

# 3 Things Founders & VCs Should Know About Building Billion-Dollar Startups During Market Uncertainty



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At the time of company formation, a startup founder's decision to begin a new venture rarely appears to be a logical choice, due to the high risk and significant probability of failure for any startup. This decision is especially risky for founders who expect to build a billion-dollar startup. Out of the more than ten thousand tech startups founded each year, less than 20 typically go on to reach \$1 billion-plus exits. This puts a founder's probability of achieving this level of success at less than .2%, a very low probability.

**However, these low odds don't deter the most exceptional founders. Top founders can often see the invisible and execute on a vision that the rest of the world catches up to in the future.** But even for these exceptional founders, there are many factors impacting success or failure that cannot be overcome by ability or sheer force of will.

**In this article, we consider the factor of market timing. Specifically, does the state of the economy at the time of startup formation impact which companies reach billion-dollar outcomes?** And is there an optimal time in a market cycle to start a company that goes on to reach a billion-dollar outcome? The answers to these questions have key implications for entrepreneurs and VCs seeking to build and invest in the next massive tech winners.

We were curious about the answers to these questions, and we analyzed data<sup>[1]</sup> on billion-dollar companies formed over the period of 1999 to 2012 to determine when in a cycle the most valuable startups are formed. The results were surprising.

**Our research led us to three important findings that startup founders and venture capitalists searching for the next billion-dollar startup should be aware of:**

1. Short-term secular market cycles don't appear to have a major impact on the number of billion-dollar startups formed in a given year. In fact, the total number of billion-dollar startups remained relatively consistent during the Financial Crisis and its recovery.
2. There are meaningful differences in the number of consumer vs. B2B unicorns formed, with B2B consistently outnumbering consumer unicorns across periods. However, when a startup was formed in the market cycle doesn't appear to have a big impact for either B2B or consumer companies, reflected in the relatively stable number of each formed between 2006 and 2012.
3. The startup and venture capital markets appear to follow their own cycle due to the longer-term return profile of the asset class, which may explain the muted impact of the market cycle itself on the formation of billion-dollar companies.

Below, we explain our research and describe how we interpret our findings. We encourage founders and VCs not to ignore real-time macroeconomic indicators such as GDP growth, interest rates, availability of credit, and unemployment rates, or overlook the impact of regulation and political stability on their companies. All of these factors can enable or impede the growth of a specific startup in the short-term.

However, the data appears to show that there are other more important factors than market cycles at work in determining whether a startup reaches a billion-dollar outcome. As a result, we believe that founders and venture capitalists seeking very large outcomes should not be deterred by difficult economic periods nor emboldened by exuberant ones, but rather should focus on building exceptional companies that stand the test of time.

### **The Market Cycle's Impact on the Formation of Billion-Dollar Startups**

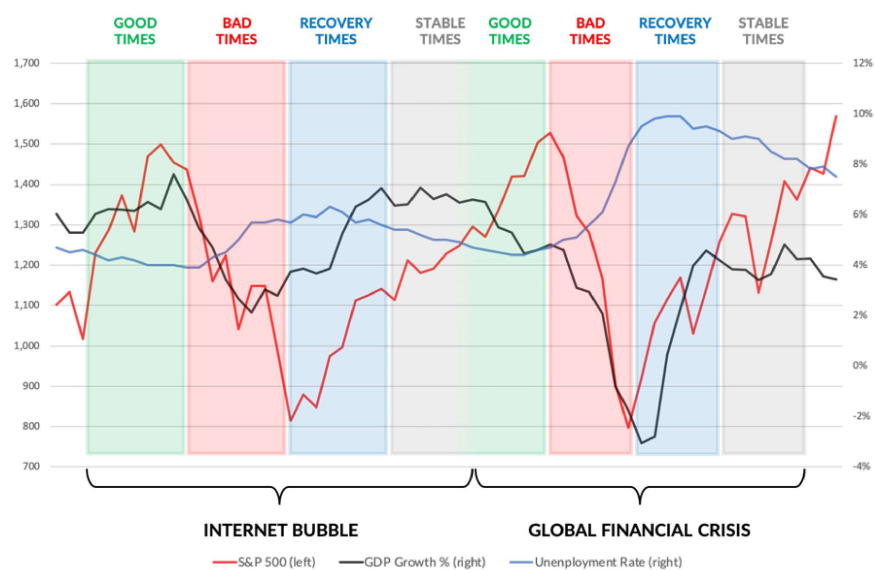
We set out to understand the regularity of formation of billion-dollar companies and whether short-term market cycles are correlated with the decline or formation of unicorns. By “market cycle”, we are generally referring to the state of the economy in a given period, reflected by key economic indicators. These indicators tell us whether the economy is in a period of growth or recession, and also tell us about the overall performance of markets for goods and services, labor markets, and securities.

To ensure that we conducted a comprehensive study, we analyzed the number and type of billion-dollar companies formed between 1999 to 2012. We chose this period because it encompassed two major economic downturns and recoveries: The Internet/Tech Bubble and the subsequent downturn/recovery, as well as the Global Financial Crisis and its subsequent recovery.

We also chose this period because there was sufficient available data on billion-dollar companies formed, as well as because the period is relevant to modern-day Internet and software companies[2]. As an example, some of today's most valuable technology companies were founded during this period, including Facebook, WorkDay, Salesforce, Uber, and Airbnb.

To measure how the economy fared in a given year within the studied period, we used three economic indicators; GDP growth, unemployment rates, and the S&P 500. The three indicators during the time period we studied have relatively high correlation (i.e. they move in relation to each other). You'll notice that GDP and the S&P 500 are positively correlated (i.e. they move in the same direction) while unemployment rate is negatively correlated (i.e. it moves in the opposite direction of GDP and the S&P 500). Based on where the three indicators were in a given sub-period, we were able to characterize the sub-period as **Good, Bad, Recovery, or Stable**.

See graph below, which depicts the performance of the three economic indicators described over the period of 1999 to 2012. S&P market level is on the left Y-axis, and % GDP growth and unemployment rate are on the right Y-axis.



During each short-term period we identified all companies that received early stage (i.e. seed or Series A) investment during those periods that later became billion-dollar companies (i.e. unicorns). We then analyzed data to determine if there were predictable patterns in billion-dollar startup formation during times of economic volatility. We also broke out the data by consumer and B2B companies, to determine whether there were unique trends that impacted one type of company and not the other.

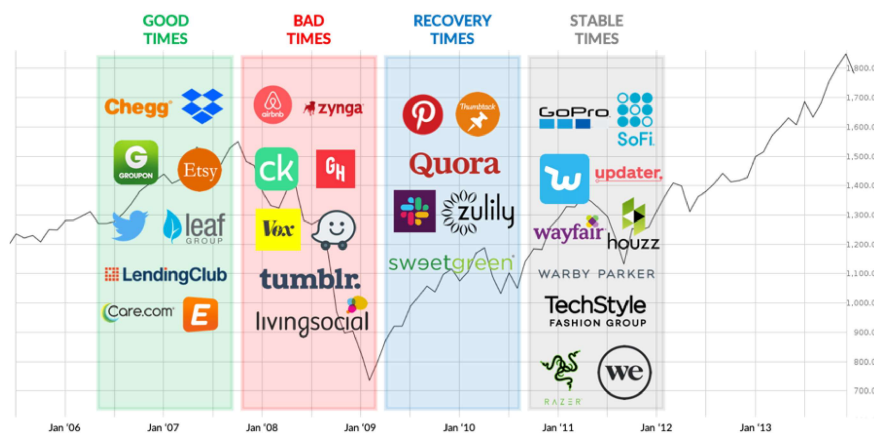
We separate our analysis of the Global Financial Crisis and the Internet Bubble, to isolate the specific trends that occurred in each period.

### The Impact of the Global Financial Crisis on Unicorn Formation

Our analysis of the Global Financial Crisis shows that:

1. **During the Crisis and its recovery, there was little deviation in formation across the periods for B2B unicorns.**
2. **For Consumer Companies, there was a slight increase during Bad and Stable Times, and a slight decrease in Good Times and Recovery Times.**
3. **B2B Unicorns consistently outnumbered Consumer Unicorns by almost 2 to 1 across periods in the Crisis and its recovery.**
4. **There were a larger number of public unicorns formed at the beginning of the period, but we believe this reflects time to IPO, rather than any impact of the cycle itself.**

See below a graph indicating the consumer startups formed during the Global Financial Crisis below.



Below is a full breakdown of the data that encompasses the **Global Financial Crisis**. The data shows a similar number of total unicorn companies created in each of the 4 periods: the low was 29 in **Good times**, and the high was 34 in **Bad and Stable times**. This result argues against the notion that billion-dollar companies are more likely to be founded during robust economic periods.

There is a striking difference in the number of enterprise vs. consumer unicorns formed. In every period, there was a significantly greater number of enterprise unicorns created vs. consumer unicorns formed (consistently 2 to 1 ratio). This suggests that founders may slightly improve their chances of founding a billion-dollar company if they build a B2B business vs. a consumer business.

Another key metric in the data was the number of public vs. acquired or private unicorns formed across stages of the Crisis and its recovery. The first two stages of the period produced more than 2x the number of public companies vs. the last two stages (41 vs. 18 public companies). However, we believe that this gap is temporal and is due to time required before reaching IPO, and this gap will close as time goes on, as companies formed in the latter period go public. One potential factor to study, however, is whether the flood of late-stage capital that entered the market over the past five years has contributed to the longer time to IPO for companies formed in the second half of this period.

### Unicorn Formation: The Global Financial Crisis and its Recovery

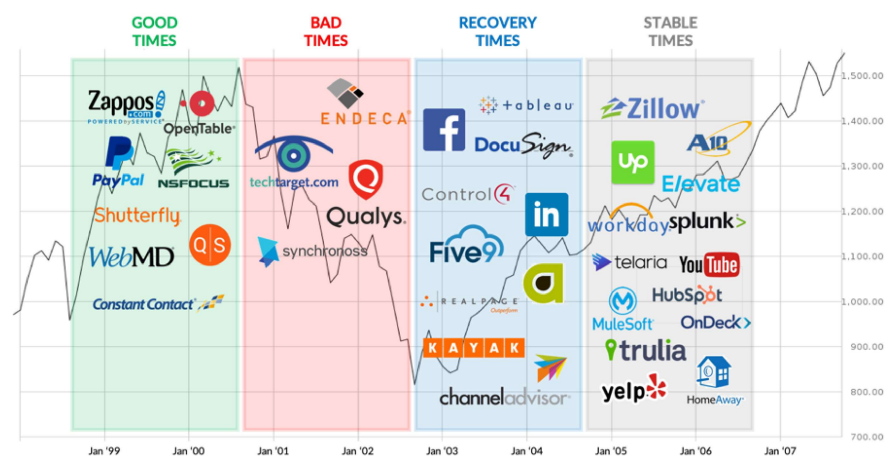
	GOOD TIMES 2Q06 - 3Q07	BAD TIMES 4Q07 - 1Q09	RECOVERY TIMES 2Q09 - 3Q10	STABLE TIMES 4Q10 - 1Q12
Total # public companies raised seed/series A during that period	22	19	9	9
Total # private unicorns raised seed/series A during that period	4	7	16	23
Total # of 1B+ M&As raised seed/series A during that period	3	8	6	2
Total	29	34	31	34
# of B2B	19	21	22	20
# of B2C	9	11	8	12
Total VC Funding	\$46.1B	\$46.8B	\$39.3B	\$53.3B

### The Dot-Com Bubble and its Impact on Unicorn Formation

We secondly examined the Internet Bubble and its crash and recovery to determine whether there was correlation to the short-term market cycles of that time period. We found that there was a correlation, which we believe was partly caused by the startup and venture capital markets impact on the overall economy combine with political uncertainty following the 9/11 terrorist attack in New York City.

While short-term changes in GDP, unemployment rates, and the stock market only had a marginal impact on the creation of new billion companies during the Global Financial Crisis, the startup and venture capital markets may themselves cause market fluctuations. We believe that this phenomenon created the trends in unicorn formation that occurred during 2000–2002. These factors resulted in a lower number of unicorns created than in other stages of the Internet Bubble or the Global Financial Crisis. Put another way, the small number of unicorns formed during 2000–2002 was due to **endogenous factors** unique to the tech markets, rather than **exogenous factors** relating to the overall market cycle.

See graph of unicorn formation during the Internet boom and bust below.



During the 2000 to 2002 technology downturn, there was not only a substantial drop in S&P and GDP and an increase in unemployment rates, but also a real decrease in the amount of new VC funding and decrease in the number of future billion dollar companies funded. In this period, the technology crash impacted the overall economic market cycle, not the other way around. Rather than entrepreneurs and VCs exiting the market due to exogenous factors such as political instability, government regulation or trade wars, internal changes in the tech market resulted in a lack of available capital. The lack of confidence from the public technology markets resulted in a short-term market downturn that trickled down to the venture capital LPs who decreased capital commitments during this time[3]. The decrease in available venture capital impacted how VCs deployed capital to new companies.

See chart below.

### Unicorn Formation: The Internet Bubble and its Recovery

	GOOD TIMES 4Q98 - 3Q00	BAD TIMES 4Q00 - 3Q02	RECOVERY TIMES 4Q02 - 3Q04	STABLE TIMES 4Q04 - 3Q06
Total # public companies raised seed/series A during that period	15	3	12	29
Total # of 1B+ M&As raised seed/series A during that period	13	1	2	3
Total	28	4	14	32
# of B2B	21	4	10	20
# of B2C	7	0	4	12
<b>Total VC Funding</b>	<b>\$144B</b>	<b>\$80B</b>	<b>\$41B</b>	<b>\$50B</b>

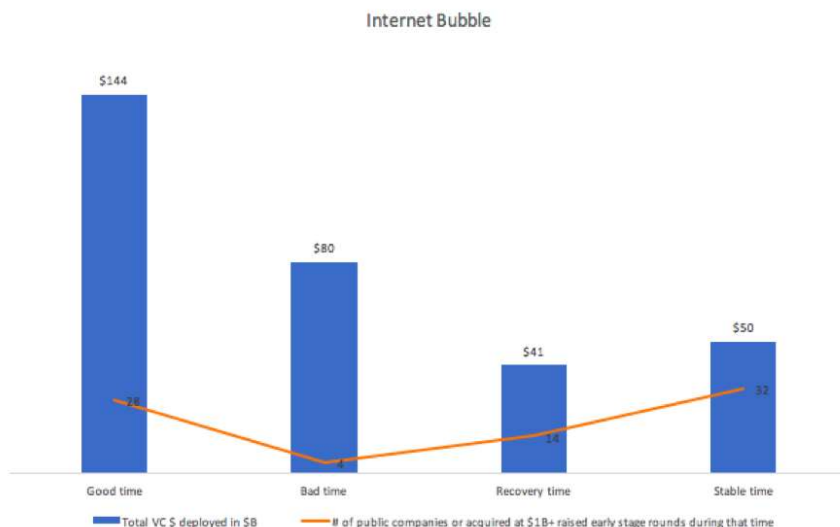
### The Technology Industry Follows Its Own Market Cycle

There are several reasons why startups may seem to have immunity to short-term secular market cycles. First, waves of technology innovation are driven by technology laws such as Moore's law and Metcalfe's law, and these laws operate independent of market cycles. Secondly, the entrepreneurial grit and persistence is independent of market cycle, and persistent, driven founders may be able to overcome whatever the economy throws at them.

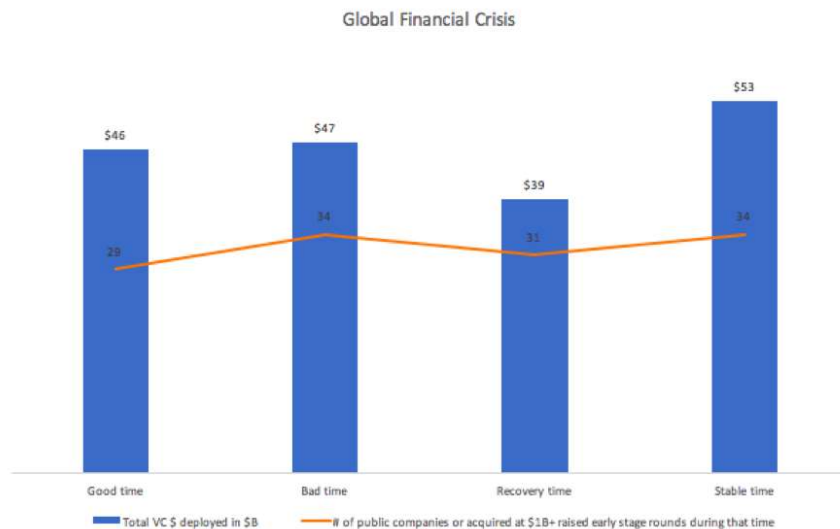
In addition to grit and persistence, founders have historically had access to venture capital to build their companies even during times of market volatility. It typically takes an early stage company 7–10 years of building a company to achieve a billion dollar valuation or exit. During that 7–10 year period, a company is likely to scale through multiple market cycles. Meanwhile, venture capitalists raise new funds every 2–3 years, and each fund will be deployed over a 3–5 year period. As a result of VCs fundraising patterns, there is usually ample amounts of capital to be deployed into billion dollar startup prospects across all short-term secular market cycles.

Even during the dot-com crash, we saw the formation of unicorns, although the numbers were less than the overall period. Our hypothesis is that the sharp drop in the number of unicorns formed is a result of the significant decline in the amount of capital that VCs deployed during that period. There wasn't a lack of entrepreneurial talent or ideas, but rather a lack of confidence and access to capital from ventures investors. See graph below.





Now let's compare the formation of unicorns during the Internet Bubble and the Global Financial Crisis. We found that the total amount of venture capital dollars deployed remained nearly constant across periods within the Global Financial Crisis. The nearly constant deployment of capital during that time period produced a nearly constant number of unicorns 10 years later. See graph below.



We believe that this data shows that new ventures are not necessarily impacted by short-term secular trends, but rather by changes in the technology economy itself, which impacts venture capitalist ability to deploy capital. And these more radical tech market cycles—those like the internet bubble—happen over 10 plus year periods. Therefore, the

formation of billion-dollar startups often cover multiple market cycles and are usually unimpacted by short-term volatility in the market.

### Looking Ahead

We are currently in a period of market uncertainty, where a confluence of political instability, trade wars, and interest rate hikes have led to slowing economic growth. So, what are we to conclude about the future, based on what we have learned from the past? How should early-stage startup founders prepare themselves for what lies ahead?

Rather than the exogenous factors listed above, we believe that the primary factors impacting the current formation of unicorns in tech is the amount of capital allocated to be invested in early stage startups, early-stage investor confidence, and public market liquidity. 2018 was a record year for venture capital fundraising with \$55 billion of new capital allocated to venture funds. Deal pace in 2018 was also at a record high with over \$130 billion invested into 8,948 companies. With regard to exits, 2018 was a record high in total value reaching \$120 billion

Looking forward to this year, several tech companies are in the pipeline to go public, including Lyft, Airbnb, Slack, and more. These companies are also tracking to have exit valuations at levels that we haven't seen since Facebook went public in 2012. Considering the amount of capital available to invest in new companies and the attractiveness of IPO candidates, we are not yet at the peak of another tech bubble. We expect 2019 to be another record year for founders to start companies that eventually reach billion-dollar levels.

While we expect 2019 to be a great year for unicorn startup formation, that doesn't mean that entrepreneurs shouldn't exercise due caution in choosing smart money to fund their companies. Because there is excess capital in the system, founders should think critically about the right investor partners that can help them grow from a seed company to a growth-stage company. Founders should also think conservatively about valuations, in order to avoid down rounds should the technology market correct itself in the future.

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[1] Data for this article was gathered from CB Insights

[2] Future analyses could add to the periods studied. Additional periods to analyze would be the PC revolution (late 1970's and 1980's), the mobile computing wave, as well as the rise of the Sharing Economy.

[3] 2016 NVCA Yearbook, [https://nvca.org/wp-content/uploads/delightful-downloads/2016/11/NVCA-2016\\_Final.pdf](https://nvca.org/wp-content/uploads/delightful-downloads/2016/11/NVCA-2016_Final.pdf)

