

5 Key findings & future prospects

The emergence of decentralized finance (DeFi) has paved the way for a truly open and inclusive financial ecosystem, providing a wealth of opportunities for enhanced efficiency, transparency, accessibility, and composability within financial infrastructures in the future even if there are still drawbacks. Centralized financial intermediaries and a specific spectrum of services they provide may be replaced by smart contracts, which can serve and take over various roles such as custodians, escrow agents, central counterparty clearinghouses, and central securities depositories. The high degree of transparency is achieved through the public visibility of transactions and the ability to scrutinize smart contract code. However, this very transparency may at the same time pose one of DeFi’s mentioned pitfall inadvertently enabling frontrunning amongst other malicious practices.

Despite the numerous benefits, DeFi is not without its risks, including weaknesses in how smart contracts are executed, issues with operational security and reliance on external data and other protocols, centralization risks, and scalability issues. The deterministic nature of smart contracts, while advantageous, can be susceptible to coding errors, resulting in potential attacks or unintended usage. Furthermore, operational security risks may arise from the use of admin keys and the possibility of keyholders being malicious or compromised, although multi-signature mechanisms can mitigate these risks to some extent. In addition, the term decentralized or DeFi can occasionally be misleading or even fraudulent if an architecture is actually not truly decentralized but controlled by central market players.

DeFi’s openness and composability create significant dependencies and possible ripple effects throughout the entire ecosystem, potentially creating cascading and contagion effects on traditional financial markets which may result in market failures of unprecedented scale. Regulators face challenges in addressing the dilemma of balancing the need for intervention with the risk of stifling innovation as DeFi also provides the opportunity of establishing a genuinely inclusive, public and final financial infrastructure, with a variety of interoperable programs and protocols that allow users and researchers to verify every transaction and access data easily leading to most comprehensive inclusion on the financial markets.

- 527 In the European Union, the Digital Finance package, encompassing the Markets in Crypto Assets Regulation (MiCAR) and the Distributed Ledger Technology (DLT) Pilot Regime, strives to balance innovation with risk mitigation in the realm of crypto assets with regard to centralized intermediaries which are bridging the decentralized and centralized financial systems. While these initiatives are essential steps toward a more inclusive and sustainable economic ecosystem, challenges remain in terms of trust mechanisms, investor behavior, and potential regulatory biases. To maximize their effectiveness, proactive approaches, investor education initiatives, and continuous monitoring of the rapidly evolving landscape are crucial.
- 528 Decentralized exchanges (DEX) or lateral exchange markets (LEM), decentralized lending, derivatives, and portfolios are vital components of the DeFi ecosystem. Both decentralized exchanges and decentralized lending platforms ensure unrestricted access for users by not requiring identification (zero trust in the vendor with trust in the platform) and collateralized loan platforms, decentralized derivatives, and on-chain asset management play essential roles in this DeFi landscape. DeFi lending and borrowing can be facilitated through atomic loans or flash loans or fully secured loans using collateral, enabling transactions and markets which were not possible or thought of under existing quid pro quo systems of exchange of consideration.
- 529 From a behavioral finance standpoint, the DeFi ecosystem has demonstrated the potential to disrupt traditional financial systems by potentially offering enhanced efficiency, transparency, accessibility, and composability in the long term. However, the transparency of DeFi protocols has also brought forth new risks, such as frontrunning practices, which highlight the need for further research into trust mechanisms and investor behavior and how to possibly mitigate these risks from a public policy perspective. Additionally, the rise of decentralized derivatives, particularly event-based derivative tokens, exposes the potential overlap between financial instruments and gaming markets. Likewise, NFTs and services with regard to them in the video gaming sector may also intersect with gambling markets or give rise to other new markets due to their transferability and interoperability, necessitating further scrutiny and analysis to ensure proper classification and regulatory oversight.
- 530 The emergence of DAOs, which may be viewed as a natural progression of SEOs (social economy organizations), signifies the potential for innovative (decentralized) governance structures that prioritize stakeholder needs and social objectives. This development aligns with the ongoing evolution

of DLT-based organizational models, further reinforcing the transformative impact of DeFi on traditional economic systems.

Another core topic regarding DeFi is privacy on public blockchains, which is challenging due to their transparency. Crypto asset mixers, or tumblers (privacy enhancing protocols), help improve privacy but can also be used for money laundering and illicit activities, attracting regulatory attention. Non-custodial mixers balance privacy and transparency by allowing legitimate users to maintain anonymity while presenting challenges for malicious actors. Involving centralized financial intermediaries when converting crypto to legal tender may mitigate risks, but inefficient global enforcement can prolong processes for fraud victims. Prolonged storage of fraudulent assets in tumblers could lead to insolvency for affected parties and concerns about criminal liability statutes due to near-permanent storage in smart contracts. 531

The EU's additional digital finance packages, such as the Digital Operational Resilience Act (DORA) and the proposal for a Regulation on information accompanying transfers of funds and certain crypto assets (TFR), aim to further enhance the financial system's operational stability and traceability relating to crypto assets and related services. A holistic approach to financial regulation is necessary, ensuring consistency and coherence in the regulatory landscape, ultimately with the goal of leading to a more effective, efficient, and adaptive regulatory environment. 532

The DeFi landscape offers numerous opportunities and challenges, with the potential to transform and revolutionize traditional financial systems. As the DeFi landscape continues to evolve, it is imperative for researchers, regulators, and industry stakeholders to remain vigilant, adaptive, and proactive in addressing emerging complexities and risks. By carefully navigating the risks and embracing innovation, a more inclusive and sustainable economic ecosystem may be achieved. Developing nudge-based interventions may be an effective strategy for promoting desirable behaviors both in the public policymaking process itself as well as in the actual regulations, targeting financial entities and individuals, while tailoring regulations to specific characteristics and risk profiles may enhance regulatory efficiency. Future prospects, for one, lie in the analysis and research of these suggestions, and for another on the continuous development and integration of DeFi, the evolution of regulatory frameworks, and the exploration of novel applications and mechanisms in the decentralized financial space. 533

At the heart of financial market regulation lies the understanding of human behavior and decision-making. Behavioral finance, an interdisci- 534

plinary field that integrates psychology and economics, uncovers the cognitive biases and heuristics that shape investors' behavior in financial markets. Recognizing that market participants do not always act rationally, behavioral finance provides valuable insights for regulators when addressing the unique challenges posed by DeFi and the rise it gives to new markets. In the decentralized financial ecosystem, the absence of traditional intermediaries and gatekeepers results in increased investor autonomy. While this can lead to innovation and democratized access to financial services, it also exposes investors to heightened risks. Policymakers must therefore recognize and account for the cognitive limitations of market participants, including bounded rationality, loss aversion, and overconfidence, in order to design effective regulatory frameworks for DeFi.

535 The development of regulatory public policy with regard to financial markets in the context of DeFi and services building upon distributed ledger technology necessitates a careful balance between fostering innovation and mitigating risks. To achieve this equilibrium, regulators must take into account not only the behavioral tendencies of market participants but also the cognitive biases that may influence their own decision-making processes. Central to this endeavor is the incorporation of behavioral insights in the design and implementation of regulatory frameworks. Policymakers should consider employing tools such as nudges, which encourage desired behavior without restricting choice, or default options, which exploit individuals' inherent inertia to promote beneficial outcomes. For instance, regulators might introduce disclosure requirements that present information in a manner that mitigates cognitive biases, enabling investors to make more informed decisions.

536 In light of the rapidly evolving DeFi landscape, regulators must remain flexible and responsive to emerging trends and challenges. This entails constant reevaluation of established regulatory approaches and the development of novel, adaptive strategies. The incorporation of a behavioral perspective in financial market regulation necessitates ongoing collaboration between policymakers, academics, and industry stakeholders. One potential approach is to adopt regulatory sandboxes, which allow DeFi innovators to test their products and services in a controlled environment, under the supervision of regulators. This fosters a collaborative, iterative process that promotes both innovation and the identification of potential risks. In addition, regulators should engage in international cooperation and knowledge exchange to address the global nature of DeFi and to harmonize regulatory standards.

With regard to financial market regulatory public policy, regulators should firstly pose themselves the question whether regulatory measures may effectively protect consumers or investors from engaging in risky investments, or whether such transactions persist despite the regulation, also given due to fraudulent schemes, which may continue to thrive without adequate oversight, and the response of warnings, measures, and procedures being insufficient. Furthermore the (untested) hypothesis may be considered, that such regulations, inefficient in actually protecting consumers, may still inadvertently place excessive burdens on financial intermediaries, thereby restricting their business operations and innovation capacity due to the costs associated with implementing the regulations. 537

5.1 Interpretation and classification of the results

The analysis of the decentralized finance (DeFi) landscape reveals a combination of expected and unexpected outcomes, some of which are consistent with previous research, while others expose new challenges and opportunities in this rapidly evolving domain. The impact and relevance of DeFi are evident, as it has the potential to be transformative to the financial systems by offering innovative approaches in developing new markets which may bring increased efficiency in the long term, transparency, accessibility and inclusion in the financial market, and composability. These characteristics are in line with the overarching objectives of decentralized technologies and the initial vision of blockchain-based applications. 538

The possibility of removal of centralized intermediaries in true DeFi systems, like decentralized exchanges, and the utilization of smart contracts as key components of DeFi's infrastructure may contribute significantly to overall efficiency gains. This outcome aligns with the expectations of a decentralized system, where automation and disintermediation have the potential to streamline processes and reduce costs. However, if higher efficiency and cost reduction is actually gained remains to be monitored closely and analyzed further. The high degree of transparency is another anticipated outcome, as blockchain technology inherently provides public observability of transactions and open access to smart contract code. However, the discovery that this level of transparency may inadvertently contribute to frontrunning practices (insider trading or the practice of scanning pending transactions and paying a higher gas fee in order to prioritize its processing by miners, in order to take advantage of a significant 539

trade that will impact market pricing) represents an unexpected challenge within the DeFi ecosystem. This finding highlights the need for further research and development to mitigate the potential negative consequences of transparency while preserving its benefits.

540 The vulnerabilities and risks associated with DeFi, like smart contract execution issues, operational security concerns, and dependence on external data and protocols and external data, were not unforeseen but have emerged as more significant concerns than initially anticipated. This realization underscores the importance of ongoing efforts to address these risks potentially through investor information campaigns and raising awareness together with over-all financial literacy and investment education.

541 In terms of regulatory efforts, the European Union's Digital Finance package and additional digital finance regulations, such as DORA and TFR, aim to balance innovation with risk mitigation, as expected. However, the challenges faced in terms of trust mechanisms, investor behavior, and potential regulatory biases may not have been fully anticipated and also not considered accordingly in the Digital Finance package, necessitating a more proactive approach and greater emphasis on investor education initiatives. This unanticipated complexity highlights the need for continuous monitoring and adaptation of regulatory frameworks to ensure that they effectively address the evolving business models provided by centralized intermediaries based on DeFi systems bridging the central and decentral financial system.

542 The emergence of decentralized autonomous organizations (DAOs) as a natural progression in the evolution of social economy organizations (SEOs) is consistent with the ongoing development of innovative governance structures driven by DLT. This alignment underscores the potential for DAOs to revolutionize traditional economic models and further promote stakeholder-centric objectives.

543 Regarding DeFi lending, derivatives, and portfolios, the various protocols and strategies employed to facilitate loans, borrowing, and asset management are largely as expected. However, the growth of decentralized derivatives, particularly event-based derivative tokens, may have the potential for these tokens to blur the line between financial instruments and gaming markets. The same applies for NFTs which may be used in video games, however creating new emerging markets, given that such NFTs may be transferred out of otherwise closed games and traded or exchanged as well as used in relation to random number generated events, again blurring the lines of gambling markets. This discovery introduces additional

complexities and considerations for regulators and researchers alike to be further researched in the future.

The identified challenges and complexities emphasize the importance of interdisciplinary research that bridges the gap between behavioral finance and regulatory public policy, enabling a more comprehensive understanding of the DeFi landscape, centralized DLT infrastructures and crypto asset service providers.

In line with previous research, the DeFi space has demonstrated remarkable potential for growth and innovation. Nonetheless, the emergence of new trends, technologies, and risks underscores the importance of conducting ongoing investigations to further elucidate the intricacies of this complex landscape. By fostering interdisciplinary collaboration between behavioral finance and regulatory public policy experts, a more holistic understanding of DeFi and centralized intermediaries bridging the decentralized and centralized financial system as well as traditional financial market players can be achieved, facilitating the development of robust, effective, and adaptive strategies that promote sustainable growth while addressing the ever-changing challenges in this fast-paced, interconnected financial ecosystem with an admonitory plea to focus on avoiding bad regulations altogether instead of trying to stipulate good rules for bad players and to practice in regulatory omission as a default instead of reactive regulatory measures or adhococracy which is potentially distorted by biases and heuristics.

Ultimately, the findings and interpretations presented here may lay the groundwork for upcoming research and policy development, emphasizing the significance of a multi-disciplinary approach in grasping the full spectrum of financial market regulation, DeFi's potential impact on the financial sector, transactions that go beyond the previously thought limits of quid pro quo exchanges through atomic executions, centralized financial intermediaries bridging the centralized and DeFi markets, while revealing that regulation of true DeFi remains questionable, as it would amount to regulation of technology, if it would at all be enforceable. Nevertheless, monitoring and assessment of the level of decentralization should be observed closely by supervisory authorities, as centralized intermediaries may put on the cloak of decentralization to cover their level of control and centralization and ultimately avoid regulation.

5.2 Implications in practice

- 547 From a practical standpoint, the implications of the findings presented in this analysis span both behavioral finance and regulatory public policy domains. These implications highlight the necessity of a cooperative and adaptive approach to address the unique challenges and opportunities posed by the DeFi ecosystem and DLT-based, yet centralized intermediaries.
- 548 In the realm of behavioral finance, the review elucidates the significance of trust mechanisms, investor behavior, and psychological factors that influence the adoption and utilization of DeFi platforms and markets. These insights can be employed to design educational initiatives, investor protection mechanisms, and targeted interventions aimed at promoting responsible investment practices, risk diversification by default and mitigating the risks associated with uninformed decision-making. Moreover, fostering an understanding of cognitive biases and heuristics that may impact investor behavior throughout the financial markets as well as public policy processes by the legislator and other involved parties and participants can facilitate the development of strategies to counteract their potentially detrimental effects, contributing to a more stable and resilient financial ecosystem.
- 549 From a regulatory public policy perspective, the implications of this review extend to the design and implementation of an adaptable and proportional regulatory framework that accommodates the rapidly evolving DeFi landscape and emerging markets as well as intermediaries bridging the centralized and decentralized systems. The EU Digital Finance package, MiCAR, DLT-Pilot Regime, DORA, and TFR serve as examples of regulatory initiatives that aim to strike a balance between fostering innovation while ensuring consumer protection and the stability of the financial system. By continuously monitoring the DeFi ecosystem and engaging in open dialogue with stakeholders, regulators can identify emerging trends and risks, allowing them to refine existing policies and develop a holistic approach. Ensuring consistency and coherence across the regulatory landscape will be crucial in addressing the interconnected nature of crypto asset service providers, traditional financial intermediaries and DeFi market infrastructures.
- 550 Further implications in practice are outlined hereinafter:
- Regulators should address their own biases in decision-making to improve the effectiveness of crypto asset regulations. Implementing procedures to counter these biases in the legislative process is essential. Instead

of enactment of good rules for bad players, a focus should be put on the avoidance of bad regulations and adhococracy effects – the reactive enactment of regulations based on isolated events – altogether.

- Policymakers must consider the complexities of market interactions, being aware of their own biases and limitations. Adopting solutions without considering potential unintended consequences may be detrimental. The application of pre-mortems might be advocated, where the policymakers imagine that a regulation will fail and then have to work backwards to determine what could potentially lead to the failure and how to avoid such failure.
- To mitigate biases in financial regulation, increased transparency, accountability, checks and balances, and independent oversight can be introduced. These measures ensure more informed and unbiased regulatory decisions.
- Policymakers could introduce cognitive training programs to help regulators recognize and counteract common biases, promoting thorough analysis and avoiding cognitive pitfalls.
- Adopting adaptive regulatory approaches, involving regular review and revision of frameworks, ideally after evidence-based assessment, ensuring regulations remain relevant and effective over time, without being influenced by biases or outdated assumptions.
- Focusing on avoiding bad regulations and encouraging investor diversification may be more effective than reactively implementing ad hoc regulations (avoidance of adhococracy).
- Regulating investors or peers, although sounding drastic and unintuitive, may safeguard their interests by providing guidelines, standards, and promoting diversification by use of framing effects and choice architecture dependent on investor's information on financial markets. Using framing effects and nudging techniques, policymakers can influence investor behavior and protect them, promoting responsible investment choices and diversified portfolios. Regulating investors or peers with regard to DeFi infrastructures may also be a viable approach insofar as it would avoid regulating the technology of these systems, as there are no intermediaries due to the decentralization as previously pointed out. In truly decentralized systems, where individuals may act as peers and potentially be considered service providers or business entities, regulating such peers appears even more logical (instead of targeting the underlying technology or intermediating technology platform). This approach also acknowledges the inherent decentralization of DeFi infrastructures and

preserves technological innovation while also creating legal certainty and mitigating risks associated with trade, tax (particularly VAT tax), supervisory, or other regulatory concerns, which may then be directly applicable to individual peers interacting on the DeFi system, somewhat akin to the regulation of platform operators. The often-propagated empowerment through DeFi will then also be accompanied by the corresponding responsibility.

- 551 The last implication also leads to the answer of the research question of this work – *"Which objectives of financial market regulation make sense with regard to decentralized finance, taking into account insights from behavioral economics and regulatory policy?"* The answer is as simple as it is unintuitive at first and as logical once outspoken: The regulation of peers! Given that the legal connecting factor for regulatory consequences is always the service provider and the services provided, it only makes sense to regulate peers, based on their provided services, as they may act similar to platform operators and will therefore be responsible not only for complying with financial market regulation, but also with trade law, tax law and other provisions.

5.3 Implications in theory and research

- 552 From a theoretical and research standpoint, the insights gained from both the behavioral finance and regulatory public policy perspectives provide valuable opportunities for advancing understanding of interactions in the DeFi ecosystem. In terms of behavioral finance, the study of trust mechanisms, investor behavior, and potential biases within the context of policy-making can contribute to the development of more robust models and frameworks for analyzing decision-making processes and behavioral patterns in decentralized financial environments. This, in turn, can inform the design of targeted interventions, nudges, and educational initiatives aimed at promoting responsible and well-informed investment decisions in the DeFi space.
- 553 On the regulatory public policy front, the review underscores the need for a more adaptive and dynamic yet also holistically coordinated approach to regulation that is capable of responding to the rapid pace of innovation and technological advancements in the DeFi ecosystem, while generally refraining from implementing ad-hoc regulations as a default to avoid bad regulations. This necessitates ongoing research efforts to monitor and

assess the effectiveness of existing regulatory frameworks, as well as the exploration of novel regulatory tools and mechanisms that can address the unique challenges and risks associated with decentralized financial systems. By fostering a more evidence-based and data-driven approach to regulation, policymakers can ensure that their interventions are tailored to the specific characteristics and risk profiles of the DeFi sector, while also adhering to the principles of proportionality and cost-benefit analysis. Furthermore, additional mechanisms on the policymaking level itself should be considered to mitigate biases in decision making in the legislative context.

Moreover, the interdisciplinary nature of the DeFi ecosystem calls for collaborative research efforts that bridge the gap between behavioral finance, regulatory public policy, law and economics and other relevant domains, such as computer science and cryptography. By fostering cross-disciplinary dialogue and cooperation, researchers can develop a more comprehensive understanding of the intricate interplay between the various components of the DeFi landscape. This comprehensive approach will enable the development of more effective and targeted strategies for mitigating risks, promoting responsible innovation, and addressing the social, economic, and regulatory challenges that arise within the DeFi ecosystem.

Furthermore, the theoretical implications of DeFi research extend beyond the realm of finance and regulation, potentially influencing the way we conceptualize and study other decentralized and emergent phenomena. The insights gained from the review of DeFi can inform our understanding of the dynamics of decentralized systems in general, providing valuable lessons for the analysis of distributed governance structures, decentralized organizations, and other complex adaptive systems as well as complex, multifaceted atomic transactions beyond a quid pro quo basis.

In conclusion, the implications of DeFi research for theory and practice are both vast and multifaceted, requiring an interdisciplinary approach and fostering collaborative efforts among researchers from various fields, to analyze the full potential of decentralized financial systems in depth.

5.4 Limitations and future research

Despite the comprehensive exploration of the DeFi landscape and its implications for both behavioral finance and regulatory public policy, this work is not without its limitations. Firstly, the rapidly evolving nature of the DeFi ecosystem presents a significant challenge, as the information and analysis

provided in this work may quickly become outdated. As such, ongoing research and continuous monitoring of the DeFi space are necessary to ensure that the insights presented here remain relevant and accurate.

558 Secondly, the interdisciplinary nature of this work, while beneficial in offering a holistic perspective, may also result in some oversimplification or omission of certain aspects specific to individual disciplines. For example, the complex technicalities of blockchain technology and cryptography may not have been addressed in full depth, limiting the granularity of the analysis. Future work could expand upon these topics by incorporating expertise from a broader range of disciplines.

559 Another limitation is the primary focus on European regulatory frameworks, which may not be directly applicable or transferrable to other jurisdictions. Different countries and regions may have their unique regulatory challenges and opportunities, and a more global perspective could provide valuable insights into the broader implications of DeFi for the international financial system.

560 Finally, it is important to acknowledge that the conclusions drawn in this work are based on the current state of DeFi and the regulatory landscape. As new innovations and challenges emerge, the landscape may shift, necessitating the reevaluation of certain assumptions and assertions. Therefore, it is essential for researchers to maintain a flexible and adaptive approach when studying DeFi, acknowledging the inherent uncertainty and fluidity of this domain. In addition, while empirical research is propagated in this work, it is itself limited by its conceptual approach.

561 While this work provides a comprehensive examination of the DeFi landscape from both behavioral finance and regulatory public policy perspectives, it is important to recognize and address its limitations. By doing so, researchers can continue to refine and expand upon the existing body of knowledge, ensuring that the study of both decentralized and centralized markets and their intersection remains relevant, accurate, and adaptive to the ever-changing ecosystem.

562 Future research endeavors should strive to incorporate interdisciplinary expertise, expand the geographical scope, and remain vigilant for emerging trends and challenges in the DeFi space. By acknowledging the limitations and embracing the dynamic nature of this field, researchers can contribute to a deeper understanding of DeFi and its potential impact on the global financial system, fostering innovation and growth while mitigating the associated risks.

Building upon the findings and arguments presented in this work, future research can explore several avenues that extend the understanding of DeFi from both behavioral finance and regulatory public policy perspectives and also address newly emerging markets. Future research could delve deeper into the behavioral aspects of DeFi systems, examining the cognitive biases and heuristics that influence decision-making within the ecosystem. This could involve investigating the factors that drive risk-taking behavior, the role of trust in decentralized platforms, and the impact of information asymmetry on market participants. Empirical studies that employ experimental or survey-based methodologies may offer valuable insights into the psychological underpinnings of DeFi adoption and usage.

Furthermore, researchers can explore the implications of regulatory innovations on the DeFi landscape. As new regulatory frameworks and guidelines emerge, particularly with regard to centralized intermediaries providing services with regard to crypto assets and other fields, bridging the gap between truly decentralized markets and centralized systems, it is essential to analyze their influence on the development and growth of the DeFi ecosystem as well as the financial market as a whole and its stability. Comparative studies that examine the effectiveness of various regulatory approaches across different jurisdictions can provide valuable insights into the design of optimal regulatory strategies that balance innovation with risk mitigation.

In addition, the role of emerging technologies and their potential impact on the DeFi ecosystem warrants further investigation. As advancements in areas such as cryptography, artificial intelligence and even quantum computing continue to unfold, it is essential to understand how these technologies might reshape the DeFi landscape and create new opportunities and challenges for both market participants and regulators.

Lastly, research that focuses on the intersection of DeFi with other emerging, centralized financial paradigms, such as central bank digital currencies (CBDCs) and the tokenization of traditional assets, can offer valuable insights into the broader implications of decentralized finance for the global financial system. This research could explore how the integration of DeFi with these new instruments might impact financial stability, monetary policy, and the overall efficiency of financial markets.

In summary, the rapidly evolving DeFi ecosystem presents a myriad of research opportunities across various domains, including behavioral finance, regulatory public policy, but more broadly also on economics, sociology and psychology, law, political sciences and information technol-

ogy. By embracing interdisciplinary collaboration and keeping abreast of technological and regulatory developments, researchers can contribute to a deeper understanding of DeFi and its potential to reshape the financial landscape in the years to come.

5.5 Conclusion

- 568 The advent of DeFi presents opportunities for efficiency, transparency, and accessibility within future financial infrastructures. Despite its benefits, DeFi faces risks including smart contract vulnerabilities and operational security issues. Key components of the DeFi ecosystem include decentralized exchanges, lending, derivatives, portfolios and other emerging fields. With regulatory legislation like the Digital Finance package of the EU, a holistic approach to financial regulation coordinated with other economic regulation is essential in balancing innovation and risk mitigation.
- 569 Future research should incorporate interdisciplinary expertise, expand geographical scope, and explore emerging trends and challenges in DeFi. Potential avenues include investigating behavioral aspects of DeFi systems and centralized intermediaries bridging the CeFi and DeFi world, trust mechanisms, regulatory innovations, emerging technologies, and the intersection with emerging financial paradigms such as central bank digital currencies, tokenization of traditional assets as well as NFTs and the potential for new gaming markets. By embracing interdisciplinary collaboration and monitoring developments, researchers can contribute to understanding DeFi and its potential to reshape the financial landscape as a whole. Policymakers must adapt their decision-making processes to enact effective regulation to the rapidly changing markets. This requires adopting a more dynamic, evidence-based and data-driven approach to regulation while considering potential biases in legislative contexts.
- 570 Lastly, the response to the research question posed in this work – "Which objectives of financial market regulation make sense with regard to decentralized finance, considering insights from behavioral economics and regulatory policy?" – is both straightforward and initially counterintuitive: Regulate peers. As legal regulatory consequences are typically associated with service providers and their services, it's logical to regulate peers based on the services they offer (if any), since they may act similarly to platform operators. Consequently, they would be responsible for complying with

financial market regulation, trade law, tax law, and other relevant provisions as applicable depending on services provided.

