

Funding Rounds Deals Projection: Methodology

OVERVIEW

In the last decade, the Israeli tech industry saw an average of 1000 funding deals per year. While most of the money from these investments went to more matured companies, the largest number of deals appeared in early rounds—Seed and A Rounds.

The gulf separating mature and early-stage companies in the tech world is more than just a matter of operations. Their attitudes to the funding process differ. Due to investment's special characteristics, many of the young companies tend to shy away from any publicity regarding funding details.

For some early-stage companies, the Seed Round retroactively becomes a part of the First Round and might be announced a year or two after the Seed funding was received. Some Companies not pursuing new employees, investors or partners just then might not be motivated to make the news public. For matured companies, however, the amounts and motivations are different. Usually, Mid and Late Rounds details are announced almost immediately after they materialize.

IVC has been following these various patterns in the Israeli high-tech industry for over a decade. The unique behavior of early-stage start-ups toward funding processes make it a challenge to get the full picture of investments for a specific point in time. The differences are meaningful: As you will learn from this paper, only 25 to 30% of Seed Rounds and nearly 50% of First Round deals were formally announced at the end of each quarter. The rest became known - and the data on these deals was gathered - up to several quarters later.

IVC has implemented a specific methodology to deal with these challenges. Our motivation for publicizing this approach is the increasing number of market participants eager to understand more clearly the data realm of Israeli tech funding. We strongly believe that greater transparency and more data-driven decisions will enhance the next leapfrog of the local ecosystem.

THE EARLY ROUNDS' INFORMATION GAP

Seed financing is different from most of the other types of rounds. Typically, a start-up company uses Seed funding - or even Series A funding round - to develop a product or service prototype, which involves a small number of people (founders + several employees). One of the most critical goals for a start-up is to gain recognition, to attract quality employees, strategic partners, clients or investors.

However, before the first product or service becomes viable, there is not much to show or tell outsiders. A public announcement of a first intake of capital would bring little merit and might even attract unwelcome interest. Moreover, since Seed investors are traditionally private investors (Angels), they often prefer to remain behind the scenes and do not have the same motivation as other players in the industry to draw attention (VCs, CVC, Angel Groups etc.).

Accordingly, the gap between the known and the unknown in Early Rounds is a valid issue and enhanced by an inherent asymmetry of information from young companies in the tech industry. The graph below shows the differentiation between the number of Seed & A Rounds deals that were known in the end of a period (quarter in this case) and the real number of the deals that occurred in the same time frame, but for which the data is collected quarters later.

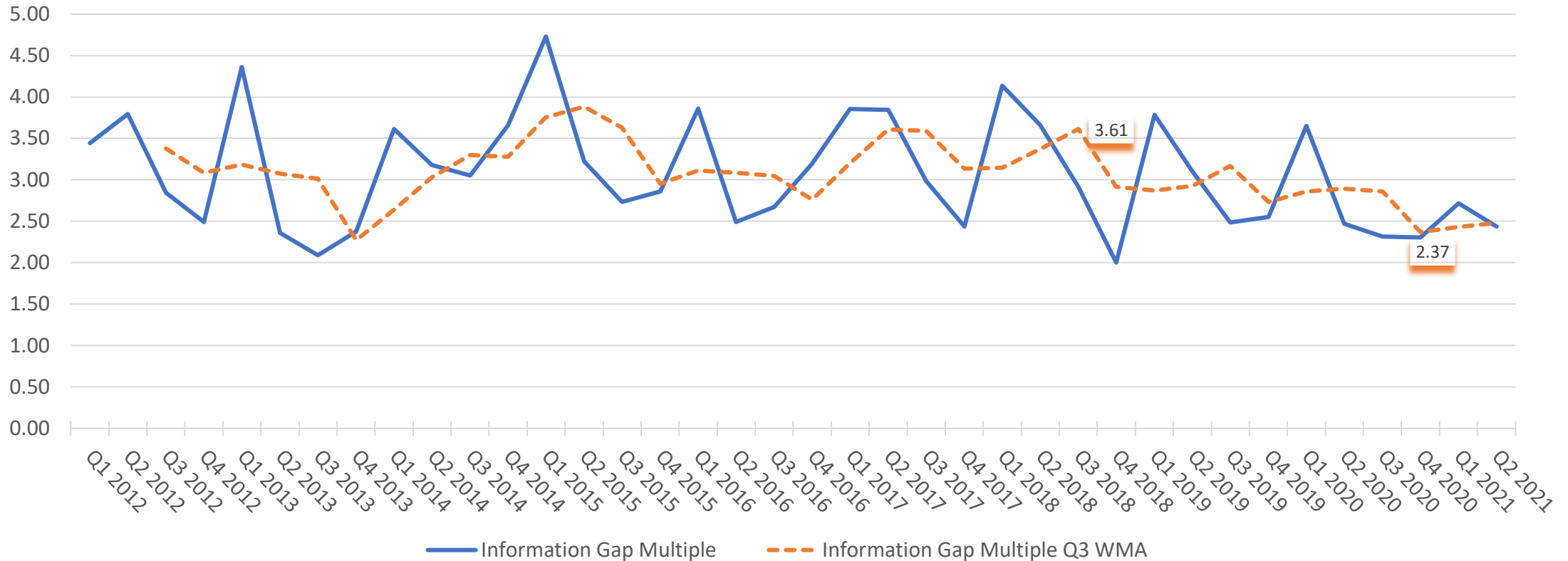
The multiples of this divergence range between 2 and 4.5. For a better picture of this trend, smoothing the curve with a weighted moving average (WMA) over three periods converged to a steady multiple of 3 over an eight-year period (Q1/2012-Q1/2020). For example, if the number of Early investment deals comes to 100 at the end of a quarter, the probability is that nearly 300 Seed and A Rounds occurred in that quarter, but the data of this obtained only several quarters later. According to our methodology it takes on average 5 quarters for Seed deals to reach 75% of the final numbers and 85% of Series A deals numbers (see the detailed cumulative distribution in [page 6](#)).

However, since we wrote this methodology in early 2021, the landscape and investors' behavior have changed. Our analysis suggests that the interest of institutional investors in Early rounds has grown in the last 24 months, and accordingly the percentage of known financial rounds.

Seed and Series A financing rounds from Q2/2020 – Q2/2021, illustrate the change in the Early investment's behavior. The WMA line confirms that the difference between the number of known financing round to unknown (The Information Gap Multiple) dropped since early 2018 from the average level of 3.6 to lower than 2.4 in late 2020. The practical meaning is that more information about early round start-ups is known early after they occur.

Information Gap Pattern 2012 - 2021

Information Gap Pattern and WMA



HOW IS THIS INFORMATION GAP GENERATED?

IVC has been collecting data about Israeli tech transactions for the last two decades. Most of the records come from public sources—media outlets, social media, company’s websites, and company press releases. In addition, over the years, IVC has developed a methodology where every data point undergoes a verification process by IVC information specialists. This approach not only improves the data’s accuracy (which is much needed in an industry segment where most of the information is unknown), but it also gathers much more data overall about Israeli tech business cycles.

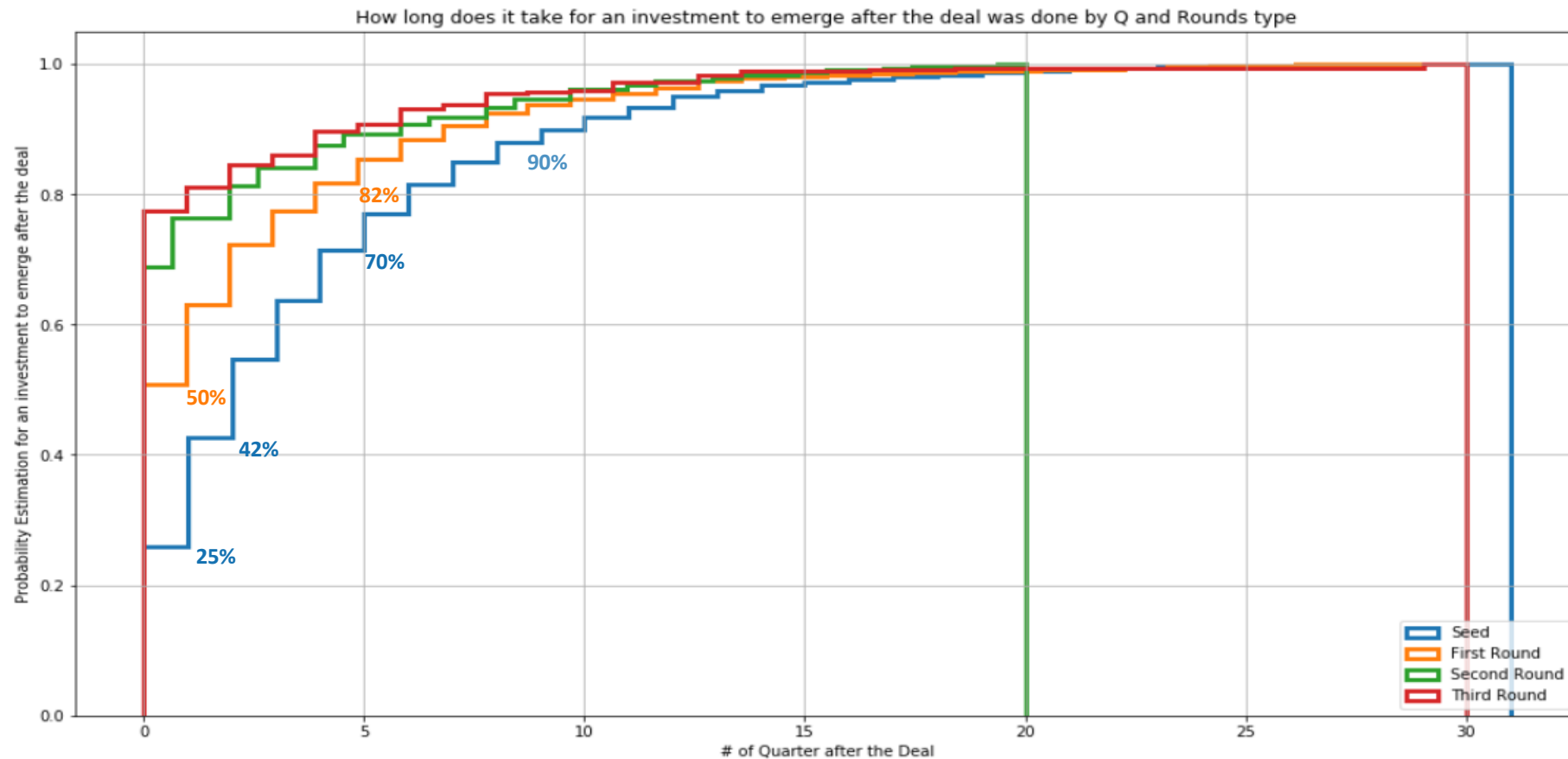
As part of this procedure, every year thousands of start-up founders, managers and investors are asked about transactions details. Often, especially in early-stage companies, the answers reveal changes in a company’s financial details that have not yet been made public, which eventually turn into another investment round in IVC database.

As the graph below shows, most (90%) of that information becomes public as much as nine quarters after a deal was made in Seed Rounds and up to six quarters in the case of First Rounds. The first quarter after a deal is made is the most meaningful from an information collecting point of view, and on average adds 16% to 17% to the number of Seed Rounds (12% to 13% in First Rounds) from the previous quarter. The delta between the known and unknown deals becomes a low single digit in percentage points after eight quarters for Seed Rounds, though the long tail of unknown Seed deals could reach 30 quarters.

While the time distribution for collecting data on Seed and First investment deals is significant for understanding the periodical investment patterns, it is less essential for Second Rounds and following rounds. The industry technicalities are such that there are many less Second/Third/Later investments rounds than Seed/First Rounds. Since investors and companies’ characteristics are different in mid-late Rounds types, a much smaller information gap results compared to earlier rounds types.

THE INFORMATION GAP DISTRIBUTION OVER QUARTERS

The cumulative distribution function (CDF) with probability estimation phases by quarter, shows the magnitude of the Information Gap per Investment type. While there is 70% and 78% probability that all Second and Third rounds, respectively, will be announced in the same quarter they happened, it takes three to five quarters to get the same probability level for Seed and First Rounds.



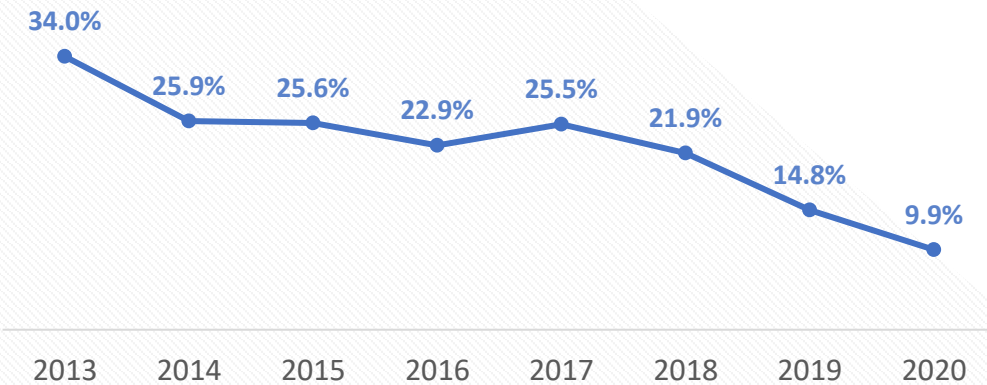
THE INFORMATION GAP IN DEAL AMOUNTS

In terms of investment deal amounts, the information gap (the ratio of unknown deals out of overall deals) is moving steadily downward since 2013 and expecting to reach 10% for 2020, when the final picture for that year becomes available (two years from now).

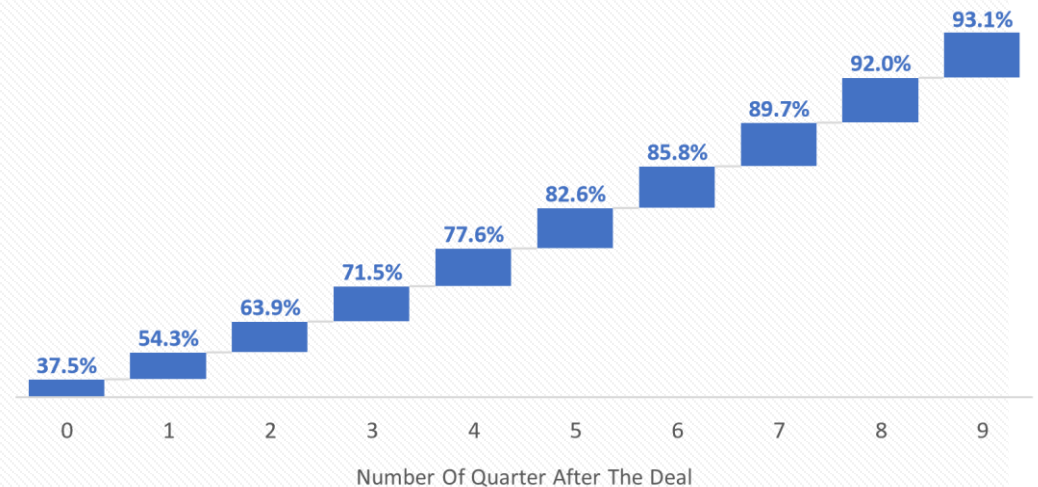
The reason is the same as for the major industry trends we have noticed since 2017, with more capital-intensive deals taking place in mid-late rounds. Consequently, updating the total amounts per annum becomes less essential.

For Seed and First round deals, however, the information gap still plays a role in deal dollar amounts. As the Cumulative Distribution of Dollar Amounts in Seed Rounds suggest, just 37% of the totals are known when the deals take place, whereas 93% of the real amounts are exposed up to nine quarters later, on average.

The Information Gap Of the Overall Amount \$



Cumulative Distribution Of Seed Deals Amounts by Quarters after The Deal



Reported vs. Projected Data

The ability to recognize the difference between what IVC finds in a specific deal period and information that would be gathered later leaves the question of what do periodical reports analyze.

While it is tempting to use an estimation of the full data as the basis for analysis, there are two hazards: first, these are still estimations, even if they are close to the real numbers; second, estimated numbers are not applicable for deeper analysis. IVC prefers to make periodical analysis on known data for each end of quarter or period and add specific segments in its reports for “Projected data” at the yearly and quarterly levels.

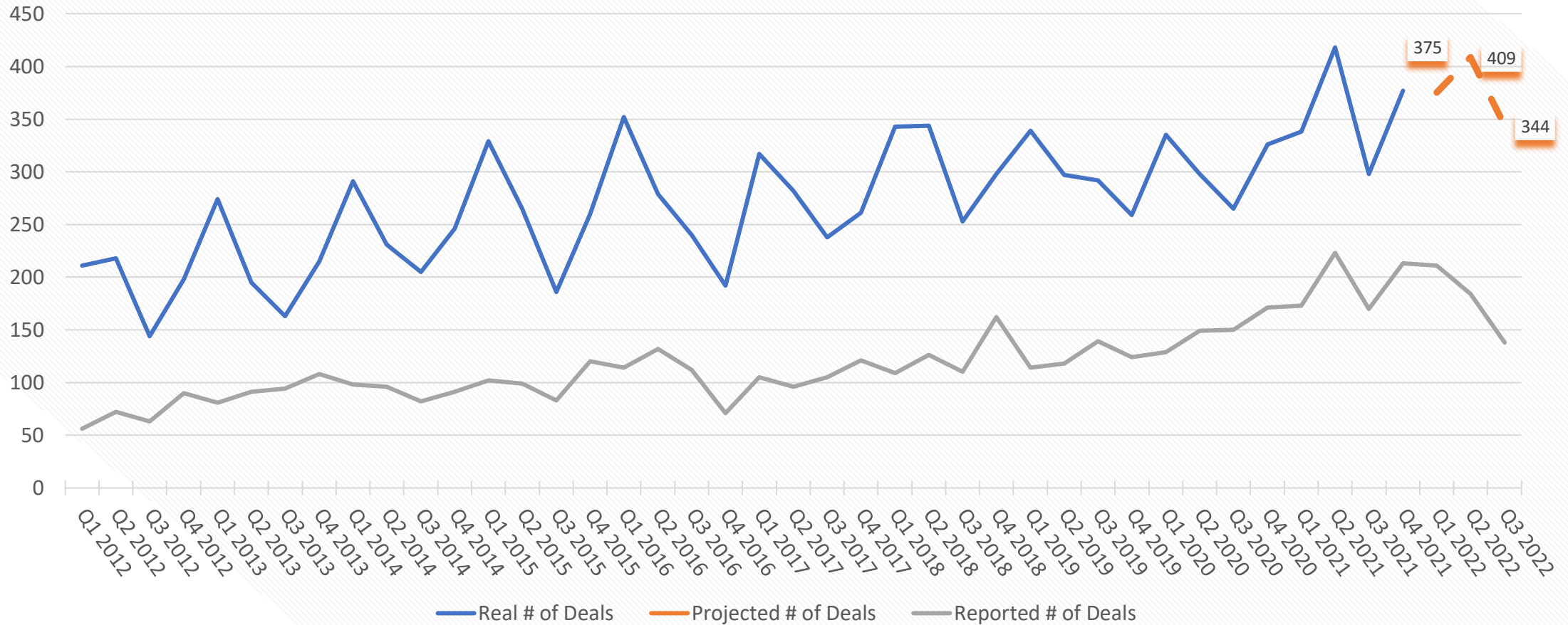
This methodology works well for describing clear trends and understanding Israeli Tech funding. Yet, we realize that the quick shifts we see in startup life cycles could easily change the relevance of this approach. The change in investors preferences we outlined in page 2 about the change in the information gap multiples, was one of the reason to use a more robust statistical analysis model that considers the seasonality and non-stationarity characteristics of the data (e.g., changed average and standard deviation over the years). As such we use (S)ARIMA model for time series to estimate the projected numbers for all funding deals.

In order to generalize the estimation, we took the Quarterly data about all the Funding rounds, although in Seed +A the information gap multiples are much higher. The model trains data from 2002 to 2021 and tries to estimate the last three quarters.

While the testing accuracy is relatively high (MAPE - ~85%), it takes the ARIMA model 1-2 periods to adjust to big changes in the industry dynamics, like in the beginning of Covid19 (Q1 – Q2/2020) and the upsurge in H2/2021. Overall, we estimate that in the first 9 months of 2022 there were 1128 financing rounds, compared to 533 reported financing rounds that we know of at the end of September 2022.

Reported vs. Projected Data 2012 - 2022

Number Of Deals Reported VS. Projected - 2012-2022





THANK YOU

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