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A Comprehensive Framework for Understanding the Influence of Macroeconomic Factors on Crowdfunding and Directions for Future Research

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ABSTRACT

Crowdfunding has become an established method of entrepreneurial finance. Despite the growing body of literature in this field, limited research has investigated the impact of macroeconomic variables on crowdfunding activity. This study provides a theoretical framework, developed through an extensive review of the existing literature, to examine the relationship between macroeconomic conditions and crowdfunding. The analysis identifies key macroeconomic factors, such as employment, inflation, interest rates, economic uncertainty, and the business and credit cycles, as significant determinants of crowdfunding dynamics. Notably, crowdfunding exhibits a unique responsiveness to macroeconomic conditions in comparison to traditional financial instruments. Furthermore, evidence suggests a bidirectional relationship, wherein crowdfunding also exerts measurable effects on macroeconomic conditions, an aspect conceptually outlined and discussed in the later sections of the paper. The findings underscore the critical role of the macroeconomic environment in shaping crowdfunding patterns and outcomes. This study contributes to the theoretical understanding of the intersection between macroeconomic and alternative finance, and it offers structured directions for future research. Overall, the study serves as a reference point for scholars and practitioners seeking a comprehensive synthesis of current knowledge on the macroeconomic dimensions of crowdfunding.

KEYWORDS

Crowdfunding; Macroeconomic; Entrepreneurial finance; Economic uncertainty; Employment; Inflation; Interest rates; Investor sentiment

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1. Introduction

The 2008 global financial crisis had significant consequences, particularly in depleting investment capital for small and medium-sized enterprises, and as a result, accessing capital or bank loans became exceedingly difficult in the post-crisis period (Best & Neiss, 2014). Various crowdfunding platforms were established shortly after, including the well-known representatives Indiegogo and Kickstarter (Y. Zhao et al., 2019). The purpose was to assist projects in raising funds. The concept seemed promising and more platforms followed, especially debt and equity-based platforms, which were legalized in 2012 by the Obama Administration and the JOBS Act (Best & Neiss, 2014; Y. Zhao et al., 2019), to revive the small business sector (Alpert, 2022). During this period, crowdfunding gained a lot of attention as a potential solution for addressing financial challenges (Nilssen, 2014). Since then, crowdfunding has experienced a renaissance, which shows in strong growth rates over the years (Dushnitsky & Zunino, 2018; Lehner et al., 2015; Rau, 2020; Ziegler et al., 2020) and a big market volume[1]. For example, Kickstarter alone, a well-known platform, has raised over $8.3 billion for projects since its inception, with approximately 276,000 successfully funded projects (Kickstarter, 2025)[2]. And although it has not yet reached the same volume as traditional financial markets (Dragonetti & Weiss, 2016), it has become a well-established phenomenon in the field of entrepreneurial finance (Block et al., 2018; Hsieh & Vu, 2021) despite the fact that it represents a relatively new phenomenon within this field (Dushnitsky & Zunino, 2018). According to Ziegler et al. (2020), it is likely that the crowdfunding industry maintains momentum due to the potential for growth in many markets, particularly in developing and emerging markets. One potential explanation for the expansion of crowdfunding is the impact of the Internet, which has significantly increased the visibility and accessibility of crowdfunding platforms, thereby reducing transaction costs for those engaged in such endeavors (Ryu, 2020).

Although the majority of early news articles were highly positive, with many portraying crowdfunding as a catch-all solution for small-business funding challenges (Nilssen, 2014), the reality is that it has a relatively low success rate, resulting in most campaigns failing (McKinley, 2024). Since financing is a crucial prerequisite for entrepreneurial activities (Becker & Peppmeier, 2022), the considerable failure rate presents a substantial obstacle for those engaged in such activities. As the significance of crowdfunding has grown in recent years, the literature on crowdfunding has also experienced a notable expansion from 2010 to 2023 (Aziz et al., 2023). According to Shneor and Vik (2020), who conducted a comprehensive literature review of 88 academic papers published between 2010 and 2017, the majority of research is primarily based on the theories of signaling, social capital, and elaboration likelihood. As Hsieh and Vu (2021) assert, the majority of research into the dynamics and determinants of crowdfunding success has concentrated on project-related factors and the roles of participants within crowdfunding platforms. In their literary studies, Jáki et al. (2022) and Kaartemo (2017) identify the following categories of drivers that influence crowdfunding success: campaign-related factors (Jáki et al., 2022; Kaartemo, 2017), crowdfunder-/fund-seeker-related factors (Jáki et al., 2022; Kaartemo, 2017), platform-specific elements (Kaartemo, 2017), the initiators' network potential and the manner of communication on the platform (Jáki et al., 2022). In essence, the objective of the majority of studies is to identify and analyze variables that can be directly influenced by the participating parties in the context of crowdfunding. In contrast, broader macro-environmental influences that cannot be controlled are not fully captured (Jáki et al., 2022). Specifically, limited research has examined the role of macroeconomic factors in determining crowdfunding success (Hsieh & Vu, 2021). Consequently, a significant research gap persists in this field.

Crowdfunding emerged during a time of significant economic uncertainty, particularly following the 2008 financial crisis (Hsieh & Vu, 2021). Research has established a connection between uncertainty and crowdfunding

[1] The total market volume of crowdfunding is dependent on the source; therefore, no precise figures are provided here. To gain insight into the significance of crowdfunding, the case of Kickstarter is employed as a point of reference.
[2] As of April 2, 2025.

dynamics, highlighting various types of risks that can influence funding behavior. For instance, economic policy uncertainty (Hsieh & Vu, 2021) and geopolitical risks (Alsagr et al., 2023) have been shown to influence crowdfunding. Furthermore, both the 2007-2008 financial crisis (Harrison & Baldock, 2015; D. Wille et al., 2017) and the COVID-19 pandemic (Chandler et al., 2021; Gama et al., 2023; Igra et al., 2021; Imam Wahjono et al., 2023; Liu et al., 2022) have demonstrated implications for the role of crowdfunding in business financing, the parties involved in crowdfunding, and the crowdfunding performance. Given these insights, it is reasonable to infer that macroeconomic factors are closely connected to crowdfunding dynamics. As both consumers and businesses are affected by macroeconomic factors (Burda & Wyplosz, 2013), it is crucial to understand the relationship between these factors and crowdfunding.

This study contributes to the field of crowdfunding research by making three key contributions: (1) the development of a comprehensive theoretical framework, which, based on the authors' best knowledge, is the first to systematically link macroeconomic factors to crowdfunding dynamics; (2) the synthesis of disparate empirical findings on major macroeconomic variables (unemployment, inflation, economic uncertainty, interest rates), as well as emerging evidence on how crowdfunding itself influences macroeconomic conditions, thereby positioning this study as a valuable reference point; and (3) the proposal of a structured future research agenda that addresses identified gaps and guides further interdisciplinary exploration.

By integrating these contributions, the study enhances the understanding of how broader macroeconomic conditions influence crowdfunding outcomes. This deeper conceptualization advances theoretical development within the literature and provides practical insights for entrepreneurs, clarifying how economic environments affect access to financing. In addition, it offers potential indirect implications for policymakers, particularly in light of the feedback effects that crowdfunding activity has on the wider economy.

The paper is structured as follows: the methodology is outlined first, followed by a literature review and the development of a theoretical framework. This is followed by a discussion of key findings, an examination of future research directions, and a conclusion summarizing the study's contributions.

2. Methodology

First, this study undertakes a literature review in order to identify and analyze the key findings on the topic and to uncover research gaps. As Solis (2022) notes, a literature review is a form of review that is less systematic and formal than the systematic review and previous works are qualitatively summarized and evaluated without a formal, explicit method. Although this approach is inherently less transparent and carries a greater risk of bias than systematic reviews (Solis, 2022), it offers the advantage of being less time-intensive (Solis, 2022). To mitigate potential biases, this study was conducted with rigor and adherence to academic standards, focusing on reputable academic sources, including journals, books, and working papers. These sources were searched in Google Scholar, Scopus, ResearchGate, and cross-referenced with articles cited within the initial search results. In order to ensure the robustness and relevance of the knowledge base, studies published prior to 2025 were considered. The primary search term[3] employed were "crowdfunding," "macroeconomic," "uncertainty," "crisis," "macroeconomic variables," "framework," and "regulation." The objective was to encompass a range of perspectives on the nexus of these domains. This resulted in an overview of previous research regarding crowdfunding in general, macroeconomic dynamics for the context of crowdfunding, and existing frameworks of crowdfunding, which served as a foundation for the development of a novel framework. Despite the thorough effort invested, this review does not offer a complete overview due to the inclusion of only English- and German-language publications and the challenge of capturing all relevant studies within the vast body of research.

[3] The search terms were used both individually and in various combinations to ensure comprehensive coverage of the topic.

Second, this study develops a theoretical framework. As there is no universally accepted definition of a framework, it can be understood as a tool designed to facilitate connections and communicate core concepts within a field (Partelow, 2023). Partelow (2023) points out the insufficient discussion surrounding the attributes of an effective framework and the methods for applying them in ways that deliver integrative value to the wider scholarly community. To ensure value creation in framework development, this study loosely follows the mediating process and guiding points outlined by Partelow (2023), which facilitate the systematic creation and application of frameworks aligned with broader theoretical and practical goals. In particular, the development of the framework in this study is informed by the guiding points presented by Partelow (2023), which recommend: (1) clarifying the framework's positioning, including who developed it, the researchers' underlying values, the research questions addressed, and the disciplinary context; (2) articulating the framework's purpose, including the paradigms, theories, or models it contributes to; (3) detailing the framework's components and their relationships, along with how they were derived; (4) outlining its potential applications; and (5) explaining the framework's novelty and added value in comparison to existing approaches. For further details, see Partelow (2023).

3. Literature review

This chapter provides an overview of the existing literature on crowdfunding, divided into two subsections. Subsection 1 provides an overview of crowdfunding as a financial instrument, outlining its basic characteristics and offering a foundational understanding of its underlying mechanisms. Subsection 2 reviews existing crowdfunding frameworks.

3.1. Overview of Crowdfunding

Crowdfunding can be defined as the act of seeking financial support from the general public, typically through online platforms, where contributors can receive rewards, voting privileges, or choose to donate (Gierczak et al., 2016; Ordanini et al., 2011; Scholz, 2015; Schwienbacher & Larralde, 2010; Steinberg & DeMaria, 2012). A key feature is the participation of many individuals who contribute small amounts of money (Belleflamme et al., 2014; Lehner, 2013), often from the general public, including non-traditional investors. This sets crowdfunding apart from established financial forms like venture capital (Ryu, 2020). The crowdfunding process consists of three key parties: the creators seeking funding, the crowd acting as investors[4], and the crowdfunding platforms. Crowdfunding platforms operate as two-sided markets, facilitating connections between founders and potential investors (Belleflamme et al., 2014; Ryu, 2020). Consequently, they serve as intermediaries in this process. According to Ryu (2020), crowdfunding platforms do not directly oversee transactions between creators and contributors, but rather enable them by providing communication tools and payment systems. Ryu (2020) also highlights the strong cross-network externality present in this dynamic, where the size and quality of one group significantly influence the participation and engagement of the other. The transaction mechanisms employed by different platforms vary. A distinction is drawn between the "all-or-nothing" and the "keep-what-you-get" concepts (Günther & Riethmüller, 2020). In the first case, which is the most prevalent among platforms, the campaign founders are permitted to retain the funds only if they succeed in reaching or exceeding the specified funding target (Günther & Riethmüller, 2020; Ryu, 2020). This is designed to safeguard the interests of the investors from the potential consequences of undercapitalization (Günther & Riethmüller, 2020). In the second case, the platform allows the campaign founders to retain all funds, regardless of whether the targeted amount has been reached (Günther & Riethmüller, 2020; Ryu, 2020). The four main types of crowdfunding are lending-based, equity-based, donation-based, and reward-based

[4] To ensure consistency in terminology, the crowd, also referred to as backers, will hereafter be referred to as investors throughout the text.

(Günther & Riethmüller, 2020; Orthwein, 2015; Ryu, 2020; Sixt, 2014). Other forms of crowdfunding, such as royalty-based crowdfunding (Beaulieu et al., 2015; Bogusz, 2019), and waqf[5] crowdfunding (Ismail & Pratomo, 2019; Suhaili & Palil, 2016), have also emerged but have received limited attention in the existing academic literature. Additionally, forms of microfinance and peer-to-peer lending (Beaulieu et al., 2015) are worthy of mention. The primary distinctions between these diverse forms can be found in the type and extent of return provided to investors in exchange for their capital contribution (Bogusz, 2019; Günther & Riethmüller, 2020; Ryu, 2020). According to Wangchuk (2021), lending and rewards-based models are the most dominant globally in terms of capital raised, and they are the preferred choices among investors. Given that crowdfunding is a multidisciplinary field (Lax, 2017), Ryu (2020) argues that understanding it requires drawing from a range of literature, including concepts related to social human nature, crowd behavior, and cooperative behavior. Consequently, it is reasonable that various motivations for individuals' participation in crowdfunding initiatives are found in the existing literature. Project founders are driven by various objectives in their crowdfunding endeavors, including the need for fundraising, enhancing visibility, and acquiring new fundraising skills (Gerber & Hui, 2016). They also seek to retain control and autonomy over their projects (Brown et al., 2017; Gerber & Hui, 2016) and aim to gain social capital (W. Cai et al., 2021). Furthermore, crowdfunding represents a valuable opportunity for marketing purposes (Beier et al., 2014; Brown et al., 2017; Günther & Riethmüller, 2020; Harzer, 2013) and contributes to value creation for organizations (Beier et al., 2014). Additionally, founders pursue crowdfunding for its speed in launching and funding, making it more efficient than other financing methods (Brown et al., 2017). In contrast, those who support crowdfunding are motivated by altruistic motives (Ryu, 2020), the desire to receive rewards (Gerber & Hui, 2016), and the pursuit of social recognition (Ryu, 2020). Collectively, these insights illustrate that a complex interplay of rational, emotional, and social factors drives participation in crowdfunding.

3.2. Existing Crowdfunding Frameworks

A total of 44 academic papers on crowdfunding frameworks were reviewed in this study. The review uncovered a variety of topic-specific frameworks within the literature. To enhance clarity and interpretability, this study aimed to identify and broadly categorize recurring thematic patterns within existing crowdfunding research frameworks. The analysis revealed the following thematic areas of focus: General Aspects, Crowdfunding Types, Crowdfunding Motivation and Behavior, Marketing Dynamics, and Crowdfunding Success. A comprehensive list of the reviewed studies is provided in Table 1. Given that these findings contribute only tangentially to the central research question and to ensure the conciseness of the manuscript, an in-depth discussion of the results has been omitted. Readers are referred to the respective studies for further details on the specific content.

Table 1. Overview of Identified Frameworks in Crowdfunding Research.

Thematic Area	(n)	Key Focus	References
General Aspects	7	Examination of general principles and underlying mechanisms of crowdfunding.	(Ahsan & Musteen, 2021; Andishe Ashjari, 2022; L. Chen et al., 2016; Luca et al., 2019; Macht & Weatherston, 2014; Messeni Petruzzelli et al., 2019; Yablonsky, 2016)
Crowdfunding Types	7	Classification and analysis of different types of crowdfunding models.	(Beaulieu et al., 2015; Meyskens & Bird, 2015; Paschen, 2017; Salido-Andres et al., 2021; Shneor, 2020; Yacoub et al., 2022; L. Zhao & Ryu, 2020)
Crowdfunding	9	Analysis of behavior,	(Ahsan et al., 2018; Civardi et al., 2024; Green et al.; Jiang et

[5] The term waqf commonly refers to an asset or property dedicated for public benefit or purposes associated with Islamic principles.

Motivation & Behavior		motivational drivers, and incentives relevant to the involved stakeholders.	al., 2021; Koch, 2017; Y. Li et al., 2019; Proelss et al., 2021; Ryu & Kim, 2016; Shneor & Munim, 2019)
Marketing Dynamics	2	Exploration of marketing strategies and dynamics.	(Peprah & Shneor, 2022; Quero & Ventura, 2019)
Crowdfunding Success	19	Identification of factors to optimize success for stakeholders involved.	(Baber, 2019; Bao et al., 2022; Cappa, 2022; Cha, 2017; Chan et al., 2018; Chaudhary et al., 2024; Davies & Giovannetti, 2018; Deng et al., 2022; Gangi & Daniele, 2017; Gera & Kaur, 2018; Jáki et al., 2022; Kim & Hall, 2020; Lin & Pursiainen, 2022; Lui et al., 2023; van Teunenbroek et al., 2023; Verschoore & Zuquetto, 2016; N. Wille, 2024; Yang et al., 2015; Yeh et al., 2019)

Source: Author.

As shown in Table 1, existing frameworks predominantly emphasize micro-level success factors, with a focus on optimizing individual crowdfunding campaign outcomes. However, the absence of frameworks incorporating macroeconomic dimensions reveals a significant gap in the literature, one this study aims to address.

4. Framework

Building on the preceding literature review, this section develops the theoretical core of the study by analyzing the influence of key macroeconomic variables on the crowdfunding process. It begins with an outline of the crowdfunding process and the application of the circular flow of income model. This is followed by an examination of the roles played by unemployment, inflation, economic uncertainty, and interest rates. The section concludes with a consideration of crowdfunding's potential macroeconomic impact, emphasizing the bidirectional nature of this relationship.

4.1. Crowdfunding Process

The key question is how and why macroeconomic factors influence crowdfunding. Figure 1 illustrates this by outlining the main mechanisms affecting the process and its involved parties.

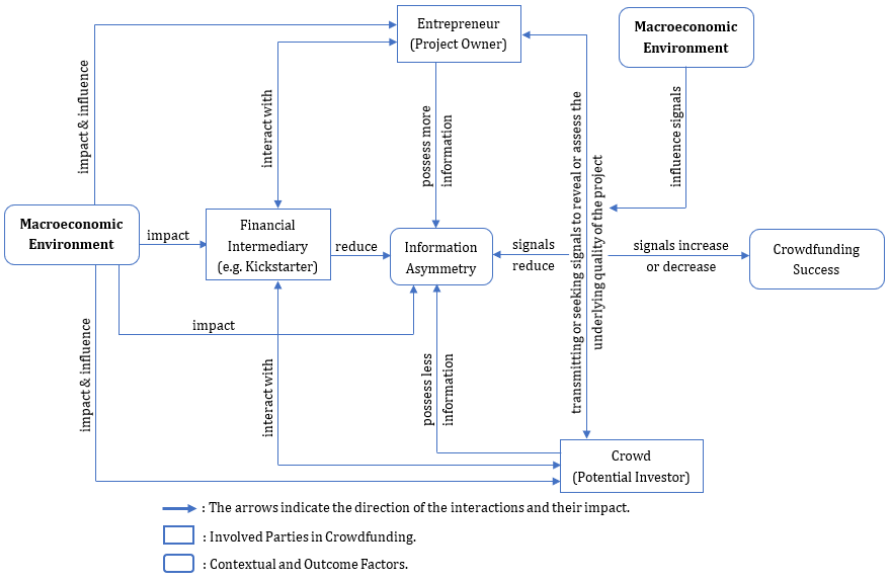

Figure 1. Impact of the Macroeconomic Environment on the Crowdfunding Process and Its Parties.

Crowdfunding constitutes a substantial component of entrepreneurial finance (Dushnitsky & Zunino, 2018; Hsieh & Vu, 2021), wherein informational disparities between entrepreneurs and investors hold particular significance, often surpassing those observed in conventional corporate finance (Han et al., 2020). As illustrated in Figure 1, founders typically possess superior information about the quality of their projects compared to external investors (Shane & Stuart, 2002), highlighting the information asymmetry inherent in the crowdfunding process. The absence of information can influence investment decisions and may lead to a reluctance to invest in projects or even in investments in general (Shlyakhtovska, 2018). This phenomenon is of particular significance in the context of crowdfunding, where the majority of investors tend to be relatively inexperienced (Lukkarinen et al., 2016; Piva & Rossi-Lamastra, 2017), particularly in comparison to traditional investors (Volpe et al., 2002). This disparity necessitates a greater investment of effort to obtain information (Ahlers et al., 2015), which in turn complicates the assessment of project quality (N. Wille, 2024). A reduction in information asymmetry is typically associated with increased success in crowdfunding campaigns, which can be attributed to a decrease in uncertainty surrounding the campaign, thereby enhancing the propensity of individuals to participate (Piva & Rossi-Lamastra, 2017; van der Zee, 2018).

To mitigate information asymmetry, signaling theory asserts that firms transmit information to the market and its participants (Tewes, 2008). Those in a position to make decisions seek to identify signals that could potentially reduce the effects of asymmetric information (M. Spence, 1974). These signaling dynamics, both from firms and market participants, are reflected in Figure 1. Consequently, the disclosure of the fundamental attributes of a project has been shown to help mitigate the adverse consequences of asymmetric information (Davies & Giovannetti, 2018). Crowdfunding platforms have the potential to serve as an additional means of reducing information asymmetry (see Figure 1), as they provide supplementary information and enhance the efficiency of the information flow.

The effectiveness of signals depends on two primary factors: whether the transmitted signal is perceived (Gulati & Higgins, 2003) and the manner in which it is interpreted by the recipient (Gulati & Higgins, 2003; Rynes et al., 1991). Koch and Siering (2019) demonstrated that the impact of success factors extends beyond the factors themselves, emphasizing the importance of the interrelationships among these factors. Similarly, the findings of Pinkow and Emmerich (2021) and N. Wille (2024) highlight that the effectiveness of success factors rely on the funding goal level of crowdfunding projects. This finding aligns with the principles of signal theory, which posits that signals can influence and modify the impact of other signals (Certo, 2003; Gulati & Higgins, 2003).

As established in traditional financial markets, macroeconomic conditions can influence market participants by shaping factors such as investor sentiment and risk assessments. Similarly, as illustrated in Figure 1, macroeconomic variables function as signals for crowdfunding investors, serving as external indicators that convey the broader economic context and inform perceptions of project viability. An advantageous macroeconomic environment exerts a significant influence on the success of crowdfunding campaigns (Adámek & Janků, 2022; Ekici & Aytürk, 2023). In contrast, unfavorable macroeconomic indicators amplify systematic risk and increase the perceived risk of returns[6], thereby discouraging investment. This reflects the investor's reliance on alternative signals to mitigate additional informational asymmetries introduced by macroeconomic factors, which compound pre-existing asymmetries.

It is noteworthy that this transmission mechanism may vary depending on the type of crowdfunding, as each model has distinct characteristics. This is particularly relevant when comparing non-investment-based and investment-based crowdfunding, since heightened information asymmetry is likely to play a more significant role in investment contexts, such as equity, than in donation-based models.

To elucidate how macroeconomic factors influence other signals, this relationship will be illustrated through

[6] For example, Alsagr et al. (2023) suggest that increased uncertainty raises concerns regarding the delivery of rewards, thereby negatively affecting reward-based crowdfunding.

an example to enhance comprehension. One signal that appears to play a significant role, as it is associated with higher success rates, is the number of comments on a crowdfunding campaign (Pinkow & Emmerich, 2021; N. Wang et al., 2018). The comment section provides supplementary information about the project, particularly regarding the perspectives or knowledge of other participants, beyond the information directly provided by the founder (N. Wang et al., 2018; N. Wille, 2024). This signal not only indicates an active community surrounding the campaign, thereby enhancing the campaign's credibility (N. Wille, 2024), but also enables investors to make more informed decisions (N. Wang et al., 2018). With additional information available, investors can better assess the project, reducing the uncertainty and risk associated with crowdfunding investments (N. Wille, 2024). After addressing the primary signal, attention shifts to the moderating effect of uncertainty, exemplified as a macroeconomic signal, which influences other signals within the given context. Zribi (2022) conducted an empirical investigation into the effects of social influence on the performance of crowdfunding campaigns within the context of the COVID-19 pandemic. The findings reveal that, during this period of heightened uncertainty, campaign outcomes[7] were more strongly impacted by the founder's dynamism and the volume of comments exchanged among stakeholders. This can be explained through information asymmetry theory, as economic uncertainty exacerbates information asymmetry. In response, investors seek to mitigate this asymmetry by placing greater reliance on available signals, thereby illustrating the moderating impact of macroeconomic factors on other signals. This aligns with Zribi (2022), who suggests that, during periods of uncertainty, investors seek additional information about projects prior to committing to funding.

Additionally, macroeconomic factors not only shape the underlying mechanisms of information asymmetry and signaling, but also influence the behavior of crowdfunding participants, as outlined in Figure 1. In turn, crowdfunding also affects the macroeconomy. This bidirectional relationship, from macroeconomics to crowdfunding, and vice versa, is examined in detail in the subsequent chapters.

4.2. Circular Flow of Income

After explaining how macroeconomic factors influence the crowdfunding process, each factor will be discussed. The initial point of reference will be the circular flow of income, which represents a fundamental economic model that clarifies capital movement and the structure of economic activity inside an economy between agents (Capa et al., 2023; Challoumis, 2024). The rationale for the selected model is supported by the work of Capa et al. (2023), which offers both an elegant formulation and a clear explanation:

"Since all economic activity centers on the generation of output, the earning of income and the spending of money, economists are naturally interested in the magnitude of these aggregates, their linkages, and why they fluctuate. For an understanding of macroeconomic linkages, the circular flow of income model is an excellent place to start since it explains the ongoing transactions that take place [...]."

Moreover, this study selected this model as it can serve as an appropriate instrument for conceptualizing the classification of economic processes (Graf, 2002) and comprehending the environment within which businesses operate (Capa et al., 2023).

While several macroeconomic models could be considered, they are less aligned with the aims of this study. General equilibrium and IS-LM models focus primarily on aggregate dynamics and policy simulations, offering limited insight into actor-level interactions. Agent-based models capture behavioral complexity but are better suited for simulation-based analysis than conceptual theory-building. In contrast, the circular flow model provides a clear, actor-centered structure that maps capital flows between households, firms, and platforms. Its simplicity and flexibility make it well-suited to illustrate how macroeconomic conditions shape crowdfunding dynamics.

[7] Measured by the number of contributors, funding rate, and overall success.

Although Vijayasri (2013) highlighted the increasing difficulty of identifying a truly isolated economy in the modern era, given the pronounced interdependence between national economies, this analysis employs a closed-system perspective, excluding consideration of foreign trade[8] [Figure 2], as this approach facilitates analysis by focusing exclusively on internal economic dynamics. Consequently, the relationship between households (investors) and corporations (crowdfunded firms) becomes more evident, as shown in Figure 2.

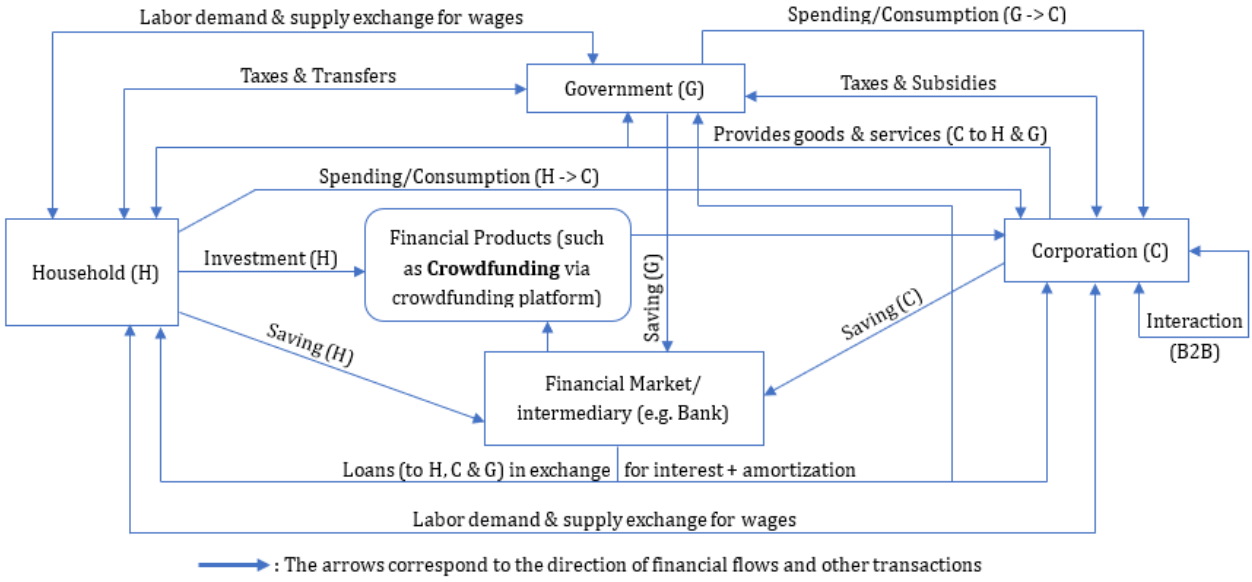

Figure 2. Crowdfunding Within a Closed Economic Circulation: Linking Households and Ventures.

Since the basic model is widely established and extensively discussed in the literature (Abel, 2004; Burda & Wyplosz, 2013; Capa et al., 2023; Challoumis, 2024; Graf, 2002), this study offers only a simplified account of its core mechanisms. Instead, the primary focus lies on exploring its applicability to crowdfunding, as will be elaborated upon in the following paragraph.

Firms engage in business transactions and depend on households in the resource market for factors of production, such as labor and capital. In return, households are compensated with income in the form of wages and interest. As a large source of income for many households is derived from employment (Burda & Wyplosz, 2013; Federal Statistical Office of Germany, n.d.), it serves as the foundation for their consumption, savings, and investments. Households allocate their financial resources to firms through their purchases in the goods and services market. Additionally, households engage in the financial market, lending their savings in exchange for interest, thereby creating a pool of loanable funds that firms can tap into for investment needs. In the context of the circular flow model, the role of the government is incorporated, encompassing key concepts such as taxation, government spending, and fiscal policy (Capa et al., 2023). In this model, households and corporations contribute to the government through taxes, which are then utilized to finance public services, subsidies, and social transfers. Subsidies provide support to industries and influence corporate production, while social transfers ensure household consumption. The government also procures goods and services from corporations, thereby stimulating business revenue. As households balance consumption, savings, and investments, their income is influenced by factors such as employment levels, government policies (e.g. taxation) and macroeconomic conditions. Capa et al.

[8] Crowdfunding, primarily facilitated through online platforms like Kickstarter, underscores the global interconnectedness enabled by the Internet. Such platforms enhance visibility, accessibility, and reduce costs (Ryu, 2020), fostering cross-border capital flows and connecting investors and borrowers worldwide. However, while cross-border investments in crowdfunding technically reflect an open economy, this distinction is not central to the current analysis. The fundamental dynamics of crowdfunding, centered on the interaction between capital borrowers and investors (households/financial markets), remain largely unaltered.

(2023) posit that concepts such as business cycles, inflation, and unemployment can be effectively illustrated within the context of the goods and services market. These macroeconomic conditions shape the overall flow of money, influencing both household income, corporate profitability, and credit conditions, which will be explained later in this study.

As shown in Figure 2, crowdfunding introduces an additional layer to the economic system by establishing an indirect link between households and corporate ventures, thereby enabling individuals to support startups and innovative businesses that may lack access to traditional financing. Given the broad array of alternative financial products available, crowdfunding as an investment option encounters significant competition from well-established and legitimate alternatives. For instance, overnight money offers a conservative and secure investment avenue aimed at wealth preservation, typically providing higher interest rates than traditional passbook savings accounts and serving as a viable short-term investment solution (Federal Financial Supervisory Authority, n.d.). Exchange Traded Funds (ETFs), which continue to gain in popularity (State Street Global Advisors, 2024), alongside stock market investments and highly speculative assets such as cryptocurrency, further underscore the competitive landscape for crowdfunding investments. Nevertheless, in both non-investment-based and investment-oriented crowdfunding, participation fundamentally relies on income, which is indispensable for financial engagement in crowdfunding[9] and is, among other factors, influenced by broader macroeconomic factors.

4.3. Unemployment Rate

Employment is considered a fundamental macroeconomic indicator, influencing the economy both in the short and long term (Niemira, 2024). Within the framework of the circular flow of income model, employment serves as a critical link between households and firms, facilitating the exchange of labor for wages that underpin both consumption and production. This focus is particularly relevant in the context of crowdfunding, given the pivotal role of the crowd as investors in this economic phenomenon.

Consequently, periods of unemployment frequently result in financial strain for individuals due to reduced income or job loss (Ganong & Noel, 2016), leading to significant and enduring income reductions (Fagereng et al., 2024). Given the high sensitivity of household spending to fluctuations in monthly income (Ganong & Noel, 2016), spending declines sharply upon the onset of unemployment (Ganong & Noel, 2016; Penrose & La Cava, 2021), with this effect becoming more pronounced when unemployment benefits are exhausted (Ganong & Noel, 2016, 2019). (Penrose & La Cava, 2021) note that the decline in spending is particularly acute among households facing prolonged unemployment or those that are liquidity-constrained. One possible explanation is provided by Hurd and Rohwedder (2016), who suggest that this is due to households' limited ability to mitigate short-term unemployment through mechanisms such as savings, temporary unemployment benefits, and support networks, while their financial resilience to longer periods of unemployment remains significantly lower. Another explanation, as proposed by Hurd and Rohwedder (2016), highlights the role of expectations. Long-term unemployed individuals may revise their expectations downward regarding the probability of re-employment or the quality of prospective job opportunities. This adjustment in expectations could result in reduced spending, even among those who are not immediately constrained by liquidity. According to Burgess et al. (1981), spending reductions tend to be smallest for essential categories, such as housing, food, and insurance, and largest for non-essential categories, including travel and discretionary clothing purchases. This prioritization reflects the income effect observed in microeconomics, wherein a decline in income correlates with reduced overall spending. Consequently, unemployed individuals are likely to perceive crowdfunding contributions as discretionary expenses they cannot justify amidst

[9] It is technically feasible to participate in non-financial ways, such as through community engagement by providing feedback on the project. However, the success of a campaign is typically evaluated based on financial metrics, even though financial gain may not be the sole motivation for initiating a campaign, as discussed in Chapter 3.1.

financial constraints.

Job loss or prolonged unemployment can have significant adverse effects on individuals' mental well-being (Chletsos et al., 2013; Latsou & Geitona, 2021; Paul & Moser, 2009). These effects can manifest, for instance, as heightened stress, anxiety, depression, and psychosomatic symptoms (Paul & Moser, 2009). In some cases, the psychological strain arising from uncertainty can exceed the actual challenges faced (Danes, 2023). Workers experiencing greater job insecurity are more likely to report poorer psychological and physical health, which can influence consumer behavior (Chirumbolo et al., 2021). The psychological impact of unemployment can result in increased risk aversion, as individuals facing uncertain future income and reduced income expectations become less inclined to take risks (Hetschko & Preuss, 2020). According to the theory of choice under uncertainty, risk preferences play a crucial role in decision-making across various domains (Guiso & Paiella, 2006). Guiso and Paiella (2006) demonstrated that heightened risk aversion leads to a preference for lower-return investments with reduced risk exposure. In the context of crowdfunding, unemployed individuals may view the risk of investing in a project as outweighing the potential returns, particularly when their financial position is precarious. This risk aversion may be more pronounced in non-investment crowdfunding models, where the returns are often significantly lower than the amount contributed, as previously discussed in this paper.

Unemployment, particularly of long duration, is often associated with a perception that individuals become less skilled over time due to skill depreciation (Congressional Budget Office, 2012). To counteract this effect, unemployment can influence how individuals allocate their time. With increased availability of time, unemployed individuals may prioritize activities that facilitate re-employment or skill enhancement. This behavioral adjustment aligns with the concept of time preference in decision-making, where the immediate benefits of an activity are evaluated against its long-term outcomes. In the context of crowdfunding, unemployed individuals may view the time and effort required to research and engage in projects as better allocated to job search activities or self-improvement[10]. This shift in priorities could exacerbate information asymmetry, diminishing their willingness to participate in crowdfunding initiatives.

Empirical research on this topic remains limited. Adámek and Janků (2018) examined debt-based crowdfunding and found that rising unemployment leads to a decline in demand for crowdfunding loans, as unemployed individuals are less likely to seek financing. Adámek and Janků (2022) observed a counter-cyclical response among reward-based crowdfunding project founders, with higher unemployment is associated with increased funding requests through crowdfunding campaigns. This suggests that during periods of rising unemployment, individuals may be more inclined to initiate crowdfunding projects. However, they emphasize the importance of considering the distinct characteristics of reward-based crowdfunding. Unlike debt-based crowdfunding, where investor decisions may be influenced by a borrower's employment status and financial stability, investors in reward-based crowdfunding are generally unconcerned with the creator's employment status (Adámek & Janků, 2022). In contrast, Alsagr et al. (2023) found no evidence that unemployment affects the success of reward-based crowdfunding campaigns.

4.4. Inflation

Inflation is characterized by a sustained increase in the overall prices of goods and services within a defined temporal period (Niemira, 2024). A significant perceived cost of inflation is its negative impact on individuals'

[10] It is essential to consider the possibility of an opposing effect, wherein individuals might dedicate more time to researching crowdfunding campaigns due to reduced time constraints, particularly if they receive unemployment benefits or possess substantial financial reserves. However, this study contends, albeit with some degree of debate, that such an outcome is less probable. This assumption is grounded in the premise that income generation is typically assigned a higher priority than other activities during periods of unemployment.

standard of living (Shiller, 1997), as periods of elevated inflation erode the real value of money, resulting in reduced purchasing power (Oner, 2010). As a result, during times of elevated inflation, consumers often prioritize essential expenditures over discretionary spending and adopt more conservative financial behavior (Williams & Bailie, 2022).

In addition to the potential decline in purchasing power, which can lead to a change in investment behavior, inflation can be understood to exacerbate information asymmetry from a theoretical standpoint. This is because consumers must evaluate not only the intrinsic quality of a given project but also the entrepreneur's capacity to manage the complexities introduced by an inflationary environment. Inflation generates significant uncertainty in business operations, thereby complicating strategic planning and decision-making processes as companies encounter adverse effects, including increased operational costs, diminished profit margins, and declining consumer demand (Pinchbeck, 2023).

Preliminary empirical findings suggest a potential impact of inflation on crowdfunding outcomes. Aytürk et al. (n.d.) emphasize the influence of inflation on the funding decisions, noting that periods of low inflation are associated with a higher likelihood of success for reward-based crowdfunding initiatives. Similarly, Ekici and Aytürk (2023) indicate that a favorable macroeconomic environment is crucial for determining crowdfunding success, with lower inflation levels positively impacting the success probability of reward-based campaigns. In contrast, Alsagr et al. (2023) reported that inflation had no significant effect on crowdfunding performance. Hsieh and Vu (2021) identified a positive relationship between interest rates, inflation, and crowdfunding success. During periods of high inflation, the real value of money declines, resulting in reduced purchasing power (Oner, 2010), while rising interest rates increase borrowing costs, leading to a decrease in individual borrowing (Hsieh & Vu, 2021). Under these conditions, they suggest that individuals may be more inclined to pursue investment opportunities with lower capital requirements, making crowdfunding a potentially viable investment alternative during times of elevated inflation and high interest rates.

4.5. Economic Uncertainty

Claveria et al. (2019) conceptualize economic uncertainty as a condition in which economic agents face significant limitations in forecasting future events and estimating their probability of occurrence. The effects of economic uncertainty on both household and firm behavior are profound (Jones, 2021), often coinciding with shifts in government policies and regulations, thereby contributing to an unstable regulatory environment (FasterCapital, n.d.). Periods of heightened economic uncertainty are typically associated with a reduction in firms' investment propensity, as businesses delay capital expenditures and strategic expansion decisions due to increased unpredictability in market conditions (Ahir et al., 2020; FasterCapital, n.d.; Jones, 2021). Similarly, consumers often exhibit more cautious spending behavior (Ahir et al., 2020; Jones, 2021), a trend that is particularly pronounced during economic downturns when concerns over job security intensify (FasterCapital, n.d.). Furthermore, economic uncertainty influences capital allocation by exacerbating risk aversion among investors, thereby reducing the demand for high-risk assets (FasterCapital, n.d.). This decline in investment activity is especially detrimental to early-stage ventures and startups, which are highly dependent on external financing for growth and scalability (FasterCapital, n.d.).

Building on this conceptualization of how economic uncertainty influences the behavior of households, firms, and investors, Table 2 synthesizes recent empirical evidence on the differential effects of specific dimensions of economic uncertainty on crowdfunding dynamics.

Table 2. Impact of Economic Uncertainty on Crowdfunding.

Factor	Implications for Crowdfunding
Economic Policy Uncertainty (EPU)[1]	- Positively associated with crowdfunding success, unlike traditional financial activities, due to the unique characteristics of crowdfunding. - Impact on aggregate demand by increasing the number of crowdfunding projects. launched and the total amount of capital requested when EPU is high.
Geopolitical Risks (GPR)[2]	- Geopolitical risks adversely impact the probability of crowdfunding success. - May hinder entrepreneurs' ability to complete projects, thereby increasing concerns regarding reward fulfillment. - Signaling mechanisms and campaign disclosures function as mitigating factors, helping to alleviate the constraints imposed by heightened geopolitical risk.
Business & Credit Cycle	- Contractions in the supply of credit. - Less willingness to invest in start-ups and young companies. - Increased demand for alternative financing methods like crowdfunding.
Investor Sentiment	- Negatively affect investor sentiment and therefore crowdfunding in terms of funding outcomes and the number of platforms. - Impact of investor sentiment may fluctuate based on the type of crowdfunding[3].

Notes: [1] Based on the findings of Hsieh and Vu (2021). [2] Based on the findings of Alsagr et al. (2023). [3] Based on the findings of Dos S. Felipe et al. (2017).

Hsieh and Vu (2021) investigated the relationship between Economic Policy Uncertainty (EPU), which is defined as an index calculated based on the frequency of newspaper articles addressing policy-related uncertainty (Baker et al., 2016), and crowdfunding performance. Their findings indicate that an increase in EPU is positively associated with crowdfunding success, with a twofold rise in the EPU index leading to a 6.5% increase in the likelihood of successful crowdfunding campaigns. They highlight that this finding diverges from the predominantly negative impact that EPU typically exerts on conventional financial activities. The authors attribute this deviation to the unique attributes of crowdfunding, particularly its ability to accommodate small-scale investments and the fact that investors are often driven by non-financial motivations. Their analysis further reveals that this positive effect diminishes for larger projects and is comparatively weaker in campaigns related to design and technology. Additionally, their study suggests that crowdfunding projects with a high degree of positive sentiment in investor comments benefit more from increased EPU. At an aggregate level, their findings indicate that heightened EPU is associated with a greater number of crowdfunding projects launched and an increase in total capital sought.

Geopolitical risk represents another dimension of economic uncertainty, defined by Caldara and Iacoviello (2018) as uncertainty stemming from conflicts, terrorist activities, and political tensions that disrupt international stability. Research by Alsagr et al. (2023) provides evidence that geopolitical risk negatively influences crowdfunding outcomes. Uncertainty can impede entrepreneurs' ability to successfully execute their projects, thereby making the fulfillment of rewards from countries experiencing high geopolitical risk appear more uncertain (Alsagr et al., 2023). This is particularly relevant in reward-based crowdfunding, where investors prioritize the likelihood of reward fulfillment when making investment decisions (Mollick, 2014). Furthermore, their analysis identifies specific mechanisms through which entrepreneurs can mitigate these adverse effects. Their findings suggest that strategic signaling and campaign disclosures serve as mitigating factors, helping to offset the constraints associated with heightened geopolitical risk.

Moreover, economic uncertainty exerts an influence on business cycles and credit cycles. A hallmark of economic downturns, such as recessions, is the occurrence of financial disruptions, including contractions in the supply of credit (Claessens et al., 2011). The imposition of credit restrictions is attributable to a variety of factors, including elevated default risk, the necessity of maintaining liquidity, and the imposition of more stringent capital adequacy requirements, among others. These measures are adopted as a protective mechanism by financial institutions. This tends to result in a financial gap for individual consumers, small enterprises and start-ups, as

traditional financial institutions tend to prioritize large enterprises and organizations based on financial risk analysis (H. Wang, 2024). For instance, Block et al. (2012) demonstrated that the financial crisis is linked to a reduction in initial funding rounds and a decrease in funds raised in later funding rounds for venture capital. This has led to a substantial "funding gap" in the financing of technological development and innovation (Block et al., 2012). Even years after the 2008 financial crisis, small firms have been obtaining less capital (D. Wille et al., 2017). As a result, during economic downturns, obtaining funding becomes a primary concern, increasing the attractiveness of crowdfunding as a viable alternative (Al-Qathmi et al., 2023). The reason for the increase in attractiveness is that crowdfunding as a financing mechanism facilitates the bypassing of traditional financial intermediaries, including banks and venture capital firms, thus improving accessibility for start-ups (Rejeb et al., 2024).

Uncertainty in financial markets (Seok et al., 2024) and the business and credit cycle discussed above influence the expectations of investors, banks and companies, also known as investor sentiment. Investor sentiment, as defined by Auer (2012), generally refers to an investor's fundamental attitude toward the current market situation and their expectations about future market developments. The role of investment-related emotions in investment finance has been a crucial subject in investment finance (H. Chen et al., 2021). These emotions have been shown to influence the entire investment process (H. Chen et al., 2021) and to affect investment returns (Andleeb & Hassan, 2023; H. Chen et al., 2021). In addition, global investor sentiment plays a crucial role in shaping domestic investor sentiment and influencing global macroeconomic conditions (Herculano & Lütkebohmert, 2023). Conversely, expectations regarding the macroeconomy result in an adjustment to individuals' consumption plans and stock purchases (Roth & Wohlfart, 2020).

As crowdfunding is characterized by the participation of numerous individuals who contribute modest sums of money (Belleflamme et al., 2014; Lehner, 2013), it follows logically that it is influenced by investor sentiment. For example, Nguyen et al. (2025) found that equity crowdfunding is susceptible to the influence of investor sentiment and that investments are significantly higher during periods of high sentiment than during periods of low sentiment. But sentiment plays a role in crowdfunding in other contexts as well. There is evidence that regulatory sentiment (Konstantinov, 2023) and text sentiment (Israel José dos Santos Felipe et al., 2023; W. Wang et al., 2017; Yuan et al., 2021) influence crowdfunding. Regulatory sentiment affects both the volume of investment and the number of platforms for investment-based crowdfunding, with appropriate sentiment fostering a positive effect and excessive sentiment leading to a negative effect (Konstantinov, 2023). Text sentiment seems to affect crowdfunding in two ways. First, positive text sentiment seems to have a positive effect on funding outcomes. Israel José dos Santos Felipe et al. (2023) demonstrated that the prevalence of positive language in mass media news can contribute to increased investment in the equity crowdfunding market. Similarly, the presence of positive sentiment in the blurb and detailed description has been shown to attracts investors to pledge (W. Wang et al., 2017). Second, a moderating role of text sentiment in shaping the influence of motivational cues within crowdfunding campaigns has been identified (Yuan et al., 2021). It is essential to acknowledge that the relationship between text sentiment and investor sentiment may be heterogeneous (Israel José dos Santos Felipe et al., 2023; Kearney & Liu, 2014) and that investor sentiment may fluctuate based on the type of crowdfunding (Dos S. Felipe et al., 2017). For instance, Dos S. Felipe et al. (2017) suggest that negative economic news, can be interpreted not only as an indicator of economic decline, but also as an opportunity to provide financial support to those in need.

4.6. Interest rates

Central banks utilize interest rates as an instrument to mitigate the adverse consequences of inflation, economic fluctuations, and unemployment, thereby aiming to enhance economic stability. Consequently, interest rates are connected to the aforementioned macroeconomic elements in this study, which were shown to be relevant

in the context of crowdfunding. Research has demonstrated that interest rates can influence crowdfunding activity (Adámek & Janků, 2018, 2022; Hsieh & Vu, 2021). Fluctuations in central bank interest rates are transmitted through financial institutions and capital markets to borrowers. Within the context of crowdfunding, fluctuations in interest rates primarily impact two key stakeholders: investors, and the firms seeking to raise capital[11]. For investors participating in crowdfunding, fluctuations in interest rates alter borrowing costs (Hsieh & Vu, 2021), which in turn influence investment opportunities and the corresponding capital requirements (Hsieh & Vu, 2021). Conversely, when viewed from the perspective of companies seeking capital, interest rate fluctuations directly impact the cost of capital. A rise in interest rates leads to an elevation in the cost of traditional bank loans (Adámek & Janků, 2018) and therefore to an increase in the demand for crowdfunding (Adámek & Janků, 2018, 2022). As crowdfunding generally has a lower cost of capital than traditional sources (Motylska-Kuzma, 2015, 2016), fluctuations in interest rates may intensify the rising demand effect, as these fluctuations exceed the changes in fees charged by crowdfunding intermediaries[12].

4.7. The Macroeconomic Impact of Crowdfunding

Thus far, this study has examined the impact of macroeconomic factors on crowdfunding while largely overlooking the reverse relationship, namely, how crowdfunding influences macroeconomic conditions, particularly in terms of its implications for economic growth and financial markets. Although this is not the primary focus of the paper, it raises a logical follow-up question that warrants brief consideration. To maintain alignment with the study's overarching research objectives and avoid deviating from its central focus, the discussion will be kept concise.

Crowdfunding is recognized as a component of FinTech (Griffiths, 2020; Ma & Liu, 2017; Ziegler et al., 2020). FinTech is described by Ma and Liu (2017) as a broad and evolving sector in which technology is utilized to reshape financial activities, including payments, fundraising, lending, investment management, and the integration of digital and traditional currencies. Griffiths (2020) argued that the banking industry, preoccupied with the 2007-2008 financial crisis and subsequent regulatory changes, failed to recognize technological advancements and social shifts, thereby creating an opportunity for the rise of FinTech. As FinTech continues to gain significance, it has substantially transformed the landscape for traditional financial intermediaries (C. W. Cai, 2018). While crowdfunding possesses the potential to disrupt conventional financial intermediation, it functions as a substitute rather than a complete replacement (C. W. Cai, 2018). This evolution raises important questions about its broader implications, particularly concerning financial stability, with conflicting views on whether FinTech serves as a stabilizing force or introduces new risks (Cevik, 2024). A component of this discussion is Internet Finance, under which crowdfunding can also be categorized (Xu et al., 2020). Internet Finance is a financial model that integrates internet-based technologies with traditional financial practices to facilitate transactions, capital financing and investments (H. Wang, 2024; Xu et al., 2020). Given its strong overlap with FinTech, Internet Finance can be seen as a subset of FinTech. Understanding the impact of both FinTech and Internet Finance, with crowdfunding as a component, is crucial for evaluating their role in the financial sector. To support this analysis, Table 3 presents a comprehensive overview of the positive and negative effects associated with FinTech and Internet Finance, including their implications for financial stability and broader macroeconomic outcomes.

[11] Indirectly, the intermediary as a third party is also affected by this, similar to any other economic agent or market participant.

[12] For example, an article by E. Spence (2012) says that Kickstarter charged a 5% fee. In 2016, it was still 5% (Gratton, 2016), and in 2024, it was still a flat 5% fee (Khachatryan, 2024). This is a very simple way of looking at the cost, and it does not include all of the cost of capital of crowdfunding. However, the underlying point is still illustrated. To the best of this study's knowledge, there is little specific research on how the interest or cost of capital in crowdfunding compares or relates to bank interest rates.

Table 3. Impacts of FinTech and Internet Finance on Financial Stability and the Economy.

Positive Effects	Negative Effects
- Improved banking efficiency and consumer welfare.[1, F] - Improved efficiency of financial services. [5, IF; 6, IF; 7, F] - Lower transaction costs for cross-border capital flows. [1, F] - Strengthens both local and cross-border financial stability, in particular crowdfunding.[2, F] - Enhanced financial inclusion[4, CF] and competition[7, F] - Expands access to financial resources and services. [3, CF; 5, IF] - Democratizes investment opportunities for the broader public.[3, CF] - Promotes macroeconomic growth through improved financial resource allocation.[5, IF] - Equity crowdfunding, and to a lesser extent peer-to-peer lending, constitute a potential global solution to the financing challenges confronting small and medium-sized enterprises. [3, CF]	- Cybersecurity threats[7, F] - Increased volatility in capital flows can amplify fluctuations in company outputs and exchange rates, thereby escalating risks related to exchange rate instability. [1, F] - Encourages excessive risk-taking and contagious behaviour among consumers and financial institutions. [7, F] - Heightened credit default risks. [5, IF] - Increased impulsive borrowing (particularly among younger individuals). [5, IF] - Potential for fraudulent activities in unregulated platforms. - Increased systemic risk in financial systems[6, IF; 7, F]

Notes: F (FinTech), IF (Internet Finance), CF (Crowdfunding). [1] Naoyuki and Sahoko (2020). [2] Koranteng and You (2024). [3] Pekmezovic and Walker (2016). [4] Halim (2024). [5] H. Wang (2024). [6] Xu et al. (2020) . [7] Cevik (2024).

As illustrated in Table 3, multiple studies highlight significant macroeconomic effects linked to crowdfunding. Most notably, crowdfunding fosters financial inclusion by broadening access to financial resources and services for entrepreneurs and communities that have traditionally been underrepresented. It also promotes the democratization of investment, enabling individuals to engage in early-stage funding opportunities that were once the exclusive domain of institutional investors. While these positive impacts are well-documented, there are also concerns regarding potential adverse effects, particularly concerning systemic risk. However, current evidence suggests these risks remain limited, as FinTech remains comparatively small in relation to traditional institutions (Cevik, 2024). Cevik (2024) states that the average volume of FinTech instruments accounted for 0.1 percent of GDP between 2012 and 2020, in contrast to the 55 percent of domestic credit to the private sector. Given that crowdfunding represents only a fraction of the broader FinTech sector, its contribution to systemic risk is likely even smaller. Nevertheless, as FinTech continues to grow rapidly, its impact on financial stability is expected to increase, carrying important policy implications (Cevik, 2024). Regulations of financial innovations, such as crowdfunding, which reshape the financial system for all participants, have a direct impact on these instruments. For instance, Kukk and Laidroo (2020) found that the existence of regulations specific to crowdfunding is positively associated with the total crowdfunding volume per capita. Their research suggests that institutions play a crucial role in legitimizing crowdfunding by addressing challenges such as information asymmetry and moral hazard, although the influence of institutions may diminish over time as crowdfunding gains broader acceptance as a legitimate method of capital raising.

5. Discussion

This study makes several contributions to the field. First, it advances the literature by examining the influence of macroeconomic variables on crowdfunding. Crowdfunding emerged during a period of significant economic

uncertainty, notably following the 2007-2008 financial crisis (Hsieh & Vu, 2021). This context underscores the necessity of understanding the relationship between macroeconomic factors and crowdfunding activities. Given that crowdfunding is a relatively nascent and dynamic field, and considering its historically low success rates, it is understandable that much of the existing research has concentrated on micro-level determinants to explain crowdfunding outcomes[13]. In contrast, macroeconomic factors, which universally impact all market participants and lie outside the direct influence of individual participants, have received comparatively little scholarly attention (Hsieh & Vu, 2021), despite their potential significance. By thoroughly discussing each variable, it highlights their distinct effects and potential implications, offering a clearer understanding of how these broader economic variables shape crowdfunding outcomes.

Second, this study contributes to the literature by systematically organizing the identified macroeconomic variables within a cohesive framework. This structured approach enables the clear and efficient communication of core concepts in the field. This framework eliminates the need for researchers to independently locate and piece together findings from scattered studies, thereby streamlining access to knowledge and enhancing the understanding of the topic. Therefore, this study facilitates a more efficient and thorough exploration of macroeconomic factors impacting crowdfunding. To the best of the authors' knowledge, this study is the first to offer such a systematic and in-depth analysis of the connection between macroeconomic variables and crowdfunding[14]. As a result, it serves as a foundational resource for advancing both theoretical and practical understanding in this emerging area of research.

Third, this paper contributes to the literature by providing a broader research agenda. Beaulieu et al. (2015) emphasize the importance of setting up regular “check points” to review, synthesize, and adapt knowledge in light of fresh perspectives, particularly when addressing newly arising phenomena. Crowdfunding, while now a well-recognized aspect of entrepreneurial finance (Block et al., 2018; Hsieh & Vu, 2021), continues to evolve as a dynamic and transitional financial instrument (Ryu, 2020). Given the expectation that the crowdfunding sector will maintain its momentum (Ziegler et al., 2020), it is likely to develop beyond its current understanding. This study serves as such a review, thereby contributing to the advancement of research by providing a clearer foundation for exploring future research opportunities regarding macroeconomic variables.

The insights indicate that crowdfunding is influenced by macroeconomic variables in a manner analogous to traditional finance and the broader economy, as these variables shape investor behavior. This includes factors such as spending patterns, capital allocation, risk aversion, investor sentiment, and the impact of business and credit cycles. These insights are consistent with well-established financial principles. Additionally, macroeconomic conditions also affect companies. Hsieh and Vu (2021) analysis of aggregate crowdfunding demand indicates that periods of high economic policy uncertainty are associated with an increase in both the number of launched projects and the total capital requested. This phenomenon occurs as traditional financial sources become more difficult to access, with traditional financiers frequently postponing their investments during times of elevated uncertainty (Hsieh & Vu, 2021). Consequently, capital-seeking firms must seek alternative financing methods. Crowdfunding serves as an alternative financing method that bypasses traditional financial intermediaries such as banks and venture capital firms (Rejeb et al., 2024). While these findings provide valuable insights, they are consistent with established patterns and align with expectations, thereby rendering them less unexpected.

The surprising observation lies in the behavior of investors during periods of heightened uncertainty. Hsieh and Vu (2021) observed that a doubling of the Economic Policy Uncertainty index results in a 6.5% increase in

[13] Refer, for instance, to the findings of the literature review conducted on existing crowdfunding frameworks.

[14] Building on the findings of the literature review conducted on existing crowdfunding frameworks and considering the broader context of macroeconomic variables in relation to crowdfunding, only a limited number of studies have investigated the relationship between specific macroeconomic factors and crowdfunding activities. For example, Alsagr et al. (2023) and Hsieh and Vu (2021) have conducted research in this area, providing valuable insights that underpin the foundation of the present study.

crowdfunding success rates for reward-based crowdfunding. This finding is particularly noteworthy, as it contrasts sharply with most financial activities, which are generally negatively impacted by elevated levels of Economic Policy Uncertainty (Hsieh & Vu, 2021). This phenomenon is unexpected for two primary reasons. First, increased uncertainty exacerbates information asymmetry, as it affects the likelihood of project implementation. For instance, Zribi (2022) empirically investigated the effects of social influence in the context of the COVID-19 pandemic on the performance of crowdfunding campaigns. The study found that, during this period of extreme uncertainty, campaign outcomes (in terms of the number of contributors, funding rate, and overall success) were more strongly impacted by the dynamism of the founder and the number of comments exchanged between stakeholders. The study posits that investors, in times of uncertainty, seek greater information about the projects before committing to funding. This aligns with the findings of Hsieh and Vu (2021), who observed that projects with higher levels of positive sentiment in investor comments achieve greater crowdfunding success during times of heightened policy uncertainty. According to them, the positive feedback and attitudes expressed by initial investors serve to alleviate the perceived risks for those who contribute later. Secondly, heightened uncertainty in market conditions naturally prompts contributors to adjust their investment strategies, with a greater emphasis on risk aversion (Baker et al., 2020; FasterCapital, n.d.; Zribi, 2022).

As posited by Hsieh and Vu (2021), the occurrence of this phenomenon can be attributed to the distinctive characteristics of reward-based crowdfunding, which include the minimal risk posed to the investor's portfolio and the fact that investors are not solely driven by financial returns. The low risk associated with reward-based crowdfunding can be attributed to its structure, which allows investors to make small-scale investments[15] without significantly impacting their overall personal wealth (Hsieh & Vu, 2021; Ryu et al., 2020). From an economic perspective, this aligns with the concept of price discrimination theory, which describes the practice of charging different prices to different customers for the same product or a slightly modified version of it (Phillips, 2005), a phenomenon also observed in the crowdfunding context (N. Wille, 2024). It appears that the concept not only enables firms to better address the preferences of individual investors (Günther & Riethmüller, 2020) and accommodate various investor budgets, which is particularly beneficial when the target audience is diverse and heterogeneous in terms of financial capacity (Sixt, 2014), but also aids in mitigating additional risk associated with uncertainty. Another aspect to consider is the prevalence of the "all-or-nothing" transaction mechanism across crowdfunding platforms, wherein founders are only allowed to access funds if they meet or exceed their specified funding target (Günther & Riethmüller, 2020; Ryu, 2020). This mechanism is specifically designed to protect investors' interests from the potential risks associated with undercapitalization (Günther & Riethmüller, 2020), which is particularly advantageous during periods of uncertainty and may help mitigate the risks posed by unfavorable macroeconomic conditions.

It is important to note, however, that uncertainty is not a uniform concept, and changes in the measurement approach can yield conflicting results. For instance, Alsagr et al. (2023) provided robust evidence indicating that geopolitical risk is negatively correlated with reward-based crowdfunding performance. Similar to the previously discussed uncertainties, the study arrives at comparable conclusions, specifically that entrepreneurs can mitigate the costs associated with geopolitical risk through signaling and campaign disclosures. This is largely consistent with the majority of studies in the field of crowdfunding research, which are primarily grounded in the theories of signaling, social capital, and elaboration likelihood (Shneor & Vik, 2020).

Overall, the findings suggest that macroeconomic variables act as additional signals to investors, complementing campaign-specific, social-specific, and founder-specific factors, and appear to influence information asymmetry during periods of uncertainty. Moreover, the results suggest that crowdfunding maintains a distinctive relationship with uncertainty. As noted by Hsieh and Vu (2021), crowdfunding emerged during the 2008 financial

[15] Typically, crowdfunding campaigns offer multiple reward tiers to investors, beginning with minimal contribution levels, such as $1.

crisis and, as such, incorporates various features aimed at mitigating or minimizing risk. This relationship may be particularly pronounced in non-investment-based crowdfunding, where motivations for participation extend beyond purely financial incentives.

Furthermore, the findings suggest a bidirectional relationship, as outlined in Section 4.7. With the continued rapid growth of FinTech (Cevik, 2024) and the sustained momentum of crowdfunding, particularly in developing and emerging markets (Ziegler et al., 2020), the macro-level impacts discussed in this study are likely to intensify. In this context, systemic risks become especially relevant and carry important implications for policy action (Cevik, 2024). Cevik (2024) argues that policymakers worldwide should consider modernizing legal frameworks and adapting macroprudential policies, including broadening the scope of existing regulations, to mitigate the buildup of systemic risk caused by fast-growing FinTech sectors. He further highlights that, due to the inherently cross-border nature of FinTech, effective oversight will require stronger international cooperation and the establishment of harmonized regulatory standards. For crowdfunding in particular, these challenges are more pronounced. The microstructural characteristics of crowdfunding introduce risks that differ from those in traditional finance, many of which fall outside current regulatory boundaries (Tenca & Franzoni, 2019). In addition, crowdfunding platforms often operate under inconsistent legal and regulatory conditions (Tenca & Franzoni, 2019), making coordinated policy responses difficult.

One of the main limitations of this study is its theoretical nature, the research is limited to English- and German-language publications and primarily presents a theoretical framework without extensive empirical validation. While this study has made efforts to mitigate this limitation by referencing empirical studies where available, it remains a fundamental challenge of the paper. Additionally, the study's focus on selected macroeconomic aspects means that other potentially relevant factors within the broader macroeconomic landscape have not been considered. Future research could address these limitations by expanding the range of variables included in the analysis and conducting more extensive empirical testing to further verify and refine the proposed framework. This would enhance the robustness and applicability of the framework in real-world scenarios. A further limitation of the present study is that it examined the general impact of macroeconomic variables on crowdfunding. Given the heterogeneity of crowdfunding, which encompasses a variety of distinct types with unique characteristics, it can be inferred that these distinct types may exhibit variations in their respective dynamics. To facilitate future investigations and provide a structured approach, the following chapter presents a research agenda designed to offer potential avenues for further research. This agenda aims to guide subsequent studies in addressing the identified limitations and exploring additional dimensions.

6. Directions for Future Research

Building on the limitations and open questions identified in the previous section, this chapter outlines concrete avenues for future research. It draws on the methodological approach of Beaulieu et al. (2015), who provided a systematic overview of the existing literature they analyzed and identified future research directions based on it. Their analysis is structured around two key elements: stakeholders and crowdfunding models. In this study, the stakeholder component is replaced by macroeconomic variables to ensure alignment with the research focus, thus adapting the approach to the specific analytical scope of this investigation. The categorization is done using the papers previously analyzed in Section 3 and 4, which is shown in Table 4. Some papers appear multiple times if they examine different models or variables. For the sake of visual clarity, this study has placed crowdfunding models that do not have, or at least are not known to this study to have, results in a category called “Others”. This includes the following forms/models of crowdfunding: equity, donation, royalty, microfinance, and waqf. This is visually summarized in Table 4, which organizes the reviewed studies by model type and associated macroeconomic variables.

Table 4. Overview of Crowdfunding Literature Aligned with Research Framework.

Variable	Models Peer-to-Peer	Debt	Reward	Others
Unemployment Rate		- Rising unemployment reduces demand for crowdfunding loans (1)	- Higher unemployment corresponds with more crowdfunding funding requests (2) - No evidence that unemployment impacts reward-based crowdfunding success (3)	
Inflation	- Higher inflation increases the probability of loan default (9)		- Low inflation periods are linked to higher success rates in reward-based crowdfunding (4) (5) - No significant effect on crowdfunding performance (3) - Positive relationship between inflation and crowdfunding success (6)	
Economic Uncertainty	- Households' access to small loans is negatively affected by policy uncertainty (7) - Causal relationship between EPU and interest rates (+) and loan amounts (-) (8)		- EPU positively influences crowdfunding success and market growth (6) - GPR adversely impact the probability of crowdfunding success (3)	
Interest Rates	- Higher interest rates increase the probability of loan default. (9)	- Rising interest rates boost crowdfunding demand (1)	- Rising interest rates boost crowdfunding demand (2) - Interest rate have a favorable association with crowdfunding success (6)	

Notes: (1) Adámek and Janků (2018), (2) Adámek and Janků (2022), (3) Alsagr et al. (2023), (4) Aytürk et al. (n.d.), (5) Ekici and Aytürk (2023), (6) Hsieh and Vu (2021), (7) X. Li et al. (2017), (8) Zhou et al. (2024), (9) Nigmonov et al. (2022). Source: Author, representation based on Beaulieu et al. (2015).

Table 4 highlights notable research gaps, especially regarding non-reward and peer-to-peer models, as well as inconsistencies in findings across studies. As emphasized earlier in the paper, this reinforces the observation that the broader macroeconomic context remains insufficiently addressed in the current literature. These insights shape the development of the research agenda proposed in this study. Table 5 provides an overview of the research questions intended to guide future investigations. To provide a clear structure and guide future inquiry, the agenda is organized around four prioritized thematic areas derived from the preceding review and conceptual framework: (1) Model-Specific Effects, (2) Resolving Empirical Inconsistencies, (3) Data and Methodological Innovation, and (4) Expanding Macroeconomic Variables.

Table 5. Summary of Future Research Directions.

Theme	Future Research Questions
Model-Specific Effects	1. Improve understanding of how different crowdfunding models respond to macroeconomic variables. 2. Do investment-oriented crowdfunding models exhibit greater sensitivity to macroeconomic fluctuations than non-investment-based models? 3. What role do model-specific characteristics play in shaping the responsiveness of crowdfunding to macroeconomic dynamics?
Resolving Empirical Inconsistencies	4. To what extent are the current inconsistencies in empirical findings regarding macroeconomic impacts on crowdfunding driven by methodological differences or data limitations? 5. What robustness testing strategies can be applied to verify existing empirical findings? 6. Prioritize replication studies to validate existing findings and assess their robustness across different models, regions, and time periods.
Data and Methodological Innovation	7. How can large-scale platform-level datasets be integrated with national or regional macroeconomic indicators to better understand their interaction with crowdfunding? 8. What methodological innovations, can enhance the analysis of macroeconomic influences on crowdfunding? 9. To what extent do platform-specific characteristics moderate the effects of macroeconomic conditions on funding outcomes?

Expanding Macroeconomic Variables	10. How do different forms of economic uncertainty, beyond EPU and GPR, affect crowdfunding performance? (Alsagr et al., 2023; Aziz et al., 2023) 11. Do the effects of macroeconomic variables on crowdfunding differ across countries or regions with varying levels of institutional development and financial infrastructure? 12. What additional macroeconomic variables not outlined in the current framework (e.g. fiscal policy), affect crowdfunding activity, and through which transmission mechanisms do these effects manifest?

Source: Author, representation based on Aziz et al. (2023).

Existing research has primarily concentrated on reward-based models, debt-based models, and peer-to-peer lending. This focus is understandable, as lending and reward-based models are the most dominant and preferred by investors globally in terms of raising capital (Wangchuk, 2021). Given that different models have unique characteristics, such as the level of return offered to investors in exchange for their capital contribution (Bogusz, 2019; Günther & Riethmüller, 2020; Ryu, 2020), it is likely that they are affected differently by macroeconomic conditions. Table 5 outlines future research avenues that address these variations, focusing specifically on how different models may be uniquely influenced by macroeconomic dynamics.

Existing studies often reach divergent conclusions regarding the impact of macroeconomic variables on crowdfunding. Such discrepancies are not uncommon in crowdfunding research, for example when analyzing success factors (Deng et al., 2022; Jáki et al., 2022). Table 5 outlines future research avenues aimed at resolving empirical inconsistencies.

Since it is essential to collect empirical data in order to gain a comprehensive understanding of the dynamics of crowdfunding (Bouncken et al., 2015), and crowdfunding research in general is characterized by a lack of empirical data (Bouncken et al., 2015; Lenart-Gansiniec, 2021; Moritz & Block, 2014) a central priority for future research is the systematic collection of high-quality data. This data would enable more precise testing of the relationship between macroeconomic variables and crowdfunding activity. This recommendation aligns with Jáki et al. (2022), who call for the use of updated datasets and rigorous methods to reduce inconsistencies in research findings. A promising direction involves linking macroeconomic indicators with detailed platform-level data. For example, Nigmonov et al. (2021), combined U.S. state-level data with LendingClub's loan records from 2008 to 2019. This resulted in a dataset of over two million observations, covering various loan, borrower, and state characteristics. Their approach enables analysis of the peer-to-peer lending market in relation to macroeconomic variables. Furthermore, since platform context may influence performance outcomes (Aziz et al., 2023), future research should account for these differences when analyzing macroeconomic effects. Building on those insights, Table 5 outlines specific directions for improving data quality and methodological approaches to better capture the complex relationship between macroeconomic conditions and crowdfunding dynamics.

As previously noted, a key limitation of this study is its focus on a narrow set of macroeconomic variables. To advance the framework and deepen understanding of crowdfunding dynamics, future research should consider a broader range of macroeconomic indicators. For instance, economic uncertainty is a multidimensional concept with various measurement approaches, each potentially affecting crowdfunding differently. Future research directions regarding this are outlined in Table 5.

7. Conclusion

This study offers a comprehensive synthesis of how macroeconomic factors influence the dynamics of crowdfunding, positioning them as significant and distinct determinants alongside campaign-, social-, and founder-specific variables. Through a review of existing literature, the study identifies a key research gap: the insufficient integration of macroeconomic conditions into crowdfunding research. To address this, a theoretical framework was developed, based on the author's best knowledge, the first to synthesize empirical findings on major macroeconomic variables such as employment, inflation, interest rates, economic uncertainty, and the business and

credit cycles. This streamlined access to synthesized knowledge enhances understanding and promotes efficiency in this area of research.

The theoretical framework emphasizes the mediating role of information asymmetry, signaling, and participant behavior in linking macroeconomic factors to crowdfunding outcomes. It demonstrates that macroeconomic variables serve as additional signals to investors. Crowdfunding's responsiveness to these macroeconomic conditions appears distinct from that of traditional financial instruments, highlighting its unique role in the broader financial ecosystem. Moreover, the study recognizes a bidirectional relationship: while crowdfunding is shaped by macroeconomic conditions, it also exerts emerging, albeit currently limited, influence on the broader economy. Given the sector's rapid growth, this influence is likely to increase, underscoring the importance of future policy considerations.

In light of the identified limitations in current research, this study proposes a structured research agenda organized around four prioritized thematic areas: (1) Model-Specific Effects, (2) Resolving Empirical Inconsistencies, (3) Data and Methodological Innovation, and (4) Expanding Macroeconomic Variables. These themes aim to guide further inquiry and support the integration of macro-level thinking into crowdfunding research. Overall, the findings underscore the substantial potential for future research in this evolving field.

In sum, this study contributes foundational insights into the macroeconomic dimensions of crowdfunding and provides a clear path for integrating macro-level analysis into future theoretical and empirical research.

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Conflict of interest

The author claims that the manuscript is completely original. The author also declares no conflict of interest.

Author contributions

The author was solely responsible for all aspects of the research, including conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, and writing – review & editing.

References

Abel, T. (2004). Systems diagrams for visualizing macroeconomics. *Ecological Modelling*, *178*(1-2), 189–194. https://doi.org/10.1016/j.ecolmodel.2003.12.035

Adámek, E., and Janků, J. (2018). Crowdfunding in some Countries of the European Union: Which Factors Determine Number of Launched Projects? In *Proceedings of 16th International Scientific Conference.*

Adámek, E., and Janků, J. (2022). What Drives Small Business Crowdfunding? Impact of Macroeconomic and Financial Factors. *Czech Journal of Economics and Finance*, *72*(2), 172–196. https://doi.org/10.32065/CJEF.2022.02.04

Ahir, H., Bloom, N., and Furceri, D. (March, 2020). *60 Years of Uncertainty*. https://www.imf.org/en/Publications/fandd/issues/2020/03/imf-launches-world-uncertainty-index-wui-furceri

Ahlers, G. K., Cumming, D., Günther, C., and Schweizer, D. (2015). Signaling in Equity Crowdfunding. *Entrepreneurship Theory and Practice*, *39*(4), 955–980. https://doi.org/10.1111/etap.12157

Ahsan, M., Cornelis, E. F., and Baker, A. (2018). Understanding backers' interactions with crowdfunding campaigns. *Journal of Research in Marketing and Entrepreneurship*, *20*(2), 252–272. https://doi.org/10.1108/JRME-12-2016-0053

Ahsan, M., and Musteen, M. (2021). International opportunity development on crowdfunding platforms: A spatial, temporal, and structural framework. *International Business Review*, *30*(6), 101912. https://doi.org/10.1016/j.ibusrev.2021.101912

Alpert, G. (2022). *Jumpstart Our Business Startups (JOBS) Act Overview*. https://www.investopedia.com/terms/j/jumpstart-our-business-startups-act-jobs.asp

Al-Qathmi, A. S., Sen, S. A. A., Yamin, M., and Sen, A. A. A. (2023). *An Analysis of Crowdfunding Platforms as a Solution for Securing Funding during Crisis and Inflation: A Study of Arab Community,* 0th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India. https://ieeexplore.ieee.org/abstract/document/10112483

Alsagr, N., Cumming, D. J., Davis, J. G., and Sewaid, A. (2023). Geopolitical risk and crowdfunding performance. *Journal of International Financial Markets, Institutions and Money*, *85*, 101766. https://doi.org/10.1016/j.intfin.2023.101766

Andishe Ashjari. (2022). Crowdfunding: A competency framework for creators. In *Handbook of Digital Entrepreneurship*, 222–235. Edward Elgar Publishing. https://doi.org/10.4337/9781800373631.00021

Andleeb, R., and Hassan, A. (2023). Predictive effect of investor sentiment on current and future returns in emerging equity markets. *PloS One*, *18*(5), e0281523. https://doi.org/10.1371/journal.pone.0281523

Auer, B. R. (2012). Investor Sentiment. *WiSt - Wirtschaftswissenschaftliches Studium*, *41*(7), 378–381. https://doi.org/10.15358/0340-1650-2012-7-378

Aytürk, Y., Ekici, O., Sirma, I., and Icke, B. T. (n.d.). *The Determinants of Reward-based Crowdfunding Success in Turkey*.

Aziz, S., Nazir, M. R., Nazir, M. I., and Gazali, S. (2023). Crowdfunding A bibliometric analysis and future research Agenda. *Heliyon*, *9*(12), e22981. https://doi.org/10.1016/j.heliyon.2023.e22981

Baber, H. (2019). A framework for Crowdfunding platforms to match services between funders and fundraisers. *Journal of Industrial Distribution & Business*, *10*(4), 25–31. https://doi.org/10.13106/ijidb.2019.vol10.no4.25

Baker, S. R., Bloom, N., and Davis, S. J. (2016). Measuring Economic Policy Uncertainty *The Quarterly Journal of Economics*, *131*(4), 1593–1636. https://doi.org/10.1093/qje/qjw024

Baker, S. R., Farrokhnia, R. A., Meyer, S., Pagel, M., and Yannelis, C. (2020). How Does Household Spending Respond to an Epidemic? Consumption during the 2020 COVID-19 Pandemic. *The Review of Asset Pricing Studies*, *10*(4), 834–862. https://doi.org/10.1093/rapstu/raaa009

Bao, L., Wang, Z., and Zhao, H. (2022). Who said what: Mining semantic features for success prediction in reward-based crowdfunding. *Electronic Commerce Research and Applications*, *53*, 101156. https://doi.org/10.1016/j.elerap.2022.101156

Beaulieu, T., Sarker, S., and Sarker, S. (2015). A Conceptual Framework for Understanding Crowdfunding. *Communications of the Association for Information Systems*, *37.* https://doi.org/10.17705/1CAIS.03701

Becker, H. P., and Peppmeier, A. (2022). *Investition und Finanzierung: Grundlagen der betrieblichen Finanzwirtschaft* (9., vollständig aktualisierte und erweiterte Auflage). Springer Gabler.

Beier, M., Früh, S., and Wagner, K. (2014). *Crowdfunding für Unternehmen: Plattformen, Projekte und Erfolgsfaktoren in der Schweiz* [Forschungsbericht]. HWT Chur.

Belleflamme, P., Lambert, T., and Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing*, *29*(5), 585–609. https://doi.org/10.1016/j.jbusvent.2013.07.003

Best, J., and Neiss, S. (2014). Crowdfunding: A Historical Perspective. In S. Dresner (Ed.), *Crowdfunding: A Guide to Raising Capital on the Internet (Bloomberg Financial).* Wiley.

Block, J. H [Joern H.], Colombo, M. G., Cumming, D. J., and Vismara, S. (2018). New players in entrepreneurial finance and why they are there. *Small Business Economics*, *50*(2), 239–250. https://doi.org/10.1007/s11187-016-9826-6

Block, J. H., Vries, G. de, and Sandner, P. (2012). Venture Capital and the Financial Crisis: An Empirical Study across Industries and Countries. In D. Cumming (Ed.), *The Oxford Handbook of Venture Capital*, 37–60. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195391596.013.0003

Bogusz, C. I. (2019). Crowdfunding across research fields: an overview and suggestions for future investigation. In H. Landström, A. Parhankangas, & C. Mason (Eds.), *Handbook of Research on Crowdfunding.* Edward Elgar Publishing. https://doi.org/10.4337/9781788117210.00007

Bouncken, R. B., Komorek, M., and Kraus, S. (2015). Crowdfunding: The Current State Of Research. *International Business & Economics Research Journal (IBER)*, *14*(3), 407. https://doi.org/10.19030/iber.v14i3.9206

Brown, T. E., Boon, E., and Pitt, L. F. (2017). Seeking funding in order to sell: Crowdfunding as a marketing tool. *Business Horizons*, *60*(2), 189–195. https://doi.org/10.1016/j.bushor.2016.11.004

Burda, M., and Wyplosz, C. (2013). *Macroeconomics: A European Text* (6th Edition). Oxford University Press.

Burgess, P., Kingston, J., St. Louis, R., and Sloane, J. (1981). Changes in spending patterns following unemployment. *Unemployment Insurance - Occasional Paper*, *1981*(3).

Cai, C. W. (2018). Disruption of financial intermediation by FinTech: a review on crowdfunding and blockchain. *Accounting & Finance*, *58*(4), 965–992. https://doi.org/10.1111/acfi.12405

Cai, W., Polzin, F., and Stam, E. (2021). Crowdfunding and social capital: A systematic review using a dynamic perspective. *Technological Forecasting and Social Change*, *162*, 120412. https://doi.org/10.1016/j.techfore.2020.120412

Caldara, D., and Iacoviello, M. (2018). Measuring Geopolitical Risk. *International Finance Discussion Paper*, *2018.0*(1222), 1–66. https://doi.org/10.17016/IFDP.2018.1222

Capa, K., Garcia-Vigonte, F., and Abante, M. V. (2023). The Circular Flow of Income through Various Sectors of an Economy. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.4351607

Cappa, F. (2022). Big data from customers and non-customers through crowdsourcing, citizen science and crowdfunding. *Journal of Knowledge Management*, *26*(11), 308–323. https://doi.org/10.1108/JKM-11-2021-0871

Certo, S. T. (2003). Influencing Initial Public Offering Investors with Prestige: Signaling with Board Structures. *Academy of Management Review*, *28*(3), 432–446. https://doi.org/10.5465/amr.2003.10196754

Cevik, S. (2024). The dark side of the moon? Fintech and financial stability. *International Review of Economics*, *71*(2), 421–433. https://doi.org/10.1007/s12232-024-00449-8

Cha, J. (2017). Crowdfunding for Video Games: Factors that Influence the Success of and Capital Pledged for Campaigns. *International Journal on Media Management*, *19*(3), 240–259. https://doi.org/10.1080/14241277.2017.1331236

Challoumis, C. (2024). Circular Flow of Income and Its Implications. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4912456

Chan, C. R., Park, H. D., Patel, P., and Gomulya, D. (2018). Reward-based crowdfunding success: Decomposition of the project, product category, entrepreneur, and location effects. *Venture Capital*, *20*(3), 285–307. https://doi.org/10.1080/13691066.2018.1480267

Chandler, J. A., Short, J. C., and Wolfe, M. T. (2021). Finding the crowd after exogenous shocks: Exploring the future of crowdfunding. *Journal of Business Venturing Insights*, *15*, e00245. https://doi.org/10.1016/j.jbvi.2021.e00245

Chaudhary, S., Dhir, A., Battisti, E., and Kliestik, T. (2024). Mapping the field of crowdfunding and new ventures: A systematic literature review. *European Journal of Innovation Management*, *27*(7), 2210–2231. https://doi.org/10.1108/EJIM-05-2022-0241

Chen, H [Han], Shan, L., and Wang, C. (2021). Investment Sentiment in Finance Market. In *Advances in Economics, Business and Management Research, Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021),* Atlantis PressParis, France. https://doi.org/10.2991/assehr.k.211209.541

Chen, L., Huang, Z., and de Liu (2016). Pure and hybrid crowds in crowdfunding markets. *Financial Innovation*, *2*(1), 1–18. https://doi.org/10.1186/s40854-016-0038-5

Chirumbolo, A., Callea, A., and Urbini, F. (2021). The Effect of Job Insecurity and Life Uncertainty on Everyday Consumptions and Broader Life Projects during COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*, *18*(10). https://doi.org/10.3390/ijerph18105363

Chletsos, M., Mazetas, D., Kotrotsiou, E., and Gouva, M. (2013). The effect of unemployment on mental health. *European Psychiatry*, *28*, 1. https://doi.org/10.1016/S0924-9338(13)76821-4

Civardi, C., Moro, A., and Winborg, J. (2024). "All that glitters is not gold!": The (Unexplored) Determinants of Equity Crowdfunding. *Small Business Economics*, *63*(1), 299–324. https://doi.org/10.1007/s11187-023-00813-y

Claessens, S., Kose, M. A., and Terrones, M. E. (2011). *How Do Business and Financial Cycles Interact?* IMF Working Paper. https://www.imf.org/external/pubs/ft/wp/2011/wp1188.pdf

Claveria, O., Monte, E., and Torra, S. (2019). Economic Uncertainty: A Geometric Indicator of Discrepancy Among Experts' Expectations. *Social Indicators Research*, *143*(1), 95–114. https://doi.org/10.1007/s11205-018-1984-2

Congressional Budget Office (2012). Understanding and Responding to Persistently High Unemployment. https://www.cbo.gov/publication/42989

Danes, S. M. (2023). *Setting spending priorities when income falls.* University of Minnesota Extension. https://extension.umn.edu/adjusting-income-loss/setting-spending-priorities-when-income-falls

Davies, W. E., and Giovannetti, E. (2018). Signalling experience & reciprocity to temper asymmetric information in crowdfunding evidence from 10,000 projects. *Technological Forecasting and Social Change*, *133*, 118–131. https://doi.org/10.1016/j.techfore.2018.03.011

Deng, L., Ye, Q., Xu, D., Sun, W., and Jiang, G. (2022). A literature review and integrated framework for the determinants of crowdfunding success. *Financial Innovation*, *8*(1). https://doi.org/10.1186/s40854-022-00345-6

Dos S. Felipe, I. J., Mendes-Da-Silva, W., and Gattaz, C. C. (2017). Crowdfunding Research Agenda. In *2017 IEEE 11th International Conference on Semantic Computing (ICSC)*, 459–464. IEEE. https://doi.org/10.1109/ICSC.2017.32

Dragonetti, S., and Weiss, E. (2016). Crowdfunding als neue Art der Finanzierung. In K. O. Tokarski (Ed.), *Unternehmensentwicklung*, Springer Fachmedien Wiesbaden.

Dushnitsky, G., and Zunino, D. (2018). The Role of Crowdfunding in Entrepreneurial Finance. *SSRN Electronic Journal*, Advance online publication. https://doi.org/10.2139/ssrn.3237356

Ekici, O., and Aytürk, Y. (2023). The role of consumer confidence and inflation in crowdfunding success. *International Journal of Entrepreneurial Venturing*, *15*(4), Article 133448, 295–316. https://doi.org/10.1504/IJEV.2023.133448

Fagereng, A., Onshuus, H., and Torstensen, K. N. (2024). The consumption expenditure response to unemployment: Evidence from Norwegian households. *Journal of Monetary Economics*, 103578. https://doi.org/10.1016/j.jmoneco.2024.103578

FasterCapital. (n.d.). *The Impact of Economic Uncertainty on Investment Decisions*. Retrieved January 29, 2025, from https://fastercapital.com/topics/the-impact-of-economic-uncertainty-on-investment-decisions.html

Federal Financial Supervisory Authority. (n.d.). *Call deposits*. Retrieved January 23, 2025, from https://www.bafin.de/EN/Verbraucher/Bank/Produkte/Tagesgeld/tagesgeld_node_en.html

Federal Statistical Office of Germany. (n.d.). *63% of gross income earned from employment*. Retrieved November 20, 2024, from https://www.destatis.de/EN/Themes/Society-Environment/Income-Consumption-Living-Conditions/Income-Receipts-Expenditure/current-news.html

Gama, A. P. M., Emanuel-Correia, R., Duarte, F. D., and Augusto, M. (2023). The COVID-19 impact on crowdfunding performance: evidence from a peer to-peer lending platform. *Applied Economics Letters*, 1–5. https://doi.org/10.1080/13504851.2023.2178616

Gangi, F., and Daniele, L. M. (2017). Remarkable Funders: How Early-Late Backers and Mentors Affect Reward-Based Crowdfunding Campaigns. *International Business Research*, *10*(11), 58. https://doi.org/10.5539/ibr.v10n11p58

Ganong, P., and Noel, P. (2016). How Does Unemployment Affect Consumer Spending?

Ganong, P., and Noel, P. (2019). Consumer Spending during Unemployment: Positive and Normative Implications. *American Economic Review*, *109*(7), 2383–2424. https://doi.org/10.1257/aer.20170537

Gera, J., and Kaur, H. (2018). A novel framework to improve the performance of crowdfunding platforms. *ICT Express*, *4*(2), 55–62. https://doi.org/10.1016/j.icte.2018.04.011

Gerber, L., and Hui, J. (2016). Crowdfunding: How and Why People Participate. In J. Méric, I. Maque, & J. Brabet (Eds.), *International Perspectives on Crowdfunding*, 37–64. Emerald Group Publishing Limited. https://doi.org/10.1108/978-1-78560-315-020151003

Gierczak, M. M., Bretschneider, U., Haas, P., Blohm, I., and Leimeister, J. M. (2016). Crowdfunding: Outlining the New Era of Fundraising. In D. Brüntje & O. Gajda (Eds.), *FGF Studies in Small Business and Entrepreneurship. Crowdfunding in Europe*, 7–23. Springer International Publishing. https://doi.org/10.1007/978-3-319-18017-5_2

Graf, G. (2002). *Grundlagen der Volkswirtschaftslehre*. Physica Heidelberg. https://doi.org/10.1007/978-3-642-57451-1

Gratton, E. C. (2016). *Which crowdfunding platform is best?* ArtsHub. https://www.artshub.com.au/news/features/which-crowdfunding-platform-is-best-251643-2352902/

Green, A., Tunstall, R. J., and Peisl, T. The benefits of crowdfunding for early-stage entrepreneurs: Between finance gap and democratic involvement. In *UNSPECIFIED R&D Management Conference, 23-26 Jun 2015, Pisa, Italy. RADMA.* https://eprints.whiterose.ac.uk/88996/

Griffiths, P. (2020). The FinTech Industry: Crowdfunding in Context. In R. Shneor, L. Zhao, & B.-T. Flåten (Eds.), *Advances in Crowdfunding*, 241–270. Springer International Publishing. https://doi.org/10.1007/978-3-030-46309-0_11

Guiso, L., and Paiella, M. (2006). The Role of Risk Aversion in Predicting Individual Behavior. In P.-A. Chiappori & C. Gollier (Eds.), *Competitive Failures in Insurance Markets*, 213–250. The MIT Press. https://doi.org/10.7551/mitpress/1986.003.0016

Gulati, R., and Higgins, M. C. (2003). Which ties matter when? the contingent effects of interorganizational partnerships on IPO success. *Strategic Management Journal*, *24*(2), 127–144. https://doi.org/10.1002/smj.287

Günther, E., and Riethmüller, T. (2020). *Einführung in das Crowdfunding: Formen, Anwendungsbereiche, Erfolgsfaktoren, Rechtlicher Rahmen*. Springer Gabler. in Springer Fachmedien Wiesbaden GmbH.

Halim, M. A. (2024). Does crowdfunding contribute to digital financial inclusion? *Research in Globalization*, *9*, 100238. https://doi.org/10.1016/j.resglo.2024.100238

Han, L., Tian, L., and Mi, B. (2020). Information asymmetries and entrepreneurial finance: evidence from theories and empirics. In G. Saridakis & M. Cowling (Eds.), *Handbook of Quantitative Research Methods in Entrepreneurship.* Edward Elgar Publishing. https://doi.org/10.4337/9781786430960.00017

Harrison, R. T., and Baldock, R. (2015). Financing SME growth in the UK: meeting the challenges after the global financial crisis. *Venture Capital*, *17*(1-2), 1–6. https://doi.org/10.1080/13691066.2015.1050241

Harzer, A. (2013). *Erfolgsfaktoren im Crowdfunding*. *Menschen, Märkte, Medien, Management : Schriftenreihe: Vol. 7*. Univ.-Verl. Ilmenau; Univ.-Bibliothek.

Herculano, M. C., and Lütkebohmert, E. (2023). Investor sentiment and global economic conditions. *Journal of Empirical Finance*, *73*, 134–152. https://doi.org/10.1016/j.jempfin.2023.06.001

Hetschko, C., and Preuss, M. (2020). Income in jeopardy: How losing employment affects the willingness to take risks. *Journal of Economic Psychology*, *79*, 102175. https://doi.org/10.1016/j.joep.2019.05.005

Hsieh, H.-C., and Vu, T. H. C. (2021). The impact of economic policy uncertainty on crowdfunding success. *Journal of International Financial Markets, Institutions and Money*, *75*, 101418. https://doi.org/10.1016/j.intfin.2021.101418

Hurd, M., and Rohwedder, S. (2016). *Consumption Smoothing During the Financial Crisis: The Effect of Unemployment on Household Spending.* University of Michigan, Michigan Retirement Research Center.

Igra, M., Kenworthy, N., Luchsinger, C., and Jung, J.-K. (2021). Crowdfunding as a response to COVID-19: Increasing inequities at a time of crisis. *Social Science & Medicine (1982)*, *282*, 114105. https://doi.org/10.1016/j.socscimed.2021.114105

Imam Wahjono, S., Marina, A., Fam, S.-F., and Rasulong, I. (2023). Crowdfunding to Finance SMEs: New Model After Pandemic Disease. *Sustainability Science and Resources*, *5*, 1–19. https://doi.org/10.55168/ssr2809-6029.2023.5001

Ismail, A. G., and Pratomo, W. A. (2019). *Crowding Out and Waqf Crowdfunding: Do They Create Macroeconomic Imbalances*.

Israel José dos Santos Felipe, Wesley Mendes-Da-Silva, Ismael Ali, and Eduardo Francisco. (2023). *Code - paper: Good News from Mass Media Induce More Investments in the Equity Crowdfunding Market (BAR).* https://doi.org/10.17632/xpvb7dnzmp.1

Jáki, E., Csepy, G., and Kovács, N. (2022). Conceptual framework of the crowdfunding success factors – Review of the academic literature. *Acta Oeconomica*, *72*(3), 393–412. https://doi.org/10.1556/032.2022.00028

Jiang, H., Wang, Z [Zhiyi], Yang, L., Shen, J., and Hahn, J. (2021). How Rewarding Are Your Rewards? A Value-Based View of Crowdfunding Rewards and Crowdfunding Performance. *Entrepreneurship Theory and Practice*, *45*(3), 562–599. https://doi.org/10.1177/1042258720928922

Jones, B. (2021). *Uncertainty and Risk Aversion – Before and After the Pandemic.* Reserve Bank of Australia, Canberra. https://www.rba.gov.au/speeches/2021/pdf/sp-so-2021-06-02.pdf

Kaartemo, V. (2017). The Elements of a Successful Crowdfunding Campaign: A Systematic Literature Review of Crowdfunding Performance. https://www.researchgate.net/publication/319392255_The_elements_of_a_successful_crowdfunding_campaign_A_systematic_literature_review_of_crowdfunding_performance

Kearney, C., and Liu, S. (2014). Textual sentiment in finance: A survey of methods and models. *International Review of Financial Analysis*, *33*, 171–185. https://doi.org/10.1016/j.irfa.2014.02.006

Khachatryan, J. (2024). *Kickstarter Fees: Everything You Need to Know Before Launching.* theCrowdfundingformula. https://blog.thecrowdfundingformula.com/kickstarter-fees/

Kickstarter (Ed.). (2025). *Stats*. https://www.kickstarter.com/help/stats

Kim, M. J., and Hall, C. M. (2020). What drives visitor economy crowdfunding? The effect of digital storytelling on unified theory of acceptance and use of technology. *Tourism Management Perspectives*, *34*, 100638. https://doi.org/10.1016/j.tmp.2020.100638

Koch, J.-A. (2017). A FRAMEWORK FOR THE NOTION OF 'UTILITY' IN THE LANDSCAPE OF CROWDFUNDING. In *Proceedings of the 25th European on Information Systems (ECIS)*, 1742–1757.

Koch, J.-A., and Siering, M. (2019). The Recipe of Successful Crowdfunding Campaigns: An Analysis of Crowdfunding Success Factors and Their Interrelations. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.3439202

Konstantinov, P. (2023). *An exploration of the impact of regulatory sentiment on investment-based crowdfunding globally.* Arizona State University. https://keep.lib.asu.edu/items/190254

Koranteng, B., and You, K. (2024). Fintech and financial stability: Evidence from spatial analysis for 25 countries. *Journal of International Financial Markets, Institutions and Money*, *93*, 102002. https://doi.org/10.1016/j.intfin.2024.102002

Kukk, M.-L., and Laidroo, L. (2020). Institutional Drivers of Crowdfunding Volumes. *Journal of Risk and Financial Management*, *13*(12), 326. https://doi.org/10.3390/jrfm13120326

Latsou, D., and Geitona, M. (2021). Effects of unemployment on financial hardship and mental health. *Psychiatrike = Psychiatriki*, *32*(2), 113–122. https://doi.org/10.22365/jpsych.2021.018

Lax, A. (2017). *THE SUCCESS FACTORS OF GAME INDUSTRY CROWDFUNDING CAMPAIGNS.* University of Jyväskylä, Jyväskylä.

Lehner, O. M. (2013). Crowdfunding Social Ventures: A Model and Research Agenda. *Venture Capital*, 15(4), 289–311. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2102525

Lehner, O. M., Grabmann, E., and Ennsgraber, C. (2015). Entrepreneurial implications of crowdfunding as alternative funding source for innovations. *Venture Capital*, *17*(1-2), 171–189. https://doi.org/10.1080/13691066.2015.1037132

Lenart-Gansiniec, R. (2021). Crowdfunding in Public Sector: A Systematic Literature Review. In R. Lenart-Gansiniec & J. Chen (Eds.), *Contributions to Finance and Accounting. Crowdfunding in the Public Sector*, 21–42. Springer International Publishing. https://doi.org/10.1007/978-3-030-77841-5_2

Li, X., Liu, B., and Tian, X. (2017). Policy Uncertainty and Household Credit Access: Evidence from Peer-to-Peer Crowdfunding. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.3084388

Li, Y., Zhang, Z., Wang, R., and Chen, Y. (2019). Consumer Purchase Intention toward Crowdfunding Products/Services: A Cost–Benefit Perspective. *Sustainability*, *11*(13), 3579. https://doi.org/10.3390/su11133579

Lin, T.-C., and Pursiainen, V. (2022). Regional social capital and moral hazard in crowdfunding. *Journal of Business Venturing*, *37*(4), 106224. https://doi.org/10.1016/j.jbusvent.2022.106224

Liu, Z.-J., Panfilova, E., Mikhaylov, A., and Kurilova, A. (2022). Covid-19 crisis impact on the stability between parties in crowdfunding and crowdsourcing. *Wireless Personal Communications*, *122*(1), 915–930. https://doi.org/10.1007/s11277-021-08932-z

Luca, V. V. de, Margherita, A., and Passiante, G. (2019). Crowdfunding: a systemic framework of benefits. *International Journal of Entrepreneurial Behavior & Research*, *25*(6), 1321–1339. https://doi.org/10.1108/IJEBR-11-2018-0755

Lui, S. S., Zhu, Z., and Liu, J. (2023). Success of Crowdfunding: A Trustworthiness Perspective. *Asia Pacific Journal of Management*, *40*(2), 681–706. https://doi.org/10.1007/s10490-021-09801-w

Lukkarinen, A., Teich, J. E., Wallenius, H., and Wallenius, J. (2016). Success drivers of online equity crowdfunding campaigns. *Decision Support Systems*, *87*, 26–38. https://doi.org/10.1016/j.dss.2016.04.006

Ma, Y., and de Liu (2017). Introduction to the special issue on Crowdfunding and FinTech. *Financial Innovation*, *3*(1). https://doi.org/10.1186/s40854-017-0058-9

Macht, S. A., and Weatherston, J. (2014). The Benefits of Online Crowdfunding for Fund-Seeking Business Ventures. *Strategic Change*, *23*(1-2), 1–14.

McKinley, L. (2024). *16 Essential Crowdfunding Statistics*. https://fitsmallbusiness.com/crowdfunding-statistics/

Messeni Petruzzelli, A., Natalicchio, A., Panniello, U., and Roma, P. (2019). Understanding the crowdfunding phenomenon and its implications for sustainability. *Technological Forecasting and Social Change*, *141*, 138–148. https://doi.org/10.1016/j.techfore.2018.10.002

Meyskens, M., and Bird, L. (2015). Crowdfunding and Value Creation. *Entrepreneurship Research Journal*, *5*(2). https://doi.org/10.1515/erj-2015-0007

Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, *29*(1), 1–16. https://doi.org/10.1016/j.jbusvent.2013.06.005

Moritz, A., and Block, J. H [Jorn H.] (2014). Crowdfunding: A Literature Review and Research Directions. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.2554444

Motylska-Kuzma, A. (2015). COST OF CROWDFUNDING AS A SOURCE OF CAPITAL FOR THE SMALL COMPANY. In *Proceedings of the 18th International Academic Conference, London.* https://doi.org/10.20472/IAC.2015.018.082

Motylska-Kuzma, A. (2016). *THE COST OF CROWDFUNDING CAPITAL*. https://www.researchgate.net/publication/309014611_THE_COST_OF_CROWDFUNDING_CAPITAL

Naoyuki, Y., and Sahoko, K. (2020). *The Macroeconomic Effects on Fintech.* Policy Research Institute.

Nguyen, T., Guo, J., Dao, D., Nguyen, F., and To, B. (2025). The Dynamics of Investor Sentiment Impacts in Equity Crowdfunding: Unveiling the When. *British Journal of Management*, *36*(1), 423–442. https://doi.org/10.1111/1467-8551.12854

Niemira, M. P. (2024). *Practical macroeconomics for non-economists: A question-and-answer approach*. Routledge, Taylor & Francis Group.

Nigmonov, A., Shams, S., and Alam, K. (2021). Fintech and macroeconomics: Dataset from the US peer-to-peer lending platform. *Data in Brief*, *39*, 107666. https://doi.org/10.1016/j.dib.2021.107666

Nigmonov, A., Shams, S., and Alam, K. (2022). Macroeconomic determinants of loan defaults: Evidence from the U.S. peer-to-peer lending market. *Research in International Business and Finance*, *59*, 101516. https://doi.org/10.1016/j.ribaf.2021.101516

Nilssen, D. (2014). *Why I Think the Hype About Crowdfunding Is Too Good to Be True*. https://www.entrepreneur.com/starting-a-business/why-i-think-the-hype-about-crowdfunding-is-too-good-to-be/231046

Oner, C. (2010). Back to Basics: What is Inflation? *Finance & Development*, *47*(1).

Ordanini, A., Miceli, L., Pizzetti, M., and Parasuraman, A. (2011). Crowd-funding: transforming customers into investors through innovative service platforms. *Journal of Service Management*, *22*(4), 443–470. https://doi.org/10.1108/09564231111155079

Orthwein, I. (2015). *Crowdfunding: Grundlagen und Strategien für Kapitalsuchende und Geldgeber* (1. Auflage). Diplomica Verlag GmbH.

Partelow, S. (2023). What is a framework? Understanding their purpose, value, development and use. *Journal of Environmental Studies and Sciences*, *13*(3), 510–519. https://doi.org/10.1007/s13412-023-00833-w

Paschen, J. (2017). Choose wisely: Crowdfunding through the stages of the startup life cycle. *Business Horizons*, *60*(2), 179–188. https://doi.org/10.1016/j.bushor.2016.11.003

Paul, K. I., and Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, *74*(3), 264–282. https://doi.org/10.1016/j.jvb.2009.01.001

Pekmezovic, A., and Walker, G. (2016). The Global Significance of Crowdfunding: Solving the SME Funding Problem and Democratizing Access to Capital. In *7 Wm. & Mary Bus. L. Rev. 347 (2016)* (Volume 7, Issue 2). https://scholarship.law.wm.edu/wmblr/vol7/iss2/3

Penrose, G., and La Cava, G. (2021). *Job Loss, Subjective Expectations and Household Spending.* Reserve Bank of Australia. https://doi.org/10.47688/rdp2021-08

Peprah, P. B., and Shneor, R. (2022). A trust-based crowdfunding campaign marketing framework: theoretical underpinnings and big-data analytics practice. *International Journal of Big Data Management*, *2*(1), Article 119453, 1. https://doi.org/10.1504/IJBDM.2022.119453

Phillips, R. (2005). *Pricing and Revenue Optimization*. Stanford University Press. https://doi.org/10.1515/9780804781640

Pinchbeck, J. (2023). *The inflationary challenges of managing a business*. https://www.streetsweb.co.uk/about/news/2023/oct/19/inflationary-challenges-managing-business/

Pinkow, F., and Emmerich, P. (2021). Re-Examining Crowdfunding Success: How the Crowdfunding Goal Moderates the Relationship of Success Factors and Crowdfunding Performance. *Central European Business Review*, *10*(3), 91–114. https://doi.org/10.18267/j.cebr.263

Piva, E., and Rossi-Lamastra, C. (2017). Human capital signals and entrepreneurs' success in equity crowdfunding. *Small Business Economics*, *51*(3), 667–686. https://doi.org/10.1007/s11187-017-9950-y

Proelss, J., Schweizer, D., and Zhou, T. (2021). Economics of philanthropy—Evidence from health crowdfunding. *Small Business Economics*, *57*(2), 999–1026. https://doi.org/10.1007/s11187-020-00336-w

Quero, M. J., and Ventura, R. (2019). Value proposition as a framework for value cocreation in crowdfunding ecosystems. *Marketing Theory*, *19*(1), 47–63. https://doi.org/10.1177/1470593118772213

Rau, P. R. (2020). Law, Trust, and the Development of Crowdfunding. *SSRN Electronic Journal*, Advance online publication. https://doi.org/10.2139/ssrn.2989056

Rejeb, A., Rejeb, K., Appolloni, A., Treiblmaier, H., and Iranmanesh, M. (2024). Uncovering the themes and trends in crowdfunding research using Latent Dirichlet Allocation. *Management Review Quarterly*, Advance online publication. https://doi.org/10.1007/s11301-024-00427-y

Roth, C., and Wohlfart, J. (2020). How Do Expectations about the Macroeconomy Affect Personal Expectations and Behavior? *The Review of Economics and Statistics*, *102*(4), 731–748. https://doi.org/10.1162/rest_a_00867

Rynes, S. L., Bretz, R. D., and Gerthart, B. (1991). The Importance of Recruitment in Job Choice: A Different Way of Looking. *Personnel Psychology*, *44*(3), 487–521. https://doi.org/10.1111/j.1744-6570.1991.tb02402.x

Ryu, S. (2020). *Beauty of crowdfunding: Blooming creativity and innovation in the digital era*. *Routledge frontiers of business management*. Routledge.

Ryu, S., and Kim, Y.-G. (2016). A typology of crowdfunding sponsors: Birds of a feather flock together? *Electronic Commerce Research and Applications*, *16*, 43–54. https://doi.org/10.1016/j.elerap.2016.01.006

Ryu, S., Park, J., Kim, K., and Kim, Y.-G. (2020). Reward versus Altruistic Motivations in Reward-Based Crowdfunding. *International Journal of Electronic Commerce*, *24*(2), 159–183. https://doi.org/10.1080/10864415.2020.1715531

Salido-Andres, N., Rey-Garcia, M., Alvarez-Gonzalez, L. I., and Vazquez-Casielles, R. (2021). Mapping the Field of Donation-Based Crowdfunding for Charitable Causes: Systematic Review and Conceptual Framework. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, *32*(2), 288–302. https://doi.org/10.1007/s11266-020-00213-w

Scholz, N. (2015). *The Relevance of Crowdfunding*. Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-09837-7

Schwienbacher, A., and Larralde, B. (2010). Crowdfunding of Small Entrepreneurial Ventures. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.1699183

Seok, S., Cho, H., and Ryu, D. (2024). Dual effects of investor sentiment and uncertainty in financial markets. *The Quarterly Review of Economics and Finance*, *95*, 300–315. https://doi.org/10.1016/j.qref.2024.04.006

Shane, S., and Stuart, T. (2002). Organizational Endowments and the Performance of University Start-ups. *Management Science*, *48*(1), 154–170. https://doi.org/10.1287/mnsc.48.1.154.14280

Shiller, R. (1997). Why Do People Dislike Inflation? In C. Romer & D. Romer (Eds.), *Studies in business cycles: v. 30. Reducing inflation: Motivation and strategy.* University of Chicago Press.

Shlyakhtovska, K. (2018). *Human Capital Signals as Success Drivers of Equity-Based Crowdfunding Campaigns.* Carl von Ossietzky Universität.

Shneor, R. (2020). Crowdfunding Models, Strategies, and Choices Between Them. In *Advances in Crowdfunding*, 21–42. Springer International Publishing. https://doi.org/10.1007/978-3-030-46309-0_2

Shneor, R., and Munim, Z. H. (2019). Reward crowdfunding contribution as planned behaviour: An extended framework. *Journal of Business Research*, *103*, 56–70. https://doi.org/10.1016/j.jbusres.2019.06.013

Shneor, R., and Vik, A. A. (2020). Crowdfunding success: a systematic literature review. 2010–2017. *Baltic Journal of Management*, *15*(2), 149–182. https://doi.org/10.1108/BJM-04-2019-0148

Sixt, E. (2014). *Schwarmökonomie und Crowdfunding*. Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-02929-6

Solis, T. (2022). *Systematic Review: Definition, Beispiel und Anleitung.* Scribbr. https://www.scribbr.at/methodik-at/systematic-review/

Spence, E. (2012). *The 5% Fee That Makes Kickstarter Refunds A Tricky Proposition.* Forbes. https://www.forbes.com/sites/ewanspence/2012/12/20/the-5-fee-that-makes-kickstarter-refunds-a-tricky-proposition/

Spence, M. (1974). Competitive and optimal responses to signals: An analysis of efficiency and distribution. *Journal of Economic Theory*, *7*(3), 296–332. https://doi.org/10.1016/0022-0531(74)90098-2

State Street Global Advisors. (2024). *Why ETF Growth Is Booming.* State Street Global Advisors. https://www.ssga.com/us/en/individual/insights/why-etf-growth-is-booming

Steinberg, S., and DeMaria, R. (Eds.). (2012). *The Crowdfunding Bible: How to Raise Money for any Startup, Video Game, or Project.*

Suhaili, N. A., and Palil, M. R. (2016). CROWDFUNDING: A COLLABORATIVE WAQF BASED INTERNET PLATFORM. *International Journal of Business, Economics and Law*, 11 (5), 41–46. https://www.researchgate.net/publication/318200553_CROWDFUNDING_A_COLLABORATIVE_WAQF_BASED_INTERNET_PLATFORM

Tenca, F., and Franzoni, C. (2019). Crowdfunding: risk, fraud and regulation. In H. Landström, A. Parhankangas, & C. Mason (Eds.), *Handbook of Research on Crowdfunding.* Edward Elgar Publishing. https://doi.org/10.4337/9781788117210.00020

Tewes, G. (2008). *Signalingstrategien im Stakeholdermanagement: Kommunikation und Wertschöpfung*. Zugl.: Bayreuth, Univ., Diss., 2006 (1. Aufl.). *Gabler Edition Wissenschaft*. Gabler.

van der Zee, A. (2018). *THE DETERMINING FACTORS OF CROWDFUNDING SUCCESS.* University of Twente.

van Teunenbroek, C., Dalla Chiesa, C., and Hesse, L. (2023). The contribution of crowdfunding for philanthropy: A systematic review and framework of donation and reward crowdfunding. *Journal of Philanthropy and Marketing*, *28*(3), Article e1791. https://doi.org/10.1002/nvsm.1791

Verschoore, J. R., and Zuquetto, R. D. (2016). A Social Network Approach for Crowdfunding. In J. Méric, I. Maque, & J. Brabet (Eds.), *International Perspectives on Crowdfunding*, 151–167. Emerald Group Publishing Limited. https://doi.org/10.1108/978-1-78560-315-020151009

Vijayasri, G. V. (2013). The Importance of International Trade in the World. *International Journal of Marketing, Financial Services & Management Research* (2), 111–119.

Volpe, R., Kotel, J., and Chen, H [Haiyang] (2002). A Survey Of Investment Literacy Among Online Investors. *Journal of Financial Counseling and Planning*, *13*(1).

Wang, H. (2024). The Macroeconomic Impact of Internet Finance. *Proceedings of Business and Economic Studies*, *7*(3), 166–172. https://doi.org/10.26689/pbes.v7i3.7512

Wang, N., Li, Q., Liang, H., Ye, T., and Ge, S. (2018). Understanding the importance of interaction between creators and backers in crowdfunding success. *Electronic Commerce Research and Applications*, *27*, 106–117. https://doi.org/10.1016/j.elerap.2017.12.004

Wang, W., Zhu, K., Wang, H [Hongwei], and Wu, Y.-C. J. (2017). The Impact of Sentiment Orientations on Successful Crowdfunding Campaigns through Text Analytics. *IET Software*, *11*(5), 229–238. https://doi.org/10.1049/iet-sen.2016.0295

Wangchuk, P. (2021). Common types of Crowdfunding Models, Related Concepts and Its Impact on Business: A Brief Literature Review. *Asian Journal of Economics, Business and Accounting*, 56–63. https://doi.org/10.9734/AJEBA/2021/v21i1430471

Wille, D., Hoffer, A., and Miller, S. M. (2017). Small-business financing after the financial crisis – lessons from the literature. *Journal of Entrepreneurship and Public Policy*, *6*(3), 315–339. https://doi.org/10.1108/JEPP-D-17-00005

Wille, N. (2024). What Determines the Success of Video Game Crowdfunding Campaigns? The Role of Different Success Definitions and Funding Goals. *Financial Economics Letters*, *3*(4), Article 38, 36–64. https://doi.org/10.58567/fel03040003

Williams, G., and Bailie, K. (2022). *Why Is Inflation Bad? 3 Effects Of Inflation*. https://www.forbes.com/advisor/personal-finance/why-is-inflation-bad/

Xu, R., Mi, C., Mierzwiak, R., and Meng, R. (2020). Complex network construction of Internet finance risk. *Physica a: Statistical Mechanics and Its Applications*, *540*, 122930. https://doi.org/10.1016/j.physa.2019.122930

Yablonsky, S. (2016). Crowdfunding innovations. *International Journal of Services, Economics and Management*, *7*(2/3/4), Article 81870, 246. https://doi.org/10.1504/IJSEM.2016.081870

Yacoub, G., Mitra, P., Ratinho, T., and Fatalot, F. (2022). Sustainable entrepreneurs: What drives them to engage in different crowdfunding types? *International Journal of Entrepreneurial Behavior & Research*, *28*(4), 980–1000. https://doi.org/10.1108/IJEBR-05-2021-0321

Yang, L., Wang, Z., and Hahn, J. (2015). *Winner Takes All? The 'Blockbuster Effect' in Crowdfunding Platforms.* https://doi.org/10.2139/ssrn.3007075

Yeh, T.-L., Chen, T.-Y., and Lee, C.-C. (2019). Investigating the funding success factors affecting reward-based crowdfunding projects. *Innovation*, *21*(3), 466–486. https://doi.org/10.1080/14479338.2019.1585191

Yuan, X., Wang, L., Yin, X., and Wang, H. (2021). How text sentiment moderates the impact of motivational cues on crowdfunding campaigns. *Financial Innovation*, *7*(1). https://doi.org/10.1186/s40854-021-00258-w

Zhao, L., and Ryu, S. (2020). Reward-Based Crowdfunding Research and Practice. In R. Shneor, L. Zhao, & B.-T. Flåten (Eds.), *Advances in Crowdfunding*, 119–143. Springer International Publishing. https://doi.org/10.1007/978-3-030-46309-0_6

Zhao, Y., Harris, P., and Lam, W. (2019). Crowdfunding industry—History, development, policies, and potential issues. *Journal of Public Affairs*, *19*(1), Article e1921. https://doi.org/10.1002/pa.1921

Zhou, F., Chang, A., and Shi, J. (2024). How the Economic Policy Uncertainty (EPU) impacts FinTech: The implication of P2P lending markets. *Finance Research Letters*, *70*, 106268. https://doi.org/10.1016/j.frl.2024.106268

Ziegler, T., Shneor, R., and Zhang, B. Z. (2020). The Global Status of the Crowdfunding Industry. In R. Shneor, L. Zhao, & B.-T. Flåten (Eds.), *Advances in Crowdfunding*, 43–61. Springer International Publishing. https://doi.org/10.1007/978-3-030-46309-0_3

Zribi, S. (2022). Effects of social influence on crowdfunding performance: implications of the covid-19 pandemic. *Humanities and Social Sciences Communications*, 9(1). https://doi.org/10.1057/s41599-022-012