Committee on International Trade

2018/2085(INI)

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DRAFT REPORT

on Blockchain: a forward-looking trade policy
(2018/2085(INI))

Committee on International Trade

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(*) Associated Committees – Rule 54 of the Rules of Procedure

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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

Blockchain: a forward-looking trade policy
(2018/2085(INI))

The European Parliament,

–   having regard to Articles 207(3) and 218 of the Treaty on the Functioning of the European Union (TFEU),

–   having regard to the General Agreement on Trade in Services (GATS),

–   having regard to the World Trade Organisation (WTO) Information Technology Agreement (ITA),

–   having regard to the WTO Work Programme on E-commerce,

–   having regard to its resolution of 3 May 2016 on virtual currencies[1],

–   having regard to its resolution of 28 June 2016 on a new forward-looking and innovative future strategy for trade and investment[2],

–   having regard to its resolution of 12 December 2017 entitled 'Towards a digital trade strategy'[3],

–   having regard to its resolution of 16 May 2017 on the evaluation of external aspects of customs performance and management as a tool to facilitate trade and fight illicit trade[4],

–   having regard to its resolution of 12 September 2017 on the impact of international trade and the EU's trade policies on global value chains[5],

–   having regard to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (the General Data Protection Regulation or GDPR)[6],

–   having regard to the Commission proposal on horizontal provisions for cross-border data flows for personal data protection (in EU trade and investment agreements),

–   having regard to the Commission report to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Trade Policy Strategy 'Trade for All': Delivering a Progressive Trade Policy to Harness Globalisation (COM(2017)0491),

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[1] Texts adopted, P8_TA(2016)0228.
[2] Texts adopted, P8_TA(2016)0299.
[3] Texts adopted, P8_TA(2017)0488.
[4] Texts adopted, P8_TA(2017)0208.
[5] Texts adopted, P8_TA(2017)0330.
[6] OJ L 119, 4.5.2016, p. 1.

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–   having regard to the 2016 report of the Chief Scientific Adviser of the UK Government Office for Science on 'Distributed Ledger Technology: beyond blockchain'[1],

–   having regard to the 2018 White Paper of the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) on the technical applications of blockchain,

–   having regard to the declaration of 10 April 2018 by 22 EU Member States on the establishment of a European Blockchain Partnership[2],

–   having regard to the Council conclusions of 19 October 2017[3], which highlight blockchain and artificial intelligence as key emerging trends and call on the Commission to put forward initiatives to address these issues,

–   having regard to Rule 52 of its Rules of Procedure,

–   having regard to the report of the Committee on International Trade and the opinions of the Committee on Industry, Research and Energy and the Committee on Civil Liberties, Justice and Home Affairs (A8-0000/2018),

A.   whereas in this report blockchain will be considered as a private, permissioned distributed ledger technology (DLT), comprising a database made up of sequential blocks of data that are added with the consensus of network operators;

B.   whereas blockchain enables separate parties to engage in transactions with enhanced trust and accountability because data stored on a ledger cannot be easily falsified;

C.   whereas global trade is based on an estimated EUR 16 trillion supply chain sector in which the high transactional costs and burdensome paperwork lead to a complexity of processes and systems susceptible to error;

D.   whereas pilot initiatives have been launched with promising potential to reduce transport costs, make the industry more environment-friendly and boost economic performance;

E.   whereas blockchain can enhance and improve EU trade policies, such as Free Trade Agreements (FTAs), Mutual Recognition Agreements (MRAs), particularly of Authorised Economic Operators (AEOs), and trade defence measures;

F.   whereas blockchain can improve transparency throughout the supply chain, streamline customs checks and regulatory compliance, reduce transaction costs, and strengthen the immutability and security of data;

EU trade policy

1.   Expresses regret that EU FTAs are underutilised; notes that exporters could upload all

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[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/492972/gs-16-1-distributed-ledger-technology.pdf
[2] https://ec.europa.eu/digital-single-market/en/news/european-countries-join-blockchain-partnership
[3] http://www.consilium.europa.eu/media/21620/19-euco-final-conclusions-en.pdf

their documents to a public authority application underpinned by blockchain, and instantly prove their compliance with preferential treatment granted by the FTA;

2. Considers that blockchain could assist the Union's trade defence instruments by providing transparency over the provenance of goods entering the European market and an overview of the influx of imports;

3. Stresses that blockchain has the potential to support the trade and sustainable development agenda by providing trust in the provenance of raw materials and goods;

4. Believes that MRAs of AEOs enable businesses to diversify their supply chains; feels that blockchain offers the potential to reduce the uncertainty associated with implementing MRAs of AEOs, through a seamless exchange of data;

External aspects of customs and trade facilitation

5. Strongly welcomes the Trade Facilitation Agreement (TFA) views the TFA as a foundation for WTO members to explore further ways to ease trade, including through blockchain;

6. Considers that blockchain could enable customs authorities to automatically obtain the required information for a customs declaration, reduce the need for manual verification, and provide a precise update on the status and characteristics of goods entering the EU;

7. Believes that digitisation will enable the exchange of information to be more efficient and transparent; views digitisation as a prerequisite for blockchain to be fully functional;

8. Believes that the adoption of blockchain technologies throughout the supply chain can increase the volume of global trade, and can lead to increased consumer confidence in digital trade;

9. Underlines the utility of blockchain in the following ways: strengthening the certainty of the provenance of goods, reducing the risk of illicit goods entering the supply chain, upholding consumer protection, reducing the costs of supply chain management, and improving trust and business stability;

Cross-border data flows

10. Recognises cross-border data flows as an integral function for international trade and the design of blockchain architecture;

11. Highlights the scope of blockchain for validating transactions across an international supply chain by defining levels of access and validation procedures for participants;

12. Notes the connection between blockchain and cross-border data flows for trade; notes that a private permissioned inter-ledger network can provide trust between platforms by integrating data from multiple sources;

13. Recognises the challenge posed by the relationship between blockchain technologies and the implementation of GDPR; notes that blockchain technology can provide

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solutions for GDPR implementation because both initiatives are underpinned by common principles of ensuring secured and self-governed data;

Small and medium-sized enterprises (SMEs)

14. Believes that innovation and promotion regarding blockchain can create economic opportunities for SMEs to internationalise, by making it easier to interact with consumers, customs authorities, and other businesses involved in the supply chain;

15. Highlights the benefits blockchain could bring to SMEs by allowing peer-to-peer communication, collaboration tools and payments, increasing the ease of doing business;

Interoperability and scalability

16. Considers the scalability challenges associated with the implementation of blockchain systems, in the context of expanding international trade networks;

17. Notes the proliferation of different blockchains anchoring data for a transaction into separate private and public ledgers; recognises that there is an increasing need to develop a means to integrate transactions across blockchains around the movement of an item along a supply chain to encourage interoperability between systems;

Conclusions

18. Calls on the Commission to follow developments in the area of blockchain, in particular the ongoing pilots/initiatives in the international supply chain; invites the Commission to produce a strategy document on adopting blockchain technologies in trade and supply chain management;

19. Calls on the Commission to develop a set of guiding principles tailored to industry to provide a level of certainty that encourages the use of blockchain and innovation in this area;

20. Encourages the Commission to work with Member States towards simplifying and enhancing the flow of information related to trade facilitation, by, amongst other measures, adopting suitable information and communication technologies;

21. Calls on the Commission to set up an advisory group on blockchain and to develop a concept note for private permissioned pilot projects on end-to-end use of blockchain in the supply chain;

22. Calls on the Commission to assess the optimality of blockchain architecture that keeps private data off the chain;

23. Encourages the Commission to contribute to the work of international organisations and feed into current projects on producing a set of standards and principles to underpin regulation aimed at facilitating the use of blockchain;

24. Calls on the Commission to play an active role in the process of standardisation and security of blockchain, and to work with the industries to develop blockchain standards,

including terminology, development, and deployment of the technology;

25. Calls on the Commission to work with relevant stakeholders in order to review and develop a framework for addressing challenges to interoperability between blockchain systems;

26. Instructs its President to forward this resolution to the Council and the Commission, the Vice-President of the Commission / High Representative of the Union for Foreign Affairs and Security Policy, and the EEAS.

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EXPLANATORY STATEMENT

Whilst the European Union has taken important and welcome steps towards developing uses for blockchain in the single market, it must also focus on how blockchain can be harnessed to enhance international trade policies and supply chain management. Recent studies estimate that blockchain could potentially save 20 per cent of total physical transportation expenses, cutting costs by up to $1 trillion in global trade. Moreover, the reduction of barriers within global supply chains through the widespread implementation of blockchain is estimated to increase global trade by almost 15 per cent.

Blockchain technology allows separate parties to engage in secure transactions, without the need for an intermediary. Key features of blockchain include mechanisms that allow separate parties to securely determine the date and origins of data entries on each block in the chain. In addition, records of data on blockchain are immutable, which means that data cannot be altered or deleted once it is written on the chain. Users also have verified access to blockchain, and blockchain systems contain automated functions to execute smart contracts once certain criteria have been met.

Blockchains are a category of distributed ledger technologies (DLTs), which are types of databases that record transactions and store them as immutable records. The ledger is distributed because there are multiple copies of the blocks in the chain. These copies are kept on different systems, known as nodes. Moreover, the copies are updated by using a consensus algorithm which ensures that all copies remain consistent. This algorithm decides how a block can be added to the chain.

Blockchain therefore comprises a database of sequential data 'blocks' that have been added to each of the multiple copies of the ledger. Each block contains a 'hash', or cryptographic fingerprint, that can be used to verify the content of the previous block.

Although blockchain has prolifically been associated with cryptocurrencies since the first concept paper for this technology published by Satoshi Nakamoto in 2008, blockchains can vary from being permissionless to permissioned, public to private. Within the scope of this report, the term blockchain will refer solely to private permissioned networks. The information stored on private permissioned networks is only available to specific participants, determined according to governance mechanisms underpinned by the principle of consensus, which can vary from one blockchain to another. Unlike public permissionless blockchains, private permissioned blockchains contain variations of governance controls overseen by network operators to enhance security and determine access. Consequently, private permissioned networks have largely been implemented in real-life commercial use cases and pilot projects. For example, the Korean Customs Service is currently testing an e-commerce customs clearance platform underpinned by blockchain to streamline processes by automating the generation of import clearance reports to authorities.

This report recognises the recent proliferation of research and investment in both the public and private sectors to implementing blockchain in variety of use-cases. , Therefore, a measured and rational approach is required to investigate exactly where blockchain can offer tangible benefit.

To this end, blockchain technology has enormous potential for reducing barriers within global

supply chains. The purpose of this report is to highlight the current sub-optimal issues in supply chains, EU trade policy and customs procedures, to identify the plausible benefits derived from widespread blockchain implementation, and to recommend achievable and gradual policy steps to the European Commission and Member States to enable this technology to function.

Blockchain has the potential to reduce the costs of transactions between parties by removing the need for physical paperwork, in addition to the inspective and administrative hurdles posed by intermediaries. This is due to the enhanced trust that blockchain instils in transactions between parties, which in turn improves transparency and strengthens the certainty of provenance of goods. Moreover, blockchain can facilitate and strengthen the security of data flows to prevent the use of fraudulent documentation and counterfeit goods in supply chains. As testament to these potential benefits, several commercial pilot projects have already been implemented in the logistics industries to underpin supply chains with blockchain either partially or end to end.

These use-cases for blockchain are not confined to large multinational companies. SMEs have the potential to be one of the greatest beneficiaries of blockchain. The technology could make it significantly easier for SMEs to interact with customs authorities and other businesses along their supply chain to grow and increase their exports by reducing transactions costs. The necessary credit checks and verification measures can be streamlined by the automation that blockchain systems provide to supply chains. For example, documents that require frequent amendments and verifications along different stages of the supply chain could benefit from greater certainty, as blockchain automatically registers documents and chronologically stores data without amending previous entries. This could allow SMEs to easily confirm verifications and changes to documents, reducing the cost of doing business.

These streamlining effects of blockchain have significant potential for facilitating further transactions on the supply chain, and thereby increasing global trade. For commercial transactions, it is important to note that businesses will naturally be averse to sharing sensitive data on the blockchain. This report will therefore solely consider the use of private permissioned blockchains that contain governance mechanisms controlling user access to data on the chain.

This report highlights the specific potential of blockchain for enhancing EU trade policy. EU FTAs are largely underutilised by businesses and the Commission has previously noted that this is in part due to difficulties in understanding the rules for obtaining preferential origin, in addition to burdensome procedures for obtaining the documents required to benefit from preferential treatment. To this end, blockchain has significant potential to benefit exporters through the ability to upload all relevant documents on to a single application underpinned by blockchain that would prove their compliance with preferential treatment granted by a FTA. Moreover, blockchain can assist the Union's trade defence instruments by providing transparency over the provenance of goods entering the European market.

This report will also take into account the connection between blockchain and cross-border data flows, and between blockchain and the GDPR. The encryption and immutability features of blockchains could be useful for implementing GDPR requirements yet also raise questions about data transparency.

Furthermore, the report highlights the dual challenges to interoperability between blockchains, and the issues facing the scalability of blockchain systems. First, interoperability between blockchains refers to the ability to integrate transactions across different blockchains. For example if different blockchain systems were to be used along the same supply chain for a single good, it would be useful for data to be transferable between systems. There is currently a long way to go before several blockchain systems would be implemented along a single commercial supply chain, however this is an emerging issue that the Commission must be cognisant of when looking into policy options.

The scalability of blockchain systems represents another key challenge to widespread blockchain implementation. As blockchain systems expand within international trade networks, the capacity of the technology and resilience of its governance mechanisms must remain robust.

In view of these developments, the Rapporteur therefore recommends that regulatory hurdles to widespread blockchain implementation need to be addressed. The European Commission must actively engage with Member States to closely follow developments in the area of blockchain, in particular the ongoing pilot projects and commercial use-cases that implement blockchain-based systems in international supply chains. Finally, the European Commission must feed in to ongoing international initiatives to develop standards and principles that underpin regulation for facilitating the use of blockchain.