REPORT FROM THE COMMISSION


The introduction of the euro in Croatia
REPORT FROM THE COMMISSION


The introduction of the euro in Croatia

Executive summary

On 1 January 2023, Croatia became the 20th EU Member State to change over to the euro. 61% of Croats perceived the changeover as smooth and efficient. 88% considered they were well informed about the single currency. A tailormade communication campaign, which was co-financed by the EU, contributed to timely, targeted, and concise information of citizens, businesses and administrations about the practical aspects of the euro changeover.

The preparations for the cash changeover went according to plan. The Croatian National Bank provided corporate customers with euro cash three months ahead of the changeover. Sufficient euro coin starter kits were provided to the public. Businesses could order euro cash from financial institutions well in advance.

The two-week dual circulation of kuna and euro cash went smoothly. On 1 January, already 70% of all ATMs were distributing euro banknotes, whilst on 15 January 2023, euro banknotes could be withdrawn at any ATM in the country. Kuna cash can still be changed at commercial banks until the end of 2023. Thereafter, kuna coins can be exchanged at the Croatian National Bank until the end of 2025, whereas the latter changes kuna banknotes without any time limit.

More than 80% of all Croatian retailers, supermarkets and groceries joined a code of ethics ahead of the changeover. The voluntary code aims to ensure stability of prices for goods and services by helping all subscribing businesses to correctly recalculate and display prices (in euro and kuna), without unjustified increases. It is an important, additional instrument for the Croatian market inspection authorities to carry out price inspections and possibly sanction wrongdoers.

The possible impact of the changeover to the euro on prices in Croatia is a natural and understandable public concern as with any changeover to the euro. As this was the first changeover to the euro to occur in a high inflation environment, this concern was particularly acute and challenging for Croatia to address. It was, therefore, pivotal for a transparent and fair changeover that the Croatian authorities took all necessary steps to prevent abusive practices.

The impact of unwarranted price increases on aggregate inflation seems to have been relatively small and broadly in line with what was observed in previous changeovers, based on a preliminary assessment of available evidence. The Report formulates amongst others recommendations for future changeovers on how to intensify price monitoring and how to roll out a code of business conduct at an early stage of changeover preparations.
1. **INTRODUCTION**

The Council decided on 12 July 2022 that Croatia fulfilled the necessary conditions for the adoption of the euro and that its derogation from participating in the single currency was to be abrogated with effect from 1 January 2023\(^1\).

Croatia has become the 20\(^{th}\) country to change over to the euro. It followed the practice of all Member States that have adopted the euro after the first changeover wave (1999–2002) and used the so-called “big-bang” changeover scenario, i.e. euro banknotes and coins acquired legal tender status on the day of euro adoption\(^2\). A two-week dual circulation period, during which both euro and Croatian kuna banknotes and coins circulated in parallel, allowed for the gradual withdrawal of kuna cash. This successful changeover demonstrates again that a short dual circulation period is sufficient if the changeover is well prepared\(^3\).

This report covers the most important aspects of the changeover process from an ex post perspective focusing on the preparations for the cash changeover, the dual circulation period, measures taken to prevent abusive price practices and address perceived inflation concerns, price trends and perceptions, and communication on the euro. Where relevant, the report also sets out the Commission's recommendations on further possible action to be taken by Croatian authorities and draws conclusions which may be of value for future changeovers.

2. **THE PRACTICAL ASPECTS OF THE CHANGEOVER**

A majority of Croatians (61\%) perceived the changeover as smooth and efficient while 88\% of the population considered they were well informed about the euro\(^4\). Against this backdrop, three practical aspects of the euro changeover shall be looked at in more detail: the preparations for the cash changeover, the period of dual circulation of kuna and euro cash and the withdrawal of kuna cash from circulation.

2.1. **Preparations for the cash changeover**

The cash changeover is the most visible element of the adoption of the single currency since all financial institutions, businesses and citizens are involved. The smoothness and efficiency of this operation depends on a proper supply of euro cash to all parties involved and on banks and businesses being well prepared for the large extra workload.

To prepare for the changeover, the Croatian Mint produced 405 million pieces of euro coins in 2022. Practical fitness tests of sample coins in vending machines used in the euro area started relatively late, but did not point to any concerns. 39.6 million pieces of coins were used to prepare citizen starter kits, which contained 33 euro coins of all Croatian euro coin denominations worth EUR 13.28. Furthermore, the Mint prepared commercial starter kits for

---

2. The first-wave Member States adopted the euro according to the ‘Madrid Scenario’, which involved a transitional period of three years (one year for Greece).
3. Lithuania, Latvia, Estonia, Slovakia and Slovenia also had a two-week dual circulation period, whereas in Malta and Cyprus it was one month.
On 1 October 2022, the Croatian National Bank started to provide financial institutions, i.e. 783 branches of commercial banks, 1,016 Croatian post offices and 169 branches of the Financial Agency (FINA), with euro cash (front-loading). Given the security risks related to the frequency and high volume of euro cash transportation (around 700 transports compared to 60 in a normal period), the Croatian National Bank organised the transportation of cash by regular means (own lorries and vehicles from cash-in-transit companies) and in addition for the coins through transportation by trucks rented from the Ministry of Defense. By 31 December 2022, euro banknotes worth EUR 1.14 billion and euro coins worth EUR 160 million had been frontloaded.

Financial institutions started to provide their corporate customers with euro banknotes and coins (‘sub-frontloading’) on 1 October 2022, whilst smaller corporate clients using simplified sub-frontloading received deliveries of euro cash in December 2022.

On 31 December 2022, financial institutions sub-frontloaded euro banknotes worth EUR 76 million to their clients. By the same date, euro coins with a value of EUR 44 million were sub-frontloaded to clients.

On 31 December 2022 the level of sub-frontloading was only 8% of the total frontloading value. This led to some queues at banks’ counters in the first days of January 2023 when many, mostly smaller, retailers and businesses started to withdraw euro cash. According to the Croatian authorities the reason for the late sub-frontloading of these retailers and businesses was likely to be the reluctance to provide collateral to the banks in the last quarter of the year 2022 to finance the purchase of euro banknotes and coins in sufficient quantities. However, apart from some longer queues in the beginning of January, no incidents were reported where businesses, retailers or the public had problems withdrawing euro cash.

The sale of starter kits for citizens was satisfactory (877,952 kits were sold by 31 December), taking into account the fact that according to a Commission survey of December 2022\(^5\), a large proportion of Croatians already possessed euro cash before the changeover: 68% held euro banknotes (35% from a trip abroad, 37% from an exchange in a bank in Croatia) and 57% held euro coins (52% from a trip abroad and 43% from a starter kit).

In contrast, the demand for retailer starter kits was more restrained. Although 150,000 kits were produced, of which 125,000 were frontloaded to financial institutions, only 37,925 kits were finally sold to retailers. There may be several reasons for this low demand according to the Croatian authorities. First, some businesses used other channels for sub-frontloading, which satisfied their needs by supplying both euro banknotes and coins at the same time. Furthermore, several smaller retailers could not purchase retailer kits due to insufficient liquidity at the end of the year, and others did not have enough space in their safes to store kuna and euros separately. In addition, the retailer kits contained only euro coins but not euro banknotes though retailers preferred to have both euro banknotes and coins in one go. Finally, many business...

---

entities prioritised electronic payments and some of them closed their shops at the beginning of January 2023 for holidays.

Like for any euro changeover, commercial banks, FINA and post offices had to handle high amounts of cash at the turn of the year due to sub-frontloading of retailers and businesses, the sale of starter kits and crediting of returned kuna cash. Commercial banks reinforced their staff during the changeover and also opened dedicated additional counters to facilitate cash operations. Thanks to to the increased number of counters, there was no need for extended opening hours. Most bank employees were not allowed to take vacation between November 2022 and January 2023. Finally, each bank conducted trainings for their employees to work with the euro and more than 6,713 bank staff completed the changeover training on the HNB’s e-learning platform for working with the euro. By 31 December 2022, all employees who work with cash from all financial institutions had acquired training certificates.

2.2. **The dual circulation period**

The two-week dual circulation period during which the euro and the Croatian kuna were circulating in parallel expired on 14 January 2023.

Most automated teller machines (ATMs) were ready and available for the withdrawal of euro banknotes on 1 January 2023. In late December 2022, ATMs were loaded with EUR 10 and 20 and sometimes also with EUR 50 banknotes, ready for withdrawal as of 1 January. 70% of all Croatian ATMs (i.e. 2,800 out of around 4,000) were issuing euro banknotes immediately on 1 January, rising to 86% coverage one week later. All ATMs have been issuing euro banknotes since 14 January 2023 and are functioning normally.

By the end of the dual circulation period, EUR 361 million had been withdrawn at ATMs. This is EUR 15 million less than the value of kuna banknotes withdrawn from ATMs during the same period in the previous year. The decrease is likely due to the promotion of electronic payment methods by retailers during the changeover period.

All point-of-sale (POS) terminals switched instantaneously to the euro on 1 January 2023. During the dual circulation period, payment cards were used in 16.8 million transactions with a total value of EUR 415.8 million. Compared to the same period in January 2022, use of electronic payments in January 2023 increased by 15.3%.

Due to careful preparations, financial institutions, post offices and FINA coped well with the extra workload during the dual circulation period. Banks provided additional banknote counters for cash services in most of their branches, and in the largest and busiest branches kuna coin deposit machines were installed.

The channels providing exchange from Croatian kuna to euro comprised 846 bank branches, 1,016 post offices and 169 FINA branches. The total value of kuna cash exchanged by 15 January 2023 was EUR 361.4 million. 72% of the value of kuna cash was exchanged at bank branches, 15% at post offices and 13% at FINA branches.

According to a Commission survey carried out between 16 and 19 January 2023 in Croatia\(^6\), 81% of those polled did not experience any problems when exchanging kuna cash or

---

\(^6\) Flash Eurobarometer 518, see footnote 4.
withdrawing euro cash at banks in the first week of January. This figure is lower than those recorded during some previous changeovers, but is nevertheless a satisfactory result.

The transition to the exclusive use of euro cash in payment transactions was fast and passed without major incidents for consumers. Already on the second day of the changeover (2 January 2023), 29% of the public were making cash payments with euro cash only. By 7 January, 62% of the citizens polled paid in euro cash only. The day before the end of the dual circulation period, this percentage reached 99%.

Overall, the retail sector also coped well with the challenges of the changeover process and the handling of two currencies at the same time. Retailers were well supplied with euro cash and no major problems with queues were reported. Already on 2 January, 81% of the citizens received change in euro only. This share increased to 99% on 13 January.

2.3. Withdrawal from circulation of Croatian kuna banknotes and coins

As a cash-intensive economy, the withdrawal of kuna cash from circulation in Croatia posed a particular challenge.

The Croatian National Bank expects 500 million pieces of kuna banknotes and 1.1 billion pieces of kuna coins in circulation to be returned in due course. Taking into account the high volume of kuna banknotes and coins in circulation in 2022, the Croatian National Bank started the gradual withdrawal of kuna cash in early 2022.

In order to incentivize commercial banks to deposit excess stocks of kuna in cash centres before 1 January 2023, the Croatian National Bank suspended cash depositing fees for commercial banks as of November 2022. Through different communication channels and the media, commercial banks and the Croatian Banking Association invited their clients to use non-cash payments where possible during the dual circulation period.

By December 2022, the value of kuna in circulation had decreased by 40% compared to January 2022.

The withdrawal of kuna banknotes and coins from circulation started on time and successfully. By 31 January 2023, 134.6 million pieces of kuna banknotes and 230 million pieces of kuna coins had already been withdrawn from circulation.

Kuna banknotes and coins can still be exchanged until 31 December 2023 at commercial banks, FINA and post offices free of charge (with a maximum of 100 banknotes and 100 coins per exchange). For the exchange of larger numbers of banknotes or coins, commercial banks can charge a fee. As of 1 January 2024, kuna banknotes and kuna coins can only be changed at the Croatian National Bank. The exchange of banknotes is free of charge and unlimited in time, but the kuna coins can be exchanged until 31 December 2025.

The Croatian National Bank will keep returned kuna coins in vaults and start demonetisation only on 1 January 2026, i.e. after the period for submission of kuna coins for exchange has ended. This means that no costly mechanical demonetisation (such as punching) of the kuna

---

7 The corresponding figures were 95% in Estonia, 90% in Slovakia, 88% in Cyprus, 85% in Malta and 96% in Slovenia.
coins will be necessary, as the coins cannot be exchanged anymore. The coins will be sold as scrap metal or for melting to interested buyers. In the meantime, demonetisation of returned kuna banknotes has started.

3. **Preventing Abusive Price Practices**

The possible impact of the changeover to the euro on prices in Croatia is a natural and understandable public concern as with any changeover to the euro. As this was the first changeover to the euro to occur in a high inflation environment, this concern was particularly acute and challenging for Croatia to address. It was, therefore, pivotal for a transparent and fair changeover that the Croatian authorities took all necessary steps to prevent abusive practices.

The obligatory dual display of prices (in kuna and euro) started on 5 September 2022 and will end on 31 December 2023. Since September 2022, the Croatian authorities have been constantly monitoring the prices of 103 pre-defined and frequently purchased consumer products and services in 9 Croatian cities.

The "Business Code of Ethics for the introduction of the euro" was launched on 16 August 2022. It sets out the principles for ethical conduct with a view to creating a safe environment for consumers during a reliable and transparent introduction of the euro. It aims to ensure stability of prices for goods and services by helping businesses to correctly recalculate and display prices, without unjustified increases. Its seven principles also include important elements of the practical preparations such as the correct conversion of prices and other monetary values, the displaying of a fixed conversion rate, and the information and training of employees on the procedure for the introduction of the euro.

The Code invites businesses to commit not to misuse the changeover for their own profit, respect the changeover rules and provide the necessary assistance to their clients. It follows the lines of the voluntary initiatives employed successfully in previous changeovers. Businesses that join the initiative acquire the right to display the Code’s visual identification label – a logo and a slogan at the points of sale, at the places of supply of services and websites, and during marketing and promotional activities such as printed leaflets and catalogues, online advertising and social media marketing, mobile applications and other media. The label signals to consumers that prices are correctly calculated and that business entities are reliable. Where the principles have not been complied with, the right to display the label will be revoked.

By the end of 2022, more than 900 companies that sell goods or services to consumers had subscribed to the Business Code of Ethics. By the end of February 2023, 1,046 businesses had joined the Code, which is equivalent to 83.5% of all retailers and large groceries registered in Croatia selling goods and services to consumers. According to the Croatian authorities, 100% of commercial banks, insurance companies and other financial institutes have subscribed to the Code. Against this background, more than 15,000 stickers marking the adherence to the Code were distributed at the points of sales of all entities (mother company, subsidiaries and branches) which have signed up for the Code.

Based on the Croatian Act on euro introduction and the Consumer Protection Act, the Croatian authorities are monitoring the compliance of businesses, retailers and service providers with the requirements for price display and conversion as well as the duty of all economic operators not to increase prices on unjustified grounds.

The inspectorates carry out inspections at their own initiative and further to complaints based on both acts. Until 28 February 2023, the market and tourism inspections of the State...
Inspectorate amounted to 12,355, out of which 20.3% revealed violations. In 11.5% of these violations, the inspectorates imposed fines for a total amount of around 538,000 EUR. Most of the fines were based on breaches of the Consumer Protection Act.

Croatians generally considered the dual display of prices to be a useful tool to facilitate price comparisons and to get used to thinking in their new currency. According to a Commission survey carried out in January 2023\(^{10}\), over three quarters of people in Croatia (78%) said they found the dual display of prices useful during the changeover. However, 60% of Croatians surveyed often or very often felt that the dual displays of prices were implemented correctly, the lowest proportion of all changeovers.

When asked about price conversions, nearly half of the respondents (44%) said they often or very often felt price conversions were correct.\(^{11}\) This result is within the range of results of the last euro changeovers (Estonia, Latvia and Lithuania).

Consumers can submit complaints through the website euro.hr. Complaints are followed up within a maximum of 48 hours after the complaint has been lodged. Concerns voiced by citizens have been mainly related to issues such as the display of prices and the application of the rounding rules. All questions and complaints are being handled diligently by the competent authorities.

However, the impact of the euro on prices and abusive price settings remains a concern for Croatian citizens.\(^{12}\) Therefore, it is recommended to continue supervising the dual display of prices, the correct conversion and rounding rules and the evolution of prices in general for a few extra months.

4. **PRICE TRENDS AND PERCEPTIONS**

According to a Commission survey conducted in January 2023\(^{13}\), the majority of Croatians (62%) think that the euro will increase inflation in their country (compared to 57% of Latvians and 58% of Lithuanians, just after their respective changeovers). A quarter of respondents (25%) believed that joining the euro area would help Croatia to maintain price stability. This number was slightly higher in Lithuania (26%), and lower in Latvia (19%).

Past euro changeovers have shown that proximity businesses and service providers are the sectors most prone to abusive price increases during the euro changeover. While their goods and services do not constitute a large proportion of the standardised consumer basket used to gauge inflation, they nonetheless tend to be purchased or consumed frequently and very often individually, which gives them high visibility. At the same time, other more favourable developments in prices of goods purchased less frequently may not be so salient with consumers. As a result, perceived inflation often exceeds actual inflation.

In the exceptional high-inflation environment of the Croatian euro changeover, it is not easy to distinguish legitimate drivers of inflation from the unwarranted price increases that constitute abusive practices, where merchants take unfair advantage of consumers’ imperfect information. In a period of high inflation, there may be justified price increases such as those linked to

---

\(^{10}\) Flash Eurobarometer 518, see footnote 4.

\(^{11}\) Flash Eurobarometer 518, see footnote 4.

\(^{12}\) Flash Eurobarometer 518, see footnote 4.

\(^{13}\) Flash Eurobarometer 518, see footnote 4.
increases in prices of raw materials or renegotiations of supplier contracts, which typically take place at year’s end.

The impact of unwarranted price increases on aggregate inflation seems to have been relatively small and broadly in line with what was observed in previous changeovers, based on a preliminary assessment of available evidence. A similar finding is observed also by Falagiarda et al. (2023)\textsuperscript{14}. The subcategories of goods and services that were in previous changeovers shown to be most affected by price increases recorded the highest monthly price increases on record\textsuperscript{15}. However, given the relatively low weight of the most affected categories and given that the other subcategories were not as affected, the overall monthly growth in the prices of services was contained at 1.2\% in January 2023. On aggregate, monthly HICP inflation in January in Croatia was contained at 0.3\%, and again at 0.3\% in February. This suggests that any impact of the unwarranted price increases was likely limited to January.

The relatively contained overall impact of the unwarranted price hikes on inflation is in part due to the swift policy response of the Croatian authorities. Indeed, inspections resulted in the correction of some inflated prices and acted as a deterrent to further unwarranted price increases.

In line with the established practice following euro adoption in other Member States, Eurostat will assess price developments after the euro changeover in Croatia. The report of Eurostat can be expected in the second half of 2023.

5. **COMMUNICATION ON THE EURO**

Following the Council Decision of 12 July 2022, the Croatian authorities launched the intensive phase of their official communication campaign, ‘The euro – our money’. The campaign was in line with the national communication strategy whose general objective was to ensure that Croatia’s population is clearly, objectively, accurately, timely and properly informed of the impact and practical changes related to the changeover from the kuna to the euro.

In the framework of a Partnership Agreement and a subsequent Grant Agreement signed between the Ministry of Finance of Croatia and the European Commission, the communication campaign was co-financed by the Commission as for previous changeovers (with the Commission financing up to 50\% of eligible costs, up to total costs corresponding to 1 euro per resident).

The communication campaign aimed to inform, reassure and engage with citizens on the changeover. It targeted various groups, with a special emphasis on vulnerable and sensitive groups such as language minorities, the elderly, citizens living in remote and sparsely populated areas, as well as blind and partially sighted people.

The campaign involved a mix of communication tools and activities, including a website (euro.hr), TV and radio spots, billboards, a toll-free phone number, promotional materials, a brochure (1.45 million copies) distributed to households in cooperation with the Croatian Post.

\textsuperscript{14} Falagiarda, M., Gartner, C., Mužić I., Puñik, A. (2023), “Has the euro changeover really caused extra inflation in Croatia?”, SUERF Policy Brief, No. 571, April 2023

\textsuperscript{15} Prices grew by 3.6\% in domestic and household services, 3.4\% in restaurants, cafés and the like, 2.9\% in hairdressing salons and 2\% in recreational and sporting services. HICP growth rates for January can be calculated as of 1999 in Croatia.
educational material for children, ‘Euro days’ events in different cities and the ‘Euro on wheels’, a travelling euro exhibition with stops in 27 cities across the country.

Most activities were performed in cooperation with external contractors, with the completion of six public procurement processes allowing the authorities to benefit from the services of specialised companies. While the limited time available between the positive convergence report and the changeover posed challenges, the cooperation with contractors was judged satisfactory by the Croatian authorities.

Considering public concerns about the possible effects of the changeover on prices, a close media monitoring was done, and inspections were undertaken by the Croatian authorities during the changeover to monitor and address abusive price practices. Such government activities, combined with the publication of actual inflation data for the changeover period on 1 February, alleviated the concerns in part, at least judging from the more limited number of press articles reporting cases of changeover related price increases.

The communication campaign contributed to a smooth changeover to the euro, as confirmed by a Eurobarometer survey showing that 88% of citizens felt well-informed on the introduction of the euro; 61% found the process to be smooth and efficient; and 81% said that they experienced no problems when exchanging kuna cash into euro or when they withdrew cash from banks in the first week. Moreover, the Croatian authorities report that according to the third wave of the national public opinion polls carried out in February 2023, around 64% of respondents support the introduction of the euro, while 30% oppose its introduction. 91% felt well-informed on the introduction of the euro, 87% indicated television as their main source of information against 36% for radio and 38% for social networks.

In addition to supporting Croatia’s national communication campaign with advice and financial resources, the Commission implemented its own communication activities in the run-up to and during the changeover, in line with what was done for previous changeovers.

6. CONCLUSIONS ON THE CROATIAN EURO CHANGEOVER AND RECOMMENDATIONS FOR FUTURE EURO CHANGEOVERS

The cash changeover in Croatia was well prepared and organised. Financial institutions, businesses and citizens were adequately supplied with euro cash in advance of the changeover.

- In future changeovers, euro coins, which are produced by the national mint, should be tested in vending machines used across the euro area as early as possible to ensure their fitness for circulation upfront and avoid potential delays in minting and frontloading of the coins.

The cash changeover in Croatia went smoothly. ATMs and point of sale-terminals were converted on time. Financial institutions, FINA and post offices coped well with the extra workload during the dual circulation period. Retailers coped well with the challenges of the changeover process and the handling of two currencies at the same time. They were well supplied with euro cash and pursuant to a Commission survey, already on 2 January 2023, 81% of the citizens polled received change in euro only.

---

16 Flash Eurobarometer 518, Croatia after euro changeover, 26 January 2023.
17 Flash Eurobarometer 517, see footnote 8.
The conditions of the Croatian changeover were particularly challenging compared to recent changeovers because the changeover took place in a high inflation environment. Croatia started the dual display of prices in September 2022 and set up a Business Code of Ethics in line with the recommendations of the Commission\textsuperscript{18} to which every retailer, business or service provider could subscribe.

The Croatian authorities should continue with intensive price inspections to ensure that the prices are correctly indicated, curb unwarranted increases and, where applicable, enforce the duties under the Act on the Introduction of the Euro, Consumer Protection Act and Business Code of Ethics.

- In future changeovers, price monitoring should be especially intense in respect of sectors most at risk, so that unwarranted price increases can be identified swiftly. This would enable to better focus inspections and policy towards offenders, while also reducing the prominence of anecdotal evidence and dispelling unfounded concerns in the public discourse.

- In future changeovers, attention should be paid to rolling out a Business Code of Ethics or the like as early as possible to reach a maximum of businesses. Smaller and micro enterprises as well as service providers should be encouraged actively to join such a scheme because by experience these businesses are the most reluctant to join. National authorities should increase the number of price inspectors during the changeover period and in the end of the year period in particular.

As dual price indication comes with a cost and citizens are relatively quickly acquainted with the single currency, the obligatory period of dual price indication could be shortened to one year rather than last until the 31 December of the year of the changeover.

- Especially where a fair euro introducer scheme such as the Business Code of Ethics is set up, reaches a maximum of businesses, and runs effectively, the dual price indication would start as usual as soon as the conversion rate is known and could end after one year.

The communication and public awareness campaign contributed to a smooth changeover to the euro in Croatia. 88% of citizens felt well informed of the introduction of the euro, 61% found the process to be smooth and efficient and 81% said that they experienced no problems when exchanging kuna cash into euros or when they withdrew cash from banks in the first week.

- Given the relatively short time between a positive convergence report and the changeover date, Member States to change over to the euro should build on Croatia’s experience in procuring their communication needs by dividing the contract in lots to cope best with possible delays and to ensure contingency.