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FRENCH ICOS - A NEW METHOD OF FINANCING?

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SUMMARY¹

Ten years after the seminal work by Satoshi Nakamoto that created Bitcoin, crypto-assets have multiplied in a spectacular fashion. At the beginning of November 2018, there were more than 2,000 different crypto-assets being traded, with more than 900 already no longer in existence². Although Nakamoto's objective was to respond to the crisis of confidence in public and private sector financial institutions by creating a new form of exchange currency without the support of a trusted third party, more recent crypto-assets are principally designed to raise funds directly with investors, with no involvement from traditional intermediaries.

Initial Coin Offerings (hereinafter "ICOs") can be defined as fundraising transactions, realised via distributed register technology and resulting in an issue of tokens. These tokens can then either be used to obtain products or services, be traded on a platform (secondary market) and/or earn an income. This new form of financing, which is in some respects similar to more traditional channels (public offer, venture capital, crowdfunding), does present some specific characteristics of its own, however; for example, it benefits from the network effects and the potential liquidity resulting from the token being traded on a secondary market. Consequently, this hybrid nature of the tokens makes them difficult to qualify from a legal perspective.

At a global level, use of this method of financing is still marginal, representing a total of 22.2 billion dollars in funds raised by the issue of tokens, mostly in 2017 and the first three quarters of 2018 (6.8 billion and 15.2 billion dollars respectively). Nevertheless, we are seeing ICOs becoming more professionalised and structured, which is resulting in a concentration of amounts and numbers of projects, with 17 ICOs collecting more than 100 million dollars each during the last two years, representing on their own 40% of the total funds raised by ICO (and only 1% of the number of successful fundraising transactions). At the same time, the nature of the projects has changed; whereas previously they were primarily reserved for the technology sectors, they now occur in a much wider range of industry sectors, reflecting the growing diversity of the operators who are seeking recourse to this type of financing.

One year after the launch of the UNICORN³ programme supporting fundraising projects in crypto-assets in France, the AMF launched a survey among French ICO project initiators, i.e. those whose legal structure is based in France, in order to gain a better understanding of the business models used by these issuers encountered in the framework of the programme. The analysis of this original database highlights the principal characteristics of the completed fundraising transactions and attempts to ascertain future trends in ICOs.

Although the amounts raised are still low at this stage (89 million euros for 15 issuers), ICOs represented 4% of financing in equities over the first three quarters of 2018. Moreover, although this first wave of French issuers was more concentrated in the technology sectors and sought to raise relatively low amounts (between 200,000 and 20 million euros), future projects will be more diversified in other sectors and aim to raise between 1 and 180 million. Unlike the completed ICOs, these projects have, moreover, previously raised funds by other means, which tends to indicate that ICOs are not only used by companies that do not have access to traditional methods of financing. Among the reasons for opting to raise funds via an ICO is the desire to develop an engaged community on their platform and to benefit from the advantages offered by blockchain technology. However, the second reason given is the fact that there is no dilution of capital. Overall, among all the completed or future ICO projects, 89% presented utility tokens characteristics.

Finally, in order to contribute to studies on the future of this new method of financing, this analysis also presents the principal results arising from recent economic literature on the success factors of ICOs, which focus primarily on the transparency of the transaction and the quality of the signals sent to investors. These factors are also identified by French operators as good practices to be followed.

In order to protect consumers, who may be exposed to the risks of fraud, asymmetry of information or volatility of their investments, international regulators are looking at the qualification of this hybrid method of financing and the best way to prevent abuse with regulation. France has chosen to propose optional regulation of these fundraising projects, in order to allow the identification of trustworthy, non-fraudulent projects in France, and to ensure the appropriate balance between the protection of investors and support for innovation. Nevertheless, given the cross-border nature of these projects and this type of investment, international cooperation in the area of regulation and detection of fraud is essential.

¹ Special thanks to Adam Stolcz and the other members of the FinTech, Innovation and Competitiveness Division for their advice and support during the development and analysis of the questionnaire.

² Source: CoinMarketCap and DeadCoins.

³ *Universal Node to ICOs Research & Network*.

1. SPECIFIC FEATURES OF ICOS AS A NEW METHOD OF FINANCING

ICOs are derivatives of the blockchain technology, development of which began in 2009 with the network that created the Bitcoin. ICOs may represent a useful alternative source of financing for new or innovation companies, which could experience difficulty in mobilising capital via traditional financing means, due to them being in an early stage of development or considered as too risky and/or too small. Ernst & Young (2017) observed that, from a sample of 110 ICOs, 84% of the projects were still in the idea stage, 11% were in the prototype phase, and only 5% of projects were associated with a company having an ongoing business. Moreover, 32% of the projects had not defined a delivery date. Consequently, the success of products and services financed by ICOs is difficult to assess at this stage, because most of them are still in the prototype phase. By putting project initiators seeking financing in direct contact with potential investors, ICOs may enable them to raise the capital they need far more quickly and at a lower cost.

Box: Contributions of blockchain technology and links with ICOs

Distributed register technologies such as blockchain eliminate the need for a trusted third party intermediary in transactions, while at the same time ensuring they are secure. It can be defined as a transparent technology for the storage and distribution of information, secured using a consensus mechanism of resolution between participants in the network making up the blockchain, combined with cryptographic mathematical processes. By extension, a blockchain enables the building of a database in the form of a “book of accounts” or “register”, which is distributed between all the addresses on the network, meaning that all transactions realised are fully and transparently traceable. There are public blockchains, open to all, and private blockchains, which can only be accessed and used by a limited number of operators. The decentralised and distributed nature of a register offers significant benefits as well as disadvantages:

- **resistance to attack and manipulation:** because it is expensive to attack a majority of nodes in a network. Some operators, however, consider that the large-scale development of a blockchain such as Bitcoin is made impossible by the increased profitability of an attack (Budish 2018);
- **resistance to technical/operational issues and collusion:** as the information is stored in many places at the same time, and the integrity of the system is not guaranteed by a single guardian, a technical problem or loss of confidence in a participant does not cause any damage;
- **redundancy of transactions and slow speed:** the most productive blockchains in terms of numbers of transactions can realise up to several thousand transactions per second, far from being an effective means of managing payments or transactions⁴. For the moment, this represents a stumbling block for the growth of blockchain technology;
- **consequently, high energy footprint:** the terrible energy efficiency of the Bitcoin blockchain, and to a lesser extent that of Ethereum⁵, constitutes a dead loss in the economic sense, i.e. the price of transactions is sub-optimal, as well as being harmful to the environment.

Thus, although the blockchain technology has the capacity to provide innovative solutions in many areas, particularly in finance (Lee 2018), the scale of its impact is the subject of heated debate because of questions around its ability to overcome its associated challenges. This is why current developments are aiming to increase the number of transactions on decentralised networks, look at other methods of consensus that potentially consume less energy, or return to a degree of centralisation with the development of “authorised” networks⁶. The fact that blockchain is currently in vogue means that many companies want to use this technology, even though there are still very few actual use cases for the technology

⁴ The Bitcoin blockchain is estimated to be able to realise a maximum of between 3.3 and 7 transactions per second, Ethereum between 5 and 15, and Ripple 1,500, while VISA manages 24,000 payment transactions and Depository Trust & Clearing Corporation (DTCC) handled 1.6 million trillion transactions in 2017, with peaks that can be up to 25,000 clearing or settlement/delivery transactions per second.

⁵ The Bitcoin and Ethereum blockchains are estimated to use 73 TWh and 19 TWh per year respectively; these figures are comparable to the annual electricity consumption of Austria (72.2 TWh in 2016) and Iceland (18.1 TWh in 2016). Mainland France consumed 478 TWh in 2016. Each transaction requires 829 kWh and 94 kWh respectively; in comparison, the annual average consumption of electricity per inhabitant is 3,110 kWh globally. Source: digiconomist; country data “Key energy statistics 2018”, International Energy Agency.

⁶ For example, the EOS blockchain developed by Block.one aims to drastically increase the number of transactions per second, and the founder of Ethereum is also working towards this end. The idea would be to replace the PoW (proof of work) system that is currently employed, in which each contributor to the network has to carry out time-consuming and power-hungry calculations to enable the consensus and the securitisation of the register. EOS would implement a delegated proof of stake (DPos) - a transaction validation process that would only be realised by certain nodes of the network - whereas Ethereum would favour the development of data fragmentation between the nodes of the network or the constitution of a “second layer” of ancillary platforms and protocols that would realise the calculations outside the blockchain.

outside logistics and finance.

In effect, in the absence of a possible rent from the blockchain technology, since it is primarily open-source, this innovation allows imitation. Many companies are thus choosing to use blockchain to replace existing technology, i.e. registers or databases that are centralised or secured by a trusted intermediary or third party. In the short term, blockchain is not necessarily suitable for or adapted to all industries, due to the disadvantages outlined above. Nevertheless, in the medium term, we could find ourselves in the situation put forward by Aghion *et al.* (2001), with an increase in competition among industries arising from the availability of this technology (imitable), which would itself be favourable to innovation and growth. This is also how we can understand the most libertarian critics of the current evolution of blockchain, who want to see more radical innovations that go beyond simple private registers (May 2018).

Even so, ICOs represent a successful use case for blockchain technology on a large scale. The creation of smart contracts by the Ethereum blockchain has made it possible, and easy, to create, transfer and manage other crypto-assets, without an intermediary. Smart contracts are IT programmes that automatically execute conditions defined in advance in the blockchain, such as contractual clauses, for example, that are registered and can be viewed publicly. In the case of ICOs, they can provide specific guarantees, e.g. a guarantee that the funds will be returned to the investor if the ICO does not achieve its minimum subscription objective. Many innovative project initiators have picked up on this opportunity: indeed, 83% of ICO tokens are developed on the Ethereum blockchain, and only 7% of projects use their own public blockchain⁷. However, this keen interest leads to overloading on the network, which can cause significant technical problems for ICO issuers, and even prevent investors from investing in some of them⁸. Moreover, the explosion in the number of ICOs since 2017 has led to an increase in the price of ether, thus driving up the price of an issue of tokens.

In addition to being issued over blockchain, many ICOs aim to develop products and services that use blockchain, via many and varied projects ranging from the management of electricity contracts (Wepower) to online purchasing (Eligma) or secure data storage (Zeepin).

1.1. COMPARISON OF ICOS WITH OTHER FORMS OF FINANCING

Initiators of an ICO project guarantee that a limited number of tokens will be issued: this “shortage” encourages investors to buy the tokens while their value is still low, and to remain committed to the project. These investors will effectively be the beneficiaries if the project should succeed, by using the tokens to purchase the promised service or in the hope of selling the tokens on a secondary market at a higher value than their cost of acquisition.

In this regard, ICO financing shares some features with stock market listings on a regulated market (initial public offerings or IPOs), crowdfunding, or venture capital, but at the same time there are some specific differences compared with these traditional methods of financing (Lipusch 2018).

In the same way as crowdfunding, an ICO can raise funds from future users or consumers of the product or service; this form of pre-selling also enables the provider to gain an appreciation of the demand for the product or service in advance (Catalini and Gans 2018). However, Demertzis and Wolff (2018) highlight the fact that if more and more companies create crypto-assets that are specific to their services, the transaction costs paid by the consumer could be very significant⁹.

In the same way as venture capital, investors in tokens buy an option on a low probability of growth of the company. However, issuers do not benefit from industry expertise by investors, which would be likely to reduce the risks inherent in the financing process (Lipusch 2018).

In the same way as a public offering, an ICO can raise large sums and can be used to estimate the market value of the issuer. It can also serve as a marketing tool to promote the visibility of the proposed project (Demers and Lewellen 2003). In both of these types of financing, it can be seen that the price offered at the time of the issue is largely undervalued (Benedetti and Kostovetsky 2018). Another important factor for project initiators is the fact that an ICO does not dilute equity capital. In fact, unlike an IPO or other means of financing, the tokens are not

⁷ Source: ICOwatchlist as at 31 October 2018.

⁸ The ICO by the company Status, for example, led to significant congestion on the network, meaning that some investors were unable to invest in the issue of tokens.

⁹ If the consumer buys a token that provides them with access to a portal for specific services, e.g. online video games, and their preferences then change over time, they will have to bear the exchange cost and transaction cost of changing the service platform or reselling their tokens.

equity securities in the company, grant no rights to participate in the governance of the company, and offer no fixed compensation or payment of dividends.

There are some benefits specific to ICOs. The first is linked to the network system on which the ICO projects are based. Firstly, unlike other means of financing, an ICO is realised with no sale platform or third-party intermediary (banks, auditors, payment circuits, etc.), which means that the cost¹⁰ of the fundraising transaction is lower and allows investors and contributors to the network to be directly recompensed, thus financing the development of new decentralised networks. The model put forward by Li and Mann (2018) also shows that an ICO can aggregate dispersed information and thus resolve the coordination required to assess the value of a project. Moreover, they propose that an ICO makes sense if the project benefits from network externalities, i.e. if the surplus resulting from an additional user benefits the rest of the network, which is the case for most ICO projects.

The second specific benefit of an ICO is linked to the liquidity of the token. Unlike venture capital or crowdfunding, where the instruments are illiquid, the tokens can be traded on a secondary market in the majority of cases¹¹. Nevertheless, this liquidity is not guaranteed; only some of the tokens are traded on a trading platform, and even if the token is listed, the holder might not be able to find a counterparty. Analysing 1,009 tokens since 2015, Amsden and Schweizer (2018) observe that 42% of tokens are listed on a secondary market after their ICO. This contribution of liquidity, while the project is still in the development stage, leads to significant volatility in the prices of the tokens, as these prices are determined by the supply and demand based on limited information, which represents as much of a risk factor for holders of the tokens as for the project initiators (Kaal and Dell'Erba 2018). The aspects relating to secondary markets of tokens are not addressed in this paper.

1.2. TAXONOMY OF THE DIFFERENT TYPES OF TOKEN

Most of the economic analyses classify the tokens in three major functional categories (Howell et al. 2018):

- crypto-assets as an exchange currency and unit of value (coins), such as bitcoin or the new wave of stable coins, which seek to maintain a fixed parity with a traditional currency¹²;
- crypto-assets resembling financial instruments (security tokens), which are a type of investment in the company, in the form of rights to participate in the company governance or profit-sharing schemes;
- crypto-assets having a utilitarian function (utility tokens), which give the holder the right to access future products and services offered by the issuer.

However, these analyses sometimes break down even further¹³ and consequently it is difficult to establish clear boundaries between these three categories, as some tokens have hybrid characteristics or fall within more than one category. A case-by-case analysis is therefore essential in order to determine the type and function of each crypto-asset. Nevertheless, we can see that most of the tokens currently in issue are more like utility tokens, even though there seems to be a growing interest in security tokens.

¹⁰ The cost of an IPO represents between 4% and 7% of the amounts raised, to which is added an estimated annual amount of between 1 and 2 million dollars (PwC (2017), "Insight into the costs of going public and being public"); that of crowdfunding, between 8% and 18% of the amounts raised, depending on the websites of the main platforms.

¹¹ The trading platforms for crypto-assets take the form of websites where investors can buy and sell crypto-assets in return for other crypto-assets or for traditional currencies. The type of service provided and the processes vary depending on the platform in question, as do the methods of payment accepted. The exchange rate is determined by matching the buy orders against the sell orders on each platform. This creates price differences, which are sometimes very significant, between the different platforms, and thus provides opportunities for arbitrage. Currently, there are more than 400 platforms identified at an international level, with the largest in terms of trade volumes domiciled in Asia and the United States.

¹² However, this ambition requires a degree of confidence in the issuer's ability to provide liquidity to maintain this fixed parity, which is what caused the recent difficulties encountered by Tether. More generally, this situation can be compared to that of a central bank whose exchange rate is pegged to another currency. This situation, well-known to economists, exposes the central bank to speculative attacks (Eichengreen et al. 1994).

¹³ For example, some economists classify security tokens according to the rights associated with them (equity tokens, tokenised securities, asset tokens) and utility tokens according to their reward (reward tokens, reputation tokens, app tokens, etc.).

In legal terms, authors are divided on the question of qualification of crypto-assets. Although some consider that they could constitute a new asset class (Sorelanski 2018) and that it is not necessarily relevant to “force the legal categories” in order to apply existing regulations (Bonneau 2018), others maintain that the tokens have certain features that place them in the category of transferable securities (under European law) or securities (under US law)¹⁴ (Hacker and Thomale 2017).

With regard to these debates, it is worth remembering that under French law¹⁵, financial instruments include only financial contracts and financial securities, to which belong equity securities issued by joint-stock companies, debt securities, and units or shares in collective investment schemes. The definition of financial securities is thus strictly limited to these three categories. It is, *a priori*, much more limited than the definition of *securities* used in the United States. In particular, the sole fact that a token is listed on an organised market does not in any way imply that this token is similar to a financial security, under French law.

1.3. LIFE CYCLE OF ICOS

Recent ICOs tend to be structured and standardised, and most often take place over three or four stages:

- **A pre-ICO seed round**, by ‘traditional’ private equity means, from funds or individuals (love money)¹⁶ (in the area of €1m to €5m). These funds enable the launch of investments required for the ICO (marketing, community animation, legal advice, etc.). The financing may be realised in the form of forward contracts on the tokens, allowing the investor to obtain a discount on the price of the token when it is issued (80% to 90% discount), in the form of shares in the company or loans.
- **Private and/or institutional sale**: not all issuers take this step, which calls on qualified or institutional investors to contribute relatively large sums to the fundraising. In the same way, discounts are offered on these tokens. The discounts granted during the pre-ICO sales of tokens may be linked to the low prices paid by the initial private equity investors, in return for increased risk taking and signalling the quality of the project to the rest of the market (Hellmann and Puri 2002).
- **Public sale**, which can take place in two (or more) stages: a pre-sale with discounts of 10% to 40% depending on the issuer, and then the public sale itself. If the pre-sale phase attracts a large number of investors, this success may serve as a marketing strategy for the public sale.

Moreover, most ICOs distribute a limited number of tokens free of charge or at a low price to external contributors who are involved in the IT development of the project (bounty) or who raise awareness of it among the general public (airdrop). The project initiators also set a floor amount, below which the issuing company commits to reimburse the amount paid by the buyer (soft cap) as well as the maximum threshold for the fundraising (hard cap). However, if there are too many investment rounds, or if the discounts granted to the first investors are too large, informed investors may profit from the guarantee of a return that is decorrelated from the success of the project: the initial investors are guaranteed to multiply their investment, and all investors coming in later in the chain have a greater likelihood of losing money.

We must emphasise that in the majority of cases, not all the tokens issued by the issuer are distributed during the different sale phases. The issuer may define a total number of tokens in issue (e.g. 1 million), distribute some of them during the private sale, pre-sale and sale phases (e.g. 500,000) and hold on to the rest of the tokens to cover its future costs, pay its employees’ wages, develop the project further, or set aside. Nevertheless, this system of reserving tokens leads to risks that it is advisable to monitor by means of prevention mechanisms: (i) transparency on the number of tokens issued during the sale, and on the possibility to issue more tokens in the future (which could bring down the price of the tokens already issued); (ii) protection of the issued tokens reserved; and (iii) good management of the gradual bringing to market of these tokens by the issuer, in order to

¹⁴ One of the issues is knowing whether a token can be considered as a negotiable security insofar as it is likely to be admitted for trading on a crypto-assets trading platform (Maume and Fromberger 2018).

¹⁵ See AMF (2018), “Summary of replies to the public consultation on Initial Coin Offerings (ICOs) and update on the UNICORN Programme”.

¹⁶ The term *love money* is used for loans or fundraising in shares obtained from friends or family of the project initiator, generally in the launch phase, when the project does not yet have access to private equity funds or bank loans.

avoid sudden price movements. The issuer must also ensure that the flow of tokens is properly managed, i.e. the changes in supply and demand resulting from the commercial benefits offered by the token, such as access to a service (Sehra et al. 2018).

All information on the ICO is contained in a document known as the white paper; the structure of this document has changed considerably over time, from an IT research paper to a more accessible and informational document. Although the quality of these white papers varies enormously, most of them contain a description of the project, information on how the token can be used, the benefits for the holder, and details of the blockchain architecture and the smart contract. Some contain a broad outline of the budget, or information about the team developing the project and the market opportunity. Nevertheless, some white papers fail to explain why the project is using blockchain technology, or give a clear timeline for the stages of the project, or explain the role of the company originating the ICO in the animation of the network once the financing is completed. Analysing the white papers of more than 1,000 ICOs, Zetzsche et al. (2018) observed that in 31% of cases, the white papers provide no information on the project initiators, and in 25% of cases they do not give any details of the budget planning for the project (how the capital raised will be used and at which stages, etc.). The consumer appears to have little opportunity to take action against possible fraudulent projects, given that only 33% of the white papers contain information on the applicable legislation and only 45% have basic information such as the address of the issuer.

So how can we explain the growing interest in ICOs among investors? According to Momtaz (2018), the main reason for this is the possible return on investment. There is a huge incentive for projects to compensate investors in the short term by underestimating the sale price of their tokens, in order to generate liquidity on the secondary market and demonstrate the project's potential for growth. Moreover, Benedetti and Kostovetsky (2018) note that out of a very large sample of ICOs, the average return on investment for an investor is 179% estimated return for successful ICOs where the tokens are traded on a secondary market at the open price. Even taking into account the negative returns on delisted tokens or those where the ICO failed, the average return for an investor is 90%¹⁷. These figures, however, need to be qualified with the following elements: on the one hand, these returns are calculated on the basis of the opening price of the tokens, which are not representative of the price evolution of tokens over time; moreover, these returns are the counterparty for a high risk. Furthermore, in the absence of a regulatory framework in the majority of countries, the protection of investors is not guaranteed.

2. AT A GLOBAL LEVEL, ICO FINANCING IS STILL MARGINAL

ICO funding method is a recent phenomenon: less than ten projects raised funds in this way in 2014 and 2015, and it was not really until the second half of 2017 that we saw larger transactions beginning to appear. In total, according to our calculations, amounts raised by ICOs represent 22.2 billion dollars, with most of this being raised in 2017 and 2018 (6.8 billion and 15.2 billion dollars respectively)¹⁸. The number of projects totals 2,118, of which 129 failed. However, we must remain prudent with regard to the figures for projects that failed, i.e. did not succeed in raising enough funds to exceed their soft cap, as this figure was not always available or clear. A degree of concentration could also be seen, since the number of projects increased significantly in 2017, with more than 520 projects succeeding in the fourth quarter of 2017, but then decreased. At the same time, the average amounts raised per project have increased since 2015, from 1.1 million dollars in 2015 to 8.2 million in 2017, and to 14.4 million dollars on average for the first three quarters of 2018.

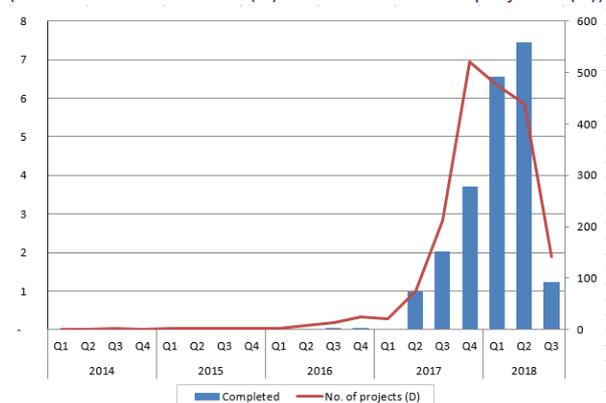
Compared with 2017, the first three quarters of 2018 show an annual growth of 28% in the number of projects and 125% in amounts raised; these figures are boosted by flagship projects. In fact, 2018 was marked by a

¹⁷ This analysis is not representative of an investment in tokens; the results are taken from a sample of 1,619 ICOs taking place between 2016 and April 2018, of which 416 were successful and listed, and 887 were successful but not listed on a trading platform. The authors therefore attribute a loss of 100% for investments in ICOs that are not listed after 60 days and in ICOs that did not succeed. These returns in dollars are calculated for an investment that is weighted by the funds raised by the ICO, and that would consist in investing in all these ICOs, waiting for them to be listed, and selling the tokens at the open price.

¹⁸ Note that this analysis uses data on global ICOs from sources in the public domain, for which the information reported varies, sometimes considerably, due to the lack of regulation concerning the transparency of information on these fundraising transactions. The analysis of the projects may therefore suffer from survivor's bias, as information concerning failed ICOs is naturally less readily available. Moreover, most of the ICOs raised some or all of their funds in crypto-assets, and so the amounts raised may be volatile.

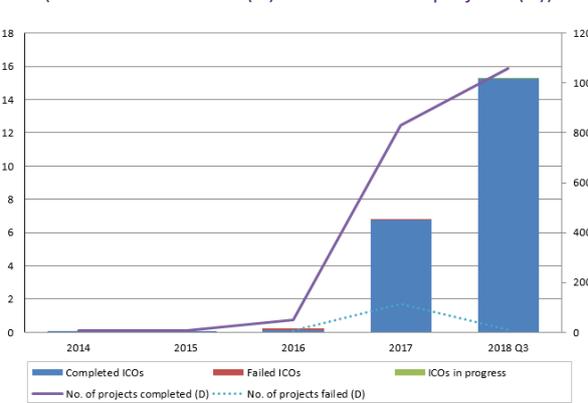
number of ICOs that were particularly impressive, either because of the rapidity of the fundraising or because of the amounts raised: Block.one, a company based in the Cayman Islands, raised 4.2 billion dollars for EOS, a new-generation blockchain. Earlier this year, Telegram, an instant messaging application that is popular among investors in crypto-assets, finally decided not to go ahead with an ICO to the public, having already raised 1.7 billion dollars via private sale over two months. TaTaTu, also based in the Cayman Islands, raised 575 million dollars in 20 days for an on-demand video platform. In total, 17 ICOs raised more than 100 million dollars (10 in 2018 and 7 in 2017). These amounts alone represent 40% of the total funds raised by ICOs. Nevertheless, with no flagship project boosting the amounts raised in the third quarter of 2018, we witnessed a slowdown, both in amounts raised as well as in the number of projects (-40% and -67% respectively in annual growth).

Figure 1: Amounts raised by ICO
(in billions of dollars (G) and number of projects (D))



Source: AMF¹⁹

Figure 2: Amounts raised by ICO including ICOs that failed
(in billions of dollars (G) and number of projects (D))



Source: AMF²⁰

With regard to the geographical distribution of the fundraising transactions, we can see that the information available is relatively fragmented, with some websites referring to the location of the project initiators or to that of the legal entity, where this exists and is available. The majority agree on the fact that the market is localised, with 10 countries representing 59% of fundraising transactions globally²¹. The dominance of the United States is very clear (14% of projects, 7.3 billion dollars raised), as is that of Russia (7% of projects, 2.3 billion dollars) and to a lesser extent Singapore (10% of projects, 1.9 billion dollars). In Europe, Switzerland and the United Kingdom are the preferred countries for ICOs (5% and 9% of projects respectively, and 1.7 billion and 1.1 billion dollars raised), along with Estonia (5% of projects, 594 million dollars raised). The location of the ICO also relates partly to the legal environment of the country, since we can see that there is an over-representation of small countries where the regulation, or the lack of it, is favourable to ICOs²².

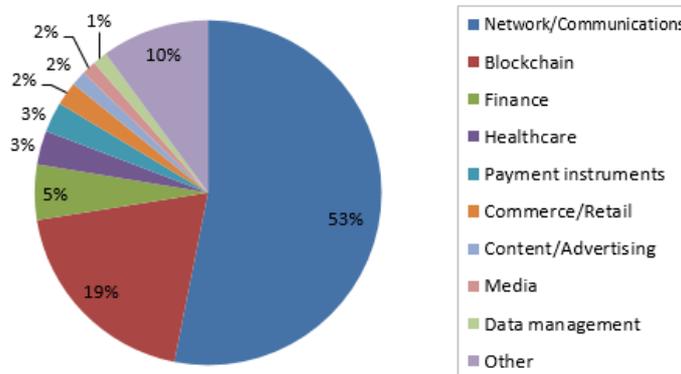
¹⁹ The data are sourced from ICOdata and Coindesk as at end-October 2018, as well as from issuers' websites or those of other valuers, for verification of some amounts. The Petro ICO was removed due to the lack of reliable data on the amounts raised. Although the majority of errors or duplicated data were verified, it is possible that some remain.

²⁰ Ibid. The amounts raised by the ICOs are made up of the amounts collected before reaching the soft cap, and consequently are sums returned to investors in principle.

²¹ Data from ICObench as at end-October 2018, corroborated by data from ICOwatchlist.

²² As well as Switzerland, the Cayman Islands (\$941 million) and the British Virgin Islands (\$622 million) are among the top ten countries in terms of amounts raised by ICO.

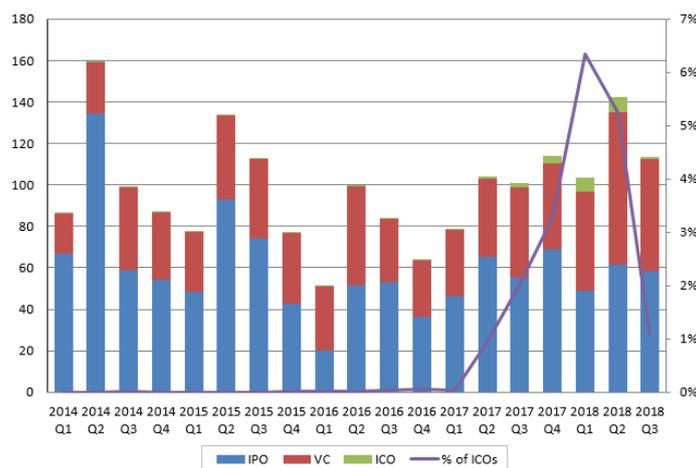
Figure 3: Industry sectors of projects raising funds by ICO globally (in % of amounts raised)



Source: ICOwatchlist, ICOs from 2016 to end-October 2018²³

In terms of industries, most of the funds raised by ICO are intended to develop projects linked to networks (53% of amounts, 2% of projects) or blockchain platforms (19% of amounts, 6% of projects). Many projects fall within the domain of finance (5% of amounts, 12% of projects), payment instruments (3% of amounts, 7% of projects), or market predictions (1% of amounts, 4% of projects), underlining the technological developments that are possible in this sector. ICO projects can be seen in more and more different sectors as the industry matures: although initially they related mainly to data management, trading or new blockchain protocols, since the end of 2017 we have witnessed the appearance of projects that aspire to a wider application of the blockchain technology, in the healthcare, energy, and retail sectors, as well as in the use of smart contracts to replace certain business processes (transactions and payment instruments or legal agreements, for example) (Howell et al. 2018).

Figure 4: Amounts raised by ICO compared with equity financing, globally (in billions of dollars)



Source: Bloomberg, Eikon, AMF.

²³ However, we can see that the total amounts analysed by ICOwatchlist only represent half of the total amounts raised by ICO.

With their recent growth, ICOs represented up to 6.3% of the total amount raised by equity financing at a global level (IPOs and venture capital) in the first quarter of 2018, in all sectors, vs. 1.6% on average in 2017 over the four quarters (Figure 4).

3. PRINCIPAL CHARACTERISTICS OF FRENCH ICOS

On 26 October 2017, the Autorité des Marchés Financiers (AMF) initiated the UNICORN²⁴ programme for fundraising in crypto-assets, which included a public consultation and a support programme for ICOs, and was intended to provide, after one year, an economic analysis of the method of financing represented by ICOs. This analysis is the subject of this document.

3.1. STILL-MODEST AMOUNTS

The assistance programme has seen particularly intensive activity since its launch. As at 14 November 2018, i.e. after nearly one year, the AMF has received a total of 79 initiators of ICOs (entrepreneurs - sometimes with their advisors) or planned ICOs, reporting in person to the AMF on a voluntary basis²⁵. This has enabled the AMF to increase its legal and economic expertise in the transactions realised. Four additional French ICOs have also been identified.

In total, the AMF knows of 83 ICOs or planned ICOs, of which 15 are completed, three are in progress, and 65 are still in the project phase²⁶, according to the information available. The project initiators are not in fact under obligation to report to the AMF, such that the AMF is not always informed of the status of their projects. In the event of doubt, the known projects were considered as being in the project phase, so that the number of ICOs recorded as already completed or in progress might be slightly less. The project initiators expressed their intention to realise their ICOs and their activities in France in 74 cases out of 83, based on a legal structure established in France. In this regard, it is worth remembering that ICOs domiciled abroad are also of interest to the AMF insofar as they can be open to French investors via the Internet.

Under these ICOs or planned ICOs, conditional upon more in-depth legal analysis (particularly with regard to future projects that could develop), the rights conferred by the tokens sold are as follows:

- for 74 of them, the tokens grant usage rights or payment rights, typically for services provided by one or more companies (features of a utility token);
- for 4 of them, the tokens do not grant any specific rights but can be used as a means of trade on their proposed network, in the same way as Bitcoins (features of coins). In these 4 cases, the ICOs finance the implementation of an autonomous blockchain.
- for only 4 planned transactions, the tokens grant financial rights that make them similar to financial instruments: in 2 cases, they are similar to equity securities (with dividend rights), in 1 case to a debt instrument (with coupon rights), and in the final case, to a commodity derivative (with the right to acquire a quantity of the commodity at a price agreed in advance). These transactions are still in the project phase (features of a security token).
- for 1 planned transaction, the token could be similar to a miscellaneous asset (matched with a promise of return on sale).

Thus, 5 of the projects have the characteristics of security tokens (6% of French ICOs or planned ICOs). In this case, the account units sold will not officially be “tokens”, as will be defined by the French system of optional approval for offers of tokens and services linked to crypto-assets (see part 5), given that this definition explicitly excludes securities and miscellaneous asset, whose principles of regulation are, moreover, already defined.

²⁴ *Universal Node to ICOs Research & Network.*

²⁵ The initiators of four additional projects reported to the AMF by mail (bringing the number of initiators reporting to the AMF to 83) but did not come to present their projects, for various reasons. These projects are not taken into consideration after this paragraph.

²⁶ For some projects, a private sale of tokens has been completed or is in progress, ahead of the public sale of tokens, which will be realised later.

15 ICOs are identified where the issuer is established in France and where the fundraising was completed at the end of October 2018. In total, since November 2016, issuers have been able to raise 89 million euros by means of this new method of financing. The average amount of these fundraising transactions completed in France is in the order of 5.9 million euros. The amounts raised are very different, however: the smallest ICO raised in the region of 200,000 euros, and the largest more than 20 million euros (the median was 2.1 million euros). As regards the planned ICOs, their objectives also vary between one and several tens of millions of euros.

After the issue, when the tokens are traded on a crypto-assets trading platform, their price is established according to supply and demand. The information on the price of the token is available at this stage for eight transactions: the total capital stock on the secondary markets for these ICOs amounts to 126 million euros, which represents almost double the total amount raised initially by these eight transactions (67 million euros).

In comparison with other methods of financing used by French companies, these amounts still seem marginal; amounts raised by venture capital (2.1 billion euros in 2017, 1 billion in the third quarter of 2018) or gross share issues (2 billion euros in 2017, 0.3 billion in the third quarter of 2018) are far larger. The amounts raised by ICO are also less than those raised by French crowdfunding, which raised 336 million euros in 2017 (634 in 2016) and 209 million euros in the first half of 2018²⁷.

Nevertheless, in the first and second quarter of 2018, ICOs represented 4% and 5% respectively of the total amount raised by French companies in equity financing, with 36 and 31 million euros raised. In total, two projects raised 1 million euros in 2016, three projects raised 16.4 million euros in 2017, and 10 projects raised 71.7 million euros in the first three quarters of 2018. There does seem to be a place for this method of financing, therefore.

Figure 5: Amounts raised by ICO compared with equity financing in France (in millions of euros and in % of amounts raised)



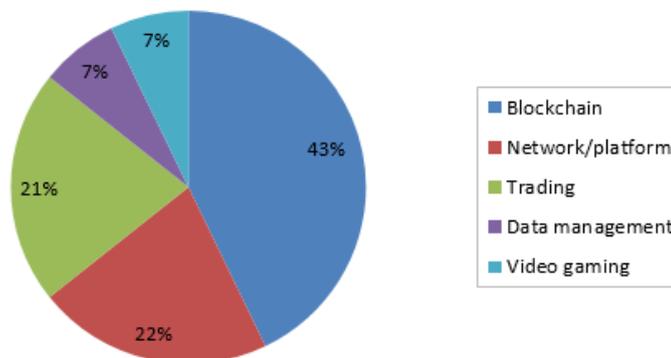
Source: Euronext²⁸, Eikon, AMF.

Among the 15 French ICOs, we can see a significant number of technology projects, since the majority use IT developments at the heart of their models: projects linked to blockchain are most common (45% of funds raised, 43% of projects), but there are also projects linked to trading (21% of funds raised and projects) or networks and platforms (21% of projects and 9% of funds raised). Projects linked to finance and data management also represent 12% of funds raised. The ICOs that raised the largest amounts were projects linked to blockchain, trading and finance.

²⁷ Source: KPMG, barometer of *crowdfunding* in France.

²⁸ Amounts of new listings on Euronext by French issuers, on the Euronext, Euronext Growth and Euronext Access markets.

Figure 6: Sector breakdown of the 14 completed French ICOs (in % of the number of projects)

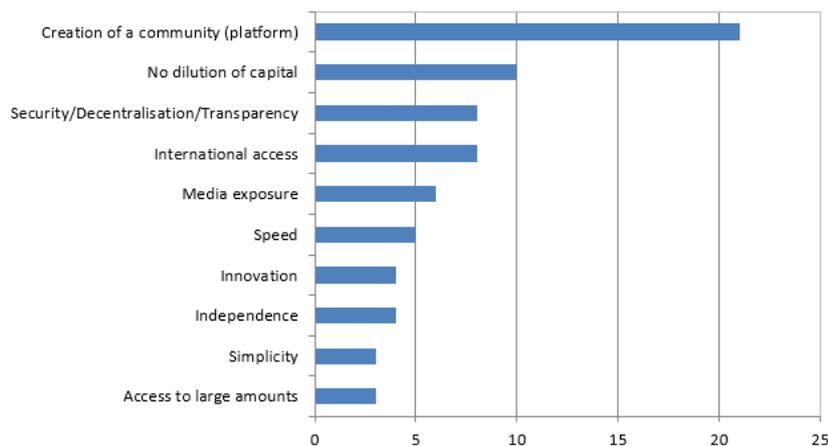


Source: AMF

In order to gain a better understanding of the business models used by the French ICO issuers, the AMF launched a survey among 74 French project initiators whose ICOs have already taken place or are planned in the near future. The response rate was 48%. This short questionnaire aims to gather data on the terms and conditions of the ICO, on a voluntary and declarative basis. The main results are presented below.

First of all, French issuers, whether their ICOs are completed or not, selected this method of financing primarily because of its association with their project: 58% were seeking to develop a community on their platform, and the ICO allowed them to create an initial community of engaged investors. The second reason given is that there is no dilution of capital (28%); also, 11% are attracted by the level of independence vis-à-vis other stakeholders or intermediaries.

Figure 7: Reasons given by project initiators for launching an ICO (in number of projects)



Source: AMF.

Reading: more than 20 projects indicated that the creation of a community was one of the biggest driving forces behind their choice of this method of financing. The question asked being opened, the responses were free and some respondents indicated multiple reasons.

22% mentioned blockchain as a relevant reason for developing their ICO, as it offers the project initiator secure and transparent remuneration; also, 11% thought that the innovative nature of this method of financing is

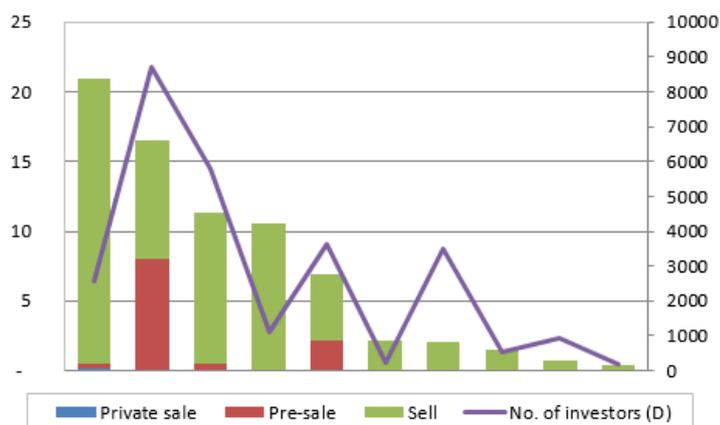
consistent with that of their project. Finally, many respondents are attracted by the ease of launching an ICO and its significant impact: 22% indicated access to international investors, 17% the media exposure, and 8% the simplicity and rapidity of launching an ICO as their motivation. Finally, 8% highlighted the fact that ICOs allow them to raise large amounts.

3.2. ANALYSIS OF THE FIRST WAVE OF FRENCH ICOS

Among the 15 French projects that have completed their ICO, 10 responded to the questionnaire (62%), representing 79% of the funds raised. These 10 companies are mostly constituted as simplified joint-stock companies (SAS) with relatively young structures (1.6 years on average). For these issuers, the ICO seems in most cases to be their first fundraising transaction: only two businesses had already raised funds before their ICO, for relatively small amounts.

With regard to the sequence of sale phases, four out of the 10 realised a private sale ahead of the ICO, for relatively small amounts, representing between 1% and 13% of the total sum raised (figure 8). Four realised a pre-sale of their token, for amounts representing between 2% and 48% of the total amount raised. The public sale phase itself lasted 33 days on average, ranging between 14 days to 61 depending on the ICO. In total, these ICOs raised between around 200,000 and 20.6 million euros (with a median of 2.1 million and an average of 6 million euros) with 2,721 investors on average (median of 1,841 investors).

Figure 8: Breakdown of amounts raised by type of sale
(in millions of euros, G) and total number of investors, (D)



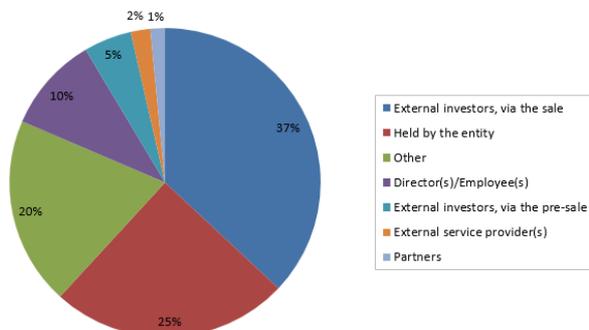
Source: AMF

However, issuers seem to have little knowledge of the investors: only three project initiators knew roughly whether their investors were professionals or individuals, and only four ICOs knew the investors' nationality, on average 50%. Note that the projects with the largest numbers of investors are the most likely to know this information.

Six ICOs had set themselves a minimum amount to exceed in order to realise the issue of tokens (soft cap): on average, they exceeded this amount by 329%. With regard to maximum amounts (hard caps), all projects had one, and on average they raised 54% of the maximum amounts envisaged (median of 54%). These target amounts varied greatly from project to project, however, with the target amounts and funds actually raised ranging from 1 million to 58 million euros. The ICOs raised between 5% and 99% of the maximum target sum.

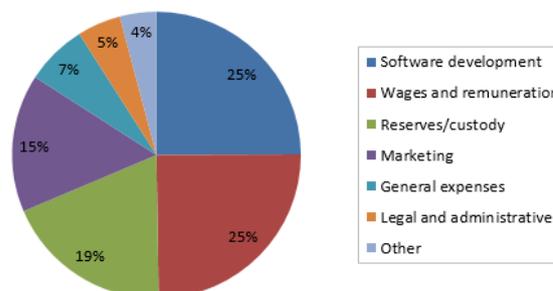
With regard to distribution of tokens, a significant number of them were distributed to external investors, via the sale or pre-sale (37% and 5% respectively), but also to directors and employees of the firm (10% on average). Between 6% and 80% of the tokens were retained by the issuers (25% on average). The 'other' tokens (20% on average) may be used for future sale rounds or distribute to investors in the future, depending on the ICO in question.

Figure 9: Breakdown of holdings of funds raised by completed French ICOs
(in % of the amount raised by the issuer)



Source: AMF

Figure 10: Breakdown of the use of funds raised
(in % of the amounts raised by the issuer)



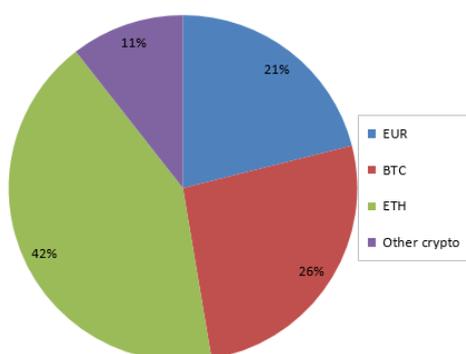
Source: AMF

Depending on the ICO in question, between 0% and 90% of amounts raised had been disbursed as at 30 June 2018: we observed no correlation between the amounts raised and the amounts disbursed (average 23%, median 14%). With regard to the use of the funds raised, the majority were used for the development of the project: 25% for software development, 25% for wages, 5% for legal and administrative aspects, 16% for marketing the project, and 7% for overheads. Finally, between 0% and 70% of the funds raised were held in reserve by the issuers (average 19%). The 'other' funds were used either for expenses linked to the ICO, or the development of the platform.

Currencies accepted during the ICO are mainly crypto-assets, with most accepting ether (eight projects) and bitcoin (five projects); two projects accepted other crypto-assets. Only four projects accepted investment in euros, but there was no correlation observed with the amounts raised.

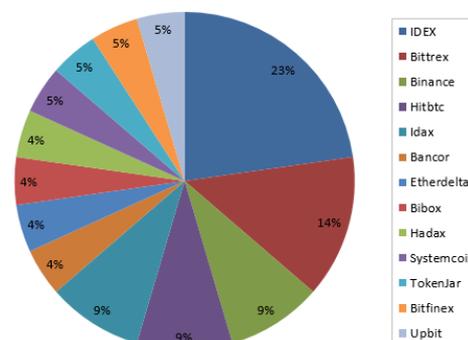
Most of the ICO issuers recognised that there are difficulties in managing exchange risk between traditional currencies and crypto assets, given the volatility of the latter. Most project initiators had not established any specific mechanism at the time of their ICO, or subsequently. The other projects aimed to limit this risk by managing their cash flow: two projects limited the number of exchange transactions on the crypto-assets received during the currency ICO, by maintaining a minimum cash reserve in the short term; conversely, two projects opted to convert their crypto-assets directly into currency at the end of the ICO. Consequently, the exchange risk is mostly borne by the investors.

Figure 11: Currencies accepted in the ICO
(in % of projects)



Source: AMF

Figure 12: Existence of ICO tokens on trading platforms (in % of projects)



Source: AMF

All the tokens are traded on at least one market platform, with eight projects listed on two or more platforms. The IDEX platform is the most popular, followed by Bittrex. Seven projects indicated that they were behind the listing of their tokens on trading platforms, particularly for the most popular centralised platforms. Conversely, decentralised²⁹ platforms such as IDEX list the tokens automatically at the end of the ICO, without offering any guarantee of liquidity or the existence of counterparties.

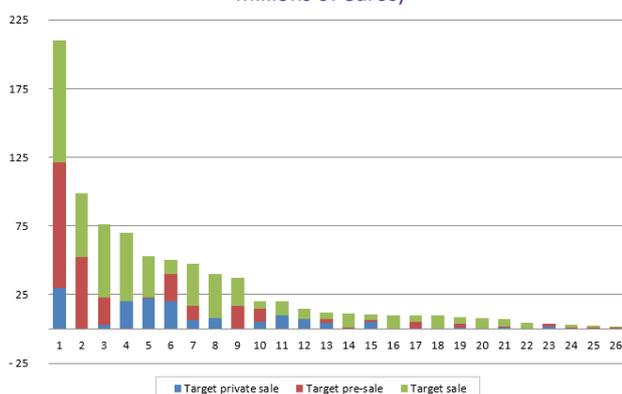
3.3. CHARACTERISTICS OF FUTURE FRENCH ICOS

Among the 68 future ICO projects or those currently in the process of fundraising, initiated by French issuers, 26 responded to the questionnaire sent by the AMF (38%). The amounts targeted are greater than the amounts raised by ICOs previously observed, ranging between 1 million and 180 million euros (average 21.8 million euros and median 11.5 million euros). In total, it would be approximately 811 million euros that would be targeted by these 26 projects, over a period of one year. The projects that aim to raise the largest amounts are linked to software development, the Internet of things, data management, and the energy sector.

With regard to the sequence of sale phases for the fundraising, we can see an increase in the use of the different phases, and that they are getting longer. 20 projects are seeking a private sale of their tokens, with five to 300 institutional investors (122 investors on average) for amounts ranging from 300,000 to 20 million euros (7.4 million euros on average). 21 projects plan to realise a pre-sale of their tokens, for an average amount of 12 million, with 1,260 investors on average (between five and 10,000 investors targeted). Most offer preferential conditions to these initial investors, in the form of discounts on the number of tokens bought, ranging from 6% to 50%.

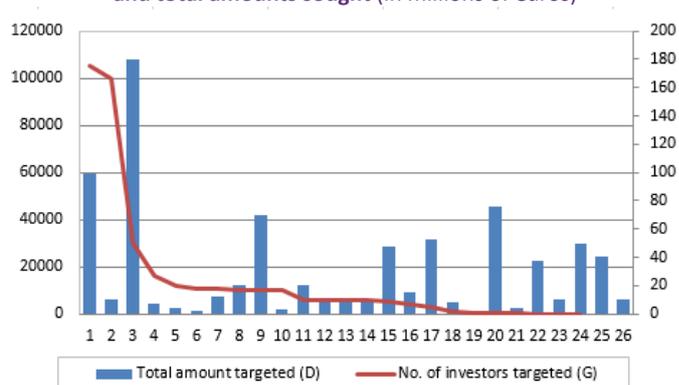
There is no noticeable correlation between the amount of funds sought and the number of investors targeted. Most of the projects indicate minimum maximum amounts to be raised: only eight projects have not done so, mainly because they have not yet definitively established these amounts. Finally, 25 projects have already begun or assigned a date to their public sales, which are being held for an average period of 92 days (starting at seven days and extending to 411 days for the longest) between September 2018 and December 2019.

Figure 13: Breakdown of amounts sought, by type of sale (in millions of euros)



Source: AMF

Figure 14: Breakdown of number of investors targeted (in number) and total amounts sought (in millions of euros)



Source: AMF

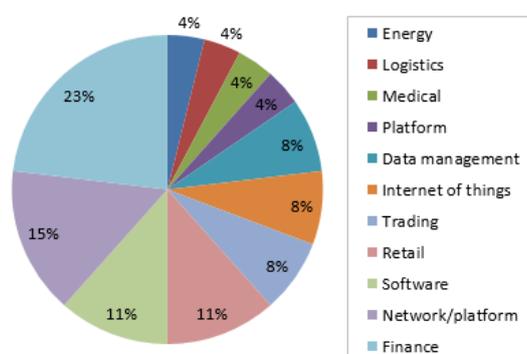
20 projects have already established their legal form as an SAS (two are also in the process of structuring their SAS), with seniority that is slightly greater than the projects that have already completed their fundraising (2.9 years on average). Most of the project initiators highlight the flexibility of this structure, which allows more personalised management of the share ownership.

²⁹ We can distinguish between centralised platforms, which hold their order books outside the blockchain (on their server) and make payment transactions from account to account (in traditional currencies and crypto-assets) also outside the blockchain; and decentralised platforms, for which the order book is held and transactions realised on the blockchain. Some platforms also have a hybrid or semi-centralised model, holding their order books outside the blockchain but realising their transactions on the blockchain.

Unlike the completed ICOs, the future projects have already had access to financing: out of 21 respondents, 24% have received love money or funds arising from business angels; 52% have already realised a private equity round, and 3% have benefited from public grants, particularly from the French Public Investment Bank (BPI). Although some had not yet raised funds, other have already realised these three phases, for amounts ranging from 30,000 to 22 million euros. On average, these project initiators have already obtained 2.2 million euros using other means of financing. This demonstrates the fact that some project initiators might look at realising an ICO for other reasons than access to financing.

Like the change observed at a global level, future French projects can be found in various industry sectors, some of which have little to do with technology: although finance, trading and software still represent 23%, 12% and 8% respectively of the sectors appearing, we can now see projects that are associated with the retail (12%), medical, and energy sectors. In terms of intended amounts, we can see a relative concentration of the sectors, with amounts sought by projects relating to software, finance, the Internet of things or data management representing 73% of the funds sought.

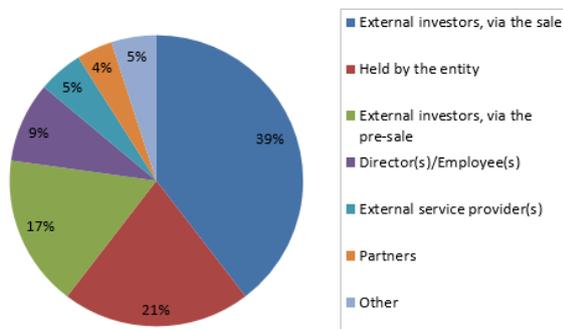
Figure 15: Sector breakdown of future French ICOs (in % of the number of projects)



Source: AMF

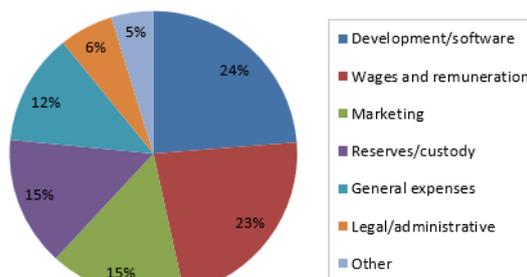
The envisaged distribution of tokens by ICO project initiators also places investors as the principal holders: between 5% and 82% of tokens will be distributed to investors during the public sale (40% on average) and between 0% and 50% during the pre-sale (17% on average). As for completed projects, but to a lesser extent, project initiators aim to hold on to between 0% and 82% of the tokens (21% on average). Some of the tokens will also be used to remunerate the directors and employees (between 0% and 25%, 9% on average), external service providers (between 0% and 10%, 5% on average) and project partners (between 0% and 15%, 4% on average). The 'other' tokens distributed will mostly be distributed to the community participating in the project (airdrop, bounty, advisors).

Figure 16: Breakdown of envisaged holdings of funds to be raised by ICO
(in % of the amount sought by the issuer)



Source: AMF

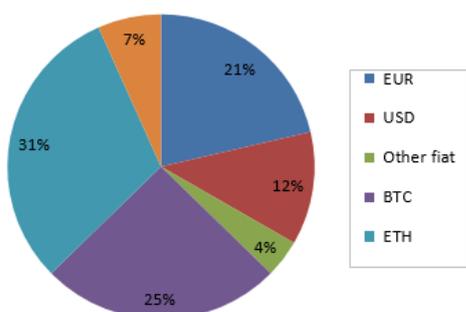
Figure 17: Breakdown of the use of funds to be raised (in % of amounts sought by the issuer)



Source: AMF

According to the forecast, the majority of funds to be raised will be used for the development of the project: 24% will be used for software development, 23% for wages, 6% for legal and administrative aspects, 15% for marketing the project, and 12% for overheads. Finally, between 0% and 70% of the funds raised will be held in reserve by the issuers (average 19%). 'Other' funds highlight differences between these and the completed ICOs, as they are intended more as remuneration for the community created, in the form of rewards for investors holding their tokens for several months, or via airdrop, bounty and rewards for partners raising awareness of the ICO.

Figure 18: Currencies accepted in future ICOs
(in % of future projects)



Source: AMF

Future ICOs will accept more currencies than their predecessors, and target a wider audience: although most accept investments in ether (23 projects) or bitcoin (19 projects), 16 accept at least one traditional currency such as the euro or the dollar, and three also accept other currencies such as the pound sterling or the yuan.

As for the completed ICOs, the project initiators are poorly prepared with regard to managing exchange risk: one third of the issuers state that this risk is borne by the investor and that they do not intend to implement any specific exchange risk management mechanism. Some projects are posting fixed rates of exchange between their token and the traditional currencies, meaning that the subscriber has to bear the exchange risk. Conversely, 19% of the projects are seeking to outsource this exchange risk management to a specialist. 31% of the projects plan to manage the risk themselves by strategic use of their cash resources: as for the completed projects, some initiators are seeking to convert all of the crypto-assets that they collect, after the end of the ICO, to avoid fluctuations in prices; others would rather stagger these transactions in order to take advantage of price changes.

4. SUCCESS FACTORS FOR AN ICO

4.1. GOOD PRACTICES IDENTIFIED BY PROJECT INITIATORS

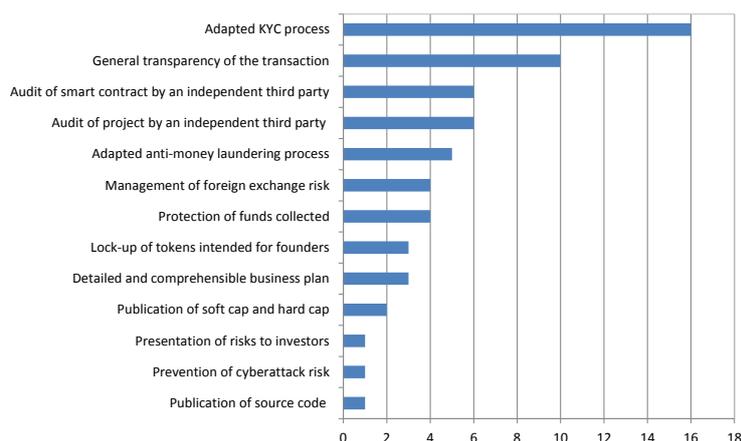
Many good practices have been identified by French ICO project initiators. However, not all of these have been implemented by these project initiators. Firstly, most agree on the necessity to have adapted processes for anti-money laundering³⁰ and KYC (“know your customer”)³¹.

Most of the good practices put forward underline the need for transparency of the transaction and the publication of reliable, clear and balanced information about the ICO business model, in order to allow buyers to make an informed choice. Project initiators also indicate the need to inform potential buyers of the thresholds set for the fundraising transaction (the soft cap and hard cap). It could also be a good idea to detail the distribution of the tokens according to the different sale or free distribution phases, the amounts of discounts granted, and the opportunities for redemption or issue of tokens by the issuer, so that all investors can anticipate possible price movements or dilutions of their investments. Only one project mentioned the publication of the source code as a good practice.

Project initiators also indicated the certification of the smart contract by third parties or the project itself in order to limit risk. Exchange risk management and communication to investors of the risk that the price of their tokens will fluctuate because of exchange risk is mentioned by several project initiators. One project initiator highlighted the need to warn investors of the specific risks linked to the investment. In fact, the risks incurred by the investor could be listed in more detail: technology risk, risk of capital loss, risk of IT security, etc.

Finally, the implementation of a mechanism to secure the funds collected during the fundraising period by offering guarantees equivalent to that of an escrow account is regularly indicated. Project initiators also mentioned that tokens intended for project initiators should be set aside for a period of time dedicated to the development of the project (lockup). In fact, some projects remunerate the team that worked its implementation, and the directors, as well as external stakeholders who were involved in the project. The percentage of dedicated tokens can be up to 25% in some of the projects analysed, and thus can represent immediate cash collection for a team that has not yet completed the project.

Figure 19: Good practices put forward by French ICO project initiators (in number of projects)



Source: AMF

³⁰ ICO project initiators must be able to identify the source of the funds raised in currencies and crypto-assets, in order to ensure that these funds are lawful.

³¹ In order to be able to identify the buyers of their tokens, issuers must request a certain number of official documents from the investor before the fundraising transaction. For an individual, this means checking the subscriber's passport or identity card, their email address, the type of portfolio used. For a legal entity, documents such as the company statutes, registration number and date, the name of the legal representative, shareholders in the company, the company's address and email address, the portfolio held, etc. must be checked.

4.2. SUCCESS FACTORS FOR AN ICO IDENTIFIED BY THE TEXTS

Multiple academic studies³² have broken down the success factors for an ICO, using simple econometric analyses that track back the factors observed on ICOs to their success, with success being defined by a number of elements.

Based on information about ICOs dating from 2014 to mid-2017 (253 projects analysed), Adhami et al. (2018) observe that the project is more likely to be successful, with success defined as the success of the fundraising, if the source code is available online and if there is a pre-sale phase. They observe no effect linked to the existence of a white paper, which argues for more qualitative analyses of these documents in the future. Based on a larger sample (1,009 ICOs from 2015 to March 2018), Amsden and Schweizer (2018) analyse the determining factors for the success of a project, with success defined in this case as the fact that it is listed on a trading platform after the ICO. The authors observe that, since these projects are targeted at individual investors who are not necessarily financially experienced or literate, the signals conveyed by project initiators are extremely important: any uncertainty about the proposed project (lack of presence on social media, shorter white papers, issuer domiciled in a tax haven) is negatively correlated to the success of the project, whereas signals that convey the quality of the project (director has a strong professional network, size of the project team) are positively correlated.

Likewise, in his analysis of 2,131 ICOs dating from between August 2015 and April 2018, Momtaz (2018) observes that the quality of the team and the quality of the project, as evaluated by certain websites, are positively correlated to the amounts raised on the first day of the ICO. Howell et al. (2018) also note that the liquidity³³ and volumes traded on tokens from successful ICOs are statistically higher for the most transparent projects (source code available, white paper, publication of a projected budget, number of followers on social networks) and for those where the quality of the signals sent is high (founder or principal director has professional entrepreneurial experience, venture capital financing before the ICO).

5. REGULATORY RESPONSES TO THE RISKS ASSOCIATED WITH ICOS

5.1. POTENTIALLY SIGNIFICANT RISKS FOR INVESTORS, BUT LIMITED SPREAD

For investors, participation in ICO financing can present a number of risks. The first of these is the risk of losing some or all of the amount invested: the financed projects are mostly still in the idea stage, and the probability that they will not progress beyond that is very high. Asymmetry of information, which results from the lack of consensus about the information to be presented to investors in the white paper, can lead to investors being poorly informed (ESMA 2017).

Moreover, some ICOs have turned out to be frauds, for different reasons (poor budget management, disappearance of directors and/or employees, Ponzi schemes and pyramid schemes, etc.). DeadCoins has drawn up a list of 183 fraudulent ICOs, but the amounts lost are difficult to estimate³⁴. In France, the AMF's information service for investors (Épargne Info Service) noted that since 2017 there has been an increasing number of complaints about the subject of fraud relating to crypto-assets. In the first ten months of 2018, the Épargne Info Service platform received 2,261 queries relating to crypto-assets, representing a total amount of money reported

³² Some of these were presented at the 2018 AMF Scientific Advisory Board Conference.

³³ The authors analyse liquidity levels in a traditional manner using three indicators: the price impact, which aims to measure the cost of execution incurred by a transaction, using the Amihud (2002) method, which is the ratio of the absolute value of the variation in price between two transactions to the volume traded; the average of the volumes traded in dollars; and the turnover rate, which is the ratio of the amounts traded to the estimated outstandings. Analysis realised on a sample of 453 ICOs, where volumes traded are available from 2013 to January 2018.

³⁴ The most well-documented cases relate to the US company PlexCorps, which raised 15 million dollars; the Vietnamese company Modern Tech, which allegedly raised 660 million dollars via two ICOs; and UK company BitConnect, which allegedly raised 700,000 dollars.

as lost by investors of around 45 million euros. However, we can see that the vast majority of these cases concern the fraudulent investment proposal of crypto-assets and not tokens linked to ICOs³⁵.

The Landau report (2018) also highlights the major risk of concealment of the origin of funds and of money laundering. In fact, by virtue of the way they are designed, transactions in crypto-assets involve a high degree of anonymity, which make them the preferred vehicles for money laundering and terrorist financing. Consequently, preventive measures such as the “KYC” (know your customer) requirement are essential elements in the fundraising transactions. Moreover, the European Union has recently modified its directive relating to the prevention of the use of the financial system for the purposes of money laundering or terrorist financing (Directive (EU) 2018/843) to include the trade in crypto-assets (platforms and custodian wallet providers of crypto-assets) as entities that are subject to requirements relating to money laundering. France has transposed these requirements in the draft law relating to business growth and transformation (PACTE).

Investors also incur the risk of dilution or lack of transparency of prices, as the project initiator may carry out a pre-sale or private sale without informing investors, or realise new issues of tokens after the public sale, which reduces the individual value of the tokens. Once the token is listed, the high levels of volatility and sometimes the lack of transparency in price formation can prevent the investor from withdrawing.

Finally, due to the fact that the technology is so new, there are significant technological or operational risks involved. The risk of cyber-attack (which relates primarily to trading platforms) or fraud relating to the issuer's identity can also lead to a significant risk of loss.

Although the information on the capacity of the investors in ICOs is still limited, it appears that these investors are now extending beyond the closed circle of just a few specialists in innovative technology. Some institutional investors (hedge funds, venture capital) are beginning to invest in ICOs, and a larger base of retail investors seems to be developing in some areas. Nevertheless, traditional institutional investors are steering clear of ICO investments (ECB 2018), which limits the risks of interconnections and the transmission of shocks between players.

Overall, however, we can state that investors in tokens are still very few. Moreover, although crypto-assets are becoming more popular, holders of tokens are relatively concentrated³⁶, which means that price downturns on the tokens bought affect a small number of investors, who have relatively little exposure.

Finally, crypto-assets can be of interest for the purposes of diversification of assets in a portfolio, subject to their risk management. The major crypto-assets (Bitcoin, Ethereum, Ripple, etc.) have returns that show subdued correlation to each other (IMF 2018), nor are they correlated to other asset classes such as equities, to the usual macroeconomic factors, to other currencies, or to commodities (Liu and Tsyvinski 2018). Note, however, that these correlations are likely to change in the future, particularly in line with the appetite of investors who want to integrate these assets in their portfolios.

5.2. LIMITED RISKS FOR FINANCIAL STABILITY

At this stage, most international regulators consider that ICOs do not represent a threat to financial stability, given the relatively modest volumes and the limited links between the digital financial markets and the traditional ones (FSB 2018).

The ECB also states that the majority of retail investors and institutional investors use their own funds to invest. There are only a few isolated cases of debt being used to finance investments in ICOs (ECB 2018). The IMF

³⁵ In order to limit these risks, the AMF has established a blacklist of platforms offering crypto-assets fraudulently. 339 platforms are suspected of carrying out fraudulent sales or of not complying with the regulations in force: 74 offer derivative products on crypto-assets without complying with the regulations applicable to financial instruments, and 40 offer a promise of financial return, which means that they fall under the system of intermediation in miscellaneous assets and are therefore obliged to register their offerings with the AMF prior to any communication. The blacklist of platforms proposing derivative products on crypto-assets or miscellaneous assets can be viewed on the AMF website at the following URL: <https://www.amf-france.org/Epargne-Info-Service/Protoger-son-epargne/Listes-noires?>

³⁶ The first 1,000 addresses of holders of Ether hold 62% of available Ether amounts; these 1,000 addresses represent 0.3% of the 344,647 active addresses as at end-October 2018. For Bitcoin, the concentration is slightly lower, with the first 1,000 addresses holding 36% of total Bitcoins, and representing 0.2% of the 531,947 active addresses. Calculations realised from etherscan and bitinfocharts.

highlights the fact that the development of investment funds linked to crypto-assets and the widening of the investor base could lead to a greater correlation between crypto-assets and traditional assets, thus increasing the potential for the transmission of shocks, especially during periods of risk aversion.

Nevertheless, most international regulators indicate the necessity for ongoing surveillance of the potential macro-financial risks that could arise from ICOs and from crypto-assets in general (G20 2018).

5.3. INTERNATIONAL COOPERATION IS ESSENTIAL

Thus, financing via ICOs is based in part on the idea of the wisdom of the crowd, which assumes that the assessments made by a group are superior in quality to those made by isolated individuals. Nevertheless, the existence of social influence, particularly from personalities (who may be qualified or not) encouraging investment in certain ICOs, can reduce the independence and the diversity of the group at the expense of this collective appraisal (Lorenz et al. 2011). Moreover, the existence of asymmetry of information, distorted incentives from issuers³⁷, and the lack of a system to penalise criminal behaviour or the lack of transparency, could push the ICO market towards adverse selection or anti-selection, i.e. market instability (Sehra et al. 2018). Auer and Classens (2018) also demonstrate that the valuations, transaction volumes and users of crypto-assets are all very sensitive to the announcement of regulatory measures³⁸.

This is why most international regulators have taken steps to improve the market environment for the ICO market, with the intention of preventing market abuse. Nevertheless, the diversity of the different approaches is important: some regulators have opted to ban ICOs on their territory permanently (China, Vietnam, Algeria, Morocco) or temporarily (South Korea); others have adopted a regulatory framework intended to attract trustworthy, non-fraudulent projects (Malta, Gibraltar). The majority (Switzerland, Canada, Brazil, Germany) propose a case-by-case approach due to the fact that there is still division on the qualification of the tokens. Despite this relatively common approach, some key differences remain. US regulations, for example, apply jurisprudence of the Supreme Court of the United States in order to determine whether a crypto-asset constitutes a financial security under US law³⁹. This approach adopted by the United States with regard to applicable law means that the majority of crypto-assets are considered as financial instruments (Hinman 2018).

Nevertheless, as the projects are by definition cross-border enterprises, investors may be exposed to risks linked to the diversity of regulatory regimes and may take advantage of regulatory arbitrage. This is why consistency and cooperation at a European and international level in terms of regulation of ICOs would seem to be essential. This could involve sharing relevant requirements in the area of transparency and risk management by ICOs (IMF 2018), the implementation of international standards (Bruegel 2018), and international cooperation in combating fraud.

5.4. PROPOSED FRAMEWORK OF THE FRENCH PACTE LAW

France has opted to bring in a complete legislative framework governing the different activities linked to the issue of, investment in and provision of services relating to crypto-assets, in order to best ensure the protection of investors. This framework is proposed in the Pacte law, which was adopted at first reading by the National Assembly on 9 October.

³⁷ Asymmetry of information and bias in incentives arise from the fact that the information used to evaluate an ICO comes exclusively from the issuer, in whose interest it is to “inflate” their ambitions in the absence of any accountability for their actions. Of course, it is also complicated for the investor to gain a clear view on a project that is not yet launched, most of them being on innovations that have not been tested.

³⁸ The authors’ analysis shows that the impact varies depending on the type of measure announced: general bans affecting crypto-assets, or the treatment of crypto-assets as financial instruments in legislation result in the most damaging effects on the valuation of the tokens; measures relating to anti-money laundering and those limiting the interoperability of crypto-assets with the regulated markets have a lesser effect. Statements about the implementation of specific legal frameworks for issues of crypto-assets are accompanied by steep upturns on the market, however.

³⁹ *Securities and Exchange Commission v. W.J. Howey Co.* (1946). According to the Howey Test, which establishes the criteria for qualification as an investment contract, a token must fulfil three cumulative conditions in order to be qualified as a financial instrument, as follows: (i) it must be an investment; (ii) it must be realised in connection with common enterprise, which can reasonably be expected to make a profit; and (iii) the said profits must be generated by the efforts of third party entrepreneurs or managers, and not by the investors themselves.

Firstly, a new system of optional approval for offers of tokens appears in article 26 of the draft Pacte law. This provides that issuers of tokens⁴⁰ may request a visa from the AMF (this is optional) as long as they do not fall within the scope of existing regulation such as that applicable to transferable securities, and the issuer is constituted as a legal entity established or registered in France.

The AMF verifies whether the proposed offer provides certain minimum guarantees ensuring the protection of investors, in particular the quality of the information document intended for the investors, as well as the existence of a system in place to monitor and safeguard the funds collected, and the nature of the promotional material and advertising, etc. On completion of the offer, the issuer will be bound to inform investors of the amounts raised and the existence of a secondary market, if applicable. Furthermore, issuers of tokens applying for an AMF visa will be subject to requirements relating to the fight against money laundering and terrorist financing.

Issuers with a visa will appear on a “white list”, which the AMF will communicate to the general public. This list will identify issuers that comply with regulations and will provide potential subscribers with important evidence of respectability⁴¹. In the event that, after having applied for a visa from the AMF or not, any person distributes information containing inaccurate or misleading indications about the issue of the stamp, its scope or its impact, the AMF may make a public statement referring to these facts and to the persons responsible for these communications.

The draft law also provides that the issuers of tokens that have been granted approval by the AMF shall have the right to a bank account. Access to deposit and payment accounts should be sufficiently extensive to allow these issuers to use these services efficiently and without hindrance. The credit institution will be required to communicate any reason for refusal to the *Autorité de contrôle prudentiel et de résolution* (the French banking regulator).

As well as this new regime that aims to regulate the primary market in tokens, a new status of “provider of services on digital assets”⁴² has also been introduced, in order to regulate intermediation activities in digital assets (custody, buying and selling, trading platforms, etc.). This status includes a set of rules common to all the services, including requirements relating to anti-money laundering, and a set of rules specific to the activity in question, which are based on requirements relating to financial instruments. The AMF has powers of supervision and sanction against operators that have been granted the status of “provider of services on digital assets”.

Finally, the draft Pacte law modifies the conditions governing investment by specialised professional investment funds to allow them to invest in digital assets that have been reliably validated and present sufficient liquidity to allow the investment fund to comply with its obligations concerning the execution of redemptions to its unitholders and shareholders.

CONCLUSION

ICOs, a recent phenomenon, appear to be a method of fundraising that is still in its infancy and that is beginning to gain shape, allowing the emergence and the financing of new businesses in innovative technology sectors. At the same time, a new form of engagement in a corporate vision is attracting new investors so that the investor base is no longer limited to a closed circle of a few specialists.

⁴⁰ The draft law defines tokens as “any intangible property representing, in digital form, one or more rights, which may be issued, registered, retained or transferred by means of a shared electronic recording device that identifies, directly or indirectly, the owner of such property”.

⁴¹ If, after having granted the visa, the AMF notes that the proposed offer to the public no longer complies with the content of the information document, or no longer presents the guarantees associated with the granting of the approval stamp, it may order that any communication relating to the offer having received the visa be terminated, and withdraw the visa, either definitively or subject to the issuer once again complying with the conditions for approval.

⁴² Under the terms of the draft law, the following are considered as digital assets: (i) tokens that do not fall within the scope of existing regulation; (ii) virtual currencies, as defined by Directive (EU) 2018/843 relating to the prevention of the use of the financial system for the purposes of money laundering or terrorist financing.

Analysis of French ICO projects, with the help of an original database, demonstrates the growing interest in this system of fundraising by certain project initiators, who seem to welcome the opportunity to call on a community of international investors and introduce this method along with other, more traditional methods of financing. Although the first wave of French issuers who successfully raised funds this way was more concentrated in the technology sectors and sought to raise relatively low amounts (between 200,000 and 20 million euros), future projects will be more diversified in other sectors and aim to raise between 1 and 180 millions.

Study of recent economic literature shows the need for transparency of transactions and the necessity to communicate effectively with investors about the quality of the project to ensure the success of an ICO: these elements are corroborated in the good practices identified by project initiators who were questioned on this subject.

In order to ensure the protection of consumers, who may be exposed to the risks of fraud, asymmetry of information, or volatility of their investments, international regulators are reviewing the qualification of this hybrid method of financing and looking at how best to prevent abuse. France has chosen to propose optional regulation of these fundraising transactions, in order to allow the identification of the greatest number of trustworthy, non-fraudulent projects in France, and to ensure the appropriate balance between the protection of investors and support for innovation. Nevertheless, given the cross-border nature of these projects and this type of investment, international cooperation in the area of regulation and detection of fraud is essential.

Ultimately, the recent successes observed, the emergence of new types of innovative issuer, the democratisation of a new way for investors to engage in a corporate vision, and the possibilities of disintermediation offered by the blockchain technology, can all be signs that there is a place for this new fundraising process along with more traditional channels.

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