

### Box 3

#### Household demand for euro cash in central, eastern and south-eastern European countries during the COVID-19 pandemic

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In several central, eastern and south-eastern European countries which have not adopted the euro as legal tender, the use of financial assets denominated in euro – de facto euroisation – has remained a widespread phenomenon. For individuals, de facto euroisation is largely demand-driven. Relevant factors are the degree of trust in the stability of the local currency and expectations regarding the exchange rate. The experience of the crisis-ridden early transition years in the 1990s, which saw large devaluations and high inflation, had a strong and rather persistent influence on households' demand for euro cash. This impact faded somewhat after 20 years, but was partially rekindled by the global financial crisis.<sup>47</sup> Similarly, the economic recession following the coronavirus (COVID-19) pandemic could affect trust and expectations and again lead to a reshuffling of portfolios. Economically affected individuals may also have no other choice but to draw on savings in euro cash. Moreover, a reduction in remittances could lead to a decrease in euroisation. Based on the latest vintage of the OeNB Euro Survey, this box provides some insights on whether euro cash demand and its determinants changed between autumn 2019 and autumn 2020.<sup>48</sup>

At the country level, the prevalence of euro cash holdings changed significantly between 2019 and 2020 in three out of the ten countries covered in the survey (**Chart A**). Decreases in the share of individuals holding euro cash in Albania and Croatia are presumably due in part to a decline in tourism

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<sup>47</sup> See Brown, M. and Stix, H., "Euroization of bank deposits", *Economic Policy*, Vol. 30(81), 2015, pp. 95-139.

<sup>48</sup> The [OeNB Euro Survey](#) has collected information about individual euro cash holdings, saving and borrowing decisions using a nationally representative sample of individuals and looked into the economic opinions, expectations and experiences of survey respondents since autumn 2007.

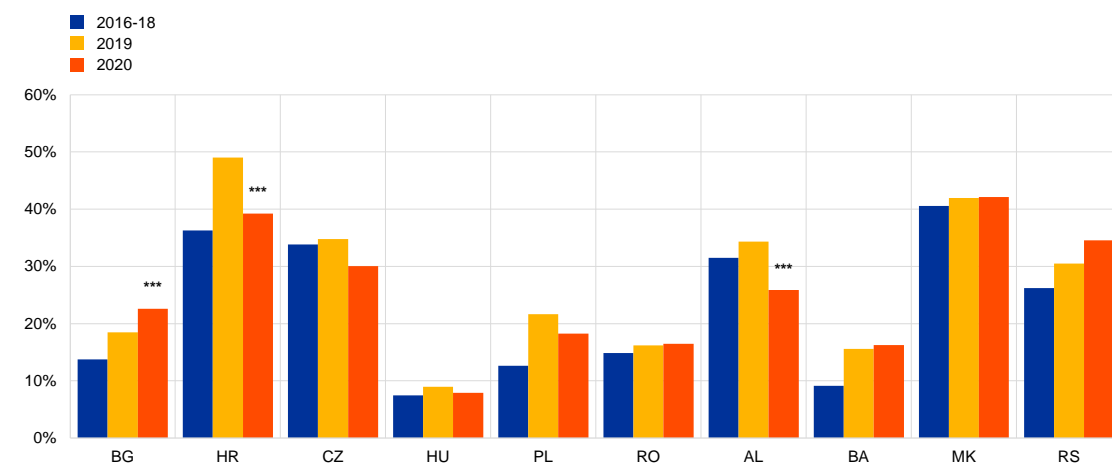
revenues. In line with this interpretation, decreases are particularly pronounced in coastal areas.<sup>49</sup> In Croatia, the share of individuals holding deposits denominated in foreign currency more broadly also decreased significantly (from 73% to 60%).

## Chart A

The prevalence of euro cash holdings changed significantly during the pandemic in some countries

### Share of individuals holding euro cash

(percentages)



Source: OeNB Euro Survey.

Notes: Data are weighted. \*\*\* indicates a statistically significant change (at the 1% level) between 2019 and 2020.

Regression analysis allows heterogeneities to be studied at the individual level. In addition to asking about the prevalence of euro cash holdings, the OeNB Euro Survey requires individuals to indicate whether they prefer to hold their savings in cash rather than as deposits.<sup>50</sup> Moreover, it enquires about trust in the stability of the local currency relative to the stability of the euro – factors that are susceptible to affect demand for euro cash and deposits denominated in euro. The autumn 2020 survey also collected information on the extent to which respondents were economically affected by the COVID-19 pandemic.

Probit regressions based on the survey evidence provide preliminary insights on the effects of the pandemic. **Chart B** shows that an average individual “hardly affected economically” has a 23% probability of holding euro cash against a 28% probability for an otherwise comparable “most affected” individual – a 5 percentage point difference. Moreover, compared with the least affected individual, the latter is 9 percentage points more likely to prefer cash rather than deposits as a savings vehicle.

Moreover, the extent to which respondents are economically affected is negatively correlated with trust in the stability of the local currency, with the difference between the least and most affected individuals standing at 5 percentage points. By contrast, the extent to which individuals are

<sup>49</sup> Note that the analyses are based on approximately 1,000 observations per country and wave, and that the regionally disaggregated data are based on a low number of observations. Looking at heterogeneity across individuals, one would expect the share of euro cash holders to be higher among workers in the tourism sector. Survey information for autumn 2020, however, shows that people employed or formerly employed in the tourism sector are not significantly more likely to hold euro cash than people employed outside the tourism sector. Regional data for Bulgaria also show a decrease in the share of euro cash holders in coastal regions, which is, however, more than offset by an increase in landlocked regions.

<sup>50</sup> See Stix, H., “Why do people save in cash? Distrust, memories of banking crises, weak institutions and dollarization”, *Journal of Banking and Finance*, Vol. 37, 2013, pp. 4087-4106.

economically affected by the pandemic appears to have no significant impact on trust in the stability of the euro.

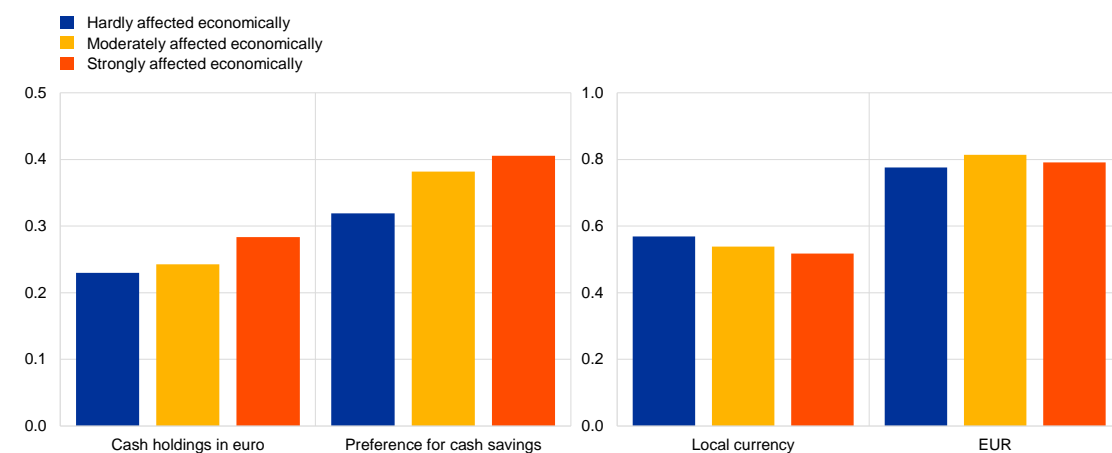
To summarise, individuals who have been strongly affected economically by the pandemic tend to have lower trust in the stability of the local currency and demonstrate an increased demand for euro cash. At the aggregate level, however, significant changes are observed only in a few countries.

## Chart B

### Economic effects of the pandemic on households and indicators of demand for euro cash

#### Prevalence and demand for euro cash (left panel) and trust in stability of currencies (right panel)

(percentages, adjusted predictions at means)



Sources: OeNB Euro Survey 2020 and author's calculations.

Notes: The chart shows marginal effects computed from probit regressions, where the dependent variables are: (i) euro cash holdings, (ii) preference for saving in cash, (iii) trust in the stability of the local currency, and (iv) the euro. Control variables are based on Stix (2013) and include socioeconomic characteristics, indicators of network effects, trust, past crisis experience and country fixed effects.

## Box 4

### New estimates of foreign demand for euro banknotes

Prepared by Alejandro Zamora-Pérez

A recent study on foreign demand for euro banknotes suggests that between 30% and 50% of the value of euro banknotes were held outside the euro area in 2019.<sup>51</sup> These estimates are obtained through a variety of methods that supplement the Eurosystem data on euro banknote net shipments abroad, which only take into account banking channels and exclude important informal flows, such as tourism and remittances.

Despite the difficulty of accounting for these unobserved channels, the new estimates are deemed robust and improve on previous estimates which showed that only around 30% of the value of banknote circulation was thought to be held abroad in 2017.<sup>52</sup>

<sup>51</sup> Lalouette, L., Zamora-Pérez, A., Rusu, C., Bartzsch, N., Politronacci, E., Delmas, M., Rua, A., Brandi, M. and Naksi, M., "Foreign demand for euro banknotes", *Occasional Paper Series*, No 253, ECB, Frankfurt am Main, 2021.

<sup>52</sup> See the article entitled "Trends and developments in the use of euro cash over the past ten years", *Economic Bulletin*, Issue 6, ECB, Frankfurt am Main, 2018.

One of the approaches used to produce the upper bound of 50% is the “seasonal method”. This compares the seasonality of euro cash issuance with that of a reference currency. In this case, the Canadian dollar, a typical benchmark currency in related studies, is used, as it exhibits certain characteristics that are similar to the euro in terms of cash usage, but lacks a strong international role.<sup>53</sup> This identification strategy relies on differences in seasonal patterns of both currencies, allowing estimates of the share of cash held abroad to be obtained. This method was used in 2017 to estimate the share of US dollars circulating outside the United States and suggested that around 70% of their total value was held abroad.<sup>54</sup> However, a direct comparison between these estimates is complicated and should thus be taken with a degree of caution.

As noted in past editions of this report, a number of factors explain foreign demand for euro banknotes, which are used for both transactional and store-of-value purposes. Among others, these include local economic conditions in countries demanding euro banknotes, trust in the local financial systems and local currency and, lastly, expectations about the future adoption of the euro.

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<sup>53</sup> Several factors lead to the selection of the Canadian dollar as a reference currency, such as a similar use of banknotes for store-of-value purposes and seasonal patterns of banknote issuance that are comparable to those observed for the euro. Other potential candidates for reference currencies (e.g. the Danish krone, the Swedish krona or the Norwegian krone) fail to meet the relevant conditions required for this approach.

<sup>54</sup> See Judson, R., “[The death of cash? Not so fast: Demand for U.S. currency at home and abroad, 1990-2016](#)”, International Cash Conference 2017 with the theme “War on cash: Is there a future for cash?”, conference volume, Deutsche Bundesbank, 2017, pp. 200-248.