Cryptoassets Regulation in Africa: RegTech and SupTech Considerations

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ABSTRACT

The growth of Financial Technology (FinTech) and new Payments Products and Services is very welcomed as it brings numerous benefits both to businesses and consumers. These products and services, which include: prepaid cards, e-payments, mobile banking services, internet-based payment services and cryptocurrencies or cryptoassets – as they are referred to today – are associated with a myriad of challenges. Cryptoassets are of particular interest in the growth of FinTech as they took the world by storm at the launch of bitcoin in 2009 predominantly as a disruptive technology which was to disrupt traditional banking services. The reason for this is that they have the potential to facilitate peer-to-peer payments including those occurring beyond national frontiers. In a decade since the introduction of bitcoin, there have been massive developments in the industry and the use of the underlying distributed ledger technology (DLT), blockchain, both within and beyond financial services.

This article examines cryptoassets transactions in Africa. It considers the case for their regulation and the challenges of regulating them. It assesses South Africa, Nigeria and Kenya – three countries where cryptoassets are widely traded. It examines the regulatory approaches in these countries and the extent to which regulatory technology (RegTech) and supervisory technology (SupTech) can be adopted in the supervision of this growing industry in Africa.

1. Cryptoasset as a type of virtual currency

Virtual currencies can be defined as a "digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status ... in any jurisdiction."[1] VC can be explained as digital objects that hold economic value and are functionally similar to fiat currencies (which are issued by governments); however, they are not issued in the way that fiat currencies are but are instead created on the basis of private agreement among users and their operation is governed by this agreement.

There are two main characteristics of VC. They can be centralized or decentralized. Centralized VC have a central administering authority that controls the system. This administrating authority issues the currency; establishes the rules for its use; maintains a central payment ledger; and has authority to withdraw it from circulation. The exchange rate for a convertible virtual currency may be floating or fixed. It is floating when it is determined by market supply and demand for the virtual currency and it is fixed when it is pegged by the administrator at a set value measured in fiat currency or another real-world store of value,

such as gold or a basket of currencies. Most virtual currency payment transactions involve centralized VC, such as the now defunct Liberty Reserve dollars/euros used by Liberty Reserve. Others include Second Life "Linden dollars" and World of War- craft gold.[2]

Decentralized VC (meaning that they are issued without a central administering authority) are cryptography-based and are distributed, open source, and function on a peer-to-peer basis.[3] They are also known as cryptocurrencies or cyptoassets. Cryptoassets are by definition convertible VC, meaning that they have an equivalent value in real fiat currency, and can be exchanged for such fiat currency.

Cryptoassets can be traded on centralised or decentralised platforms. Most centralised platforms for trading cryptoassets are called cryptocurrency exchanges or cryptocurrency wallet providers and these facilitate the exchange of cryptoassets for fiat currency and other cryptoassets. They are also collectively known as virtual assets service providers (VASP). These are becoming subject to regulation in Western jurisdictions. Cryptoassets can also be traded on decentralised platforms and these are the ones that prove challenging to regulate, as transactions occurring on these platformed have been programmed to operate on a peer to peer basis without the involvement of a central administrator.

Numerous advantages have been attributed to cryptoassets and these include that they can be used to settle transactions privately as the identities of transacting parties who are paying or receiving payments are encrypted; they help to promote financial inclusion as they are often quicker to access than the formal financial sector and anyone in the world can access them; they are easy and quick mechanisms to transfer funds from person to person either between parties signed up to the cryptocurrency networks or through cryptocurrency exchanges or cryptocurrency wallets that enable the ease of transfer of cryptoassets form one party to another – hence their description as a peer-to-peer system.

Despite these advantages, the use of cryptoassets raise a number of concerns for financial regulators and governments around the world. These regulatory concerns, discussed below, appear more pronounced for African economies as most have not taken a definitive stance as to how to regulate them or the exchanges and wallet providers that facilitate their circulation.

2. Case for regulating cryptoassets transactions in Africa

The case for the regulation of cryptoassets transactions around the world are mostly the same but the ensuring paragraph assess them, particularly, in the light of African economies.

2.1. Money laundering

Money laundering is the concealment of the origin of illegally obtained money, typically by means of transfers involving global financial institutions or legitimate businesses. It is a significant problem in Africa and, according to the Organisation for Economic Cooperation and Development (OECD) in 2018, Africa loses on average about US$50 billion a year through money laundering. With the increasing use of cryptoassets in Africa, which according to INTERPOL, are known to significantly facilitate money laundering as they hide the identities

of transacting parties, money laundering is set to increase on the continent. As an indication of the growth or cryptoassests in Africa, Paxful, a virtual currency wallet provider (VASP), stated in January 2019 that the volume of transactions it has processed from the continent has risen by more than 130 percent and between October 2018 to October 2019, the peer-to-peer cryptocurrency trading volumes increased 2800% in just South Africa alone.[4]

Money laundering and other financial crimes are facilitated by cryptoassets due to the ease with which they are transferred from person to person and also as the identities of transacting parties are encrypted and hidden. The latter characteristic has however been the subject of recent international regulatory intervention through the Financial Actions Task Force (FATF), the international standard setter against money laundering and terrorism financing. The FATF has instituted what in US banking has long been referred to as a funds "Travel Rule" (enabling the application of similar Know-Your-Customer (KYC) requirements for banks), for VASP including cryptocurrency exchanges and wallet providers. This rule requires VASPs to securely transmit (and store) sender and receiver information whenever cryptoassets moves. This has left firms struggling to find a technical solution (RegTech solutions) in time to avoid potentially severe penalties or blacklisting. These rules were introduced in June 2019 and VASP had one year to implement them. After months to absorb its implications, these businesses are coming to grips with the fact that in just seven months they will need to comply with the so-called FATF funds Travel Rule.

The FATF recommended that its 37 member countries—representing some 80 percent of the world's GDP—enact this "Travel Rule." Basically, the FATF's new cryptoassets Travel Rule compels VASPs to securely share customers' information with other VASPs whenever cryptoassets move (for transactions above USD/EUR$1,000). Furthermore, they need to obtain and hold required originator information as well as required and accurate beneficiary information.[5]

Whilst these provisions are welcomed and necessary to limit facilitation (through cryptoassets) of money laundering, terrorism financing and other financial crimes through VASP, the implementation of these provisions is a challenge even for the 37 mostly FinTech and RegTech driven member states of FATF as they seek RegTech solutions to enable them comply with these rules.

The case in African states is much more complex as cryptoassets firms and VASP remain largely unregulated across Africa. So, for instance, while South African regulators are relatively progressive on cryptoassets, they remain unregulated. According to the SARB, there are currently no specific laws that govern their use and no regulatory compliance requirements exist for trading them.[6] However, in a joint consultation paper by the Intergovernmental Fintech Working Group (IFWG) and the Crypto Assets Regulatory Working Group[7], on Policy Proposals for Crypto Assets in January 2019, it was suggested that South Africa should implement the FATF recommendation on cryptoassets. Suffice to mention that this was before FATF adopted the travel rules for cryptoasset trading.[8]

The Nigerian approach has been cautious. In January 2017, Central Bank of Nigeria (CBN) issued a circular signed by CBN Director Kevin N. Amugo requiring that existing customers of Banks and other financial institutions (BFIs) that are cryptocurrency exchanges, have effective

AML/KYC controls that enable them comply with standard AML/KYC requirements.[9] He stated that, "VCs are traded in exchange platforms that are unregulated, all over the world…" At another meeting of bankers in March 2017, CBN Deputy Director Musa Itopa Jimoh stated, "Central bank cannot control or regulate bitcoin. Just the same way no one is going to control or regulate the internet. We don't own it."[10] These two statements appear to conflate the trading of cryptocurrencies on decentralised and centralised platforms. While it is difficult to regulate the trading of cryptocurrencies on decentralised platforms, such as on the bitcoin network itself, progress is being made to regulate them on centralised platforms such as the through FATF requirements that VASP fulfil travel rules as highlighted above. So, while the bitcoin network itself cannot be regulated, the trading of bitcoin on centralised platforms can be. African economies should, as such, endeavour to adopt the approach suggested for South Africa by the IFWG to adopt FATF provisions.

In the case of Kenya, the Kenya Central Bank were forced to clarify their position on cryptoassets following the 2015 court case between Safaricom and the cryptocurrency exchange BitPesa. In this case, Safaricom suspended its MPESA services to Lipisha Consortium and Bitpesa because Bitpesa was engaged in a money remittance business using Bitcoin without approval from the CBK. The court held that Safaricom was within its rights to have suspended its services to Lipisha and Bitpesa for operating a money remittance business without CBK approval as Safaricom could be found to be in breach of anti-money laundering regulations by allowing Bitcoin trading and remittances through its M-PESA platform. This is due to the anonymity associated with Bitcoin trading, which is in contravention of KYC requirements in remittances and money transfer regulations.[11]

After this case the CBK issued a warning stating that "Bitcoin and similar products are not legal tender nor are they regulated in Kenya. The public should therefore desist from transacting in Bitcoin and similar products".[12] However, appetite for virtual currencies remains strong in Kenya, and volumes transacted are the third highest in Africa (behind South Africa and Nigeria). Despite the warning by the CBK, there is no law prohibiting their use. Since cryptocurrency exchanges continue to operate in Kenya, these VASP should be regulated in so far as compliance with AML/KYC standards are concerned as suggested in the cases of South Africa and Nigeria.

2.2. Investor protection

Since the launch of bitcoin in 2009, investors in cryptoassets have suffered huge losses due to: the highly speculative and volatile character of cryptoassets; cryptocurrency exchanges hacks and cryptocurrency exchanges exit scams. Recent high profile cryptocurrency hacks include Mt Gox 2011 (Japan); Bitfloor 2012 (New York), Poloniex 2014 (NY), Bitstamp 2015 (Luxembourg) Bitfinex (HongKong) 2016, Bithumb (South Korea) Dec 2017 and coincheck in Jan 2018 and exit scams such as QuadrigaCX (US$192 million Canada, December 2018) and PlusToken (US$2.9 billion). There have been numerous cases of crypto assets scams in Africa such as well-known Bitcoin Wallet 2019 (South Africa), Velox 10 Global 2019 (Kenya), Bitcoin Global 2018 (South Africa), Nigeria Calabar Company 2018 (Nigeria), Mavrodi Mundial Moneybox - MMM (South Africa, Kenya and Nigeria) 2012 -2017. All of these have involved investing in bitcoin and exit scams.[13]

These reveal the operational risks that could occur if cryptoasset firms / VASP do not institute the necessary security infrastructure to avoid such implications on investors. The whole area of the status of cryptoassets and whether they constitute securities or commodities and the effect of this on retail investors across the world has been varied with countries adopting different approaches ranging from non-regulation, to an outright ban such as in China and north Korea.

In the case of South Africa there is no current reference in the Financial Markets Act 19 of 2012 to cryptoassets in the definition of 'securities' and the registrar of securities services has not prescribed cryptoassets to be instruments similar to any of the securities listed in the FMA.

In the Nigerian case the circular signed by CBN Director Kevin N Amugo referred to above stated "… Consumers may therefore lose their money without any legal redress in the event these exchanges collapse or close business."[14] In January 2018 the Senate warned Nigerians against investing in cryptocurrency investments and requested that the CBN and other regulators do more to educate the public on these risks.[15] On February 28 2018, the CBN issued another statement stating that "for the avoidance of doubt, dealers and investors in any kind of cryptocurrency in Nigeria are not protected by law".[16] Nigeria, therefore, offers no protection to cryptocurrencies investors.

In the case of Kenya, as stated above, the Kenya Central Bank were forced to clarify their position on cryptoassets only after the Safaricom and BitPesa 2015 case where they stated that the public should therefore desist from transacting in Bitcoin and similar products as they are not legal tender. Despite the warning by the CBK there is no law prohibiting their use and the appetite for cryptoassets remains strong in Kenya as volumes transacted are the third highest in Africa. Suffice to mention that the capital Markets Authority (CMA) has now set up a regulatory sandbox which will help the CMA gain visibility into new innovations as the innovator tests their products and services in live environments. In June 2017, the CMA published the Stakeholders' Consultative Paper on Policy Framework for Implementation of a Regulatory Sandbox to Support Fintech Innovation in the Capital Markets in Kenya. [17] In this paper they highlighted cryptocurrencies as one of the capital market based Fintech innovations. The boundaries that the regulatory sandbox puts around live testing also reduces risks to consumers from new financial products and services.

It is not surprising though that these African countries have not taken a definitive stance in regulating cryptoassets investments much like other countries in the world where it is indicated that cryptoassets are not regulated and not subject to securities laws. This is primarily as securities would usually be issued by company against whom the holder of securities will have a claim. As cryptoassets do not have this character, having not being issued by a company of central administrator, no one can be held accountable for investors claims. Despite this though, a regulatory framework can be instituted for the operation of crypto transactions on centralised platforms where things like operational risks from exchange hacking, as well as the facilitation of trade on centralised platforms can be regulated. These could be through issuing stronger security requirements to avoid cryptocurrency exchange hacks and exit scams referred to above; also through the application

of the FATF travel rules for fulling AML/KYC standards and building in mechanisms to calculate capital requirements provisions for cryptocurrency exchanges' operational risks.

2.3. Financial stability

With a combined market capitalisation, at the time of writing this document, of around $200 billion (about 1.5% of the market capitalisation of the S&P 500 Index), cryptoassets do not currently pose a threat to financial stability as this amount is small relative to the global financial system. Their linkages with the financial sector are also still limited and there are no indications, so far, that systemically important financial institutions in the West have systemically-relevant holdings of cryptoassets, nor is this the case in Africa.

South Africa, in the January 2019 IFWG Joint Consultation paper on Policy Proposals for Crypto Assets, referred to above, agrees that the cryptoassets market does not currently pose a threat to financial stability, although the report highlights the 3200% market capitalisation growth rate in 2017 as a reason for regulators to keep an eye on developments in the market. A sudden wide scale adoption of such assets could alter this position.

In the case of Nigeria, Banks and other financial institutions (BFIs) are currently prohibited from exposure to cryptoassets. So, as stated above, the CBN circular of January 2017, prohibited BFIs from holding, trading and/ or transacting in any way with virtual currencies.[18] BFIs are therefore prohibited from investing in cryptocurrencies and from carrying out business as a virtual currency exchange to limit their financial exposures to the cryptoasset.

In the case of Kenya, as stated above, the CBK issued a warning against the use of virtual currencies after the BitPesa ruling in 2015. They also cautioned financial institutions against opening accounts for persons dealing in virtual currencies.[19] Despite this, however, it should be mentioned that the Taskforce on Distributed Ledgers and Artificial Intelligence set up a by the Ministry of Information and Communication Technology in February 2018, has suggested the introduction of a digital currency by the Central Bank of Kenya.[20]

2.4. Tax evasion

The taxation of cryptoassets has raised a number of issues including the original challenge of tracking the identities of parties transacting on blockchains (which power the platforms for cryptocurrency exchanges) and determining whether they should be classified as commodities or securities for tax purposes. There are varying legal treatments of cryptoassets for tax purposes across jurisdictions, ranging from no regulation in some jurisdictions to detailed regulation in others.

In this instance, it would appear that the safest approach to be adopted by African economies would be to group cryptoassets into different relevant categories for tax purposes. These would include their treatment as: property which would require that the general tax principles applicable to property transactions are also applicable to transactions involving cryptoassets; taxation on gross income received from tax payers who receive cryptoassets as payment for goods or services (tax payer here is responsible for including the fair market value of the cryptoassets in calculating their gross income); the determination of the gross

income of the taxpayer should also include cryptoassets received from mining activities (e.g. Bitcoin mining) by individuals; income derived by individuals engaged in the mining of cryptoassets as a trade or business; cryptoassets received for services performed as an independent contractor (for the purpose of self-employment tax); cryptoassets paid by an employer as remuneration for services (for the purpose of employment tax). Taxpayers would then be responsible for their failure to declare these categories of cryptoassets to tax authorities as required by law and face the requisite penalties for failure to comply with tax laws.

In the case of South Africa, normal income tax and capital gains tax rules have been flexible enough to apply to cryptoasset transactions and onus has been on taxpayers to declare cryptoasset transactions. Although, there is currently no specific provision dealing with the tax treatment of crypto assets, a draft Taxation Laws Amendment Bill has been published and proposes various amendment to the Income Tax Act 58 of 1962 (Income Tax Act) and the Value Added Tax Act 89 of 1991 (VAT Act). The purpose of these proposed amendments to the tax legislation is to clarify the tax treatment of cryptoassets under the tax laws. From an income tax perspective, cryptoassets are to be treated as financial instruments for income tax purposes, and from a VAT perspective, the issue, acquisition, collection, buying or selling or transfer of ownership of any cryptoasset is to be treated as a financial service. [21]

In the case of Nigeria, despite the operation of cryptocurrency exchanges for years now, there are no laws regulating the treatments of cryptoassets for tax purposes. However, debates as to what treatment should be accorded cryptoassets for tax purposes are ongoing.

In the case of Kenya, there is currently no guidance from the Kenya Revenue Authority (KRA) on the taxation of cryptoassets, so basic tax principles are deemed to apply. However, following the president's assent to the Finance Bill 2019, the KRA is expected to start taxing digital marketplaces and the informal sector - which largely characterize the cryptoasset space in Kenya. Tax guidelines would be very useful to clarify the tax of cryptoassets in the country.

To reinforce the system of taxing cryptoassets, African countries may also adopt the US approach where their ministries of justice can ask the courts to summon cryptocurrency exchanges to produce details of parties transacting on them and such details can then be shared with relevant tax authorities. This was done in the case of Coinbase Inc (the largest Bitcoin exchanger in the US) where the US Department of Justice (DOJ) filed a petition in 2016 asking a US Court to issue summons for Bitcoin exchange Coinbase Inc to provide the DOJ with information on all Bitcoin transactions processed between 2013 and 2015. The information was then be shared by the DOJ with the tax authorities (IRS) to be matched against filed tax returns.

2.5. Monetary policy implications

At the moment cryptoassets do not fulfil all the functions of money (that is that they can be used as a medium of exchange, unit of account and store of value) in African countries. Even the most popular cryptoasset in Africa, bitcoin, does not have a significant impact on the real economy or on monetary policy as it is not widely used to pay for goods and services.

However, this could change drastically upon the introduction of a global coins such as Libra - Facebook's cryptocurrency - if granted the licence to launch in 2020.

Facebook announced in a white paper its Libra global coin in June 2019 for a planned launch in 2020. This announcement no doubt has raised heightened levels of opposition among governments, central banks and financial regulators across the world. Most of the opposition have been driven and put forward by Western governments and large economies such as the US, France, Germany and China. Most of the criticisms against Facebook libra include its potential to: facilitate money laundering; impact on financial stability and centralize global digital identity standards.[22]

For countries where the Libra Global Coin would have more widespread use than local currency, such as those in jurisdictions with weak currencies – including some parts of sub-Saharan Africa – there is a potential monetary policy implication for these countries. National central banks are likely to lose their ability to conduct monetary policy, further weakening their ability to introduce the necessary economic policies to stimulate their economies in times of economic distress. Due to its potential to displace national currencies, Salami proposed that for the Libra Project to have credibility, it is imperative that there is an international oversight regime in place to monitor the operation of the Global coin were it to launch. This oversight regime could take the form of a global public-private partnership, one that involves an arrangement with the Libra Association (the Libra administrative body) and the Financial Stability Board (comprising ministries of finance, central banks, and regulatory authorities from G20 jurisdictions); a group of monetary authorities from developing countries where Libra is likely to have widespread use (necessarily including African economies) and international organisations and financial standards setters such as the IMF and Basel Committee on Banking Supervision.[23]

3. Future of crypto assets and recommendations for regulation

Despite the risks associated with cryptoassets discussed above, cryptoassets such as bitcoin and Ethereum, at the moment do not fulfil the characteristics of money as although they can be used as a medium of exchange, they are not yet a reliable unit of account and a good store of value particularly as they are highly volatile assets. Nonetheless, as they can be used to facilitate the peer to peer transfer of digital value, they are an indication of the future of money and of future payment mechanisms for the settlement of transactions. It is no wonder that the technology that began with bitcoin and which at the time appeared inconsequential, is now being adopted by mainstream financial institutions such as JP Morgan, the London Stock Exchange, the IMF and the World Bank for a variety of projects promoting the digital representations of value using the distributed ledger technology, blockchain, that powered bitcoin.

Governments and regulators across the world should, therefore, rather than regulate against them, embrace and invest in adopting robust but balanced regulation that ensure they operate without jeopardizing financial stability, investor protection and market integrity. These countries should be keen to explore regulatory technology (RegTech) and supervisory technology (SupTech) to help achieve robust regulation and supervision of cryptoassets.

3.1. RegTech and SupTech in cryptoasset regulation

RegTech is the adoption of technology such as artificial intelligence (AI) and machine learning (ML) to both assist with the regulation of financial institutions, as well as assisting financial firms comply more efficiently and cost effectively, with regulations around client identity management, transaction monitoring, risk management, regulatory reporting, compliance and trading in financial markets. In the cryptoassets space and with respect to regulating the VASP, RegTech solutions are sought for mainly identity management and transaction monitoring. RegTech solutions for identity management of VASP platforms focus on counterpart due diligence and KYC procedures, anti-money laundering (AML) controls and fraud detection. Solutions include: digitalization of client or partner onboarding processes, digitization and sharing of customer/partner information, gathering and analyzing customer and transaction data, and identifying suspicious transactions based on automated triggers.

RegTech solutions for transaction monitoring focuses on conduct-of-business requirements, and solutions offer real-time transaction monitoring and auditing, end-to-end integrity validation, anti-fraud and market abuse identification systems, back-office automation (post-transaction settlement, closing procedures), and risk alerts. RegTech solutions providers for cryptocurrency exchanges and other VASP platforms include: Chainalysis, Elliptic and Onfido and a raft of others.

SupTech, on the other hand, are RegTech tools supervisors and regulators adopt to effectively assess compliance by financial firms. Some solutions include automating and streamlining administrative and operational procedures, digitizing data and working tools, and improving data analytics. Other proposed solutions include applications enabling: Real-time supervision, by looking at data as it is created in the regulated institutions' operational systems; Algorithmic regulation and supervision in areas such as high-frequency trading, algorithm-based credit scoring, robo-advisors or any service or product that automates decision-making; Dynamic, predictive supervision by using machine learning, which could move supervisors to take supervisory actions in a preemptive manner based on predictive behavioral analysis. This approach moves towards a pro-active, forward-looking supervision that relies on better data collection and sophisticated data analytics. However, most of these SupTech solutions are still in concept or, at the most, pilot phase and are not likely to be adopted in the supervision of VASP / cryptocurrency exchanges and wallet providers by the FATF June 2020 deadline. However, regulators should be open to adopt these as and when they go to market.

For countries to adopt RegTech and SupTech effectively in the crypto space, they would at least first need to appreciate that: 1) there is a need for regulation such as the regulation of cryptocurrency exchanges; 2) have a regulatory framework for this outlined in law and 3) be keen to institute a robust supervisory regime. As such, African countries, as a starting point, would need to first set up a regulatory framework for crypto assets that necessarily includes regulating centralised cryptocurrency exchanges.

3.2. Limitations of RegTech and SupTech and decentralised exchanges

It has to be mentioned that despite the idea of instituting RegTech and SupTech, suffice to say that whilst the regulation of the cryptoasset industry can be regulated to an extent by the

regulation of centralised cryptocurrency exchanges and wallet providers, decentralised exchanges are much more challenging to regulate. These are distributed open source and operate on a peer to peer basis. Except the regulation of the platforms is programmed in the source code of the platforms by software developers, these cannot be regulated or shut down by any regulatory authority.

As such, a holistic approach to regulating cryptoassets, which should encompass both decentralised and centralised exchanges is unlikely to be achieved without industry cooperation. Although still nascent, with lower volumes of transactions in comparison to centralised exchanges, decentralised platforms have the potential to grow, hence the approach to their regulation should embrace collaboration with all necessary stakeholders. Regulators should as such be willing to engage with a wider group of stakeholders, including academia, businesses, software developers and engineers, investors, consumers and users.

4. Conclusion

Cryptoassets present both opportunities and risks to any economy. The case for regulating them though is strong – hence efforts at the international level, galvanised by the FATF's institution of the travel rules for cryptoassets transactions. As the cost of non-regulation is high – including money laundering and terrorism financing, monetary instability and tax evasion – African economies should endeavour to embrace a robust regulatory approach. This should necessarily involve the regulation of centralised cryptocurrency exchanges and other virtual asset service providers through the adoption of relevant RegTech and SupTech solutions by African financial regulatory authorities.

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