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SOURCES OF STARTUP FINANCING IN POLAND: MARKET ANALYSIS AND OPTIMAL FINANCING PATH MODEL

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Purpose: The purpose of this article is to analyze the sources of startup financing in Poland and to identify the factors that shape access to capital at different stages of development. The paper synthesizes findings from academic research and industry reports and presents a model of an optimal financing pathway tailored to the Polish startup ecosystem.
Design/methodology/approach: The study applies literature analysis, comparison of data from industry reports (*Startupy w Polsce*, *Rynek Akceleracji*, *Transakcje VC*), and information from European grant programs and the GSER. The approach includes classification of financing instruments, systemic analysis of the market and modelling of startup development stages.
Findings: The study applies literature analysis, comparison of data from industry reports (*Startupy w Polsce*, *Rynek Akceleracji*, *Transakcje VC*), and information from European grant programs and the GSER. The approach includes classification of financing instruments, systemic analysis of the market and modelling of startup development stages.
Research limitations/implications: The main limitations arise from the lack of a unified system for monitoring the startup financing market in Poland and methodological inconsistencies across reports. Further empirical studies are needed.
Practical implications: The proposed model can support founders, investors and public institutions in selecting appropriate financing instruments and designing support programs.
Originality/value: The article integrates dispersed data and proposes a coherent model of startup financing in Poland, offering value for practitioners, policymakers and researchers.
Keywords: startup financing; venture capital; grants; quasi-debt instruments; acceleration.
Category of the paper: Research paper.

1. Introduction

Start-ups are one of the key elements of modern knowledge-based economies, contributing to innovation, productivity growth and the diffusion of new technologies. The literature on the subject emphasises that the ability of start-ups to survive and scale up their operations largely depends on access to appropriately selected sources of financing, especially in the early stages of development (e.g. Salazar, 2021; Zhou et al., 2023; Ström et al., 2025; Indrawati, Suarman,

2020). Despite the dynamic development of the start-up ecosystem in Poland over the last decade, raising capital remains one of the most significant challenges for young companies, as confirmed by both scientific research (e.g. Michalczyk, 2022; Gemzlik-Slawach, Petrz, 2023) and industry reports (PFR, 2024; Startup Poland, 2022, 2023, 2024).

Previous studies have focused mainly on selected financing instruments (e.g. venture capital, business angels or public grants), while less frequently attempting to provide a comprehensive overview of the structure of start-up financing in the Polish economy. There is also a lack of consistent models showing the sequential matching of financing sources to the stages of startup development, taking into account the specifics of the domestic ecosystem and the role of public and hybrid instruments.

The aim of this article is to analyze the sources of financing for startups in Poland and to identify the factors influencing access to capital at different stages business development. The article is synthetic and conceptual in nature – it integrates the results of scientific research, data from industry reports and information on public and EU programmes, and then proposes an original model of the optimal path for financing a start-up in Polish conditions.

The article uses a literature review, a comparative analysis of secondary data from industry reports, and a systemic analysis of the start-up financing market. On this basis, the following research hypotheses were formulated and verified:

H1: In the early stages of startup development in Poland, domestic sources of financing, in particular bootstrapping and public grants, play a dominant role.

H2: The importance of hybrid and quasi-debt instruments increases as startups move into the growth and scaling phase.

H3: Effective startup development requires sequential matching of funding sources to the stage of development and risk profile of the enterprise.

The novelty of the article lies in the integration of scattered empirical and conceptual data and in proposing a funding path model that can serve as a reference point for both practitioners and further scientific research on startup financing in Poland.

2. Literature review

2.1. Startup Financing Conditions in Poland The Concept of Social Innovation

Startup financing in Poland is developing within a diverse yet still maturing ecosystem (Michalczyk, 2020). Its development is influenced by factors such as:

- the availability of public capital (PARP programs, NCBR, PFR Ventures funds),
- the increased number of privately and hybrid financed seed and venture capital funds,
- the growing interest of business angel investors,

- the development of alternative financing sources, such as equity crowdfunding (Leoński, 2023),
- the internationalization of Polish startups and their expansion into foreign markets,
- the increased importance of organizational resources, team competencies, and network relationships.

These conditions create a mosaic of opportunities that, if properly utilized, enable startups to progress from the initial idea phase to scaling their operations and securing subsequent rounds of financing.

2.2. Key Sources of Startup Financing

Innovation and finance are closely intertwined drivers of economic growth and structural change. Innovation generates new products, services and industries, while finance allocates capital to high‑potential projects, enabling firms to transform ideas into marketable solutions. This interdependence is particularly salient in the startup sector, where innovative concepts typically require substantial upfront investment to be developed, validated and scaled. Consequently, financial strategies constitute a critical determinant of how startups navigate a complex and often unpredictable business environment (Bu et al., 2024).

Financing is a key element in their ability to enter the market, scale their operations, and build a competitive advantage. Due to high uncertainty, lack of credit history, and limited assets, startups face significant "financing gaps", which often make traditional forms of capital unavailable or insufficient. The literature (e.g. Narwal, 2023; Čalopa et al., 2014; Bauwens et al., 2024) emphasizes that the selection of financing sources must be tailored to the startup's development stage, risk, business model, and scaling strategy.

The classic dichotomy between equity and debt capital (Nawrot, 2007) is analytically insufficient, as modern startups utilize a broad spectrum of hybrid and non-traditional financing instruments. Equity capital encompasses both the founders' private funds, i.e., bootstrapping, investments from business angels, venture capital funds, and corporate venture capital, as well as crowdfunding in the form of equity crowdfunding. Debt and quasi-debt capital, on the other hand, encompasses bank loans, preferential loans, venture debt, revenue-based financing, and mezzanine instruments, which combine the characteristics of debt and equity. Non-repayable financing sources are also available, such as grants and subsidies offered by the Polish Agency for Enterprise Development (PARP), the National Centre for Research and Development (NCBiR) and the European Innovation Council (EIC), which support research and development projects and early-stage commercialization. Hybrid instruments also play an important role. These include accelerators with a financial component, convertible notes, SAFE agreements and matching programs that combine private and public capital, thereby increasing contractual flexibility and partially mitigating financing risk borne by startups. Moreover, the evolving landscape of startup financing highlights the increasing significance of public funding sources in Poland. Research indicates that domestic capital sources have gained

prominence over international alternatives, with public grants and subsidies becoming essential for startups navigating their early stages (e.g. Mańkowska, Szymanowska, 2024). This shift not only underscores the reliance on government support but also raises questions about the sustainability and long-term viability of such funding mechanisms. As startups continue to balance between traditional and innovative financing options, understanding how these public funds interact with private investment will be crucial for fostering a resilient entrepreneurial ecosystem that can adapt to future uncertainties. Table 1 presents the full spectrum of startup financing.

Table 1.
Forms of financing

EQUITY	**Private investors**	**Public or hybrid equity/ quasi-equity investors**	**Equity for work/ resources**
	- Business angels (BA). - Venture capital funds. - Growth/Private Equity funds. - Corporate Venture Capital (CVC). - Investor syndicates. - Equity crowdfunding.	- EIC Fund (EU) – equity investments up to approximately €15-30 million. - PFR Ventures (e.g., PFR Starter, Biznest, Otwarte Innowacje). - Brinc/EIT/accelerators with an equity component – if they include shares. - Regional Investment Funds (RIFs). - BRIdge/NCBR Investment funds.	- Bootstrapping. - Sweat equity. - Non-cash contributions (contributions in kind) – e.g. IP, software, know-how.
DEBT / QUASI-DEBT	**Debt financing (with repayment obligation)**	**Quasi-debt instruments (soft debt)**	**Grants and subsidies (non-repayable, non-equity capital)**
	- Bank loans. - Preferential loans (e.g., BGK). - Development/ innovation loans (PARP, RIF). - Working capital loans. - Leasing (equipment, technology). - Factoring.	- Venture debt – often linked to a prior VC round. - Revenue-Based Financing (RBF) – repayment based on a percentage of future revenues. - Mezzanine – debt with an option to convert to equity	- PARP grants. - NCBR grants. - EIC grants (Pathfinder/ Transition). - Regional grants (RPO). - Industry grants (e.g., ESA BIC for space-tech, EIT Health/Climate).
Hybrid sources of financing	- Accelerators with a financial component (sometimes equity, sometimes grant, sometimes mixed). - Convertible notes (loan convertible to shares). - SAFE (simple investment document). - Matching programmes (PFR, NCBR) – co-financing with investors.		

Source: Prepared based on: Scaling Deep Tech in Europe - European Innovation Council - Impact Report 2025; NCBR, 2024; PARP, 2025b.

One of the most commonly associated forms of startup financing is private investors—venture capital and so-called business angels. An investor, known as a **business angel**, is someone who is willing to share their financial resources and has the ability to finance a company in its early stages in exchange for shares. One of the key characteristics of this type of investor is that they invest exclusively their own funds, which distinguishes them from, for example, venture capital funds (Mikołajczyk, Nawojowicz, 2013). Business angel networks, such as COBIN Angels or Lewiatan Business Angels, are becoming an increasingly important

element of the market. Angels offer capital, mentoring, and a network of contacts, as well as support in building market entry strategies. Literature-based evidence (Cumming et al., 2022; Bessière et al., 2020) suggests that angel investments are associated with higher survival rates and growth prospects for startups in the seed phase.

Venture capital (VC) funds are specialized investment vehicles that allocate capital to high‑growth, innovation‑oriented startups in exchange for equity stakes. In exchange for the investment, investors receive shares or stock in the company (Włodarska-Zoła, 2016). Using venture capital funds as a source of external capital has many advantages. These include: an improved image and credibility for the startup, the ability to obtain capital for innovative and high-risk projects, and support for the company with new business contacts and know-how in many fields (PRF, 2025). The VC market in Poland is growing, and a key component is PFR Ventures, which partially finance the activities of young funds. The greatest activity is seen in the tech, deep-tech, space, and space & satellite sectors (Kerr, Nanda, 2015).

According to global research (Colombo, Grilli, 2010), VC has the greatest impact on the scaling of technology companies and their international expansion.

Growth/Private Equity (PE) funds invest specific financial capital in companies that possess and leverage the potential for market value growth. Their core activity involves identifying, financing, and supporting ventures with a working business model and stable revenues. PE focuses on restructuring, optimization, and expansion, utilizing instruments such as leveraged buyouts (LBOs). Investment risk is lower here than in VC, and the primary goal is to improve the company's efficiency and increase its value before a sale or IPO (PRF, 2025; Sosnowski, 2014). A significant element of the modern financing ecosystem, permeating both the VC market and early forms of private financing, are investor syndicates. They represent a form of co-investment between several entities—usually business angels or smaller VC funds—in a single project, allowing for risk diversification, increasing the available capital pool, and acquiring complementary competencies and networks. Syndicates play a key role in overcoming the information asymmetry and capital constraints inherent in early-stage startups, while also lowering transaction costs for individual investors. As a result, they bridge the gap between individual investors and professional VC funds, complementing the market structure for financing innovative ventures.

Equity crowdfunding is a significant alternative to raising capital for startups, enabling financing through public offerings of shares or stocks implemented through specialized platforms (Qian et al., 2026). This solution is particularly effective for companies targeting their products or services to a broad audience, especially in a B2C model, and for young technology companies seeking funds to scale their operations. Despite its growing availability, equity crowdfunding presents challenges, as it requires companies to present a mature product or prototype and conduct intensive communication with potential investors, who expect transparency, reliable information about risks, and a clear development strategy. A successful campaign therefore presupposes a relatively high level of organizational maturity, particularly

in terms of communication capabilities and investor-oriented disclosure. Furthermore, new regulatory requirements arising from the ECSP Regulation (Regulation (EU) 2020/1503, Journal of Laws 2024, item 984), including the obligation to conduct knowledge tests and simulate the ability to bear losses, while increasing investor protection, also increase formal entry barriers, which may limit the number of market participants and the rate of capital inflow into crowdfunded projects.

Bootstrapping and FFF often constitute the most constrained source of capital – the founders' own funds, including savings and money from family and friends (the so-called FFF – friends, family and fools). A company financed from its own funds is referred to as a "bootstrapper". According to Polish research, the most common source of capital used when founding startups is founders' own funds (Mańkowska, Szymanowska, 2024; Michalczyk, 2022).

Bootstrapping is used at the early stages—when the startup is in the "idea" phase, Minimum Viable Product (MVP), or proof-of-concept phase. At that stage, costs are high, seeking other sources can be risky, and formalities and investor expectations can be difficult to meet. The advantages of this solution also include full control over the company, no need to share shares, and flexibility in decision-making (consistent with the lean startup philosophy). The disadvantages, however, include limited funds, a significant burden on the founders, and personal risk. Bootstrapping is often a starting point—especially if the startup is taking its first steps in an environment of uncertainty. However, very often—to survive the "valley of death" (a period when a company absorbs resources but does not generate revenue)—additional sources of capital are needed. Empirical studies (Chien et al., 2024; Ström et al., 2025) provide evidence that bootstrapping is positively associated with startup survival, especially in technology sectors where the costs of developing an MVP are relatively low.

When founders' own funds are insufficient, **public grants and subsidies** become a significant source of capital for startups. Poland offers a wide range of support programs, including national initiatives implemented by institutions such as the PARP or the PFR, as well as EU programs and structural funds available through PARP and Bank Gospodarstwa Krajowego (BGK), among others (PARP, 2025a). Specialized incubation and acceleration programs (PARP, 2025b) also offer not only financing but also mentoring and access to networking. Grants and subsidies cover the costs of research, product development, MVP development, testing, and employment, often serving as a key support instrument in the early stages of development. At the same time, this type of financing is associated with limitations—high formal requirements, the need for precise planning, and rigid project goals—which can be difficult to reconcile with the dynamically evolving business model characteristic of startups.

Other forms of financial support for startups include **bank loans**, other credit facilities and debt financing/leasing (Brealey, 2020, pp. 577-644). Traditional financial institutions – banks and lending institutions – offer loans, credit, leasing and other debt instruments.

This option is less popular in the initial stages of startups but is still present. As Kapler and Love (2011) point out, more innovative and competitive companies have easier access to trade credit. Hai et al. (2022) note that in the development and growth phase, startups often struggle to secure support from financial institutions due to strict rules regarding financing structures. Factors such as limited operating history, lack of credit history and insufficient collateral significantly influence financial institutions' lending decisions.

The advantage of this form of funding is the predictability of capital costs, as interest rates are known in advance. It is worth considering this form if a startup is already generating revenue or has credible revenue forecasts, especially for financing fixed assets such as equipment, infrastructure and production capacity. However, for many startups – especially those without significant collateral and with high risk – bank loans can be difficult to obtain. Banks often require collateral, guarantees and a detailed business plan, which together constitute a significant barrier for early‑stage companies without revenues. To overcome these barriers, startups can also utilize preferential loans, venture debt, or revenue-based financing (Chien et al., 2025). These instruments are gaining importance, especially among startups generating recurring revenues (e.g., SaaS).

Quasi-debt instruments, often referred to as ‘soft debt’, constitute an intermediate form of financing situated between traditional bank lending and pure equity investment. These mechanisms enable capital acquisition while maintaining ownership control, while offering the investor limited risk exposure through partial participation in the company's future profits or the option of converting debt into equity. In the context of the startup ecosystem, they are particularly important during the growth and scaling phase, when companies are already generating initial revenues but are not yet ready for a large equity round or wish to minimize share dilution. The most commonly used quasi-debt instruments include venture debt, revenue-based financing (RBF), and mezzanine. **Venture debt** is debt financing offered to startups that have previously raised capital from VC funds. The presence of a reputable investor reduces the lender's risk and allows for the granting of debt without traditional collateral. This instrument is primarily used to finance expansion, product development, or extend the runway before the next capital round. Typical features include more favorable terms than traditional loans and the option to use warrants as compensation for the financier (Cumming, 2009).

Revenue-Based Financing (RBF) involves repaying debt by transferring a fixed percentage of future revenues until a specified return is achieved. This solution is effective for companies with recurring revenues, as it adjusts the debt burden to the current financial situation and does not cause dilution, providing a flexible alternative for startups with growing but unstable cash flows (European Commission, 2021).

Mezzanine is a form of financing that combines the characteristics of debt and equity, most often in the form of subordinated debt with the option to convert to equity or with an equity component (Cassar, 2004; Kerr, Nanda, 2015) It is used in later stages of

development, when the company generates stable revenues but requires growth capital without losing ownership control. This instrument increases the flexibility of the capital structure and can serve as a bridge between VC rounds and private equity investments.

Accelerators with a financial component provide young companies with both substantive support and capital in the form of equity, grants, or mixed models. These instruments enable rapid product testing and access to a network of mentors and investors, with a relatively low entry threshold (Kozłowski, 2010).

Convertible notes are short-term debt that can be converted into shares during the next investment round. This instrument reduces the need for early-stage company valuation and lowers transaction costs, while providing the investor with preferential entry conditions (European Commission, 2021).

Simple Agreement for Future Equity (SAFE) is a simplified investment document enabling the acquisition of future shares without accruing interest and without a maturity date, which distinguishes it from traditional convertible loans. This solution simplifies the capital raising process, minimizes formalities, and reduces transaction costs.

Matching programs (e.g. PFR, NCBR) involve co-financing startups by public institutions and private investors. These mechanisms reduce investment risk, mobilize private capital and support the development of early-stage technological ventures, particularly in areas of high market uncertainty (PARP, 2023a; PFR, 2023).

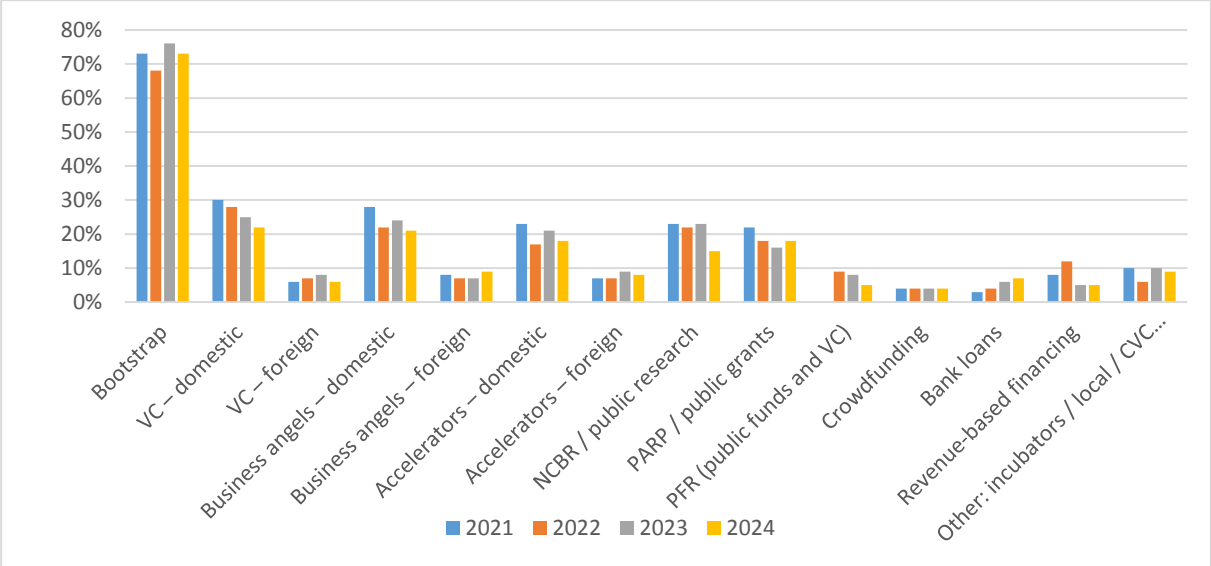

Figure 1. Sources of capital financing Polish startups in 2022-2024.

Source: Own study based on: Fundacja Startup Poland 2021, 2022, 2023, 2024.

The startup financing ecosystem encompasses a wide range of instruments that vary in risk levels, investor expectations, and impact on the ownership structure. Although startups in Poland primarily use bootstrapping (Figure 1; according to report 6, 73% of startups use this form of financing), a key role is also played by private investors – business angels (30% of financing) and venture capital funds (28% of financing) – who, in addition to capital, provide

mentoring, networking and strategic support, contributing to a higher likelihood of market success. Debt and quasi-debt instruments, crowdfunding, and equity financing are alternatives or complements, and can be particularly important in the earliest stages of development. Grants and public programs, including matching mechanisms, also play a significant role, reducing investment risk and enabling the financing of high-uncertainty innovations.

3. A Model for the Optimal Startup Financing Path in Poland

Drawing on market analysis and prior empirical findings, the paper proposes a stage-based model of the optimal startup financing path in Poland (Table 2). This model takes into account the company's development stages and available financial instruments.

Table 2.
Optimal Startup Financing Path Model

Stage	Business Goals	Available Financing Instruments	Typical Amounts	Key KPIs/Criteria
0. Bootstrap / Founders' equity	Validation of the idea, creation of the MVP, first traction	Founders' savings, funds from family and friends, income from services	0-200 thousand PLN	Initial demand, prototype, early adopters
1. Pre-seed / Grant / Accelerator	Model validation, customer testing, PMF refinement	Grants (NCBR, PARP, regional), accelerators (corporate, public and private), innovation competitions	50-500 thousand PLN (grant) + 50-200 thousand PLN (accelerator)	First paid pilots, retention, references, readiness for commercialization
2. Seed / Business Angels / Early VC	Building a team, first scalable sales, entering the EU market	Business angels, angel syndicates, seed VC funds, SAFE / convertible notes	0.5-3 million PLN	MRR/ARR*, user growth, LTV/CAC**, first repeatable sales processes
3. Series A / Growth VC	International expansion, product scaling, increasing market share	Late-stage VC funds, venture debt, international rounds	3-50+milion PLN	ARR***, churn, gross margins, sales efficiency, operational scalability
4. Late Stage / Pre-exit	Preparing for IPO/M&A, maximizing market share	Private equity, strategic industry investors (M&A), public markets	PLN 50 million – several hundred million PLN	EBITDA****, stable revenues, international presence, high scalability

* MRR (Monthly Recurring Revenue) and ARR (Annual Recurring Revenue), * * LTV (Lifetime Value) and CAC (Customer Acquisition Cost), *** ARR (Annual Recurring Revenue), **** EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization).

Source: Own study based on: Fundacja Startup Poland 2022, 2023, 2024; NCBR, 2024; PRF, 2024, Q1 2025, Q2 2025 and Q3 2025; PARP, 2024b.

The proposed model is broadly consistent with international empirical studies (including Narwal, 2023), which document a sequential relationship between firm development stages and preferred financing instruments. At the same time, the model is indicative rather than

prescriptive and should be adapted to sector-specific dynamics and the risk preferences of founders and investors. However, special attention should be paid to the opportunities for startups to develop into "unicorns", of which there are relatively few in Poland.

4. Summary and Conclusions

Despite the significant development of the innovation ecosystem in Poland, startups still face numerous barriers to effective capital raising. The most important of these include a limited number of industry investors and insufficient networking, which translates into difficult access to business partners and financing sources. Limited availability of debt financing, resulting from banks' low willingness to lend to young companies without operational history and adequate collateral, further hinders growth. Regulatory instability and skills gaps in sales, management and finance therefore constitute structural constraints that may inhibit scalable growth.

Regulatory instability in startup financing stems primarily from dynamic changes in regulations regarding crowdfunding, venture debt, and EU grants. The introduction of the ECSP Regulation requires platforms and investors to complete new formalities, such as knowledge tests and investor identification, which increases costs and the barrier to entry. Differences in the implementation of national regulations and the lack of established practice create legal uncertainty that can limit startups' access to capital and discourage investors, especially less experienced ones.

From a managerial perspective, startups should prioritize building credibility by presenting measurable performance metrics, engaging in early financial modelling and cultivating relationships with investors and industry partners.

From an investor perspective, evaluation should extend beyond technological novelty to encompass founding‑team quality, governance structures and unit economics, while syndication can be used to diversify risk and pool complementary expertise. This approach strengthens the entire ecosystem and increases the likelihood of startups' market success.

Analysis of the Polish startup financing market indicates that the ecosystem is maturing and becoming increasingly competitive. The availability of capital—both public and private—enables the transition from the idea stage to international scaling. At the same time, organizational resources, team competencies, and the ability to effectively utilize available financial instruments remain key success factors.

The optimal financing path model presented in this article thus provides a structured heuristic for startups seeking capital, as it captures both the specific features of the Polish market and broader global trends in financing technology‑driven entrepreneurship.

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