, mainly of a fiscal and monetary nature, adopted in response to the pandemic, at both supranational and national levels in the EA. It is indicated that the use of these instruments indeed impacted the individual functions of the international euro currency and, consequently, the value of its composite index. Section six, in turn, describes the overall euro area situation after the lifting of the coronavirus pandemic emergency, highlights a number of the common currency's weaknesses reducing its potential for internationalization, as well as outlines the possible directions of its evolution within the international monetary system. To increase the euro's significance within the system, several key measures have been recommended, all of which are aimed at strengthening the process of European integration.

2. Selected aspects of international currency and its significance in a time of crisis

An international currency is a monetary unit used outside a country or economic area (Markiewicz, 2015, p. 36). Its denominance is determined by the size of an economy, confidence in the currency thereof, or the size of its financial market (Krugman et al., 2018, p. 563). It is therefore indicated that the internationalization of a currency results not from the fact of its formal status, but from the actual use thereof in foreign exchange turnovers (Markiewicz, 2015, p. 36). Within the private sphere, it is used primarily by companies, financial institutions, including banks, and individuals. The official sphere, in contrast, comprises central banks and other official institutions. In describing the functions of an international currency, reference can be made to the traditional functions of money, i.e. a *unit of account*, a *medium of exchange* and a *means to store value* (for more, see Giżyński, Wierzba, 2018, pp. 180-182). Importantly, these functions are closely interrelated, which is why they should not be analyzed separately (Giżyński, Wierzba, 2013, p. 167). Although this strong interrelation prevails primarily within the official sphere, the functions within this sphere are also linked to the role of currency within the private sphere The more widely an international currency is used within the private sphere, the greater its significance within the official sphere

(Giżyński, Wierzba, 2018, p. 182). While the above functions of international currency are mutually reinforcing, most currencies can only serve some of these functions (for more, see Benassy-Quere, 2015, pp. 2-3). It is therefore necessary to distinguish between the concept of international currency and that of world currency, which are often used interchangeably. This is because a world currency is a means of payment valid worldwide, examples of which were gold or the U.S. dollar in the post-World War II era. An international currency, in turn, represents international money functionable regionally or, as mentioned already, performing only some of that currency's functions (Twarowska-Mól, 2021, p. 13).

Issuance of a currency that is widely used in international trade and financial transactions not only brings benefits to a given economy, but also a number of risks, especially during times of crisis. A point to keep in mind is that prior to the global financial crisis (of 2007-2009) the most substantial benefits of issuing such a currency had included: a) high seigniorage for the central bank and, consequently, for the taxpayers of the issuing country; b) lower transaction and hedging costs for its users; and c) *exorbitant privilege* (Panetta, 2024, p. 2), i.e. the ability to issue low-interest debt securities to non-resident investors and subsequently invest the proceeds in higher-yielding foreign assets (ECB, 2015, p. 9; Giżyński, Wierzba, 2018, p. 183; see Dabrowski, 2020, p. 30). The main risks to an international currency issuing country, in turn, caused by external changes in demand and risk appetite, had involved greater volatility in its monetary aggregates and capital flows. The global financial crisis, however, necessitated a revision of the above. It turned out that *exorbitant privilege* can develop into *exorbitant duty* in times of international stress, when the dominant economy grows into a global bank and experiences rapid exchange rate appreciation (Panetta, 2024, p. 2). This resulted in additional responsibilities and challenges in mitigating the risk of international currency illiquidity, which can interfere with domestic monetary policy objectives (ECB, 2015, p. 10; Giżyński, Wierzba, 2018, p. 183). By the same token, the international reserve currency was observed to reduce the transmission of exchange rate shocks onto domestic inflation during the aforementioned crisis, rendering foreign exchange volatility less burdensome. What is more, this currency, under the conditions of a financially integrated world, can amplify the impact of monetary policy during a crisis, by causing positive spillovers and spillbacks (see Twarowska-Mól, 2021, pp. 241-242). In view of the above experience, it can be concluded that the economic benefits of issuing an international (reserve) currency should far outweigh the associated dangers (risks) (for more, see Panetta, 2024, pp. 2-3).

It is further indicated, which follows likewise from the above considerations, that the benefits and costs of issuing an international currency change over time. Mostly, they are dependent on the current stage of the currency's life cycle. In the early stages, the gains from seigniorage and the increased policy flexibility of the issuing country are highest. In the later stages, the external constraints increase, however. Let us not forget that if the initial gains from seigniorage are generated by capital inflows, the risk that these capital inflows will be reversed arises subsequently. Other factors, independent of the given currency, can likewise lead to over-

time changes. One such example is the abandonment of banknotes in favor of electronic payments, which reduces seigniorage potential. Moreover, the development of analytical tools in monetary policy and financial globalization may result (in the context of all currencies) in reduced danger of sudden (highly volatile), e.g. crisis-caused, capital flows (Beckmann et al., 2020, p. 15).

A country issuing international currency, owing to its financial power, can influence various developments in the world. The country's rulers, however, should wield this privilege with due diligence. This is because international relations constitute part of a *repeated game*, while *weaponization of a currency* on the one hand reduces its global attractiveness and promotes the emergence of alternatives on the other. One example of this is China's currency - renminbi (for more, see Panetta, 2024, pp. 3-4). Economic history shows, however, that significant changes in the position (significance) of currencies within the international monetary system occur very rarely, which is rooted in the so-called *network externalities*. In other words, a currency's utility mainly derives from the fact that other entities use the same currency. The more entities use it, the greater its utility for all the users thereof. This means that whenever one of the currencies, currently the dollar, plays a dominant role, this very fact renders it largely usable. Under such conditions, market participants will not easily (swiftly) switch to another international currency (De Grauwe, 2022a, p. 271), especially during times of crisis (see Skopiec, 2023b).

3. The international position of euro vs financial and debt crisis

Since 1999, i.e. since its launch, the euro has assumed the status of the second international currency, after the U.S. dollar (USD). It has outperformed the British pound (GBP) and the Japanese yen (JPY). The reason for this lies in the fact that the euro replaced eleven existing currencies at the time. The replacement of the German mark or the French franc with the common currency prompted central banks to instantly begin to maintain their reserves in the very currency. Some countries adopted it as an anchor for the exchange rate. The international role of the common currency quickly extended beyond the above functions, however (Giżyński, Wierzba, 2018, pp. 183-184). This was reflected in the composite index of the international role of the euro[1], inter alia. During 1999-2005, a significant increase in this index transpired, i.e. from 18.13% to 24.14% (see figure 1), that is, by more than 6 pp, at the current exchange rate. It should be unequivocally emphasized that the eurozone did meet the criteria at the time to grant its currency the status of an international currency by a wide margin. The currency was

[1] The index is calculated as the arithmetic average of the euro share ratios, at current (and fixed) exchange rates, in: a) international bonds issued; b) loans granted by non-eurozone banks to borrowers, also outside the eurozone; c) deposits with non-eurozone banks by creditors, also outside the zone; d) global foreign exchange settlements; e) global foreign exchange reserves; as well as f) global exchange rate regimes (see e.g. ECB, 2024h, p. 3).

also considered a factor in balancing the position of the U.S. dollar, which was dominant globally at the time. The euro was also expected to reduce systemic risks associated with the global economy's dependence on a single dominant currency (Skopiec, 2017, p. 172).

The growth of the euro currency's internationalization in its early days was hampered by a crisis. It was compounded of the global financial crisis of 2007-2009, as well as the eurozone debt crisis observed in some of the member countries in 2010-2012. The crisis exposed both the economic and institutional weaknesses in the functioning of the eurozone. Moreover, as a result of the crisis, a decline in foreign investors' confidence in the common currency ensued, reflected in decreased transactional and investment demand for the currency. Consequently, the international role of the euro in most monetary functions declined (for more, see Giżyński, Wierzba, 2018, pp. 186-201), which was evidenced by the various indicators (Table 1, figure 1) characterizing these functions. It is emphasized that during the crises (financial and debt), the eurozone was hit by asymmetric shocks[2], which policy makers failed to respond to appropriately (Panetta, 2024, p. 4; see also Mankiw, Taylor, 2022, p. 527). On the one hand, the support of the zone's economies through domestic fiscal policy instruments was short-lived, only to morph into procyclical fiscal consolidation not long after. On the other, the interventions undertaken were uncoordinated and inconsistent with the desired supranational fiscal stance. As a result, a fault line developed between the so-called *core* and the *periphery*[3] (for more, see e.g. Gräbner, Hafele, 2020, p. 12). This triggered deep economic, social and political divisions within the eurozone. A substantial number of investors were even considering a breakup of the zone at the time (Panetta, 2024, p. 4). The situation on the financial markets settled down only after the decision of the European Central Bank (ECB). At the end of July 2012, the Bank's president, M. Draghi, announced readiness to provide unlimited financial support to eurozone countries (ECB, 2013, p. 16; Krugman et al., 2018, p. 713). This subsequently convinced investors of the European monetary union's ability to survive the crisis (Panetta, 2024, p. 5).

In analyzing the composite index of the euro currency's international role, noted should be that the period of 2009-2016 is characterized by a decline of as much as 6.42 pp, i.e. from 24.36% to 17.94%, at the current exchange rate (figure 1). In addition to the crises, the sources

[2] Asymmetric shock can be defined as the difference (of opposite sign) between the deviation from the trend in a member country's GDP growth rate and the deviation from the trend in the eurozone-wide GDP growth rate. (Rosati, 2017a, p. 7). Finance theory defines asymmetric shocks as abrupt changes in the operating conditions of an economy (currency area) independent of that economy. The various economies respond differently (non-symmetrically) to these changes (Giżyński, 2013, p. 35). Two measures of asymmetric shocks are typically specified. The first is based on exponential trend values, and the second on moving-average values of the trend (Rosati, 2017a, p. 7).

[3] The patterns of political and economic polarization in European Union (EU) countries, including the eurozone, have been the subject of recent research. Some relevant works identify the financial crisis of 2008 as the main source of these polarizations. Others indicate that the polarization is rooted in the decade preceding the above crisis (Gräbner, Hafele, 2020, p. 3). Gräbner and Hafele (2020, pp. 6-7), for instance, included Austria, Belgium, Finland, France and Germany among the *core* eurozone countries, classifying Cyprus, Greece, Italy, Portugal and Spain among the *periphery* countries.

of this decline ought to be traced to internal factors, pertaining to the construction and operation of the eurozone (institutional factors). They contributed indirectly to the euro's decline as an international currency during the above period, for the currency's role derives from internal *successes*. Among these factors were unconventional conduct of monetary policy[4] and lack of fiscal discipline due to fiscal policy management decentralization[5]. The decline in the internationalization of the euro was likewise spurred by external factors, pertaining to the development trends of the modern global monetary system, involving the continued rise of China's currency within the system and the persistent hegemony of the U.S. dollar (Skopiec, 2017, pp. 182-187; Giżyński, Wierzba, 2018, pp. 186-187). After a temporary weakening of the U.S. currency's position in favor of the euro, a resurgence in its use followed in subsequent years (see Table 1). The dollar's advantage, however, was only partially explicable by economic factors, including: the size of the U.S. economy, its international trade share, trade and financial ties, liquidity, or the security of and confidence in the currency. Hence, in addition to these factors, the focus was also on those of a geopolitical nature, i.e. the country's strategic, diplomatic and military strength (for more, see Twarowska-Mól, 2021, pp. 238-239).

After the period of significant decline in the index of the euro's international role, a partial rebound followed in 2017-2019. During that time, the index rose from 17.94% to 19.11%, i.e. by 1.17 pp, at the current exchange rate (figure 1). The dollar, in turn, was characterized by a particularly strong position as a reserve currency and the currency of international debt instrument issuance during that period.

4. The euro's international position and the COVID-19 pandemic outbreak

In March 2020, Europe was overtaken by the COVID-19 pandemic. The outbreak of the pandemic triggered an extraordinary global health crisis. Consequently, a sharp decline in global economic activity, including in the euro area countries, ensued in 2020. Real GDP in the

[4] It is indicated that the European Central Bank took several misguided decisions on the euro area's monetary policy at the time, primarily regarding increases in the key interest rate. One such interest rate increase was introduced in July 2008, and two more, in March and July 2011, respectively. Confirming that the latter two increases were superfluous is the fact that not long thereafter, i.e. two months later, the ECB completely changed the direction of its policy and began to rapidly cut the interest rates. This decision was precipitated by the rapidly deteriorating financial market conditions. Worth noting is that the usual response time of an economy to monetary policy impulses ranges from four to six quarters. Another controversial ECB decision taken during the crisis was not to reduce the interest rate to below the level of 1%, while the Federal Reserve or the Bank of England introduced such reductions (Rosati, 2022, p. 82).

[5] Between 1999 and 2007, the degree of fiscal discipline varied across the euro area countries. Only Ireland, Luxembourg and Finland managed to achieve a medium-term surplus in their budgets. The remaining EA countries experienced relatively frequent public finance sector deficits during this period, whereas Greece never once reduced the indicator below the reference value of 3% of GDP (Wierzba, 2011, p. 260). It is indicated that the authorities in Greece, but also in Italy or Portugal, disregarded the EU fiscal rules established at that time, which stipulated the member countries' adherence to the reference values of budget deficit (3% of GDP) and public debt (60% of GDP) (Rosati, 2022, p. 77).

EA as a whole fell by 6.1% at the time[6] (Giżyński, 2024b, pp. 68, 77). The significant, sustained supply shocks not only greatly reduced economic activity, but also increased the uncertainty. This increase was in many aspects much greater than that of a decade prior, i.e. caused by the global financial crisis. The pandemic likewise immobilized many production lines and disrupted trade flows. This time, however, the EMU authorities were better prepared to deal with the crisis, countered by strong and consistent policy responses, both at the national and supranational levels (Panetta, 2024, p. 5). Of substantial support was the new governance system adopted after the debt crisis of 2010-2012, enabling the use of innovative fiscal (by the European Commission) and monetary (by the European Central Bank) stabilization instruments. In result, the risk of instability within the euro area was reduced significantly (De Grauwe, 2022b, p. 275). It is indicated that owing to the introduction of the above instruments, the COVID-19 crisis did not weaken the international role of the euro (Panetta, 2024, p. 5) in 2020. Some indicators, at the current exchange rate, even show its strengthening[7] (see Table 2), reflected at the time directly in the value of the index of the euro's international role. In the year of the pandemic outbreak, the index rose from 19.11% to 19.34%, i.e. by 0.23 percentage points, at the current exchange rate (figure 1). The euro thus remained the world's second most important international currency in 2020. The U.S. dollar retained its hegemony, despite a decline in its share in most of the indicators characterizing the degree of its internationalization, at the current exchange rate (for more, see Table 2).

The relative resilience of the euro currency's global appeal is remarkable, given the scale of the pandemic shock. This resilience differs markedly from previous major crisis episodes (ECB, 2021, p. 7), and the aforementioned debt crisis that unfolded in some of the member countries in particular (for more, see section 3 of the present article and e.g. Rosati, 2022, pp. 74-79). That crisis was, in fact, as highlighted earlier, associated with a considerable decline in the role of the euro as an international currency. Given the crisis experience, the COVID-19 pandemic forced the EA policymakers to respond strongly with fiscal and monetary policy tools. These tools were intended to counteract the economic effects of the crisis. It is indicated that several anti-crisis measures taken by the European Commission and the European Central Bank in 2020 impacted (positively) the international status of the common currency (ECB, 2021, pp. 7, 41, 48).

[6] Strongly emphasized needs to be the fact that in 2020, the impact of the COVID-19 pandemic on individual euro area economies varied greatly. Large declines in real GDP, i.e. significantly above average, were recorded at the time, mainly in the aforementioned peripheral countries, i.e. Greece (-9.0% of GDP), Italy (-9.0% of GDP), Portugal (-8.3% of GDP) and Spain (-11.3% of GDP). Considerable declines in GDP were also observed in France (-7.8% of GDP) and Malta (-8.3% of GDP) (for more, see e.g. Giżyński, 2024b, p. 93).

[7] The increases in individual indicators are mentioned further in this chapter. One of the indicators that declined significantly, i.e. by 1.9 pp, in 2020, was the share of the deposits made in banks outside the euro area by creditors outside the euro area, at the current exchange rate. The share of the U.S. dollar in this ratio increased, in turn, by 1.1 percentage points at the time (see Table 2) (ECB, 2024h, p. A7).

In analyzing the 2020 supranational fiscal policy efforts within the euro area, it should be emphasized that these responses were decisive and complementary to national-level interventions. At the national level, the member countries launched, inter alia, emergency fiscal packages and large-scale liquidity support measures (in the form of deferred taxes and state guarantees) (ECB, 2021, p. 41). The impact of discretionary support on the budgets in these countries, amounting to an average of 3.3% of euro area's GDP (see e.g. Giżyński, 2024b, pp. 77-78, 94), was unprecedented, compared to previous crises[8]. Crucially, the above support was complemented by new instruments at the supranational level, using debt issuance by the European Commission. These instruments include, first and foremost, two temporary programs for member countries, i.e. the *Support to mitigate Unemployment Risks in an Emergency* (SURE) and the so-called *Next Generation EU* (NGEU) programs (ECB, 2021, p. 41).

The SURE scheme was launched in September 2020, to provide financial assistance in the form of union-level loans up to €100 billion. The main beneficiaries were small and medium-sized companies, particularly those operating in the sectors most affected by the pandemic, i.e. accommodation and food services, wholesale trade, retail trade and manufacturing. It is estimated that in addition to the fact that in 2020 the SURE program benefited approximately 31.5 million people and 2.5 million companies, funds from, inter alia, this program effectively contributed to preventing unemployment for about 1.5 million people (for more, see European Commission, 2024g). To finance the SURE scheme, the European Commission issued so-called *social bonds*[9]. The NGEU program, in turn, was launched in late 2020, to remedy the direct economic and social damage caused by the COVID-19 pandemic. The main component of the NGEU scheme was the *Recovery and Resilience Facility* (RRF)[10]. The value of the program was ultimately set at €806.9 billion, at the current prices (equivalent to €750 billion at 2018 prices), with the RRF set at €723.8 billion. These funds are to be mobilized by 2026, as part of a differentiated financing strategy (European Commission, 2024e). The implementation of the NGEU instrument entailed a debt-based fiscal expansion, the size of which was estimated to average around 1% of the euro area's GDP in 2021-2024. With these estimates, it was assumed that the support would be allocated to finance additional

[8] By comparison, at the height of the global financial crisis in 2009, the total amount of discretionary stimulus measures across all EU countries equaled 1.5% of GDP. Although in Luxembourg alone these measures were estimated at over 3% of GDP at the time, some countries never implemented any such measures and even introduced consolidation measures (see e.g. Haroutunian et al., 2021, p. 85).

[9] The SURE *social bonds* are an ESG (*Environment, Social, and Governance*) debt instrument. This type of instrument allows investors to allocate funds to social needs in the member states affected by the COVID-19 crisis. The social bond market promotes transparency in the use of the proceeds from these instruments, on the one hand, and the measurement of the social impact of the financed expenditures on the other (for more, see European Commission, 2020, p. 5).

[10] To receive funds under the RRF, the euro area countries were required to develop special plans outlining how the funds would be invested. Moreover, before receiving any RRF disbursements, they were obligated to achieve, satisfactorily, relevant objectives (the so-called *milestones* and *targets*). The achievement thereof was assessed by the European Commission. For more on individual EA countries' plans and a review of disbursements to date (European Commission, 2024e) see the European Commission's interactive scoreboard (European Commission, 2024d).

spending at the national level. To a large extent, the aim was to finance such investments and structural reforms (ECB, 2021, p. 41) in the member countries which, on the one hand, would increase the growth potential of their economies and reduce the divergences within the euro area, on the other. It was also assumed that these countries would be required to earmark a significant portion of the funds for the so-called *green transformation* (at least 37% of the funds) and *digital transformation* (at least 20% of the funds). The NGEU program thus carried the potential to increase both the resilience of the euro area's economy to global shocks and the attractiveness of the euro as an international investment currency (ECB, 2021, p. 42).

It should be strongly emphasized that the issuance of bonds under the SURE and NGEU programs has increased the global supply of *safe assets*[11]. This is because the issuer, i.e. the European Union, enjoys the highest creditor status assigned by most rating agencies[12]. The new bond (EU bond) issuances were the largest-ever euro-denominated issues at the supranational level. In 2020, the first SURE bond issuances totaled nearly €40 billion (see European Commission, 2024b). They attracted significant attention from non-euro area investors at the time. The share thereof in the total demand for these new (at the time of issuance) bonds ranged from 31% (20-year maturity) to 60% (5-year maturity). It should be specified that the higher demand from international investors for bonds with shorter maturity is positively correlated with a higher share of official investors (central banks, inter alia) in these issues. This is because official investors are less risk-inclined, compared to other market participants, which confirms that EU bond issues provide the potential to strengthen the euro's status as a major international reserve currency (ECB, 2021, p. 42). Moreover, as Table 2 shows, in 2020, the ratio of the euro currency's share in global foreign exchange reserves increased by 0.7 pp, at current exchange rate, which can be partly linked to the issuance of *safe assets* by the Euroland authorities.

In addition to fiscal measures, the ECB's policy - an important element of the EA's response to the COVID-19 pandemic in 2020 - yielded further implications in terms of the euro's international status. In analyzing the Bank's efforts at the time, it should be noted that, from the outset of the pandemic crisis, it undertook measures to eliminate tail risks on the financial markets, ensure the supply of credit and stabilize the EMU economy. The above measures specifically covered three interventions. The first two targeted the zone's economy directly, and involved asset purchases and lending operations. The third measure consisted in the provision of euro liquidity to central banks outside the EA, through the use of the so-called

[11] The so-called *safe assets* are characterized by stable nominal payoffs, high liquidity and minimal credit risk. These *assets* gain in significance in times of financial market stress. This is because during such times they retain their nominal value, while the value of other assets usually declines. Among the most popular *safe assets* are U.S. Treasuries (Habib et al., 2020, pp. 2-6, 24-25).

[12] This refers to the Fitch, Moody's, Scope and DBRS agencies. Currently, they assign the following (highest) ratings to the EU: AAA, Aaa, AAA and AAA (stable outlook). A rating slightly lower, i.e. AA+ (with a stable outlook), than the highest (AAA), the EU has been assigned by S&P (European Commission, 2024a).

swap[13] and *repo*[14] lines. These operations were introduced to prevent indirect negative feedback effects from non-euro area economies to the euro area economy (ECB, 2021, p. 45).

Taking a broader look, with the ECB's first action in March 2020, the Bank expanded its *asset purchase program*, abbreviated APP, and launched the *pandemic emergency purchase program*, abbreviated PEPP. The program was intended to stabilize the conditions on the financial markets, ease the overall monetary policy stance, and counteract major risks to the functioning of the euro area in the future (ECB, 2021, p. 45). Initially, the PEPP was set at €750 billion. After two decisions to increase its value, the total amount was ultimately set at €1850 billion in December 2020 (Giżyński, 2024b, p. 80). The innovativeness of the PEPP was reflected in the fact that the ECB imposed no conditions on the purchases of member states' government bonds. This was a significant change in the Bank's policy, resulting from the negative experience in implementing a similar program in 2012. The result of launching the PEPP entailed a rapid decline in the spreads between the 10-year government bonds issued by euro area countries, particularly Greece and Italy, and the 10-year bonds issued by the German government, considered risk-free securities. At the end of 2020, these spreads were even lower, compared to those recorded a year earlier. Consequently, the risk of instability within the EMU, arising from a potential crisis on its member countries' government bond markets, decreased significantly (De Grauwe, 2022b, pp. 273-275).

The ECB's second action, in turn, involved a change in the structure and price of longer-term liquidity refinancing operations. It was intended to provide commercial banks with access to central bank liquidity and thus aid the supply of credit to the euro area economy during the pandemic. As part of this measure, the ECB lowered the interest rates during the pandemic, increased the debt limit, established new operations, expanded the collateral group for *Targeted Longer-Term Refinancing Operations*, abbreviated TLTRO III (ECB, 2021, p. 45), and adopted new non-targeted *Pandemic Emergency Longer-Term Refinancing Operations*, i.e. PELTRO in short (ECB, 2021, p. 46; Benigno et al., 2021, pp. 8-9; Kowalewski, Lepczyński, 2023, pp. 587-588). The TLTRO III program comprised a series of ten operations. Each was due to mature in three years (the previous two editions were four years). Of note is that operations under this program had begun even before the pandemic, i.e. in September 2019. After the pandemic broke out, the TLTRO III program was modified three times, i.e. in March, April and December 2020. Its operations represented one of the main anti-crisis tools provided by the European Central Bank to the euro area during the pandemic. At the time, banks operating in the zone were able to borrow funds from the ECB at a favorable interest rate of as low as -1%, which was 0.5 pp

[13] A currency *swap* agreement, entered into by two central banks, refers to an arrangement whereby one of these banks (the borrower) obtains another currency and, in exchange, transfers its own as collateral. At an agreed date, the transaction is reversed, the borrowed currency is repaid, along with the agreed interest (ECB, 2021, p. 50; 2024b).

[14] A *repo* line is an arrangement whereby a central bank (lender) provides access to its currency for another central bank. Here, the assets denominated in the same currency provide collateral for the lender. On an agreed date, the borrowed currency is repaid with interest (ECB, 2021, pp. 47, 50; 2024b).

lower than the ECB deposit rate. Banks in the EA were able to take advantage of the reduced interest rate, provided they maintained lending activity in the economy. The attractive financing terms became available as of June 24, 2020 (ECB, 2024g; 2024i). New refinancing operations under the PELTRO program, in turn, were announced in April 2020. The development and course of the COVID-19 pandemic, admittedly, forced the ECB authorities to take further action. These operations were then proposed as part of seven tenders, and began to be implemented as of May 21, 2020. The four subsequent tenders were held in December 2020 (for more, see ECB, 2020a, 2020b). The operations involved in these tenders were similar to those proposed under the first seven, and were to be implemented in 2021 with a *one-year term*. The main purpose of the PELTRO refinancing operations was to prevent liquidity bottlenecks, by keeping the money markets liquid at the onset of the COVID-19 pandemic (Benigno et al., 2021, p. 9; Kowalewski, Lepczyński, 2023, pp. 587-588). Through these operations, the ECB provided the EA banks with liquidity at fixed interest rates, mostly negative. The amount of the funds transferred was, as in other LTRO programs, limited only by the demand from these banks (Benigno et al., 2021, p. 9).

A point to highlight is that through the above two actions, providing significant amounts of liquidity, the ECB mitigated the negative effects of the 2020 pandemic shock to the EA economy. These efforts increased the common currency's stability, which potentially translated into strengthening its international status (ECB, 2021, p. 48). As Table 2 shows, the ratio of the euro's share in outstanding international debt securities[15] increased by 1.2 pp at the time, while the ratio of outstanding international loans by banks outside the euro area to borrowers outside the euro area increased by 1.1 pp (both at the current exchange rate) (ECB, 2024h, pp. A4-A6). Indeed, the international currency benefits from the central bank's actions, which in times of crisis provide a reliable mechanism to secure liquidity in the financial system, especially in the context of debt currency choices (by firms) on international markets (ECB, 2021, p. 48).

The ECB's third action was to provide euro liquidity to non-euro area central banks, using the so-called *swap* and *repo* lines. These operations were intended to contain the potential negative impact of the COVID-19 crisis on the zone's economy, and aided the ECB in achieving its monetary policy objectives. In particular, they prevented euro liquidity shortages from developing into a threat to financial stability. Thus, both forced sale of assets and negative spillovers from the use of the euro currency by non-EA residents (as a funding or investment currency) were avoided (ECB, 2021, p. 46). Worth noting is that the ECB renewed existing *swap* agreements early in the COVID-19 pandemic. At that time, it also entered into new agreements, both *swap* and *repo*, with the central banks of several European Union countries

[15] This indicator draws on a *narrow* definition of international debt issuance, referring to the foreign currency principle. Bonds denominated in euros issued by a German company, for instance, are not included in the *narrow* definition, regardless of whether they were issued outside the euro are (e.g. in the U.S.) or within it (e.g. in France) (for more see, ECB, 2022, p. 19).

(e.g. the Bulgarian National Bank or the Danish National Bank) and the central banks of non-EU countries located in Southern and Eastern Europe (e.g. the Bank of Albania or the National Bank of North Macedonia) (see ECB, 2021, pp. 46-47). Moreover, the ECB adopted a new temporary *repo* instrument, the *Eurosystem Repo Facility*, abbreviated EUREP. It was intended to provide euro liquidity to those non-euro area central banks (for more, see Beck et al., 2021, pp. 50-51) which did not meet the bilateral liquidity line criteria under the ECB's rules (ECB, 2021, p. 46). Although in 2020 the above liquidity lines were only used intermittently, for relatively small amounts (see ECB, 2024d), the mere availability thereof was effective in easing the tensions on euro-denominated funding markets, while preventing tighter lending and funding conditions in economies maintaining strong economic and trade ties with the EA (ECB, 2021, p. 46). The estimates provided by the ECB show that in the two weeks following the Bank's announcement of liquidity lines, an estimated decline (in absolute terms), of up to 20 basis points, in the currency basis for the countries which the lines had been agreed with occurred. The event analysis sample, covering daily data over the period 2010-2020, comprised: Bulgaria, Croatia, Denmark, Hungary and Romania. Based on this analysis, it can be inferred that an announcement of a liquidity line agreement during a pandemic reduces the cost of euro funding on the foreign exchange markets of the countries which the lines were agreed with. Moreover, evidence has been provided that currency *swap* lines and international use of the currency are characterized by positive correlation. The direction of causality remains a subject of debate, however. This is because some economists consider the ECB's *swap* lines an *exorbitant duty*. Other observers, in contrast, note that these instruments increase the level of the currency's internationalization. Undeniably, nonetheless, both currency *swap* lines as well as the currency's international status tend to be mutually reinforcive (ECB, 2021, pp. 48, 51-52), as possibly reflected by the 2020 increase in the index of the euro's international role.

5. The international status of the euro and recovery from the pandemic

The development and coordinated distribution of vaccines as well as the start of mass vaccination campaigns in all euro area countries at the end of 2020 proved to be a game changer in the fight against the epidemic. This enabled the reopening of these countries' economies in 2021. Despite some disruptions, due in part to the emergence of a new coronavirus variant (Omicron), economic growth for the entire EA reached 5.3% of GDP that year, relative to 2020 (Giżyński, 2024b, p. 81). It must be emphasized that the recovery was one of the most rapid in the history of the common currency area. It is indicated to have been possible owing to the aforementioned implementation of significant fiscal and monetary policy measures. Noted should be that the reopening of European economies was accompanied by a significant increase in global inflation. The inflation rate rose rapidly due to higher energy costs, supply

bottlenecks and the normalization of demand. These events did not, however, lead to major changes in the index of the international role of the euro in 2021. The index increased at that time from 19.34% to 19.53%, i.e. by 0.19 pp, at the current exchange rate. The euro thus remained the second key currency in the international monetary system that year (ECB, 2022, pp. 2-3). The U.S. dollar, in turn, continued to play the leading role, as reflected in the main indicators, at the current exchange rate, characterizing the degree of currency internationalization (see Table 2).

In analyzing the share of the common currency in selected indicators comprising the index of the euro's international role, at the current exchange rate, an increase in 2021 was observed, both in outstanding international loans by banks outside the euro area to borrowers outside the euro area, i.e. by 1.2 pp, as well as in the ratio of deposits with banks outside the euro area by creditors outside the euro area, i.e. by 0.2 pp. The indicators showing a decline during that period include, inter alia, outstanding international debt securities (a decrease in the share of the euro by 1.2 pp) and global foreign exchange reserves (a decrease in the share of the euro by 0.7 pp[16]) (see Table 2).

Worth mentioning is that even during the recovery, the ECB measures contributed to maintaining favorable financing conditions in all sectors of the eurozone economy. As a result, fiscal stimuli could be transmitted more effectively across the entire euro area economy. Simultaneously, the European Commission and the member states' governments continued to support the transmission of the ECB's monetary policy through expansionary fiscal tools (for more on the nature of these tools, i.e. SURE, NGEU (including the RRF), PEPP and TLTRO III, see section 3 of the present article). This strong complementarity enabled a parallel implementation of both policies and effectively mitigated the economic damage triggered by the pandemic (Giżyński, 2024b, p. 82), while supporting the international role of the euro.

In 2021, jobs continued to be protected under the SURE scheme, especially in the first half of the year, when the COVID-19 pandemic prevented the EMU economy from functioning properly. The funds from this program provided support to around 9 million people and over 900 000 companies (for more, see European Commission, 2022a, 2024c). In order to finance the SURE instrument, the European Commission continued to issue social bonds (see European Commission, 2024g). Throughout 2021, it raised around 130 billion euros, i.e. 50 billion euros for the SURE program, 71 billion euros for the NGEU scheme, with 12 billion euros in the form of the so-called *green bonds*[17], and 12 billion euros for other loan programs. Within a short period of time, the Commission became one of the largest issuers of new debt in euros and the

[16] The indicator decreased due to the depreciation of the euro against the U.S. dollar, i.e. by approx. 8 pp. Indeed, as in previous years, lower and negative yields on the euro-area fixed-income markets may have been one of the main factors reducing the euro's attractiveness as a reserve currency. What is more, official reserve managers continued, at the time, to diversify their portfolios through non-traditional reserve currencies, primarily including the Chinese renminbi (see Table 2) (for more see, ECB, 2022, pp. 12-13; Longaric, Di Casola, 2022, pp. 14-17).

[17] *Green bonds* are considered one of the most prominent financial innovations of recent times. It should be emphasized that the instrument is structured similarly to traditional bonds. The difference lies in the purpose the funds raised are allocated to, namely environmental, climate and social projects (Sobik, 2023, pp. 291-292).

world's largest *green bond* issuer[18] (European Commission, 2022b, p. 2). Moreover, in 2021, most national-level discretionary measures, directly affecting the member states' budgets, were based on additional spending, as in 2020. The temporary emergency measures in the euro area as a whole amounted to 3.3% of GDP at the time (Giżyński, 2024b, p. 81).

In addition to significant asset purchases under the PEPP program (for more, see ECB, 2024e), the ECB's measures in 2021 consisted of the provision of liquidity to euro area banks on very favorable terms. The main instrument used was the TLTRO III[19]. The ECB at the time eased the collateral requirements for these liquidity operations (European Commission, 2021a, p. 17). Furthermore, the PELTRO program, which provided loans to eurozone banks, was continued (Kowalewski, Lepczyński, 2023, p. 588). The measures adopted by the ECB contributed to the absence of turmoil on the government bond markets in the euro area countries in 2021. The interest rates on these securities were, at the time, subject to further convergence. At the end of September 2021, the spreads were even smaller, compared to the pre-pandemic levels (De Grauwe, 2022b, p. 274). Importantly, the aforementioned ECB measures, consistent with the *accommodative* monetary policy stance[20], supported the euro's resilience on international credit markets in 2021. The volume of euro-denominated loans granted by non-euro area banks to non-euro area borrowers also increased by approx. 8% that year, thereby contributing to the aforementioned increase in the individual indicator of the euro's internationalization within the scope of loans. This increase was possible precisely because the ECB maintained an *accommodative* monetary policy, which eased the financing conditions on the euro credit markets at the time (ECB, 2022, p. 25).

Apart from the abovementioned fiscal and monetary policy instruments, the European Commission provided significant support for the internationalization of the common currency, by issuing a *Communication* in January 2021 (European Commission, 2021b) on the adoption of a new strategy, aimed, inter alia, at promoting the strengthening of the euro's international role. The Communication also set out a series of measures geared towards achieving this goal (for more, see ECB, 2021, pp. 49-50). It further served as input for the Euro Summit in March 2021. The statement concluding the summit reiterated the member states' commitment to the objective of enhancing the common currency's international role, in the context of strengthening the EU's strategic autonomy, including the single currency area, and reaffirm several points from the Commission *Communication* (ECB, 2021, pp. 41, 49-50).

[18] In 2021, more than a third of the investors purchasing *green bonds* were from non-euro area investors, mainly from the UK (29% share). The Commission plans to issue a total of up to 250 billion euros in such bonds under the NGEU scheme, which could globally position it as a leading issuer of such bonds (ECB, 2022, p. 22).

[19] The last operation under the TLTRO III program was carried out in December 2021 (ECB, 2024i).

[20] *Accommodative* monetary policy stance (e.g. within the euro area) refers to the lowering of interest rates by the central bank to a sufficiently low level, in order to stimulate strong economic growth, which in turn reduces unemployment or prevents it from becoming more severe (Board of Governors..., 2024).

At the beginning of 2022, the COVID-19 pandemic was still exerting a significant impact on the euro area economy. By the second half of 2022, however, consumers enthusiastically resumed spending, especially on services, following the easing of the pandemic restrictions (Giżyński, 2024b, pp. 82-83). Throughout 2022, real GDP in the euro area increased by 3.5%, mainly reflecting the strong contribution of domestic demand. At the end of the year, production in the euro area exceeded its pre-pandemic level by 2.4%, compared to the last quarter of 2019 (ECB, 2023a, pp. 8, 11). It should be emphasized, however, that in 2022 the recovery of the eurozone economy from the pandemic was accompanied by new shocks. Russia's invasion of Ukraine, the introduction of new economic sanctions and the significant increase in geopolitical risk led to serious negative consequences for the international monetary system (ECB, 2023b, p. 2). As a result, economic growth in the euro area decelerated in the second half of 2022, mainly due to the effects of Russia's invasion of Ukraine[21] (ECB, 2023a, p. 8). Despite these difficulties, no change in the world's major currency mix occurred. The euro currency proved resilient and remained second in 2022. The index of the euro's international role rose at that time by 0.18 pp, i.e. to 19.71%, at the current exchange rate (figure 1). This resilience is particularly noteworthy in view of the growing global inflationary pressure, caused in part by the increase in energy and food prices triggered by the Russian invasion (for more, see Giżyński, 2024a, pp. 149-150). These conditions necessitated a tightening of monetary policy in major global economies, and consequently an interest rate increase for major international currencies (ECB, 2023b, pp. 2-3), including the euro.

To combat the exceptionally high inflation caused by Russia's invasion of Ukraine and the lasting effects of the COVID-19 pandemic, the ECB continued to normalize the euro area's monetary policy in 2022. Although this process had already begun in December 2021, the *accommodative* nature of the policy was still maintained in the first half of 2022. In March of the same year, gradual withdrawal of collateral easing measures, constituting one of the ECB's key response tools to the pandemic, was announced. These measures facilitated access to the Eurosystem's[22] credit operations for banks operating in the euro area, as well as increased the volume of eligible collateral (ECB, 2023a, pp. 11, 29, 37-38). The phasing out of these measures entailed a gradual return to the pre-pandemic levels of risk tolerance in credit operations. Moreover, in the first half of 2022, the ECB ended several programs aimed at counteracting the economic impact of the crisis. The net asset purchases under the PEPP scheme were discontinued at the end of March[23] (ECB, 2023a, p. 29). In the second half of June, the attractive financing conditions for euro area banks under the TLTRO III program ended

[21] It should be emphasized that economic growth rates varied widely across the euro area countries in 2022, due to the different economic structures in these countries, as well as the extent to which, on the one hand, they benefited from the reopening of the service sector, and became adversely affected by Russia's invasion of Ukraine, on the other (ECB, 2023a, p. 11).

[22] The Eurosystem is the central banking system of the euro area. It consists of the ECB and the national central banks of those EU member states which have adopted the euro (for more, see ECB, 2025).

[23] The decision was made in December 2021 (Giżyński, 2024b, p. 82). The maturing capital portion of these assets was to be reinvested until mid-2024 (ECB, 2024e).

(ECB, 2024g; 2024i). In early July, in turn, the APP ended. In the second half of 2022, the ECB accelerated the withdrawal of monetary policy support in unprecedentedly large steps. The rising energy and food prices, supply bottlenecks and post-pandemic recovery of demand led to further price pressure and an increase in the eurozone inflation rate during the summer (ECB, 2023a, pp. 11, 29, 33). Consequently, at the last four meetings (in July, September, October and December) of 2022, the ECB Governing Council raised its key interest rates by a total of 250 basis points (see ECB, 2023a, pp. 32-34), representing the largest individual rate increases in the Bank's history. In October 2022, in turn, the euro area inflation rate reached a historic high of 10.6%. Throughout 2022, this rate stood at 8.4%, while in 2021, it was still 2.6%. Furthermore, by the end of 2022, the ECB had reduced the Eurosystem's balance sheet total to 8.0 trillion euros, down from a historically high 8.8 trillion euros in June. The reduction in the balance sheet total largely resulted from maturing operations and early repayments under TLTRO III operations (ECB, 2023a, pp. 8, 29, 32-34). Additionally, the PELTRO program ended in December 2022. Under this program, i.e. since May 2020, the ECB provided loans totaling nearly 30 billion euros to eurozone banks (Benigno et al., 2021, p. 9; ECB, 2023a, p. 37; Kowalewski, Lepczyński, 2023, p. 588).

Apart from the above decisions restoring the ECB's monetary policy to its pre-COVID-19 state, it is worth mentioning the instruments the Bank had not discontinued by the end of 2022. They included the aforementioned *swap* and *repo* liquidity lines with non-euro area central banks[24] (see ECB, 2024b). The liquidity lines left in place served to prevent the liquidity shortages of the common currency from becoming a threat to financial stability, which could have potentially jeopardized the euro's international role as a financing or investment currency.

In 2022, the euro-area national governments were confronted, for the third consecutive year, with new challenges, this time requiring reactive fiscal policies, potentially also affecting the euro' role as an international currency. The fiscal measures introduced in these countries in response to the COVID-19 pandemic were withdrawn at the end of the year, only to be partially replaced by new support measures (cf. ECB, 2023a, p. 15). At the end of 2022, pandemic-related national budget expenditures at EA level as a whole corresponded to 0.7% of GDP, while the measures mitigating the impact of high energy prices amounted to 1.3% of GDP (European Commission, 2023b, pp. 16-18). The latter expenditure[25] was intended to counteract the rising energy prices and the consequences thereof, in particular the increased cost of living for households and the higher operating costs for companies in the eurozone. Smaller amounts were allocated towards (ECB, 2023a, p. 15) the sheltering and integration of those fleeing the

[24] As of August 8, 2024, the ECB maintained eight *swap* liquidity lines and the same number of *repo* liquidity lines (sixteen agreements in total) with central banks of non-euro area countries. Each agreement was concluded with a different central bank (for more, see ECB, 2024b).

[25] The *energy support measures* adopted in the euro area countries were largely non-targeted, rather than aimed at protecting the most economically vulnerable households and companies. They also failed to incentivize lower energy consumption (ECB, 2023a, p. 12). More information on the controversy surrounding the energy *measures* adopted in the euro area countries can be found, e.g. in the work of Giżyński (2024a, pp. 154-155).

war in Ukraine, estimated at 0.1% of GDP, at the time (European Commission, 2023c, p. 56). The reduced spending translated into the fiscal policy stance in the EA, tightened moderately in 2022 for a second consecutive year. This does not, however, change the fact that, by the end of that year, only a little over a third of the fiscal easing measures from 2020 had been withdrawn in the member states (ECB, 2023a, p. 15). Simultaneously, the structural policy measures aimed at increasing the growth potential of the euro area were continued. This was largely achieved through the implementation of investment plans and structural reforms in individual euro area countries under the *Next Generation EU* scheme (ECB, 2023a, p. 12). At the end of 2022, the total amount available through this instrument equaled 162.6 billion euros, with over 138 billion euros provided under the RRF. Despite the difficult market conditions that year, NGEU transactions continued to draw significant interest from a wide range of investors across the globe. Approximately 35% of these were international investors, including roughly 25% from the UK and nearly 10% from other countries, mainly in Asia. Over 70% of the EU bonds issued were purchased by *buy-and-hold* investors, including central banks, insurance companies, pension funds and fund managers (for more, see European Commission, 2023a, p. 4), which contributed to the internationalization of the euro as an investment currency. While the NGEU program is scheduled to continue until 2026 (European Commission, 2023a, p. 2), the availability of the SURE program ended in December 2022 (see European Commission, 2024c). To finance it, bonds worth 8.7 billion euros were issued throughout 2022 (European Commission, 2023a, p. 2). As a result, around 350 000 people and 40 000 companies benefited from the support at the time (for more, see European Commission, 2024g). It should be emphasized that the purchase of these securities in the second half of 2022 involved significantly higher costs of interest and debt management. Moreover, the pace of interest rate increases for all issuers, including the euro area, has been one of the most rapid on the financial markets in recent decades. The interest rate on 10-year EU bonds at the inaugural issuance under the NGEU program, i.e. in June 2021, had been 0.09%, whereas at the issuance in November 2022, it hit 2.82%. Comparable increases were observed at the level of the euro area countries, i.e. the issuers of highly rated government bonds. In Germany, for instance, the interest rate for such 10-year bonds rose from around -0.20% in June 2021 to over 2.56% at the end of 2022 (European Commission, 2023a, p. 5).

Although the euro area interest rates and government bond yields (of high-rated bonds) rose to positive levels in 2022, these values remained lower than in other major economies (ECB, 2023b, p. 13). Consequently to the fact that long-term interest rates in the United States were approx. 200 basis points higher, the value of the euro fell by 6% against the dollar. The value was more stable in nominal terms, however, increasing by 0.8% despite the significant fluctuations throughout the year. The dollar also increased in value against most other

currencies[26]. Although the euro came under pressure from high energy prices and the deteriorating economic outlook in the EMU, it did gain value, compared to other major currencies, i.e. the pound sterling, the Japanese yen or the Chinese renminbi (cf. Table 2) (ECB, 2023a, p. 10). It is indicated, however, that the higher interest rates in the United States may have discouraged official reserve managers outside the euro area from balancing euro-denominated assets (ECB, 2023b, pp. 13-14, A1; see Arslanalp et al., 2022, pp. 1-23), which may have contributed to the decline, by 0.2 pp, to 20.4%, of the euro's share in global foreign exchange reserves, at the current exchange rate (see Table 2).

The share of the euro in outstanding international debt securities increased by 0.3 pp, to 22.0%, in 2022, at the current exchange rate (see Table 2). After analyzing the detailed data, however, it can be noted that e.g. the volume of international bond issuance, denominated in foreign currencies, fell significantly during that time. This decline was triggered by concerns over the economic outlook, the (tightening) financial conditions in developed economies, and the risk of geopolitical fragmentation (ECB, 2023b, pp. 26, A4). What is more, in 2022, significant declines (in absolute terms) were observed, inter alia, in the international issuance of *green bonds*[27]. In relative terms, however, the shares of these bonds, denominated in euros and U.S. dollars, remained stable at the time, accounting for 31% and 51% of the total issuance of these securities, respectively (for more, see ECB, 2023b, pp. 27-28).

In 2022, the share of euro in outstanding international loans by banks outside the euro area to borrowers outside the euro area continued to increase, by 1.6 pp, to 19.2%, at the current exchange rate (see Table 2). The share of the U.S. dollar, in turn, despite a large decline that year, i.e. by 2.1 pp, to 53%, continued to dominate international credit markets by a wide margin. Recent research (see e.g. Emter et al., 2023, pp. 63-75) has shown that the demand for international euro-denominated and, to a lesser extent, U.S. dollar-denominated loans is typically influenced by such factors as geographical distance and complementarity with trade invoicing patterns (ECB, 2023b, pp. 29, A6).

The share of the euro in deposits with banks outside the euro area from creditors outside the euro area likewise continued to increase in 2022. This indicator increased by 0.7 pp, to 17.4%, at the current exchange rate (Table 2). Worth mentioning is that the share of the U.S. dollar in this indicator had declined for a second consecutive year. In the year under review, it fell by 0.7 pp. The main reason for this decline is believed to lie in the investors' reduction of deposits denominated in this currency accumulated as liquid assets during the pandemic. Despite the

[26] The 2022 change in the U.S. monetary policy stance was associated with increased exchange rate volatility and lower bond prices. The U.S. central bank raised its interest rate by as much as 4.5 pp over the course of the year, which at the time translated into a significant nominal appreciation of its currency by 8 pp (for more, see den Besten et al., 2023b, p. 20). The strong U.S. dollar and large fluctuations in the prices of bonds (issued by major economies) prompted official reserve managers to take a more active approach to managing their asset portfolios in 2022. They increased their net purchases of non-dollar-denominated assets, thereby offsetting the valuation effects of the dollar's appreciation (at current exchange rate) (for more, see ECB, 2023b, pp. 4, A1).

[27] International issuance of *green bonds* refers to the issuance of foreign currency securities, based on the nationality or the parent entity of the issuer (ECB, 2023b, p. 28).

above, the dollar's share in this indicator remained close to the pre-pandemic level, i.e. nearly to 52% of all international deposits, at the current exchange rate (ECB, 2023b, pp. 30, A7).

Lastly, it bears mentioning that the impact of Russia's invasion of Ukraine begun in February 2022 on the internationalization of the common currency was particularly noticeable in the temporary increase in the cumulative net shipments of euro banknotes outside the euro area[28]. This increase was observed in the first half of 2022 and is suspected to stem from precautionary motives (see Beckmann et al., 2023, pp. 37-40). In the second half of 2022, this phenomenon was reversed, however, due to an increase in interest rates and the opportunity cost of holding cash. Another noteworthy development in 2022 was the diversification into gold by countries with close geopolitical ties to China and Russia. This move is suspected to have been aimed at reducing the risk of exposure to sanctions (imposed in connection with the invasion). Nevertheless, overall, nearly a year after the invasion began, the available data showed no significant changes in the use of international currencies (cf. Table 2) (ECB, 2023b, pp. 5-6). What is more, it was indicated at the time that the invasion revealed the lack of obvious alternatives to major international currencies, in the foreseeable future at least (see den Besten et al., 2023a, pp. 41-53). At the same time, the euro area's economic and financial resilience to these geopolitical challenges emphasized the importance of the euro as an international currency (ECB, 2023b, p. 5).

6. The international status of the euro and new post-pandemic challenges

6.1. The post-pandemic landscape and the common currency's internationalization

In May 2023, the World Health Organization (WHO) declared the end of the COVID-19 pandemic public health emergency (European Commission, 2024f). Thus far, the pandemic had caused almost 7 million deaths worldwide, including nearly 900 000 in the euro area countries (see World Health Organization, 2025). As emphasized, the pandemic affected all member states. From its outbreak onward, supranational and national authorities undertook joint action to protect the health and well-being of citizens, strengthen national health systems and reduce the spread of the virus. Simultaneously, the pandemic response was coordinated at the supranational level, to mitigate its socio-economic impact and support the recovery of member states (European Commission, 2024f). After 2022, the multiannual financial framework and the *Next Generation EU* program (for more on the nature of this tool, see section 3 of the present article) have been expected to play a major role in the implementation of the post-pandemic recovery package for these countries. The recovery package serves as a response to the socio-

[28] A detailed analysis of this indicator is not included in the present article, due to the lack of such an indicator in the composite index of the international role of the euro.

economic impact of the pandemic. The legal commitments under NGEU were adopted until the end of 2023, with payments to be effected through 2026. The package is primarily aimed at building a greener, more digital and more resilient euro area (European Commission, 2025, p. 5).

The nature of the shocks and the policy responses in the euro area were of key consequence in both the financial and debt crisis as well as the COVID-19 crisis. The point to bear in mind is that the EA is prone to turbulence that splits its economy and financial markets along the borders of individual member states. These difficulties become exacerbated in the absence of proper coordination among the countries, and may even prevent effective policy responses. Nevertheless, as the above considerations show, the euro area can easily withstand significant crises. The prerequisite in this regard entails a concerted, rapid and strong response, based on properly selected policy tools (Panetta, 2024, p. 5). In responding to the COVID-19 crisis, the mutually reinforcing effects of the monetary and fiscal policy measures in the EA were of paramount importance in mitigating the impact of the crisis, as well as in supporting the economic recovery in its member states (Giżyński, 2024b, p. 82), and thus the international role of the euro.

It ought to be borne in mind that not all crises are of equal magnitude and that not all crisis response tools are of equal nature (Panetta, 2024, p. 5). What is more, the new shocks that emerged in 2022 have forced European decision-makers to become more involved in shaping the conditions for further development of the common euro currency. The reason for this lies in the fact that continued European economic and financial integration will be crucial in increasing the resilience of the euro's international status in the potentially more fragmented global economy (ECB, 2023b, p. 2; for more, see den Besten et al., 2023a, pp. 41-53). Furthermore, it needs to be emphasized that despite the lack of significant impact of the COVID-19 pandemic on the international status of the euro, the currency is still characterized by many weaknesses, especially when compared with the U.S. dollar. The euro is, first and foremost, issued by a monetary union in which decisions are made by bodies composed of member state representatives, often pursuing divergent interests. For this reason, the euro is sometimes referred to as a *currency without a state*. Other weaknesses of the EMU include the varying levels of its member states' economic development (Skopiec, 2023b), lack of consistency in meeting the nominal convergence criteria (see e.g. Ministerstwo Finansów…, 2023, pp. 27-28; European Council, Council of..., 2024), different economic structures or, as aforementioned, lack of fiscal discipline due to decentralization of fiscal policy. It is indicated that these factors hinder the implementation of a uniform monetary policy throughout the euro area and reduce the common currency's internationalization potential (Skopiec, 2023b). It can therefore be argued that only decisive political and reform-oriented measures would allow the euro's global potential to be exploited (ECB, 2021, p. 7).

The history of the international monetary system shows (see e.g. Kowalewski, 2001, pp. 17-66; Budnikowski, 2021, pp. 397-409; Twarowska-Mól, 2021, pp. 13-21; Skopiec, 2023a, pp. 36-38) that international currency status is variable, non-linear and less predictable than one might believe (Panetta, 2024, p. 9). Consequently, it is not fixed once and for all (see e.g. De Grauwe, 2022a, p. 271). It can therefore be predicted that over the next few decades, the status of the euro as an international currency may follow one of three different scenarios (directions) of development, i.e. it may: 1) maintain its international status; 2) move to the periphery of the global monetary system; or 3) gain importance in the center of the system (Panetta, 2024, p. 9). The third scenario seems to be the most desirable.

6.2. Towards increasing the international role of the euro - recommendations

To increase the significance of the euro as an international currency, the authorities of the single currency zone should focus their efforts on three key factors: (1) macroeconomic stability; (2) liquid and integrated capital markets; and (3) modern payment and market infrastructures.

The first and most obvious factor is macroeconomic stability (Panetta, 2024, p. 5). It can be defined as the long-term balance in the key interdependencies within the economy. This primarily refers to the balance between domestic demand and domestic production, the balance of payments, government budget revenues and expenditures, as well as savings and investment (Stachowiak, 2023, p. 13). To ensure economic stability, eurozone countries should pursue effective macroeconomic policies (Panetta, 2024, p. 9). These policies are viewed as an important impetus for state interference in economic processes, in order to restore internal and external balance (Stachowiak, 2023, pp. 12-13). Borne in mind should be that when euro-denominated assets are purchased by foreign investors, a stake in the eurozone economy is in fact acquired. The dividend expected by these investors, in turn, is economic growth as well as low and stable price growth within the member countries. The only means of guaranteeing this dividend is for these countries to implement credible, effective and countercyclical macroeconomic policies. Even if a hypothetical country (or currency zone) did enjoy a sound economic structure, it would face extreme difficulty in maintaining its international role, were it to experience frequent recessions or sudden spikes in inflation or deflation (Panetta, 2024, pp. 5-6). This means it is critical to properly select the macroeconomic policy tools, i.e. the monetary policy and fiscal policy under the so-called *policy mix* (for more, see e.g. Rosati, 2017b, pp. 152-163). As it is highly likely that the eurozone will again face a crisis requiring a concerted response at the supranational level by means of both monetary and fiscal policy tools, the response to the COVID-19 pandemic sets a certain template for how a crisis in the eurozone should be managed. The sovereign debt crisis, by contrast, is an example of how not to proceed (Panetta, 2024, p. 6).

The second key factor in strengthening the international role of the euro entails completion of the *Capital Markets Union* (CMU), launched in 2015 (for more, see European Commission, 2024h). Eurozone countries need liquid and integrated capital markets to sustain domestic investment and attract foreign investors. These markets, however, are still significantly underdeveloped compared to other (major) economies (Panetta, 2024, p. 6). Among other things, this leads to significant corporate financing differences in these economies. Thus, for example, in 2023, the share of eurozone countries in global *Venture Capital* funds was only 5%, with 52% share of the United States or 40% share of China (Draghi, 2024, pp. 21, 25). Despite efforts to harmonize the rules and integrate capital markets under European law (Panetta, 2024, p. 6), progress toward the creation of a single capital market within the member countries has been limited in recent times (see Lindner, Mack, 2024, p. 3). It is indicated that the current level of capital market integration in Europe is comparable to the state of affairs back in 2003-2004. To accelerate this integration, attention should be given to two serious deficiencies, in the context of the euro's international role, namely the European *safe asset* and a *fully-fledged banking union* (Panetta, 2024, pp. 6-7).

A *safe asset* in the form of a common risk-free benchmark is instrumental in critical financial activities. These can include, e.g. the pricing of risky financial products, i.e. corporate bonds or derivatives, stimulating the growth thereof (for more, see Panetta, 2024, p. 7). The scarce supply of euro-denominated *safe assets*, in turn, is probably the most serious constraint to the completion of the CMU, and thus to the growth of the currency's global significance (Panetta, 2024, p. 7). It has been indicated that issuance of a common *safe asset* would greatly facilitate the achievement of the CMU and render it more complete (Draghi, 2024, p. 60). The one-time bond issuance under the *Next Generation EU* program (for more, see e.g. European Commission, 2024e) is the first and desired step in this direction (Panetta, 2024, p. 7). Nevertheless, in order to stimulate the development of the *Capital Markets Union* and strengthen the international role of the euro, a steady and predictable supply of *safe assets* would need to be ensured (Panetta, 2024, p. 7), not only through the NGEU program.

The second major constraint on capital market integration in the eurozone is the lack of a *fully-fledged banking union* within the zone (see Lindner, Mack, 2024, p. 9; Draghi, 2024, pp. 60-61). Although, following the financial crisis, the *Single Supervisory Mechanism* and the *Single Resolution Mechanism* were established, viewed as a milestone towards the creation of a single banking market within the eurozone, the above measures proved insufficient in completing the construction of this market. What is more, the European banking sector remains significantly fragmented along the lines of member country borders. In 2021, the banks comprising the sector held domestic assets valued at four times higher than non-domestic euro-area assets. Strongly emphasized should be the fact that such a circumstance inhibits the creation of a true CMU. This is because banking institutions play a central role in all major financial centers, and provide services, often leading in such key areas as asset management, bond underwriting and market-making services. A true CMU, therefore, cannot be formed

without banks capable of operating efficiently throughout the eurozone, and thus without a *fully-fledged banking union* (Panetta, 2024, p. 7), including, inter alia, a deposit insurance system (De Grauwe, 2022a, p. 274).

The third key factor in strengthening the international role of the euro is modern payment and market infrastructures. Of relevance is the fact that these infrastructures allow the financial system's smooth operation. The digitization process improving the operation of this system, in turn, represents one of the present-day challenges and is underpinned by profound transformation. Digitization, indeed, has a very significant and complex impact on society. Payments are no exception here, as the demand for digital payment services has increased significantly worldwide, especially in consequence of the COVID-19 pandemic. One support solution to such a situation may be a *central bank digital currency* (CBDC) (Panetta, 2024, pp. 7-8). This currency, given its potential and capacity to perform the functions of money, is more resemblant of the current traditional fiat money (it appears it would be capable of performing all the functions thereof). Moreover, a CBDC is launched to maximize its information storage function. Should this be achieved, money would gain an additional (new) function, i.e. a *means of storing information* (Twarowska-Mól, 2021, p. 278).

CBDC is currently a matter under consideration by the Eurosystem (see ECB, 2024c), namely a CBDC for both retail and wholesale customers. One recent study indicates that roughly 30% of central banks in developed economies and 20% of central banks in emerging markets are working on retail CBDCs (Kosse, Mattei, 2023; ECB, 2024h, p. 23). As of the end of September 2023, five countries worldwide had completed the implementation stage; three of them successfully. As such, a retail CBDC has been widely available in the Bahamas (*Sand Dollar*) since October 2020, in Nigeria (*eNaira*) since October 2021, and in Jamaica (*Jam-Dex*) since May 2022. Ecuador and Venezuela, by contrast, were unable to implement it. In terms of wholesale CDBCs, i.e. high-currency payments, twenty-two central banks publishing information on ongoing work in this area, including the ECB, were still at the research and testing stage in 2023 (Żak, 2023, pp. 38-39).

From the perspective of the euro's international role, a digital euro currency could provide ample opportunities or be used for cross-currency payments, if made available outside the single currency area (Panetta, 2024, p. 8). Moreover, a retail form of CDBC could yield strategic benefits. It is expected to strengthen the autonomy and resilience of Europe, including eurozone countries, whilst reducing their dependence on private third-party providers. This can be of particular relevance in the context of a potential crisis or geopolitical tensions (ECB, 2024h, p. 25). The same is true for wholesale market CBDCs (Panetta, 2024, p. 8; see ECB, 2024f). Building on the experience of the TARGET (*Trans-European Automated Real-Time Gross Settlement Express Transfer System*) infrastructure (for more, see Guideline (EU) 2022/912...), the Eurosystem institutions are currently conducting research on new solutions based on distributed ledger technology (DLT) and the interaction thereof with the existing TARGET system. This research encompasses tests and experiments aimed at creating a so-called

technological bridge between the central bank's currency settlement system and external private DLT platforms. These platforms are used to manage tokenized digital assets (Panetta, 2024, p. 8). Tests have already been conducted independently by several Eurosystem member banks, including Germany's central bank (Deutsche Bundesbank) in 2021 (see Deutsche Bundesbank and…, 2021) or the central bank of France (Banque de France) in 2022 (see Szymula, 2022). These and other solutions (for more, see Panetta, 2024, pp. 8-9), in addition to supporting the international role of the euro, should further the development of global cross-currency payments. Currently, these payments are considered expensive, slow and not very integrated (Panetta, 2024, p. 9).

It must be unequivocally emphasized that the common feature underlying the above recommendations entails the strengthening of the integration process. If the above-mentioned initiatives prove successful and build on the achievements so far, it would bring the EMU to closer to a truly integrated monetary, fiscal and political union (Panetta, 2024, p. 9). A strengthened process of integration would certainly produce additional benefits enhancing the role of the euro in the global monetary system.

7. Conclusions

An international currency is used outside the borders of a particular country or economic area. The degree of a currency's internationalization reflects its actual use in monetary transactions. The currency can function regionally or only partially fulfill its function. It can also bring a range of benefits, such as high seigniorage, to the issuing country. In times of global tensions, additional responsibilities may arise, however, in connection with rapid currency appreciation or liquidity risk mitigation. Crisis experience shows, nevertheless, international currencies limit the transmission of exchange rate shocks into domestic inflation, thus reducing the burden of exchange rate fluctuations. It can also amplify the impact of monetary policy during such periods by creating positive side effects. The benefits of issuing such a currency, although variable over time, should therefore outweigh the risks.

Right from its launch, the euro has acquired the status of the second international currency. The common currency area, i.e. the euro area (EA for short), largely met the criteria allowing its currency to be considered an international currency. In the initial period of its existence, the euro gained increasing importance in all functions of international money, which translated directly into the value of the composite index of the euro's international role, at the current exchange rate. Between 1999 and 2005, this indicator rose from 18.13% to 24.14%, i.e. by more than 6 pp. The initial upward trend in the euro's internationalization was halted, however, by the global financial crisis of 2007-2009 and the debt crisis suffered by some member states in 2010-2012. These turbulences led to a decline in foreign investors' confidence in the common

currency. As a result, its international role diminished in most monetary functions. Between 2009 and 2016, the euro's internationalization index fell by as much as 6.42 pp, from 24.36% to 17.94%. Apart from the crises, the causes of this decline are to be sought in internal factors. It is argued that during these crises, the EA was hit by asymmetric shocks, which lacked an adequate political response. On the one hand, the fiscal tools deployed by national policymakers to support their economies were too short-lived, only to be followed by a pro-cyclical fiscal consolidation. On the other hand, the measures adopted in these countries lacked adequate coordination and consistency with the desired supranational fiscal stance. This resulted in deep economic, social and political divisions within the euro area. Its collapse in 2012 was prevented by the decision of the European Central Bank (ECB for short), expressing its readiness to provide unlimited financial support to member states, which convinced investors of the EA's ability to survive the crisis. After a period of significant decline in the international role of the euro, the index saw a partial rebound between 2017 and 2019. The dollar, meanwhile, remained the world's dominant currency.

In March 2020, the COVID-19 pandemic took hold of Europe. Its outbreak triggered an extraordinary global health crisis. As a consequence, economic activity declined significantly in 2020. Real GDP in the euro area as a whole dropped by as much as 6.1% at the time. The pandemic caused significant and lasting supply shocks. This time, the EA authorities were prepared much better to combat the crisis. Of great support turned out to be the new economic governance system adopted after the debt crisis (2010-2012). It enabled the use of innovative stabilization instruments. Such monetary instruments as the *pandemic emergency purchase program* (PEPP for short) and the *third series of targeted longer-term refinancing operations* (TLTRO III for short) were adopted by the European Central Bank. The European Commission, in turn, instituted fiscal measures, such as the *Support to mitigate Unemployment Risks in an Emergency* (SURE for short) and the *Next Generation EU* (NGEU for short) programs. The Commission's instruments complemented the national-level measures, which mobilized much larger fiscal packages than in previous crises. It is argued that this support, at the supranational level in particular, prevented the weakening of the euro's international position in 2020. Some of the indicators characterizing it even increased during that time, which translated directly into an increase in the international role of the euro index by 0.23 pp, i.e. to 19.34%. The euro thus maintained its second international currency position. The U.S. dollar continued to play a dominant role, in turn, despite a decline in its share in most internationalization indicators.

At the end of 2020, a mass vaccination campaign was launched in all euro area countries. This enabled the reopening of these economies in 2021. Despite some disruptions, economic growth in the EA as a whole amounted to 5.3% of GDP, compared to the previous year. It is indicated that this growth was largely possible owing to the implementation of fiscal and monetary policy measures. Moreover, the ECB measures were also a contributing factor in maintaining attractive financing in all economic sectors of the euro area during the recovery

period. This enabled a more effective transmission of fiscal stimuli across the entire economy. The European Commission and the member states' governments at the same time continued to support the transmission of the ECB's monetary policy, through expansionary fiscal measures (the SURE program ended at the end of the year). This strong complementarity provided leeway for a parallel operation of both policies and effectively mitigated the economic damage caused by the pandemic, simultaneously supporting the international role of the euro. In 2021, its index increased by 0.19 pp, reaching 19.53%. The euro thus remained the second key international currency, while the U.S. dollar continued to play the leading role. Another important factor supporting the internationalization of the common currency in 2021 was the Commission's adoption of a new strategy, aimed in part at promoting greater internationalization of the currency. After the first half of 2022, it became apparent that consumers had enthusiastically resumed spending, following the easing of pandemic restrictions. Throughout 2022, real GDP in the euro area rose by 3.5%, reflecting mainly the strong contribution of domestic demand. At the end of the year, production in the EA exceeded the pre-pandemic rate. The eurozone economy's recovery from the pandemic coincided with new shocks, bringing negative consequences for the global monetary system. In 2022, Russia invaded Ukraine; new economic sanctions were introduced while geopolitical risks significantly increased. Despite these shocks, the international currency system remained unchanged, and the invasion revealed the lack of obvious alternatives to its main currencies. The index of the euro's international role increased by 0.18 pp that year, to 19.71%. This resilience was a notable outcome, given the growing inflationary pressures around the world, partly caused by the rise in energy and food prices, triggered by the Russian invasion. These conditions led to a tightening of monetary policies in the core countries of the global economy in 2022, and consequently to increased interest rates for major international currencies, including the euro. The ECB discontinued several measures that year, including the PEPP and the attractive financing for euro area banks under the TLTRO III program. Moreover, these challenges at the time called for a reactive fiscal policy in the EA countries. The national pandemic measures were, on the one hand, terminated at the end of 2022, and only partially offset by new support measures, on the other. Despite the uncertain circumstances, no significant changes in the international currency system were noted nearly a year after the start of the invasion.

In May 2023, the World Health Organization lifted the public health emergency of international concern due to the COVID-19 pandemic. In responding to the pandemic crisis, the mutually reinforcing effects of the fiscal policies and the EA's monetary policy proved crucial in mitigating the effects of the crisis and supporting the member states' economic recovery. Thus, a joint, prompt and decisive response, based on suitably selected policy tools, is a prerequisite in countering major crises within the eurozone. Indicated is that the above measures impacted positively the international role of the euro in some of its functions, and contributed to the growth of its composite index in 2020-2022. The main research hypothesis was therefore not confirmed. Moreover, the multiannual financial framework, along

with the NGEU scheme, is expected to play a major role in the implementation of the post-pandemic recovery package. Although the COVID-19 crisis has not affected the euro's international role significantly, the currency continues to be characterized by a number of weaknesses, compared to the U.S dollar in particular. These weaknesses include the varying levels of EA countries' economic development and the lack of sustainability in meeting the nominal convergence criteria. These factors hamper the pursuit of a uniform monetary policy throughout the zone, reducing the common currency's potential for internationalization. Worth keeping in mind is that not all crises exert the same impact, and not all response tools are alike. The new shocks of 2022 have forced the EA authorities to engage more in creating favorable conditions for the development of the euro. Further European economic and financial integration is to be of great significance in strengthening the resilience of the currency's international role, in the event of a greater fragmentation of the global economy.

In order to increase the common currency's internationalization, the euro area authorities should focus their activities on three factors, i.e. macroeconomic stability, liquid and integrated capital markets, as well as modern payment and market infrastructures. When foreign investors purchase euro-denominated assets, they are actually acquiring a share in the zone's economy. To ensure economic stability in the euro area, member states should pursue an effective macroeconomic policy. Of key significance here is the appropriate selection of monetary and fiscal policy tools, as part of the so-called *policy mix*. As the EA is likely to face another crisis, the response to the COVID-19 pandemic sets a certain pattern for proper crisis management. The sovereign debt crisis response, in turn, is a good example of how not to deal with a crisis. The second key factor in strengthening the euro's internationalization are liquid and integrated capital markets. Completion of the *Capital Markets Union* (CMU for short) within the euro area can ensure this. Capital markets in the EU remain significantly underdeveloped, compared to other major economies, e.g. the United States. To accelerate their integration, these markets need to be supplemented with a European *safe asset* and a *fully-fledged banking union*. A *safe asset* in the form of a common risk-free benchmark is of major relevance in critical financial activities, e.g. corporate bond valuations. To stimulate the development of the CMU, and to strengthen the euro's internationalization, a steady and predictable supply of *safe assets* should be ensured, not only under the NGEU program. Furthermore, a true CMU cannot be built without banks that can operate effectively across the EA, i.e. without a *fully-fledged banking union*, including a common deposit insurance system. The third major factor in strengthening the international role of the euro are modern payment and market infrastructures. The demand for digital payment services has increased significantly worldwide in recent years, not least due to the COVID-19 pandemic. A *central bank digital currency* would certainly be of benefit in this situation. From the perspective of the international role of the euro, it could offer many possibilities if made available outside the EA or used for cross-currency payments. It could also strengthen the euro area countries' autonomy and resilience by reducing their dependence on external private suppliers, which could prove highly beneficial in the event of a potential crisis or geopolitical tensions.

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Appendix

Table 1.
Selected 2007-2012 indicators included in composite index of the euro's international role, at current exchange rates

Currency	2007[1] [1]	2008[2] [2]	2009[3] [3]	2010[4] [4]	2011[4] [5]	2012[4] [6]	[2-1]	[3-2]	[4-3]	[5-4]	[6-5]
	Global holdings of foreign exchange reserves - currency shares, in %						Difference in pp				
EUR	26.1	26.2	27.7	25.8	24.4	24.1	0.1	1.5	-1.9	-1.4	-0.3
USD	63.9	63.8	62.2	62.2	62.7	61.5	-0.1	-1.6	0.0	0.5	-1.2
JPY	3.2	3.5	2.9	3.7	3.6	4.1	0.3	-0.6	0.8	-0.1	0.5
GBP	4.8	4.2	4.3	3.9	3.8	4.0	-0.6	0.1	-0.4	-0.1	0.2
	Outstanding international debt securities (narrow measure, end of period), in %						Difference in pp				
EUR	32.1	32.2	31.5	27.7	25.7	25.1	0.1	-0.7	-3.8	-2.0	-0.6
USD	43.3	44.7	45.8	48.7	50.8	52.5	1.4	1.1	2.9	2.1	1.7
JPY	5.3	6.7	5.7	6.2	6.1	5.0	1.4	-1.0	0.5	-0.1	-1.1
Other	19.2	16.3	17.0	17.4	17.4	17.5	-2.9	0.7	0.4	0.0	0.1
	Outstanding international loans by banks outside the EA to borrowers outside the EA[5] (end of period), in %						Difference in pp				
EUR	20.8	16.2	14.8	13.1	14.2	12.9	-4.6	-1.4	-1.7	1.1	-1.3
USD	47.5	53.2	53.9	55.0	54.9	57.0	5.7	0.7	1.1	-0.1	2.1
JPY	4.3	4.3	2.7	2.7	3.1	3.0	0.0	-1.6	0.0	0.4	-0.1
GBP	-	1.0	1.3	1.2	1.0	1.7	-	0.3	-0.1	-0.2	0.7
	Outstanding international deposits with banks outside the EA from creditors outside the EA[6] (end of period), in %						Difference in pp				
EUR	21.5	21.9	22.5	20.7	19.0	17.8	0.4	0.6	-1.8	-1.7	-1.2
USD	54.4	54.4	51.9	54.5	56.5	55.6	0.0	-2.5	2.6	2.0	-0.9
JPY	2.1	2.9	1.9	1.5	2.1	2.5	0.8	-1.0	-0.4	0.6	0.4
GBP	-	5.1	5.0	4.4	3.8	5.0	-	-0.1	-0.6	-0.6	1.2

Notes:
[1] The cut-off date for the statistics was 23 April 2021.
[2] The cut-off date for the statistics was 30 April 2022.
[3] The cut-off date for the statistics was 30 April 2023.
[4] The cut-off date for the statistics was 30 April 2024.
[5] Excluding loans to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.
[6] Excluding deposits to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.

Source: Own preparation based on ECB (2021, pp. A1, A4, A6, A7; 2022, pp. A1, A4, A6, A7; 2023b, pp. A1, A4, A6, A7; 2024h, pp. A1, A4, A6, A7).

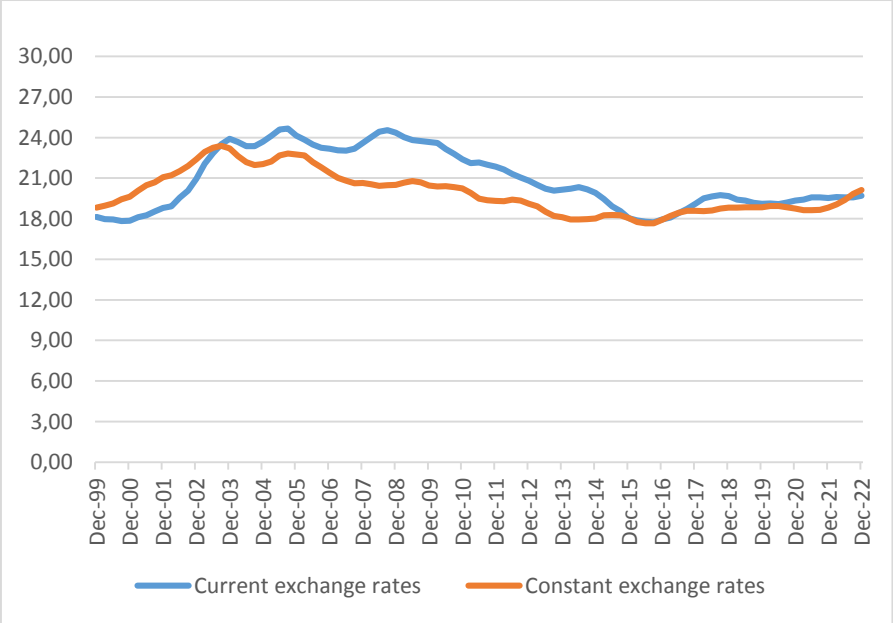
Table 2.
Selected 2019-2022 indicators included in composite index of the euro's international role, at current exchange rates

Currency	2019 [1]	2020 [2]	2021 [3]	2022 [4]	[2-1]	[3-2]	[4-3]
	Global holdings of foreign exchange reserves - currency shares, in %				Difference in pp		
EUR	20.6	21.3	20.6	20.4	0.7	-0.7	-0.2
USD	60.7	58.9	58.8	58.5	-1.8	-0.1	-0.3

JPY	5.9	6.0	5.5	5.5	0.1	-0.5	0.0
GBP	4.6	4.7	4.8	4.9	0.1	0.1	0.1
CNY	1.9	2.3	2.8	2.6	0.4	0.5	-0.2
	Outstanding international debt securities (narrow measure, end of period), in %				Difference in pp		
EUR	21.7	22.9	21.7	22.0	1.2	-1.2	0.3
USD	64.3	63.4	65.4	65.6	-0.9	2.0	0.2
JPY	2.4	2.3	1.9	1.8	-0.1	-0.4	-0.1
Other	11.6	11.4	11.0	10.7	-0.2	-0.4	-0.3
	Outstanding international loans by banks outside the EA to borrowers outside the EA[1] (end of period), in %				Difference in pp		
EUR	15.3	16.4	17.6	19.2	1.1	1.2	1.6
USD	56.6	54.3	55.1	53.0	-2.3	0.8	-2.1
JPY	2.5	2.4	2.0	2.5	-0.1	-0.4	0.5
GBP	1.5	1.5	1.6	1.4	0.0	0.1	-0.2
	Outstanding international deposits with banks outside the EA from creditors outside the EA[2] (end of period), in %				Difference in pp		
EUR	18.6	16.5	16.7	17.4	-2.1	0.2	0.7
USD	53.1	54.2	52.6	51.9	1.1	-1.6	-0.7
JPY	2.2	1.7	2.7	3.5	-0.5	1.0	0.8
GBP	2.0	1.9	1.8	1.6	-0.1	-0.1	-0.2

Notes:
The cut-off date for the statistics was 30 April 2024.
[1] Excluding loans to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.
[2] Excluding deposits to/from Japan, Switzerland, the United Kingdom and the United States in their domestic currency.

Source: Own preparation based on ECB (2024h, pp. A1, A4, A6, A7).



Notes:
In %, at current and constant Q4 2023 exchange rates; four-quarter moving averages. The cut-off date for the statistics was 30 April 2024.

Figure 1. 1999-2022 composite index of the international role of the euro.

Source: Own preparation based on ECB (2024a).