

Working Paper 514

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Concentration and
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Programmes**

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INDIAN STARTUP ECOSYSTEM: ANALYSING INVESTMENT CONCENTRATION AND PERFORMANCE OF GOVERNMENT PROGRAMMES

Fakih Amrin Kamaluddin* and Kala Seetharam Sridhar**

Abstract

The objective of this paper is to assess the concentration of investment in the Indian startup ecosystem and to assess the performance of government programmes launched for benefitting startups in the country.

Descriptive statistics were used to explain trends in investment while the Startup India website and RTI were used to gather information on the performance of government programmes.

We find that investment is concentrated in platform business model startups. The performance of government programmes meant for startups is limited. The acceptance rate under 'Startup India' is 5% to 7%. Many of the centrally-sponsored schemes listed on the Startup India hub do not maintain separate data on startup beneficiaries showing limited benefits to startups.

This study contributes to scant academic literature available on investment trends and performance of government programmes related to Indian startups. It highlights huge spatial and sectoral investment concentration and poor performance of government programmes.

Keywords: Startups —India, Investment in startups, Concentration among startups, Startups — Indian government programmes

Introduction

Home to over 55,000 startups, India, the second-largest startup ecosystem in the world has consumed about US\$ 70 billion in the past half-decade (Inc42, 2020). The total funding into start-ups is expected to cross \$150 billion in 2025 with their total value transcending \$500 billion (Inc42, 2020). With a few dozen companies, the ecosystem has grown to thousands, the birth of which has reinforced the position of India as a significant player in the world startup ecosystem. Along with the US, UK, China and Israel, India is hailed to be one of the largest startup ecosystems in the world and has become one of the top destinations for investment by venture capitalists.

The Indian startup ecosystem has grown spectacularly during the past 10 years. From a mere 29,000 startups in 2014, the ecosystem is expected to shelter 55,000 startups in 2020 (Inc42, 2020). The ecosystem has received sturdy and constant investment throughout, with venture capital growing 8 times between 2014 and 2019 (Inc42, 2020). The investment enthusiasm remained strong even during Covid-19 when the startup deals came closer to the historic peak of 2017 (Inc42, 2020).

The Indian startups are supported by the flagship programme of the government --'Startup India', besides receiving support from incubators and accelerators. In addition, startups receive financial

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assistance from venture capitalists. In the process of receiving financial assistance, startups go through different stages. The seed stage is the first stage of investment where startups receive a modest amount of funds for the development of their product idea. Series A and B stages are growth stages whereas the late-stage is where the startup has made its product commercially available and is in need of investment to acquire more customers. The Indian startup ecosystem is dominated by big late-stage startups who consume a major chunk of investment.

The Indian startup ecosystem is transitioning from a young, undeveloped ecosystem to a mature ecosystem. Although reaching full bloom, the ecosystem is characterised by some glaring inequities. Investment is heavily concentrated in a few sectors and a few business models. In addition, a very low proportion of startups are funded. Between 2014 and H12020, only 6% of the startups were funded (Inc42, 2020). The Indian startup ecosystem is dominated by a few big unicorn¹ firms in every sector.

This study attempts to analyse investment trends in the Indian startup ecosystem and attempts to assess the performance of government programmes launched for the development of startups in the country. The rationale for analysing investment trends is to examine the concentration of investment in the Indian startup ecosystem—sectorally, spatially and across various stages of their growth. We assess government programmes as there is not only limited research on this but also because startups depend significantly on support and investment from the government, given their fledgeling status. Our sources of data are secondary, drawing from existing studies, government reports, and primary sources of data on startups such as Tracxn.

We find that there is a huge investment concentration in the Indian startup ecosystem, in a few commercial sectors (IT, ITES, banking and financial services) and one specific business model (platform business model²), and the social sectors like education and health are continuously starved of funds. We find that the performance of the flagship programme of the government 'Startup India' scheme is not satisfactory. The scale of other government programmes listed on the startup India website is small. The number of beneficiaries under these programmes, in aggregate, constitutes a very small proportion of the startup community. We, therefore, suggest that if the government wants to benefit startups at large, it needs to increase the scale of its schemes and/or cut down processing time for recognising startups.

This study contributes to the scant academic literature available on investment trends and performance of government programmes related to startups in India. It highlights huge investment concentration and poor performance of government programmes meant for startups in the country.

¹ Unicorns are companies valued at over \$1 billion.

² Platform business model startups are those which create value by facilitating exchange between two or more independent groups, namely buyers and sellers (Parker et al., 2016). They essentially function in two-sided markets. Platforms can be of different types, e.g., Flipkart facilitates the exchange of goods and services, WhatsApp enables the communication between two parties and social platforms like Facebook enable the users to create and consume content at the same time.

Objectives of the Study

The objectives of this paper are as follows:

- a) To analyse the trends in investment in the Indian startup ecosystem and assess the concentration of investment; and
- b) To assess the performance of government programmes launched for benefitting startups in the country.

This paper is organised as follows. At first, literature relevant to the study is reviewed. This is followed by the methodology where startups are defined and the data sources are described. Then, investment trends in the Indian startup ecosystem are narrated and investment and spatial concentration are examined. This section is followed by an analysis of the performance of government programmes. The limitations of the study and future areas of research are described, followed by conclusions.

Review of Literature

Studies analysing investment dynamics and government programmes related to Indian startups are limited. A few attempts have been made, with the literature being largely descriptive. Relevant studies describing investment trends in the Indian startup ecosystem are described here.

Narayan *et al.* (2019) report trends in investment in the Indian startup ecosystem between 2015-16 and 2018-19. Their analysis is based on annual funding reports published by a blog Trak.in. They find no significant relationship between the stage of funding and the level of development of a startup.

Rao and Kumar (2016) describe trends in angel investment from 2011 to 2015. Their results show that angel investment had substantially increased over the years. They found that angel investors are important as they fund early-stage startups contrary to venture capitalists, and also invest in a variety of sectors.

Shetty (2017) analyses venture capital funding across India, China and USA and finds that compared to the USA and China, Indian venture capital performance is comparatively lower, but the Indian consumer technology sector has tremendously attracted venture capital investments.

The most comprehensive paper describing investment trends in the Indian startup ecosystem is by David *et al.* (2020). The paper analysed trends in investment in the Indian startup ecosystem from 2015 – 2019, exhibiting stage-wise, sector-wise and geographic distribution of investment. Describing different schemes under which startups can avail benefits in India, they estimated a regression model to understand factors influencing startup investment in India. They found startups are clustered in the large cities and that small startups are located beyond the metros.

All the above-discussed papers elucidated investment trends in the Indian startup ecosystem but, except for David *et al.* (2020), do not consider the concentration of investment, which is the central theme of this paper.

The literature describing government programmes and policies meant to encourage startups in India is scant, descriptive and does not critically analyse the performance of government schemes. Papers endeavouring to do so are described next.

Mittal and Garg (2018) and Dutta (2016) describe benefits that startups can avail of under the flagship programme of the government 'Startup India'. Significant of those are tax exemptions on profits

and long-term capital gains, self-certification, legal support for filing patents and incubation facilities. Jayanthi (2019) describes different programmes undertaken by the Indian government to foster entrepreneurship in the country. These include programmes such as Startup India, Make in India, Stand up India and initiatives by organisations such as NITI Aayog (Atal Innovation Mission) and Biotechnology Industry Research Assistance Council (BIRAC). A paper by Venkatanarayana (2016) describes various initiatives by the government under which startups can avail benefits and states that the success of Startup India is subject to surmounting challenges with the rigid licensing system, lack of support from banks and, the absence of tax holidays for such enterprises. Kshetri (2016) analyses the determinants of entrepreneurship – in SMEs and startups, in the Indian context, finding that regulatory obstacles like stringent rules and regulations, impending bankruptcy laws and excessive labour regulations hold businesses back in India. Indian values and customs do not welcome entrepreneurs wholeheartedly. Further, non-accessibility to finance and market and poor R&D is responsible for the underdevelopment of innovative entrepreneurship in the country.

One of the most comprehensive papers describing the initiatives of the government to foster startups in India is by Singh (2020). The author describes the regulatory ecosystem governing startups in India and gives an account of complementary schemes under which startups can obtain government benefits. Some of the schemes described were Make in India, Digital India, Skill India, MUDRA³ and other national schemes. The paper is largely descriptive of the performance of the schemes, and examines the major problems and possible remedies emerging from the experience of Indian startups.

By and large, this brief literature review shows that there are only a few studies that critically analyse government programmes or examine the concentration of investment among startups in India with an exception (David *et al*, 2020). Hence, we attempt to assess the performance of government programmes by using data from the Startup India website, responses obtained under the Right to Information Act; and examine investment concentration using secondary data on investment of 928 funded startups.

Methodology

The first step in the analysis was to define a startup. Usually, criteria such as the mode of operation (digital/online) of the firm, type of technology used, kind of product/service offered, size in terms of employment or investment, nature of funding, or their time of setting up, are taken into account while defining startups. For this study, a startup has been defined as one of the below:

1. An entity that principally operates online i.e., either selling products or services online or facilitating exchange between buyers and sellers online (functioning in two-sided markets); or
 2. An entity making use of proprietary technology (Nasscom, 2016) in the conduct of its business;
- or

³ Micro Units Development and Refinance Agency Ltd. (MUDRA) provides refinance to commercial banks, non-banking financial companies, regional rural banks and micro-finance institutions, to provide credit to micro-units.

3. A company making use of new-age technology namely cloud, Internet of Things, artificial intelligence, big data and analytics and blockchain in its business operations (technology-oriented businesses).

Among manufacturing startups, we considered only those who primarily reach their consumers through the internet. We could not classify other manufacturing companies as startups as we had no data on whether they use proprietary technology or whether they have developed any prototype, which is indeed considered as a distinguishing characteristic of startups.

In addition to the above, a firm is considered to be a startup if it:

1. Is established post-2007 (those in the second and the third wave of the digital revolution);
2. Is a business not formed by splitting or reconstruction of an already existing business (specified in the Startup India hub portal);
3. Can be a venture set up by corporates, but providing services different from those offered by the parent company;
4. Is not a company that was initially operating offline but later launched a website to seek orders to increase customer base;
5. Is of Indian origin i.e., headquartered in India; and
6. Is a pre-IPO company.

As there is no formal data set on investment among startups in India, the authors had to create a data set of funded startups and therefore, had to rely on convenience sampling, along with the associated caveats. The authors obtained a list of 1,321 funded startups from Trak.in⁴. Trak.in provides information on investment in Indian startups from 2015 to 2018. Therefore, our sample included the startups which were funded between 2015 and 2018. We verified funding data from Tracxn, a private data-gathering company that researches global startups. As Tracxn is a formal data source for investment information, we relied on Tracxn for aggregating investment information of startups. Wherever the information could not be obtained, Crunchbase⁵ was used to fill in the data set. Apart from filtering data according to the definition, we removed those startups from the list whose investment information was not available on Tracxn and Crunchbase and those whose investment stages were not defined. We also removed those startups which were functioning in the sectors that require huge investment like dealing in gold jewellery and producing solar energy.

After the filtration of data, we got a sample of 928 funded startups for our analysis. This sample not only included startups that were acquired by other big startups but also those which have shut down which constituted 18.6% of the data set.

Descriptive statistics were used for explaining investment distribution among startups. The information on investment in startups in the data set is current as of February 2019.

The findings of this paper are divided into two parts. The first part summarises the investment analysis of the Indian startup ecosystem, and the second part assesses the performance of government programmes.

⁴ <https://trak.in/india-startup-funding-investment-2015/>

⁵ Crunchbase is a private company which maintains investment and business related information of global companies.

Part I

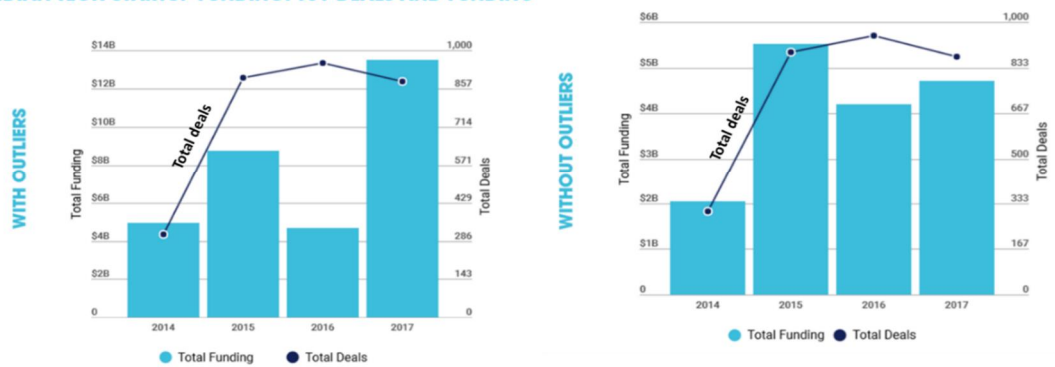
Indian Startup Investment Scenario

The Indian startup ecosystem has consumed about \$70 billion since 2014 (Inc42, 2020). Although an enormous amount of funds has flown to the sector, there exists conspicuous vacuum in investment sphere. The ecosystem is experiencing funding crisis as witnessed by an extremely low percentage of funded start-ups. For example, in the Healthtech sector, only 13% of start-ups were funded in India in 2017 (Tracxn, 2017). There is an apparent investment concentration among Indian start-ups, with investment heavily concentrated in a few sectors and in particular business models.

The concentration is to an extent that 2% of deals took 75% of the funding in 2017 (Inc42, 2017).

Figure 1: Total Funding and Deals in Indian Startups, with and Without Outliers, 2014 to 2017

INDIAN TECH STARTUP FUNDING: YoY DEALS AND FUNDING



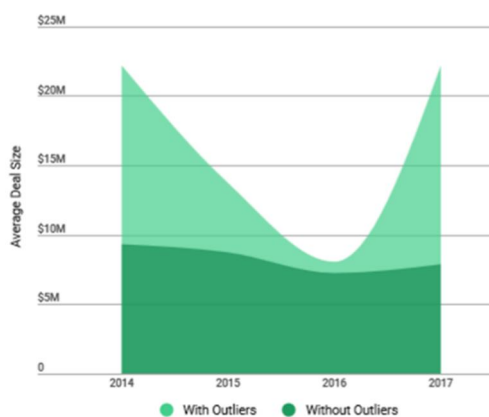
Source: India Tech Funding Report, Inc42, 2017

The left panel of Figure 1 shows the total funding, including outliers, like Flipkart (with approximately \$4 billion funding), Paytm (with approximately \$1.4 billion funding) and Ola (with approximately \$1.1 billion funding), which was the highest in 2017. When the outliers are removed (right panel of Figure 1), the funding pattern shows declining trend overtime with 2015 being the peak, and 2017 trailing 2015. Out of the total \$ 13.5 billion invested in 2017, the outliers (top 5 funding targets of the year) consumed \$ 8 billion (Inc42, 2017).

Figure 2 shows the average deal size (investment per deal) across sectors, with and without outliers. It is clear that without outliers, the average deal size remained more or less constant, declined slightly over the years, while with outliers, the average deal size was high in 2014 and 2017. The apparent reason for the high average deal size in 2014 and 2017 is that in the former, the number of deals was less and therefore, each deal received a substantial part of investment while in the latter year, a few unicorn start-ups received billions of dollars which inflated the total funding.

Figure 2: Average Deal Size With and Without Outliers

INDIAN TECH STARTUP FUNDING: YoY AVERAGE DEAL SIZE



Source: India Tech Funding Report, Inc42, 2017

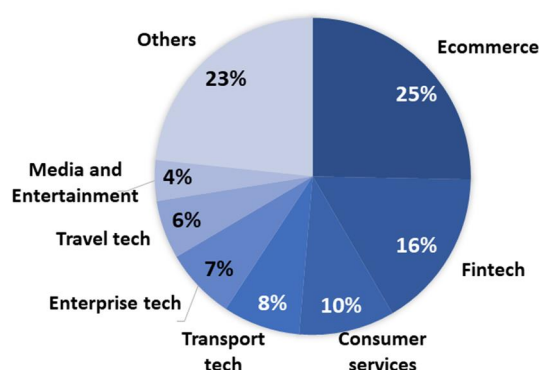
The constant average deal size (without outliers) in Figure 2 shows that the average start-up received more or less the same investment each year even when the investment was increasing in absolute terms since 2014. This implies that the increments in investment were flowing to the big start-ups. The vertical distance between the two shows the extent of the skewness of investment towards the big startups.

The sectoral concentration of investment

Data for the sectoral and spatial distribution of investment has been obtained from a report published by Inc42 (Inc42, 2020). Findings from our secondary data set are described after the description of the sectoral and spatial distribution of investment.

Figure 3 exhibits a sectoral concentration of investment. It is apparent from Figure 3 that a major proportion of investment in the Indian startup ecosystem is concentrated in the e-commerce sector. The e-commerce sector consumed a whopping 25% of the total investment made in the Indian startup ecosystem between 2014 and H12020 (Inc42, 2020). This sector is credited with 9 unicorns, which is the highest among all the sectors (Inc42, 2020).

Figure 3: Sectoral Distribution of Investment



Source: The state of Indian startup ecosystem report, Inc42, 2020

Another sector receiving a considerable amount of investment is the Fintech sector. The Fintech sector includes companies providing technological solutions (Paytm, Phonepe and so forth) to enable the delivery of financial services.

The third sector receiving a sizeable portion of the investment is the consumer services sector. This sector includes startups such as Swiggy, Zomato, BigBasket and UrbanClap, (now Urban Company), among others. This sector has received constant modest investment over the years (Inc42, 2020). The number of deals too show declining trend overtime (Inc42, 2020). Food delivery and online grocery account for almost 60% of investment in this sector.

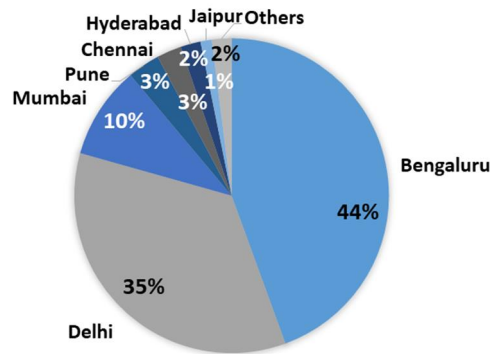
The sectoral distribution of investment in Figure 3 confirms that investment is biased towards a few sectors. Investors are interested in sectors such as IT and e-commerce as they give quick returns. Social sectors like health, education and agriculture are ignored as they have a high gestation period. But there is a need to foster startups in these sectors as they can bring novel solutions. For instance, edtech startups endeavour to improve the learning outcomes of students, health tech startups target accessibility, affordability and quality of healthcare, and startups in the agriculture sector reduce information lag and provide real-time information to farmers, improving their real incomes.

Spatial concentration of investment

Investment in the Indian startup ecosystem is not only concentrated in a few sectors, but also in a few cities, even while startups are an urban phenomenon.

Figure 4 shows that a major chunk of investment in startups is concentrated in Bengaluru and Delhi's National Capital Region (NCR). As pointed by David *et al*, 2020 (pp. 10), the three cities (Bengaluru, Delhi NCR and Mumbai) "accounted for 87% of total investment value and 84% of total investment volume in 2015. This ratio has not changed much since then..".

Figure 4: Spatial Distribution of Investment



Source: The state of Indian startup ecosystem report, Inc42, 2020

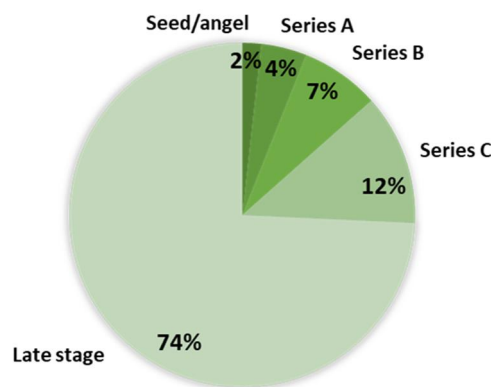
Excluding the leading cities (Bengaluru, Delhi and Mumbai), recently, Chennai, Hyderabad and Pune are emerging as small startup clusters. These cities together received almost all the funding in 2019 (Figure 4). Our findings are consistent with David *et al*, 2020 (pp. 10) who pointed out that “While startup ecosystems are well established in Tier 1 cities, they are still nascent in smaller cities. Only 20% of the 50,000 startups in India are based in Tier 2 and Tier 3 cities and they have raised only a small fraction of total funding”.

Findings from our data set

Investment across stages

As described earlier, we analysed the investment data of 928 startups funded in India between 2015 and 2018. Our data set revealed some interesting findings. We begin with the distribution of aggregate investment across stages.

Figure 5: Stage-wise Distribution of Investment

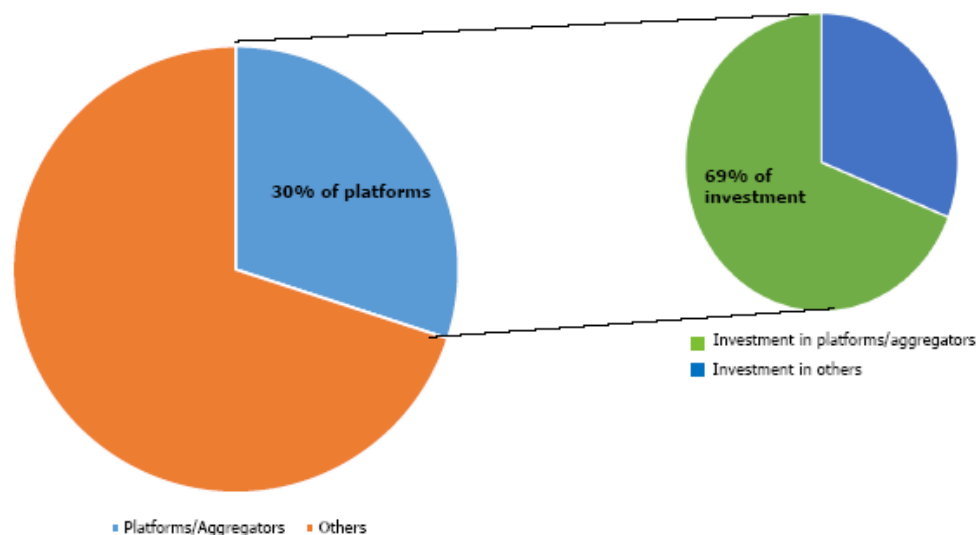


Source: Authors' aggregation from secondary data sources

The distribution of investment across stages is shown in Figure 5. It reveals that a major chunk of investment (i.e. 74%) is concentrated in the late-stage ventures. Seed-stage start-ups hold 2% of the

total investment while startups at a relatively young stage (cumulatively up to stage B) grab 13% of the investment. The concentration of investment in late-stage ventures is due to the fact that startups do not need heavy investment in their early stage. In the early stage, startups attempt to develop prototypes, validate their products, search target markets, and try to break even. It is only in the later stage of their life cycle that they spend heavily to grow their business.

Figure 6: Concentration of Investment in Platforms



Source: Authors' aggregation from secondary data sources

One of the most significant findings of our study (Figure 6) is that the Indian startup investment sphere is heavily dominated by platform startups. The platform and aggregator⁶ startups (such as Ola, Uber and Swiggy) comprised 30 % of the sample and consumed 69% of the total investment. A large number of startups function as platform business model companies; it may be noted that this business model does not require the company to hold heavy capital assets and therefore, helps them to abstain from spending enormously on buying and maintaining them. Here, startups survive by charging a commission on transactions. An important element of cost for these startups is customer acquisition.

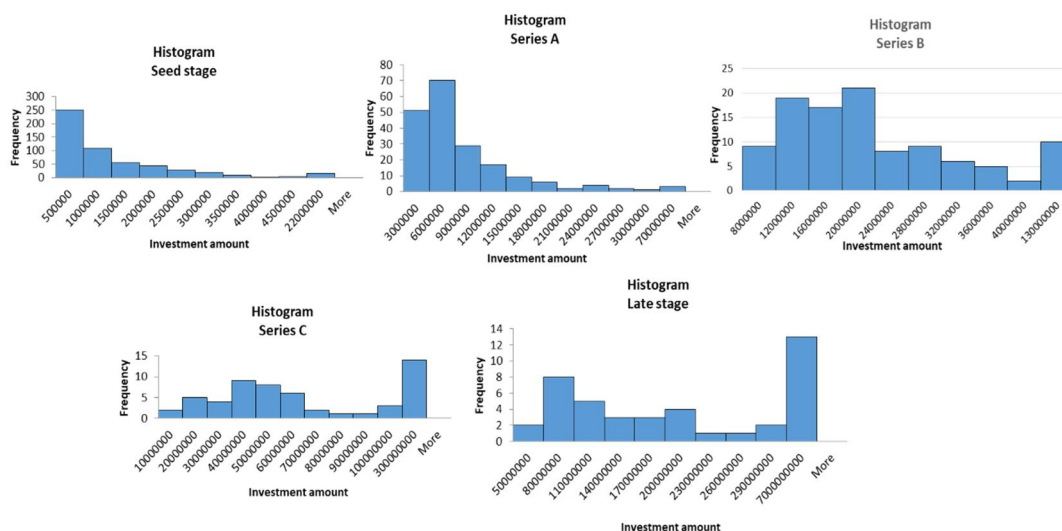
Frequency distribution of startups

To illustrate investment concentration, a frequency distribution of startups was used where startups were classified into different investment clusters, illustrated in Figure 7. The figure shows that the distributions are far from normal. Expectedly, the distributions are positively skewed. This shows that in all the stages, a majority of startups are concentrated in categories where the investment amounts are lesser in value.

⁶ Aggregator startups, in the context of services, are those that “group services provided by other providers into a distinct value-added service and can themselves act as providers” (Papazoglou & Van Den Heuvel, 2007). Ola is an example of an aggregator startup which aggregates independent cab-drivers under its own brand name and provides mobility service.

A few startups, namely the outliers which are present in all the stages, consume a major chunk of investment.

Figure 7: Frequency Distributions of Startups across Stages



Source: Author's aggregation from secondary data sources (Tracxn)

With outliers consuming a substantial part of the investment, an attempt is made to identify them. We tried to understand whether the outliers are in any particular sectors or follow specific business models.

The standard rule was used to identify outliers across stages, i.e., quartiles +/- 1.5 * interquartile range. As a large number of startups were falling in the outlier category, the limits were defined and only the extreme startups in the upper tail of the distribution were identified and studied. Outliers were defined as those startups which consumed more than 2% of total investment in Seed stage, Series A, and B stage and more than 5% in Series C and the Late stage.

A detailed list of outliers along with their details is given in Table 1 in Appendix A. It is apparent from Table 1 that outliers do not come from specific sectors. We, therefore, looked at the business models of these outliers. A careful look at their business models showed that a majority of the outliers came from the platform business model. The significance of this business model is understood by the fact that a substantial proportion of startups today follow this business model, and such startups grab huge investment.

To summarise, the Indian startup ecosystem is characterised by small and unfunded startups with a few big platform model startups dominating the investment sphere. Investment is spatially concentrated in Bengaluru, Delhi and Mumbai, and sectorally in e-commerce.

In Part II below, we analyse the performance of government programmes launched for benefitting Indian startups.

Part II

An assessment of the performance of government programmes launched for the development of startups in the country

In most cases around the world, governments were responsible for putting in the initial capital and setting up the required institutions for catalysing tech revolutions in their countries. 'Government support, as far as funding is concerned, might be controversial but there is no doubt that much of the policies that can make or break startup clusters are driven by government' (as pointed by Zafar, 2014). Although the startup ecosystems today are funded by private capital, one cannot underestimate the role of government. Indeed, the government is responsible for building the necessary infrastructure on the edifice of which private institutions build their capitals.

Let us take the instance of the US. The emergence of IT companies in the US in the early 1990s was enabled by the prior sustained investment by the government for 30-40 years in basic R&D. Also, the cold war between America and the then Soviet Russia led the government to 'eagerly throw money at academia and technological projects of uncertain utility'.⁷ This resulted in the development of the internet and navigational systems in cars. Similarly, Tel Aviv owes its 2nd position as the world best startup city to Israeli Army. In China, the Beijing municipality created the Z park in 1998 (Zhongguancun park) which is known as the Silicon Valley of China. It inhabits 40 colleges and universities, more than 200 national (municipal) scientific institutions, 67 state-level laboratories, 27 national engineering research centres, 24 university S&T parks and 29 overseas student pioneer parks (Zafar, 2014). Given the importance of government in enabling startup ecosystems, this section attempts to throw light on the performance of certain centrally-sponsored programmes in aiding Indian startups. We document the status of government schemes launched to encourage start-ups in the country and review the same, based on secondary data.

We start with the flagship programme of the government 'The Start-up India scheme'.

Overhaul of the Start-up India scheme

The 'Start-up India' scheme was launched by the government of India in January 2016. Recognising the importance of startups for the society and economy, the scheme was introduced to promote startups by providing fiscal and non-fiscal incentives. Inter alia, the allowances which are given to startups registered with the Department of Industrial Policy & Promotion (DIPP)⁸ include tax exemptions on profits and long-term capital gains, self-certification, legal support for filing patents and incubation facilities.

Table 2 shows the status of the Startup India programme, the various elements and their progress in terms of applications and beneficiaries as of 2018.

⁷ <https://slate.com/technology/2013/12/the-origins-of-silicon-valley-could-they-ever-be-replicated.html>

⁸ Now Department for Promotion of Industry and Internal Trade (DPIIT).

Table 2: Extracts from the Status of Startup India Action Plan report (2018)

Sl. No.	Elements	Progress
1.	Self-Certification	<ul style="list-style-type: none"> ➤ 26 states have complied with offering self-certification to startups under 6 labour laws. ➤ 36 industries have been classified as white categories where startups will not require clearances under 3 environment laws.
2.	Legal Support for IPR	<ul style="list-style-type: none"> ➤ 2,027 total IPR (Intellectual Property Right) beneficiaries. ➤ 801 Patent Rebate Applications (80% rebate), 176 expedited examination requests facilitated, and 41 patents granted. ➤ 1,226 Trademark Rebate applications (50% rebate).
3.	Relaxed Norms for Public Procurement	<ul style="list-style-type: none"> ➤ Requirement of prior turnover and experience relaxed for tenders, further, startups exempted from the requirement of Earnest Money Deposit. ➤ 24 startups have received orders worth INR 2.5 crores.
4.	Fund of Funds	<ul style="list-style-type: none"> ➤ INR 10,000 crore corpus to be disbursed to SEBI-registered AIFs (Alternative Investment Funds) till 2025 to invest in startups. ➤ INR 1,611.7 crores committed to 32 venture capital funds. ➤ This will raise a total corpus of INR 13,888 crores; thus government contribution is catalysing ~8x fund availability for startups. ➤ 170 startups have received funding under FFS (Funds of Funds) with a catalysed investment of INR 879.18 crores.
5.	Tax Incentives	<ul style="list-style-type: none"> ➤ 94 startups (1,658 in November 2019) have received an income tax exemption for 3 out of 7 years; further provisions for tax exemption on investments above fair market value and capital gains.

Source: Startup India report, 2018

Table 2 shows that the Start-up India programme is progressing slowly, in relation to its expectations and targets. The scheme was launched with a corpus of INR 10,000 crore Funds of Funds but only INR 1611.7 crores had been committed to various funds as of 2018. This amounts to less than 20% of the corpus. In 4 years since its inception in 2016, “the Funds of Funds has consistently fallen short of its targeted allocations, both in terms of direct investments in startups and in its allocation to AIFs” as pointed by David *et al.*, 2020 (pp. 8). Although the government has pledged huge funds under this scheme, the disbursement remains insignificant.

Under the Startup India programme, investment was made only in 170 startups as of 2018 which is insignificant compared to the total number of startups in the country (Table 2). To be eligible for government incentives, a start-up has to be registered with the Department of Industrial Policy & Promotion. The data on registration is not very promising.

Table 3 shows the number of startups seeking recognition from DIPP and those which have received recognition under the programme.

Table 3: Status of Recognition of Startups under Startup India Scheme

	No. of registered startups	No. of recognised startups	Acceptance rate
Till December 5, 2018	2,81,797	14,445	6.55%
Till December 31, 2019	3,67,171	26,374	7.18%

Source: *Start-up India website*

Table 3 depicts that the proportion of startups that are ‘recognised’ is considerably less compared with those who have applied, which accounts for a low acceptance rate around 5-7 per cent. This may be because there is a tremendous increase in the number of applications in recent years, the government

has possibly been unable to process the same, or the criteria used are so stringent that very few qualify to be 'recognised'.

The proportion of startups receiving tax benefits is even worse. Till December 2018, only 94 start-ups were given tax exemptions. The number of beneficiaries under intellectual property rights (IPR) support is also low. Only 41 patents were granted to startups since the launch of the scheme. To encourage buying from startups, the government allowed startups to participate in public procurement and exempted them from earnest money deposit, charged as security against the bid. A mere 24 startups received orders under this provision.

Under the Startup India scheme, startups are provided three types of tax exemptions – income tax on profits, income tax on investments above fair market value received under Section 56 of Income Tax Act (can be categorised as 'angel tax' in case of startups) and tax on long-term capital gains. Under section 56 of the Income Tax law, a startup receiving equity infusion above the fair market value was, at one time, liable to pay tax. The IT law treats the equity infusion as 'other income' and levies tax on startups. This tax is popularly known as 'angel tax' in the startup ecosystem. In a notification dated April 11, 2018, the government announced exemption of angel tax for start-ups with retrospective effect, subject to approval from an eight-member government board.

Availing exemption may not be easy given the conditions imposed, the first of which is that the aggregate amount of paid-up capital and premium on shares does not exceed Rs.10 crore. Second, startups have to obtain a report from the merchant banker specifying a fair market value of shares as per the Income Tax laws. A problem arises if there exists a discrepancy between the valuation by the merchant banker and the IT authorities. If this happens, the authorities have every legal right to send tax notices. As reported by the Economic Times⁹ in 2017, about 100 startups, with marked-down valuations by IT authorities, were facing tax demands without any consideration of the actual profit generated.

One of the most striking conditions laid down to avail tax benefits under the Startup India scheme is that the exemptions will be provided only to those startups which have been incorporated between 2016 and 2021. Given that the start-up ecosystem started gaining momentum after 2007 and a considerable number of startups were, established pre-2016, this condition excludes a large number of startups from the policy ambit.

A survey of 145 startups done by Economic Times Digital¹⁰ showed that 93.8% of the respondents had not availed of any benefits under the Startup India Action plan. Further, 70% said the action plan has not made any difference to their business, while 59% never felt the need to be certified under the Action plan.

Although the flagship scheme of the government 'Startup India' has not apparently been successful, based on the above evidence, other programmes are doing better. For instance, under the Atal Innovation Mission, the government sanctioned funds to set up new incubators and provide financial support to existing incubators. Eleven Technology Business Incubators (TBIs) were approved for a total

⁹ <https://economictimes.indiatimes.com/small-biz/startups/as-valuations-plunge-startups-asked-to-shell-out-more-in-tax/articleshow/56174345.cms>

¹⁰ <https://economictimes.indiatimes.com/small-biz/policy-trends/startup-india-lots-of-policies-and-not-much-evidence-its-helpful/articleshow/57529755.cms>

grant of INR 42 crores and INR 17 crores had been disbursed (Startup India Action Plan, 2018). The government also proposed to build new research parks for over five years. An amount of INR 158 crores, out of INR 665 crores, had been disbursed for the same. The government has been funding bio-clusters and bio-incubators to aid startups in the biotechnology sector. The government has also launched different schemes like NIDHI, UchchatarAvishkarYojana and Manak to encourage and promote entrepreneurship among school students. The schemes were meant to catalyse entrepreneurship spirit among young students.

Although the above schemes perform reasonably well, the scale at which they operate is small. The number of beneficiaries, in the aggregate, is so small that they constitute a very small proportion of the startup community. If the government wants to benefit startups at large, it needs to increase the scale of its schemes and/or cut down processing time for recognising startups.

An appraisal of other central government schemes listed on the Startup India portal

It is important to note that there was no comprehensive and dedicated government scheme for start-ups until the launch of the 'Start-up India' scheme in 2016. The government has listed fifty-three existing schemes, launched by different ministries, on the Startup India portal, under which startups can avail benefits. This research endeavoured to assess the performance of these schemes in aiding startups. Responses for 24 schemes from different ministries under the Right to Information Act were obtained. The responses are summarised in Appendix B.

Appendix B depicts that there is no data maintained on startups. This shows poor benefits to startups under the various programs mentioned. A closer look at the eligibility criteria of the schemes showed that these schemes are primarily meant for MSMEs. While the schemes mention registered limited liability companies or partnership firms as being eligible for incentives while they purportedly include students, scientists, investigators, farmers, self-help groups, NGOs and even established companies under their ambit. Further, these schemes have not explicitly defined the term 'startup' anywhere. A few schemes specify eligibility criteria that explicitly exclude startups. Wherever applicable, the number of startups receiving benefits is very low. The disbursement is inconsiderable (for instance, see scheme 4, Appendix B). Such inconsistencies dilute the value of the programs for startups.

Thus the assessment of the performance of government schemes in aiding startups has shown mixed results. The flagship scheme of the government 'Startup India' is not successful in supporting startups. This may be seen in the fact that huge sums of money are committed to various funds but the disbursement remains insignificant. In such circumstances, one may question the need for government intervention. But a complete reliance on the market has resulted in the concentration of funds in a few sectors. Therefore, government intervention is needed to facilitate the participation of deprived (unfunded) startups and create a level playing field. The recent move by the RBI of giving priority sector lending status to startups will enable these small businesses to obtain funds from banks, which were initially reluctant to provide credit due to their risky nature of business.¹¹ The constitution of the National Startup Advisory Council and Technology Group will further benefit startups.

¹¹ <https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/rbi-grants-priority-sector-lending-status-to-startups/articleshow/77405157.cms>

Limitations of the Study and Areas for Future Research

Although this study has identified loopholes in the government programmes meant for startups, interviews with key public officials would have added value in understanding the reasons behind the poor performance of such programmes. Exploring the factors behind the poor performance is an important area for future research. Secondly, this study has exhibited the dominance of the platform business model in the startup ecosystem but has not delved into the factors causing it. Although platform startups are growing in prominence, they incur huge losses. Identifying factors that determine the profitability and losses of such startups is again a significant area for future research.

Conclusions

This study has found that investment is heavily concentrated in platform and aggregator startups which comprise 30% of the sample and attract more than two-thirds of the total investment. Investment is also concentrated in the e-commerce sector and in terms of spatial concentration, Bengaluru, Delhi NCR and Mumbai contain around 90% of the investment. The performance of public programmes introduced for the encouragement of startups is not promising. The acceptance rate under the flagship programme of the government, 'Startup India' is around 5% to 7%. Many of the centrally-sponsored schemes listed on the Startup India hub explicitly exclude startups from their ambit. Given the state of government programs meant for startups, private angel investors and venture capitalists are the only resort for Indian startups, except if government programs are scaled up significantly.

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Appendix A

Table 1: Outliers at the Upper Tail of the Distribution

Investment stage	Name of the startup	Description	Specification
Seed	Flexiloans	Offers loan to businesses	not a platform
	Talentedge	Provides professional certificate courses to individuals & corporates	not a platform
Series A	Acko	Insurance provider	not a platform
	Browserstack	Provides a cloud platform where developers, testers and designers can test their web applications	not a platform
	ShopX	Provides a platform for offline retailers to go online	platform
	Momoe	Mobile wallet –payment platform	platform
Series B	Callhealth	Provides home healthcare services	platform
	Yepme	Online retail	not a platform
	Pi data centres	Pi Datacenters offers cloud products and other services	not a platform
	Just buy live	Connects retailers directly to regional and national brands	platform
	Peppertap	Online grocery	platform
	Bira 91	Manufacturing of proprietary beer – sells online	not a platform
Series C	Inmobi	Enables advertisers to launch personalised mobile and website ad campaigns	not a platform
	Udaan	B2B marketplace connecting traders, wholesalers, retailers, and manufacturers	platform
	Cardekho.com	Online portal for car search and buying /selling deals	platform
Late-stage	Oyo rooms	Online portal for searching and booking hotel rooms	platform
	Swiggy	Online platform for ordering food	platform
	Snapdeal	Online retail	platform
	Paytm	Online payment platform	platform
	Ola	Cab aggregator	platform
	Flipkart	Online retail	platform

Source: *Secondary data set*

Appendix B

RTI Responses to the Performance of Centrally-Sponsored Schemes

Sl. No.	Name of the scheme	Ministry	Status
1.	Multiplier Grants Scheme (MGS)	Ministry Of Electronics and Information Technology (MeitY)	No startups funded
2.	Industry Relevant R&D	Ministry of Science & Technology	No startups funded
3.	NewGen Innovation and Entrepreneurship Development Centre (NewGen IEDC)	Ministry Of Agriculture And Farmers Welfare	No specific information on startup available
4.	Aspire - Scheme for promotion of innovation, entrepreneurship and agro-industry	Ministry Of MSME	Only 5.5 % of corpus distributed
5.	Startup assistance Scheme	Schemes By Public Sector Enterprises	70 applications approved for loans till Oct 2018, corpus: 100 crores, Rs. 48.27 crore disbursed till Oct 2018.
6.	Industry Innovation Programme on Medical Electronics (IIPME)	Ministry of Science & Technology	Over 710 Startups have received benefits
7.	SPARSH (Social Innovation programme for Products: Affordable & Relevant to Societal Health)		
8.	Promoting Innovations in Individuals, Startups and MSMEs (PRISM)		
9.	Credit Linked Capital Subsidy for Technology Upgradation	Ministry of MSME	No specific information on startup available
10.	The Venture Capital Assistance Scheme	Ministry Of Agriculture And Farmers Welfare	Does not maintain separate data on startups
11.	Credit Guarantee	Ministry Of MSME	Does not maintain separate data on startups
12.	Raw Material Assistance	Ministry Of MSME	Does not maintain separate data on startups
13.	Pradhan Mantri Mudra Yojana (PMMY)	Schemes By Public Sector Enterprises	Does not maintain separate data on startups
14.	SIDBI Make in India Soft Loan Fund for Micro Small and Medium Enterprises (SMILE)	Schemes By Public Sector Enterprises	No information available specifically on startups
15.	Growth Capital and Equity Assistance	Schemes By Public Sector Enterprises	No information available specifically on startups
16.	Performance & Credit Rating Scheme	Ministry Of MSME	No information available specifically on startups
17.	Single Point Registration Scheme (SPRS)	Ministry Of MSME	No information available specifically on startups
18.	Software Technology Park (STP) Scheme	MeitY	No information provided on startups
19.	International Cooperation (IC) Scheme	Ministry Of MSME	Assistance is not provided to startups
20.	Enhancement of Competitiveness in the Indian Capital Goods Sector	Ministry of Heavy Industries & Public Enterprises	No startup applications received under the scheme
21.	High Risk-High Reward Research	Ministry of Science & Technology	No startups funded
22.	Extra Mural Research Funding	Ministry of Science & Technology	No startups funded
23.	4E (End to End Energy Efficiency)	Schemes By Public Sector Enterprises	Not applicable to startups
24.	Sustainable Finance Scheme	Schemes By Public Sector Enterprises	Not applicable to startups

Source: Responses from RTI received in 2018

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