

**Assessment of Capital Structure of Startup Firms:
The Case of Ethiopian Startups**

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Abstract

Startup firms are part and parcel of the world we live in today. Consequently, the startup space is gaining strong attention and support from policy makers, government bodies, scholars, investors, and financial institutions in the rest of the world, but little investigation is done in the case of Ethiopia. So long as research is conducted to bridge a gap in scholarship domain, this work aimed at coming up with authentic study of startups in relation with their sources of finance and capital structure. The research was conducted on 64 Ethiopian startups registered at Yegara.org. The research employed a descriptive research design. And mixed research approach that combined questionnaire and semi-structured interview for primary data gathering instrument was used. The study found that startups fundamentally use internal sources of finance of founder/s' savings and family and friends' capital, and show similar finance patterns, regardless of their startup characteristics. It has also been identified that there is a severe lack of startup finance supply in the country; there is and also limited experience of obtaining external finance while there is a strong need for them. When it comes to external finance type preferences, startups showed preference for having equity finance over debt finance. The reasons for preferring equity finance instead of debt were accessibility, non-financial benefits accompanied, and the appropriate investment terms and conditions when compared to debt finance. Moreover, three of the four startup characteristics showed a significant relationship with debt/equity preference. Based on these findings, it is recommended that Ethiopian startups should be provided with external sources of finance tailored to meet their characteristics and conditions, and the government and other key stakeholders shall work jointly to create suitable startup finance scheme and environment.

Keywords: Startups, Debt Finance, Equity Finance

Introduction

A startup is a company setup to explore for repeatable and scalable business model (Blank, 2010). Startups operate to deliver new products and services in extremely uncertain market conditions (Reis, 2011). They are mostly but not necessarily associated with high technology products such as software (Calopa et. al., 2014). Many consider all companies in their early days of establishments and in technology arena to be startups. According to Graham (2012), a notable entrepreneur and venture capitalist, being newly formed or technological alone could not lend a company such a name; instead, a venture must have a fast growth design attribute to be deemed a startup. Startups contain astonishing growth potential, yet also experience unanticipated and repeated failures (Slavik, 2019). Ninety-percent of startups founded die out according to

voluminous statistics (Forbes, 2022; Kalyanasundaram et. al., 2021; Startup Genome, 2011). Even though that is the case, the few successful startups introduced massive influence to the market. Google, Facebook, Uber, Airbnb, Dropbox and Xiaomi startup companies rose to worldwide prominence in their respective industries and managed to increase their triumphant enterprise values by tens of billions of dollars shortly (Lee & Kim, 2019). Similarly, Interswitch, Flutterwave, Andela, Chipper Cash, Opay, and Wave startup companies have been able to obtain a unicorn status more recently in Africa.

The high failure rate that lies in the unique business model, brisk scaling, and uncertain market reception make startups find it arduous to access finance globally. By and large, acquiring the money needed to bring startup ideas to life is challenging to secure (Moogk, 2012). Broadly, finance sources can be divided into two: equity and debt (Rossi, 2014). Debt finance entails borrowing funds from creditors with the condition of repaying the principal and the interest at a specified time. Equity is an umbrella term encompassing various financial instruments that share profits or losses of a business (Gilligan & Wright, 2020). Equity finance pervasively consist both private equity and public equity. But in this research the entrepreneurial finance typologies of private equity such as angel investment, venture capital, accelerators, crowd funding, and the likes are to convey it.

Startups are little companies but contribute vastly to economy in terms of creating jobs and paving the way for innovation and competition (Boyarchenko, 2020). Ethiopian technology enabled startups such as Ride, Feres, and Deliver Addis to show remarkable results in providing convenient ride-hailing and on-demand delivery services of late. These firms also made the sizeable unemployed to have job opportunities and proved the possibility of local wealth creation through entrepreneurship. An economy needs proliferating startups that ascend into large corporations so as to fuel growth (Kalyanasundaram, 2018). Understanding this, governments are observed encouraging startups to stimulate their growth and increase employment rates (Al Sahaf & Al Tahoo, 2021).

In 2020, a Startup Act draft document has been released in Ethiopia. If this draft passes to policy, a National Startup Business Council is to be formed. Consequently, startups will get an innovation business label and enjoy privileges of innovation funding, financial and tax-related incentives, guarantees, legal assistance, administrative support and beyond (Startup Business Proclamation, 2020). The fund will obtain revenues from the government grants, budgets, loans, and other external donations (Startup Business Proclamation, 2020).

The proclamation also puts into account startup investors as well as ecosystem builders. It states that the Ethiopian Investment Commission with the Investment Board may reduce the minimum investment capital set for Foreign Direct Investment for the sake of startups. At present, the policy in place requires a foreign investor to allocate a minimum of 200,000 USD to enter Ethiopia for a single investment project (UNCTAD, 2020). Moreover, National Bank of Ethiopia is assumed by

a directive to govern angel investment, venture capitals, and private equity development (Startup Business Proclamation, 2020). There is no locally raised private equity fund currently in Ethiopia because of a restrictive legislation (Bekele, 2020). Receiving funds from public and investing the raised capital is considered as a banking business, and a company must earn a bank license to involve in such practice (Banking Business Proclamation, 2008). Private equity and venture capital funds operating in Ethiopia are incorporated overseas and only have subsidiary offices in the country to bypass the limiting legislation. In general, the Startup Act is anticipated to prepare a hospitable ecosystem for startups' blossoming upon its official effectiveness.

Financing is vital for startups (Hermann & Stahl, 2021). Myers and Majluf (1984) developed a hierarchical capital structure theory: the Pecking Order Theory. This theory hypothesizes that firms are driven by information asymmetries and transaction costs to use internally generated capital prior to seeking more expensive external sources of finance (Ullah et. al., 2010). Debt is cheaper than equity since it does not contain risk of agency cost as investor financing, hence firms select a standard Pecking Ordered funding source, beginning from internal source, then debt, and equity as a last resort (Mendez-Morales, 2019). Startups which are characterized by innovativeness need to expend capital and time for new product/service R&D and testing, without going to market soon after the commencement of their operations, meaning without being profitable. It has also been argued that financial constraints should severely affect R&D investments due to the high degree of uncertainty and risk of innovation output success (Bartoloni, 2011). And again, innovative companies seldom possess tangible assets. Tangible assets such as equipment and machinery are requirements for bank funding, making the collateral capability of firms essential for debt (Mendez-Morales, 2019). As a result, ample researches evidenced that the capital structure of R&D intensive firms showed significantly less debt than in the case of other companies (Kedzior et al., 2020). More equity and fewer debt financing were found to be the sources of finance on firms with higher degrees of innovation inputs which exhibit uncertain outcomes (Mina & Lahr, 2018). This has been the case not only for the financial provision aspect of equity investment but also for the value addition that comes with angel and venture capital investors who could support startups in non-financial terms of experience, networks, publicity, and myriad other skills. Such results shift the preference of capital from debt to equity and been called Reversed as well as Altered Pecking Order Theory by various researchers (Paul et. al., 2007; Hogan & Hutson, 2004; Ullah et. al., 2010; Vanacker & Manigart, 2010).

There is an academic research void about startups, in general, and their sources of capital, in particular in Ethiopia. The distinction between startups that possess intangible assets, innovativeness with R&D and market testing expenditures, non-legal registration, risky and long-term profitability but short-term high cash burn rate character and those with tangible assets, less innovative business model, and rapid positive monetary returns has not yet been made in Ethiopia. Consequently, all companies are treated the same by investors, debt finance providers, and other stakeholders in Ethiopia. The innate peculiarities of startups are not widely understood following

the lack of understanding of the space, so the startups often face difficulties accessing finance. This is a challenge that must be tackled in time so as to underpin startup driven entrepreneurship and innovativeness. The global startup ecosystem has a worth of more than 3.8 trillion USD (Startup Genome, 2021). In avoiding research and practicality regarding startups, Ethiopia is missing out from this ever-growing economic treasure.

This research has been conducted on Ethiopian startups registered at Yegara.org. As of the conduction of this research, the platform had 77 registered startups from various sectors. Yegara.org is a website portal designed for connecting startups and potential investors in Ethiopia. The website came into existence by the collaboration of the Ethiopian government and the MasterCard Foundation. It can be considered as the only organized place to find the country's several startups along with the necessary business plans, founders' backgrounds, capital needs, and contact information details. This study identified sources of finance and the debt or equity preference by the sample startups. The reasons for the debt or equity preference by the sample startups were also indicated. This research also assessed startup characteristics and the relationship they have with debt/equity preference. And following that, the patterns of finance sources and debt or equity (Pecking Order or Reversed Pecking order) preferences are discovered, along the startups dichotomous characteristics of asset type, startup stage and profitability status, legal incorporation status, and R&D and market testing status.

Literature Review

Startups can be defined as high growth, innovative, and more often than not technology involving entrepreneurial ventures. In the case of startups, a mere idea develops into a high growth company and a successful startup would contain main entrepreneur and a team of colleagues with complementary skill sets (Markova & Perkovska-Mircevska, 2009). Startup companies create impact and through innovation and technology bring disruptive ideas to change lives, works, and communications (Magalhaes, 2019). Startups and SMEs are two different kinds of entities. Ojaghi et al., (2019) state that startups are not small versions of big companies. At the surface level startups and SMEs may seem small in organizational size. Nonetheless, SMEs are the ones that can be considered as small versions of big organizations for demonstrating completeness on their own. Ojaghi et al., (2019) conversely consider startups as incomplete in terms of organizational structure, operations to be negligible, more time-constrained than SMEs, and for extremely challenging idea-to-market cycle. Moreover, according to Van Le & Suh (2019), startups set themselves apart from traditional businesses as they can grow quickly and since their operations and product/service provision are not confined to the national borders. By the same token, the paper also states that very large market size can be addressed by startups whereas traditional businesses target and serve specific and smaller market size. The growth, border-crossing operation and reach to larger market size are imminent due to startups' strong utilization of technology and the internet. Startups exhibit R&D and innovative intensive features, and these practices do not start to make revenues and profits in the short run. Financing of innovative projects

might take years prior to generating financial profits, and firms that strive to come up with new outputs through innovation may not have the internal resources to cover the cost of the investment (Bartoloni, 2011). Lots of new startup companies in high-tech industries are characterized high risk for their uncertainty of returns, lack of considerable tangible assets, and lack of operations track record (Wang & Zhou, 2004). Such innovative and high growth companies rarely possess tangible assets that could be collateralized and be used to reel in debt financing. The unique assets include patents, intellectual property, trademarks, and human capital, which are intellectual capitals that can be classified as intangible assets.

In 1984, Myers & Majluf developed a revolutionary financial theory: the Pecking Order Theory. The order that is said to benefit firms is first internal funding supplied from owners of the firm themselves. Then, if extra financial injection is required, firms will prefer debt financing for its advantages of tax shield and by the virtue of continuing to hold full ownership and control rights of the company. And only as a last resort, companies will eye for equity share issuance and acquiring finance in exchange. Information asymmetry entails that the information insiders have about a firm is not necessarily available for outsiders (Coleman & Robb, 2012). Even though both outside debt and equity finance proved themselves to be costly due to information asymmetry, external equity is more expensive to bear than external debt finance, since equity forces entrepreneurs to relinquish ownership and result in ownership stake dilution (Minnola et. al., 2013). Generally, companies follow a Pecking Order hierarchy of financing sources and prefer internal financing whenever possible, and then, if external financing is required, choose debt over equity (Prędkiewicz & Prędkiewicz, 2017).

R&D involves atypical intangible capitals of intellectual property and talents, which, if the project fails and is curtailed from reaching its target, reselling the intangible capital on a secondary market being difficult (Mina & Lahr, 2018). Majority of high growth companies, nonetheless, showcase a significant outside finance needs (Vanacker & Manigart, 2010). However, growth options of companies are neither tangible nor collateralizeable, making banks reluctant to consider them for loan deals (Hogan & Hutson, 2004). On the contrary, innovation and fast growth attributes are incentives for external equity investors (Coleman & Robb, 2012).

Economic literature considers tangible assets as important factors for financial leverage by their potential of being held as collateral guarantee (Kedzior et. al., 2020). Debt finance depends on collateral and debt covenants that are unavailable in early-stage companies with large R&D expenditures, intangible asset and scant cash flows (Mina & Lahr, 2018). As a result, companies with specific intangible assets have lower probability of acquiring external debt since intangible assets bring along high transaction costs and bankruptcy risk, necessitating rearrangement of the order of finance as equity to public offering to external debt (Fourati & Affes, 2013). Issuing share does not require tangible assets to be given as a security nor increase the threat of bankruptcy (Kedzior et. al., 2020). Firms of high degree of innovation with uncertain outcomes gravitate more towards equity finance and less to the debt counterpart (Mina & Lahr, 2018).

Private equity in the forms of venture capital or angel investment probably is the most appropriate external finance source for high-technology firms as it is designed for overcoming information asymmetries (Hogan & Hutson, 2004). In the last 30 years, venture capital became increasingly important source of innovative startup funding (Suting et. al., 2020). Firms seeking venture capital mostly are uncertainty and risk-driven startups and SMEs (Herciu, 2017). By putting in their own funds in startups with no operating history, significant risk is taken by angel investors as well (Darian, 2008). On top of risk capital supply, venture capitalists and business angels bring other key elements of reputation, social capital, marketing capabilities that assist new technology-based firms' innovative potentials, thus young entrepreneurs display sturdy willingness to assume equity capital (Minnola & Cassia, 2013). Paul et al., (2007) stated that equity investment is sought on purpose by entrepreneurs for the sake of obtaining added value over and above the capital investment. It was discussed on this paper that external equity is not seen as expensive but considered as a plus as the right investor could contribute business skills and social capital.

All the aforementioned finance sources are included under entrepreneurial finance. Entrepreneurial finance in general encompasses a host of finance typologies: venture capital, private equity, private debt, trade credit, IPOs, business angel finance, crowd funding, grants, incubators or accelerators' funding, and family/friends' support. Entrepreneurial sources can be subdivided into internal and external sources of finance.

Internal Sources of Finance

Founders, Family, and Friends (3Fs)

Markova & Perkovska-Mircevska (2009) include founders, family, and friends (3Fs) and bootstrapping for representing internal finance sources. The 3Fs are defined as funds collected from the founder(s) personal savings, and family and/or friends or "love money." Typically, and regularly, initial financing of startups emanates from founders' pockets or families and friends (Ondas, 2021). They are informal investors that engage mostly in the initial startup phases and broadly give loan capital (Klein et. al., 2019). Bootstrapping is an early-stage practice taken by an entrepreneur to turn a project idea to a profitable business. When bootstrapping an entrepreneur may look for capital from founder(s) pockets, family, friends (Salamzadeh & KawamoritaKesim, 2015), but additionally from retained earnings from the business, credit cards, home mortgages, and customer advance payments (Markova & Perkovska-Mircevska, 2009).

External Sources of Finance

External Equity Finance Providers

Nofsinger & Wang (2011) describe external investors loosely into institutional and individual investors. Institutional investors are the likes of venture capital funds, banks, and other governmental agencies. Whereas, individual investors are angel investors that conduct due diligence on companies, decide on deals, and write checks on an individual level.

Angel Investors (Business Angels, Angels)

Angel investors are wealthy individuals that provide their private assets to startups with huge growth prospects (Klein et. al., 2019). The investments angels make are mostly equity-based. Their provisions for startups are risk capital, which means their returns are not guaranteed for return since the ventures are very risky. Angels are seen imperative not just for the amount of finance they give to startups but for the decisive growth stage investment on startups, and this enables entrepreneurs to make it safely from friends-and-family finance to venture capital (Ibrahim, 2008).

Accelerators

Accelerators are cohort-based programs that offer mentorship, work space, and funding mostly in exchange of equity share on the company (Drover et. al., 2017). Startups liaise with experts, fellow entrepreneurs, and prospective investors on acceleration workshops (Serwatka, 2018).

Venture Capital (VC)

Venture Capital (VC) is the acquirement of minority stake in high growth potential early to late-stage startup firms in order to finance them for their continued growth (Stahl, 2021). Venture capital is an institutional fund that is pooled together by venture capital firms from institutional investors and high net worth individuals for investment intention (Vijayalakshmi, 2020). Venture Capital is provided for companies in exchange for equity stake in the business instead of a loan (Vijayalakshmi, 2020). VCs involve in investment on new technologies and innovative organizations that lack tangible assets which serve as prerequisites of traditional investment sources (Wilson et. al., 2018). Venture capital backs almost half of the IPOs in the United States (Janeway et. al., 2021).

Private Equity

Under Private Equity, a Private Equity fund also exists along with VCs and other equity-based finance mechanisms. Private Equity Funds are those that collect capital funds from various parties for taking large equity stakes in sets of companies and sell them in later stages of the fund's lifecycle (Jenkinson et. al., 2022). Unlike VCs, private equity funds also provide debt finance to ventures.

Crowd Funding (Crowd Sourcing)

In finance context, crowd funding is an organizational function linking networks of actors or the crowd using IT, enabling an open request for monetary contributions for commercial or social business cause (Sekliukiene et. al., 2018).

External Debt Finance Providers

Debt (Bank and Microfinance Loans)

Debt is a must-repay loan capital offered to companies by external parties. It is one of the outside sources of finance and is used to refer to the traditional bank and micro finance institution capital supply that requires asset collateralization in this research. Collateral is used in external debt contracts to alleviate information asymmetry which could bring about credit rationing or denial of credit (Coleman et. al., 2016).

Grants

Startup grants are critical provisions of finance and other resources to R&D intensive, innovative and high growth potential projects. The initial stages of startups are supported by public aids of direct subsidy and zero interest refundable loans (Mustapha & Tlaty, 2018).

Regarding empirical researches, the startup and innovative industry have not been adequately researched in Ethiopia. Therefore, the researcher used other countries' empirical research findings as a reference to explain the startup and innovative sector capital structure decisions. Depending on the country and the financial services available, the results show divergence, in which ventures in some nations preferring debt finance before equity finance and otherwise in some others. Based on research conducted in Colombia, Mendez-Morales (2019) found that the capital structure of innovative firms in the country of research has aligned with the one predicted on the Pecking Order Theory, whereby firms strongly use internal funds, then banks, and then equity sources of finance. Similarly, Predkiewicz & Predkiewicz (2017), with a study made on 409 innovative companies concluded that the Pecking Order Theory is supported. In another research, Coleman & Rob (2012) found through a survey conducted on technology-based firms have a different capital structure pattern. Even if the Pecking Order Theory applies to the entire companies, the Pecking Order Theory partially works in the case of technology-based firms. Korityak & Fichtel (2012) through a qualitative interview conducted on 8 Swedish startups concluded that the startups have been financed in a Pecking Order, internal, external debt, and external equity hierarchy. However, it was discussed on the research that the startups have a preference for equity finance. But, since the Swedish government and other stakeholders jointly provided a special type of debt finance, Almi finance, which doesn't require collateral for loans contrary to typical bank finance, the standard Pecking Order has been followed by the startups.

As to Reversed Pecking Order reporting empirical studies, Vanacker & Manigart (2010) found that external equity was sought following retained earning finance (Internal Source of Finance) made by the sample firms. In line with the previous research Ullah et. al., (2010), with a study that included 41 biotechnology and 42 software firms in the UK, and the two industries showed slightly varied financial preferences. Biotechnology firms, due to their university, non-university and research institute spinoff natures, tend to be funded by public funds (External Sources of Finance) and be managed by non-founders, so that they accept outside equity finance. In dissimilarity with

the standard Pecking Order, equity finance type venture capital finance was discovered to be the most important and firstly acquired source of finance followed by business angels. The software firms included in the research illustrated an increased use of personal finance as a main funding source, then acquire their funding needs from venture capital (External Equity Finance Source). Mortgage or remortgage of family home was the third most reached out finance option for these companies. On research that investigated 117 Irish software companies, Hogan & Hutson (2004) came to the conclusion that, consistent with the POT and Reversed POT internal finance was utilized as a most important and initial source of finance by the firms, but contrary to the standard theory, equity was preferred and intensely used than debt as an external source of financing. Likewise, following an in-depth interview with 20 Scotland-based entrepreneurs, Paul, et al., (2007) explained entrepreneurs fund their ventures by their own internal resources first, but as opposed to the Pecking Order Theory, turn to equity than debt when external funding appeared needful. With sample companies comprising 851 firms (454 from the USA and 397 from the UK), Mina & Lahr (2018) found that R&D is positively related to equity and negatively associated with debt. Fourati & Affes (2013) found that new entrepreneurial activities are most likely to have some external debt finance if they have more collateralizable tangible assets and legal form of incorporation. According to the research, human capital-intensive companies are to be financed by internal sources of finance, as the asset type cannot qualify for debt finance. The research inferred that, home-based entrepreneurial activities are also to be financed largely by internal source and less by external debt and equity investors. Moreover, intellectual property is said to reduce external finance acquirement probability, and specifically decrease ventures' chances of accessing debt finance. Legally incorporated venture characteristics are claimed to lead to debt finance and the feature generally boosts the probability of acquiring external finance. The researchers found that for entrepreneurial activities with information opacity, Reversed Pecking Order Theory, where internal finance, external equity, and external debt exist consecutively, applies. Entrepreneurial practices with specific assets have also showed Reversed Pecking Order. Conversely, it was found by the research that, for ventures having entrepreneur's personal capital contribution and tangible assets, external debt has been preferred than external equity and the standard Pecking Order applies. Dulovits & Tewelu (2020) also found that majority of the startups showed Reversed Pecking Order funding in terms of usage of finance. However, when it comes to preference of finance, almost equal proportion of startups showed a Pecking Order and Reversed Pecking Order preferences. Minnola et al., (2013) conducted research and inferred that the first order of finance of the new-technology firms meet the classical Pecking Order assumption in drawing capital from internal sources. But when external finance was required, equity finance has been found to be the preferred capital source than debt finance.

To conclude, many of the researches on the topic agree that companies that are R&D and market testing intensive, innovative and technological with fewer tangible assets under their names and extended positive cash inflow and profitability times are financed in the Reverse Pecking Order approach, meaning internal funding followed by equity and then debt.

Startup Characteristic Variables

Startup firms' dichotomous characteristics of legal status, asset type, fairly intense R&D and market testing status, and stage and profitability status were assumed as variables that show different patterns on the other capital structure variables of internal sources and external sources of finance that hold equity finance, debt finance, and others.

Asset Type: when companies have tangible assets, they will often be able to access debt finance since it will enable them provide collateral. However, startups are innovative and possess fewer tangible assets such as land, property, machineries, and equipment. They mostly have intangible assets of business idea, intellectual property, patents, trade mark prototype, and intellectual human capital. As a result, they are assumed to finance their projects first from internal sources and then look for equity-based, innovation focused investors. This research distinguishes asset types as intangible assets intensive if they have predominant business idea, intellectual property, patents, trade mark prototype, and intellectual human capital than tangible assets such as premise, land, property, machineries, and equipment, and vice versa.

Intensive R&D and Market Testing Cycle: startup companies require intensive R&D and market testing since they will be developing innovative products and services often times new to the market. As a result, extensive finance is needed to support the R&D initiative and market testing prior to going to the market and succeeding. According to majority of the above researches and assumptions, these kinds of activities are financed first by internal sources of funding, and next to that, innovation-orientated equity funding, and then debt. This study takes startups as R&D and market testing intensive if the startups concur that their venture requires/d it and not if their startups do not require/d it.

Startups' Stage/Profitability Status: when firms are profitable, they will be more able to finance themselves from both internal and external sources. Such companies could finance themselves through retained earnings, acquire more tangible assets, and engage in new product development, which are all ideal conditions for having internal sources of capital from retained earnings to be reinvested, collateral and personal guarantee requiring debt finance providers, and be investable for equity finance providers. However, startups have deferred and rare profitability track record due to intensive R&D and market testing cycle, which will limit them from fulfilling their capital needs from the aforementioned types of internal and external finance means, thus they rather finance their initiatives first with the internal capital sources: founders, friends, and family. And they are assumed to take equity, and lastly, debt. This research considers startups as profitable if they have passed the break-even point and begin to acquire financial returns more than costs and unprofitable if they are not generating any money, having more cost than returns, or having equal costs and returns.

Legally Registered/ Not Legally Registered or Home-based Nature-startups and innovative organizations may be home-based and not yet legally incorporated. The process of idea generation and prototyping may take place from entrepreneur's home. The present-day giants Facebook, Apple and more started out in college dormitories and home garages. However, such companies have a hard time acquiring the finance needed at this stage from external finance sources as a result of high level of information opacity. Theoretically, home-based and unincorporated organizations source finance from internal means initially. Then they are assumed to go to equity finance providers, and late after incorporation seek debt finance. This is because equity finance providers are keen to judge high growth and potential company even though it is not legally structured. On the contrary, legally established and incorporated startups tend to acquire more finance from external sources since they are less opaque. This research considers startups as legally incorporated if the startups have been registered as business entities and not legally incorporated if not.

Variables in Sources of Finance

Equity Finance: are considered innovation supporting, "patient" and "generous" capital mostly for unincorporated, deferred profitability, asset intangibility, and intensive market testing cycle exhibiting startups. Therefore, they are assumed to be capital sources that come after internal sources, and debt finance for the kind of ventures this research is dealing with.

Debt Finance: are considered risk averse on the many of the researches and hardly provide capital to organizations characterized as unincorporated, unprofitable, with intangible assets, and intensive R&D and market testing cycle. As a result, they are assumed to engage in financing at later stages, where the startup firm is fully developed and garnered the necessary conditions such as debt repayment capacity and collateralizable, tangible asset.

Methodology

Descriptive study was conducted to describe the characteristics of startups' sources of finance, debt or equity finance preferences (Pecking Order or Reversed Pecking Order), the leading causes towards the type of debt/equity finance chosen, and the relationship between startup characteristics and debt/equity preferences. The research depended entirely on primary data sources gathered solely for this research purpose from sample respondents. Mixed research approach that integrated both quantitative and qualitative methods have been employed. Questionnaire and semi-structured interviews were the data gathering instruments used for this research work and the data found from the instruments were analyzed quantitatively through cross tabs, frequency, percentages, Garret Ranking and mean score, and chi square test of independence; whereas, the interview results have been interpreted, condensed, and analyzed using thematic analysis, and for this method inductive approach has been employed and word narration was utilized to provide the overall premise of the responses. Questionnaires have been distributed to 58 startup respondents and interviews have been conducted with 6 other startups, to make up a total of 64 informants.

Results

From a total of 58 startups addressed through questionnaire, majority of them, 49 (84.5%), are located in Addis Ababa, while 9 (15.5%) of the startups are located in other regional states, including Afar, Amhara, Oromia, and SNNPR. Moreover, the predominant sector from all the 58 companies was ICT with 18 (31.0%) startups categorized under it. Startups from “Other” sectors were the second most chosen option with 10 frequencies (17.2%). The “Other” sectors specified by the startups are: Events, Internet of Things (IOT), Automation, Sales and Distribution, Labour Market, Research and Development and Robotics. From the 58 startups addressed, 7 (12.1%) are from the Manufacturing sector. Health and Agriculture and Agriculture- products represent an equal 5 (8.6%) of the startups. Startups under Renewable Energy sector are 4 (6.9%). Construction, Creative Arts, and Tourism sectors have equal 2 and each of them constitute 3.4% of the totality. Startups under Education, Entertainment and Logistics share 1.7% each in being selected only once from the entire respondents. The startup sector options included on the questionnaire were taken from Yegara.org. The website has 14 sector categories in total, but only 11 were selected by the questionnaire informants.

To provide a perspective and well-rounded knowledge about the theme of this research, which is assessing the capital structure of startups, the optimal capital need of the startups required to operate at their full scales has been raised on the questionnaire. Such questions could offer a general feel of what amount of finance is in need by the sample startups. From the total 58, 16 (27.6%) startups showed a 2.5 million birr and above optimal capital need to run their startup with full capacity, while 12 (20.7%) indicated 1, 000,000 to 1, 499,999-birr capital demand. And only 4 (6.9%) showed a less than 500,000-birr capital for their startups to operate at full potentials.

The data gathered regarding initial capital of the startup firms which have been deployed to begin initial startups activities. Since finance can be brought from multiple sources at the same time, the question was a multiple response one and there were 96 total responses. Many of the startups predominantly sourced capital from founder/s savings, constituting 48 (50%) of the total replies. Following that, capital from family and friends was the second most used initial source of finance for the startups with 20 frequency distributions (20.8%). Grant with no equity or capital return commitment has been found to be the third most used initial source of finance among the startups with 13 frequencies (13.5%). From the total responses recorded, 6 startups stated that no capital has been committed to their ventures yet, and that is 6.3% of the entirety. Microfinance and equity finance are selected with equal 4 (4.2%) each from the total responses. And the least used initial source of the startup companies is bank finance in only being selected by 1 startup (1%) out of the 96 total responses. The general outcome aligns with the first order finance sequenced assumption of Pecking Order and Reversed Pecking Order Theory literatures, since, due to information opacity, information asymmetry, asset specificity and novel business model, many commencing startups endeavors often source capital from founder/s savings or the other internal source family and friends’ finance. In the same vein, the entire sources of financing the startups acquired up to the conduction of this research have also been to a greater degree acquired from founders’ savings,

family and friends and grants. The same pattern has been observed with startups reached out through interviews, too.

It was also found that no adequate sources of finance are available in the country for startups. Startups are far from capital sources. Even though internal finance is considered insufficient to realize startups' purpose of establishments and external sources are immensely sought to do so, external finance providers are not widely available. External finance providers, especially bank finance, were said to have stringent financial provision requirements, which startups are not able to meet. Consequently, startups are dealing with extensive financial lack and their experiences of applying for external sources of finance and acquiring debt and equity capital have been very much limited.

Table 1: Rank of Finance Sources

Most Preferred to Least Preferred	Founder/s Saving	Equity Finance	Debt Finance	Family & Friends Capital Supply
N	58	58	58	58
	0	0	0	0
Mean	2.2241	2.2931	2.6207	2.8621
Garret Ranking Result	54.7	53.6	48.6	44.9
Mode	1.00	1.00	2.00	4.00
Std. Deviation	1.17044	1.22844	.95196	1.01650
Variance	1.370	1.509	.906	1.033
Range	3.00	3.00	3.00	3.00
Minimum	1.00	1.00	1.00	1.00
Maximum	4.00	4.00	4.00	4.00

Source: Research's Data Survey (2022)

As shown on Table 1, on the basis of financial preference, the data showed a Reversed Pecking Order, where sample respondents showing preference to equity finance over debt finance. Founder/s saving is the most preferred finance source among the startups with an ascending proximate mean score rank of 2.22 or a Garret Ranking Result of 54.7. Equity finance is the second most preferred source of finance with a proximate mean score of 2.29 or a Garret Rank Result of 53.6. Debt finance is the third choice in terms of preference with a proximate mean score of 2.62 or a Garret Rank Result of 48.6, while family and friends' capital is the least preferred with a proximate mean score of 2.86 (Garret Rank Result=44.9). From this it can be concluded that, in terms of preference, the Reversed Pecking Order Theory applies to the startups. The internal source of finance, namely founder/s savings, comes first. And then, equity finance precedes debt finance, contrary to the standard Pecking Order Theory assumption. But it should also be noted that, opposing both Pecking Order and Reversed Pecking Order theories, one internal finance form, family and friend's capital, happens to be the least preferred and ranked last, even after the

theoretically speaking oft-detested external sources of finance by the sample startups. Generally, the triangulated outcome aligns with Reversed Pecking Order reporting empirical research results (Hogan & Hutson, 2004; Minnola et. al., 2013; Paul, et. al., 2007; Vanacker & Manigart, 2010). However, it is important to note that this happens to be the case only in terms of preference of finance sources, not based on usage of finance.

The equity preferring startups that make up majority of the data gathered indicated reasons of equity finance's more accessibility, non-financial support such as management consulting, strategy formulation, co-working, networking and overall startup support, and equity finance's appropriate investment terms and conditions to prefer it than the debt counterpart. Furthermore, equity finance showed a strong preference among the startups because of its patient and future-orientated capital supply that transcends current startup situations of unprofitability and/or little to no fully developed idea, products and market. It was also pointed out in the interview sessions that entrepreneurs who acquired equity finance could solely be focused on operations of the startup, leaving aside worries of principal and interest repayment and loss of collateralized asset, which could interfere with normal work undertakings if debt capital were taken. In addition, majority of the startups interviewed suggested that equity investment is what they have sought all the while. A respectable number from the total stated the purpose of registering at Yegara.org has also been about accessing equity-based finance. And debt finance, particularly in the form of bank finance, was considered as a capital source that targets big organizations instead of startups. Its collateral requirement was mentioned as a main deterrent for many of the startups that hold them back from considering the finance source. But microfinance has been taken as a more inclusive debt finance source for startups.

Determining startups' asset types was compulsory for undertaking further assessments about startups in relation to capital structure. This triggered the question linked to asset type. From a total of 58 startups addressed through a questionnaire, 45 (77.6%) of the startups replied that their asset is largely constituted with intangible assets of business idea, intellectual property, patents, trade mark, prototype, intellectual human capital. The remaining 13 (22.4%) stated that their substantial asset is tangible, such as a premise, land, cars, machineries, equipment of the startups' own. The dominant intangible assets in the majority of the sample startups showcase startup features characterized by innovation that can be tied to innovation driver intangible assets of business ideas, prototypes, patents, intellectual property, and intellectual human capital, which are most often non-collateralizable.

From the total 58 startups, 38 (65.5%) of the startups concurred and indicated that fairly intensive R&D and market testing is part of their startups' journey. Conversely, the remaining 20 (34.5%) startups claimed that their startups need not R&D and market testing activity and phase. Therefore, it can be inferred from this scenario that the sizeable amount of the startups exhibit often attributed startup characteristics of initial R&D and market testing time and expenses.

To assess the profitability level and stage of the startup firms and give an accurate picture of the startups' stage, five startup stage categories were created: Idea Stage (pre-revenue idea stage with brainstorming ideas and business plan preparation), Emergence Stage (having prototype or product but not generating money), Stability Stage (with paying customers and generating earnings but incurring loss), Break-even (with equal earnings and cost) and Growth Stage (with profitability and expanding market share). The data demonstrated that majority of the startups, 23 (39.7%), indicated that their startup projects are in the emergence stage with a developed prototype or product but not generating money. The second most indicated stage of the startups was in growth stage with profitability and expanding market share with 13 (22.4%) frequency of the total startups addressed through questionnaire. Consecutively, startups with a frequency of 8 (13.8%) expressed that their ventures are in pre-revenue idea stages with mere ideation and in the process of business plan preparation. In equal amount, 7 (12.1%) of the total startups expressed that they are in break-even stage and stability stage, respectively. This shows that out of the total 58 firms, only 13 are profitable at the moment. As mentioned on the literature review part of this research, deferred profitability is one characteristic of most startups that often results from intense R&D and market testing cycle companies take part in.

Legality of organizations is a matter of concern for finance supply side, and also a factor that plays a role on capital structure decisions of organizations from the finance demand side. For this reason, learning about the legality status of the startups was needful. The data showed that, 33 (56.9%) startups are legally registered from the 58 total startup respondents. And 25 (43.1%) startups were not yet legally registered. The greater number of the startups are legally established and has incorporated natures. This phenomenon leads to the conclusion that majority of the startups are legally registered and incorporated, in which the home-based or not incorporated condition that is believed to increase the information opacity of companies is reduced. And according to vast amounts of literature, external finance could be better garnered by legally registered ventures than the non-legal, since legal establishment renders firms more information symmetry.

Table 2: Startups' Asset Type Vs. Debt/Equity

			Debt or Equity Preference		Total	
			Debt Finance	Equity Finance		
Startups' Asset Type	Greater Intangible Asset	Count	14	31	45	
		Expected Count	18.6	26.4	45.0	
		% within Startups' Dominant Asset Type	31.1%	68.9%	100.0%	
		% of Total	24.1%	53.4%	77.6%	
	Greater Tangible Asset	Count	10	3	13	
		Expected Count	5.4	7.6	13.0	
		% within Startups' Dominant Asset Type	76.9%	23.1%	100.0%	
		% of Total	17.2%	5.2%	22.4%	
	Total		Count	24	34	58
			Expected Count	24.0	34.0	58.0
		% within Startups' Dominant Asset Type	41.4%	58.6%	100.0%	
		% of Total	41.4%	58.6%	100.0%	

Source: Research's Data Survey (2022)

To assess whether there is a relationship/association between startup characteristic variables and finance preference, chi square test of independence was used. According to the chi square test of independence result, it can be concluded that there is a significant association/relationship between asset type and debt/equity preference (1, N=58) $X^2=8.72$, $P=.003$, Cramer's $V=.38$. In other words, startups with greater intangible assets were more likely to prefer equity finance at a significantly higher rate as compared to those with larger tangible assets (68.9% to 23.1%); and, startups with greater tangible assets were more likely to prefer debt finance than those with intangible assets (76.9% to 31.1%). From this it can be concluded that, the more intangible assets startups have, they happen to prefer equity finance rather than debt. And the more tangible the assets of startups are, the preference shifts to debt finance. This converges with the assumption of companies with tangible asset go to debt finance providers first, since they can use their asset as collateral for accessing finance needed and also get a positive response from debt financiers, while companies with smaller to no tangible assets and equipped with intangible assets are compelled to approach

equity financiers, that are known for innovation finance and no security or capital repayment requirement but only ask equity share stake for capital supply.

Table 3: R&D, Market Testing Vs. Debt/Equity

		Debt or Equity Preference			
		Debt Finance	Equity Finance	Total	
R&D and Market Test in Startup's Stage	No	Count	12	8	20
		Expected Count	8.3	11.7	20.0
		% within R&D and Market Test in Startup's Initial Stage	60.0%	40.0%	100.0%
	Yes	Count	12	26	38
		Expected Count	15.7	22.3	38.0
		% within R&D and Market Test in Startup's Initial Stage	31.6%	68.4%	100.0%
	Total	Count	24	34	58
		Expected Count	24.0	34.0	58.0
		% within R&D and Market Test in Startup's Initial Stage	41.4%	58.6%	100.0%

Source: Research's Data Survey (2022)

In a like manner, it can be concluded from the chi square test of independence result that there is a significant association/relationship between R&D and market testing and debt/equity preference (1, N=58) $X^2=4.36$, $P=.037$, Cramer's $V=.27$. In other words, startups with no R&D and market test character were more likely to prefer debt finance as compared to those that exhibited R&D and market testing character (60.0% to 31.6%). On the flip side, startups with R&D and market testing cycle were more likely to prefer equity finance than startups that do not require R&D and market testing (68.4% to 40%). This outcome corresponds to the result of Mina & Lahr (2018), in a way that R&D and innovation are positively related with equity finance. It also converges with the assumption innovation, R&D, and market test intensive firms are to be financed mainly by equity financiers that are able discover the worth and foretell the prospect of such ventures, even though the positive expectation might turn out otherwise.

Table 4: Startups' Stage/Profitability Status Vs. Debt/Equity

		Debt or Equity Preference			
		Debt Finance	Equity Finance	Total	
Stage & Profitability Status	Not Profitable	Count	15	30	45
		Expected Count	18.6	26.4	45.0
		% within Stage and Profitability Status	33.3%	66.7%	100.0%
	Profitable	Count	9	4	13
		Expected Count	5.4	7.6	13.0
		% within Stage and Profitability Status	69.2%	30.8%	100.0%
	Total	Count	24	34	58
		Expected Count	24.0	34.0	58.0
		% within Stage and Profitability Status	41.4%	58.6%	100.0%

Source: Research's Data Survey (2022)

Similarly, stage and profitability status were also cross-tabulated and been subject to chi square test of independence with finance preference as illustrated on Table 4.4. The startup stages have been summed up as not profitable if the startups are in the stages of idea, emergence, stability and break-even, as these stages exhibit no money generation, cash loss or burning, or equal incomes and costs. This has a total number of 45, while only 13 startups stated that they are profitable. As to the chi square test of independence result, more generally, it was found that there is a significant association/relationship between profitability status and debt/equity preference (1, N=58), $X^2=5.35$, $P=.021$, Cramer's $V=.30$. To put it bluntly, unprofitable startups were more likely to prefer equity finance at a significantly higher rate as compared to the profitable (66.7% to 30.8%). And the other side shows that profitable startups were more likely to prefer debt finance at a significantly higher rate than the non-profitable (69.2% to 33.3%). From this, it can be concluded that most of the sample startups in early and unprofitable stages, this means that in idea stage, emergence stage, stability stage, and break-even stages, preferred equity finance over debt finance. Oppositely, the profitable startups showed preference to debt finance than equity. This pattern implies that non-profitable companies are to prefer equity financiers, that are known to be risk takers and bet on ideas, prototypes, and cash burning ventures, whereas, companies that are more

matured in terms of stage and profitability, turn to debt finance, since they could afford to commit to principal and interest repayments with their cash flows and be taken as credit worthy by debt capital providers.

Table 5: Legally/Not Legal Registry Vs. Debt/Equity

			Debt or Equity Preference		Total	
			Debt Finance	Equity Finance		
Legal Registration or Not Legally Registered Status of Startups	Not Legal Yet	Count	7	18	25	
		Expected Count	10.3	14.7	25.0	
		% within Legal Incorporation or Unincorporated Startup Character	28.0%	72.0%	100.0%	
	Legally Registered	Count	17	16	33	
		Expected Count	13.7	19.3	33.0	
		% within Legal Incorporation or Unincorporated Startup Character	51.5%	48.5%	100.0%	
	Total		Count	24	34	58
			Expected Count	24.0	34.0	58.0
			% within Legal Incorporation or Unincorporated Startup Character	41.4%	58.6%	100.0%

Source: Research’s Data Survey (2022)

Only the legal status and debt/equity preference chi square test of independence result showed no significant association/relationship between legal status and debt/equity preference (1, N=58) $X^2=3.24$, $P=.072$, Cramer’s $V= .23$. What this means is that legal registration or not legal registration character of startups does not favor one finance source (debt or equity) over another. To elaborate the outcome, from a total of 25 not legally registered startups, a larger portion of 18 (72.0%) have preference for equity finance rather than debt. The smaller number of the totality, 7 (28.0%), preferred debt over equity finance. On the other hand, from a total of 33 legally registered startups, 17 (51.5%), preferred debt than equity finance. And a comparable of 16 (48.5%) startups

preferred equity finance than debt. The total data suggests that the sample startups prefer equity finance to a larger degree when they are not legally registered and unincorporated. And when the startups are legal and incorporated, the finance preference happens to be comparably distributed between debt and equity finance.

According to the interview respondents, all startup representatives unanimously agreed that the single most challenge their ventures have encountered in financing is shortage of sufficient finance providers. It was stated by the informants that equity investors are scarce in the country, and these few supplies finance to the lucky few. Debt finance providers were also mentioned as sources of finance that stand for companies other than startups. Banks, in particular, were said to avoid gearing their credit terms and conditions to the startups' characters and financial needs. A "no collateral, no finance" approach, high interest rates and short payback periods were among the reasons why debt finance is not seen as the right resource for startups.

Conclusion

Contrary to the centuries old business launching and growing trend, startup companies with brilliant and innovative ideas but very little resources managed to achieve new heights in the business realm in a short period, despite their humble beginnings of kick-starting operations from home garages and college dormitories. This happens to be the case for companies such as Apple, Amazon, Facebook and many more. Startup is a highly discussed topic, a buzzword, and a common language spoken among political leaders, high net worth individuals, corporates, educators, and the youth alike at every corner presently. By being cognizant of their multifaceted benefits they bring to the founders, investors, finance providers, the macro economy, and the world at large, startups and their underpinning ecosystem actors are mushrooming across the board. Similarly in Ethiopia, startups founded mainly by the youth are growing in number and industrial diversity. As the country is constituted largely with young blood, such developments are vital not only from the standpoints of venturing but also from job creation and poverty alleviation; the young startup founders and entrepreneurs are expected to form companies to create employment opportunities for themselves and also their jobless contemporaries. This research strived to study the finance sources and capital structure of sample Ethiopian startups.

From the findings of the research, it can be inferred that the highly tapped internal sources of finance showed such pattern due to the extreme unavailability of external sources of finance and restrictive financial preconditions in place, such as asset collateral for debt finance. The predominant startups need a finance source that values innovation, considers upcoming prospects, risk-sharing, and a capital source that could offer more than just finance. The findings correspond with the assumption that expects companies with R&D and market testing intensive, lesser intangible assets, and as a result of these facts, premature and unprofitable, to search and qualify largely for equity-based, risk-capital suppliers of angel investors, venture capital, and private equity. On the other hand, the more stable and profitable, with dominant tangible assets, and no

need of R&D and market testing startups get, they will incline to debt finance, as they could be eligible and able to meet asset collateral and interest and principal repayment requirements. Whereas, legal status that concerns itself with incorporation or otherwise did not imply significant debt/equity preference relationship.

Therefore, it is recommended that the government of Ethiopia should consider putting the long-overdue Startup Act into policy. As the draft document vows the provision of government grants, budgets, loans, tax relieves and exemptions, and other external donations to startups, the severe finance problems could be resolved to some degree. In addition, the National Bank of Ethiopia should consider creating a more enabling environment and legal condition for the establishment of Private Equity and Venture Capital funds. These are innovation and risk-taking capital sources that many startups desire to have for the sake of the risk-capital and also the non-financial benefits of professional business advice provision. Banks, microfinance, and other debt finance institutions should also consider introducing unsecured loans to be given without asking for tangible, collateralizable assets to promising startups with dependable business ideas, business models and business plans. Startup registration platforms such as Yegara.org should proliferate in order to connect finance requiring projects with finance providers, countrywide. In addition, since investing on risky startup projects might make investors refrain from taking part in such practice, risk-sharing investment mechanisms of crowd funding shall be developed, legalized and effected. Moreover, just as seen in other countries, the government of Ethiopia should consider accrediting high net worth individuals as angel investors and incentivize them with tax benefits, work space provision for the investee company, and the like, so that individual investors get attracted to invest their fortunes in startup ventures. This will be extremely important as startups have shown interest of acquiring finance from successful business people who could offer business guidance in addition to capital. All in all, this paper contributes to empirical literature of the Ethiopian startup space, which is often disregarded from academic study. In this respect, the research could serve as a guide and stepping stone for further studies. Further studies should be conducted in a way that will include more startups at a nationwide level and additional variables such as startup owner-managers' experience, educational attainment, gender, age of firm, number of employees (size), and product type in relevance with capital structure, in order to give foundational insights on startups and support the embryonic Ethiopian startup landscape with data and academic work.

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