

SBC-Based Dilution Across US-Listed Growth Tech Companies

Scope: What We Looked at

- We analysed **stock-based compensation (SBC) & equity plans** across **117 US-listed growth technology companies**.
 - **Cohort 1 (n=66):** Companies that IPO'd in 2019 or earlier. This gave us at least 3 full years (post-IPO year) from which to analyse SBC data to provide a smoother answer for average dilution of the company.
 - **Cohort 2 (n=51):** Companies that IPO'd in 2020 or 2021. This gave us only 1 or 2 years (post-IPO year) to analyse SBC data from.
 - Either one or both cohorts were analysed depending on the types of analysis.
- The most important metric we analysed is what we call **Annual SBC-based Net Dilution¹**. We define this metric as:

$$\text{Annual SBC-based Net Dilution} = \frac{A + (B/3)}{C} \quad \text{where,}$$

 - **A = Net RSUs issued** in the financial year = (Granted) minus (Forfeited & Cancelled) **includes PSUs and other forms of RSU*
 - **B = Net Options issued** in the financial year = (Granted) minus (Forfeited & Cancelled)
 - **C = Weighted shares outstanding** (over the last twelve months, as reported at end of the year)
 - As implied by the above formula, we assume **1 RSU is equivalent to 3 options**, to get to a common numerator (a rough rule of thumb)².
- Gathering the above inputs involved manually going through the 10k filings of all 117 companies from 2015 (where applicable) to 2022 to collect quantitative data from the share-based compensation section of the filing.
- Using annual SBC-based net dilution as a key variable, we ran several types of analysis including:
 - Understanding the evolution of both SBC-based dilution over time (as well as the type of equity grants issued over time)
 - Understanding 'what's good and what's bad' when it comes to level of SBC-based dilution
 - Testing several variables (*medium-term stock price performance, growth rate, company size*) against net dilution to identify any takeaways and correlations
- **This pack captures our final findings and takeaways on SBC-based dilution, which we hope will be useful for management, boards and investors of US-listed growth technology companies.**

1. Also known as net 'burn rate' (Institutional Shareholder Services (ISS))

2. Assumed ratio of the estimated fair value of an option relative to the price of the company's common stock



What Did We Find?

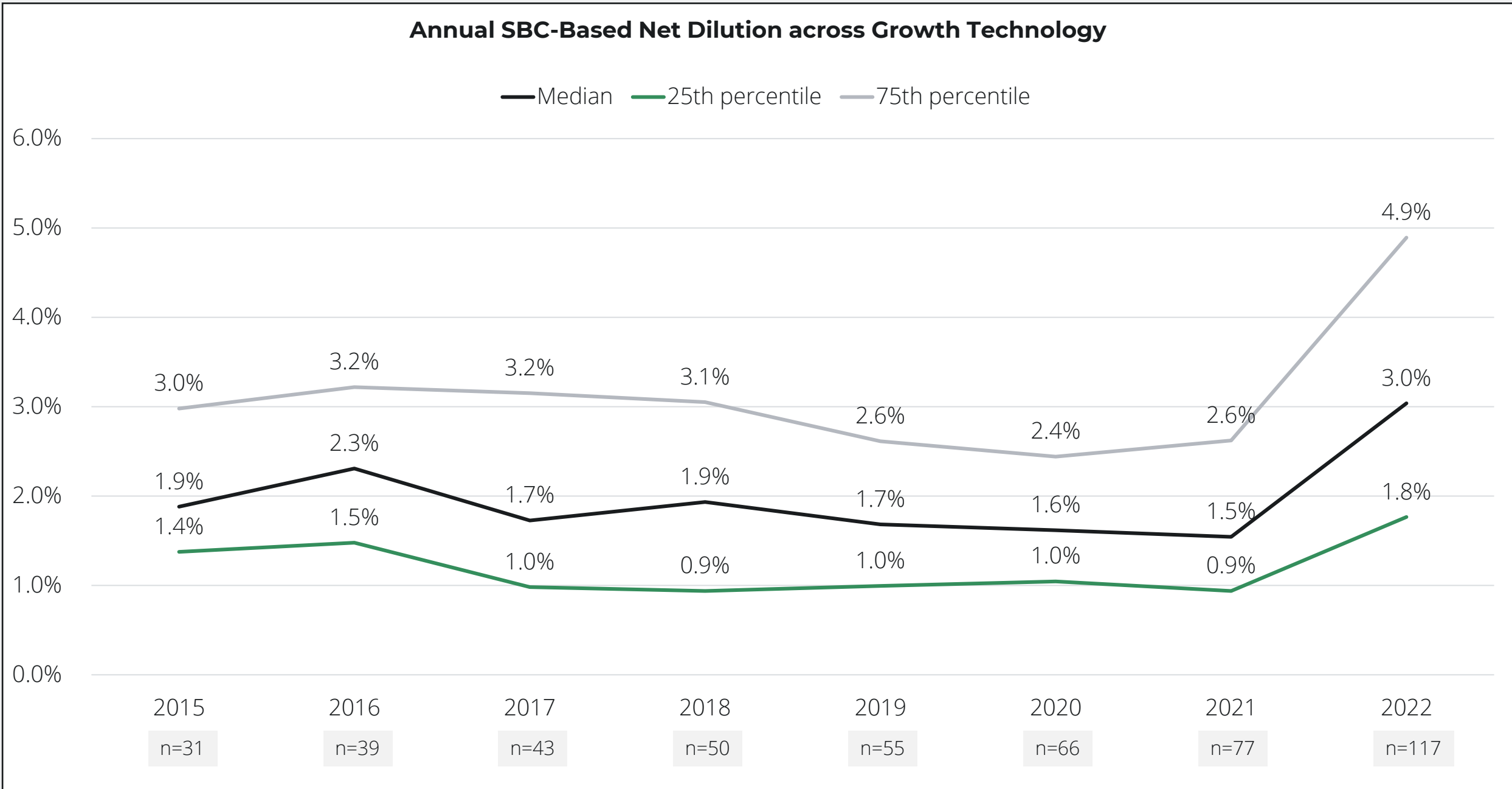
What We Found – Average SBC-Based Net Dilution

We calculated SBC-based dilution across the below companies from 2015 to 2022 and ranked the average net dilution over the last 1-5 years

		Bottom quartile (most dilutive)		2 nd quartile		3 rd quartile		Top quartile (least dilutive)	
Cohort 1 <u>IPO: 2019 or earlier</u> <i>n=66</i> <i>Average annual dilution over the last 3-5 years (2018-2022)</i>	Splunk	3.1%	Workiva	2.4%	Cloudflare	1.5%	Netflix	0.2%	
	LiveRamp	3.1%	Chegg	2.4%	Atlassian	1.5%	Microsoft	0.6%	
	New Relic	3.3%	RingCentral	2.5%	Alphabet	1.6%	Appian	0.7%	
	2U	3.3%	Five9	2.5%	Rapid7	1.7%	Adobe	0.8%	
	Varonis Systems	3.4%	Okta	2.5%	Datadog	1.7%	Veeva Systems	0.8%	
	Smartsheet	3.4%	CyberArk Software	2.5%	Q2	1.7%	AppFolio	0.9%	
	Twilio	3.5%	Roku	2.5%	ServiceNow	1.8%	The Trade Desk	1.0%	
	Pinterest	3.6%	Wix.com	2.6%	Etsy	1.8%	Paylocity	1.0%	
	Box	3.7%	Workday	2.6%	Block	1.8%	Autodesk	1.0%	
	LivePerson	3.8%	Uber	2.6%	Meta Platforms	1.9%	Ceridian HCM	1.1%	
	Alteryx	4.1%	Zscaler	2.7%	CrowdStrike	1.9%	Fortinet	1.1%	
	Snap	4.1%	MongoDB	2.7%	HubSpot	1.9%	Amazon.com	1.2%	
	PagerDuty	4.1%	Tenable	2.7%	BILL	1.9%	Intuit	1.2%	
	Yext	4.2%	Palo Alto Networks	2.8%	Salesforce	2.0%	Dynatrace	1.2%	
	8x8	5.1%	Everbridge	2.8%	BlackLine	2.0%	Qualys	1.3%	
	Fastly	5.5%	Zoom Video	3.0%	Sprout Social	2.0%	Shopify	1.4%	
			DocuSign	3.0%			Alarm.com	1.4%	
	Cohort 2 <u>IPO: 2020-2021</u> <i>n=51</i> <i>Less data-points – annual dilution over the last 1 year (2021 IPO) or 2 years (2020 IPO)</i>	UiPath	4.5%	Asana	3.4%	Snowflake	1.9%	Enfusion	0.3%
DoorDash		4.6%	Procore	3.4%	Definitive Healthcare	2.0%	Paymentus	0.7%	
SentinelOne		4.7%	AvidXchange	3.5%	DoubleVerify	2.1%	Paycor HCM	0.7%	
Alkami Technology		5.1%	GitLab	3.7%	Bumble	2.1%	Doximity	0.9%	
Marqeta		5.5%	Squarespace	3.8%	PowerSchool	2.2%	Palantir	1.0%	
Confluent		5.8%	Braze	3.9%	Sprinklr	2.4%	Semrush	1.1%	
Zeta Global		5.8%	Roblox	3.9%	GoodRx	2.6%	EngageSmart	1.1%	
Udemy		6.7%	Jamf	4.0%	Flywire	2.7%	Airbnb	1.2%	
Unity Software		6.9%	Duolingo	4.1%	DigitalOcean	2.7%	Coupang	1.2%	
Couchbase		7.3%	Affirm	4.3%	HashiCorp	2.9%	Instructure	1.5%	
Amplitude		8.1%	JFrog	4.4%	HashiCorp	2.9%	nCino	1.5%	
Coursera		11.8%	Coinbase Global	4.4%	AppLovin	3.1%	ZoomInfo	1.7%	
Remitly Global		13.3%	Toast	4.4%	Freshworks	3.3%	Clearwater Analytics	1.9%	

SBC-Based Dilution Over the Last 8 Years

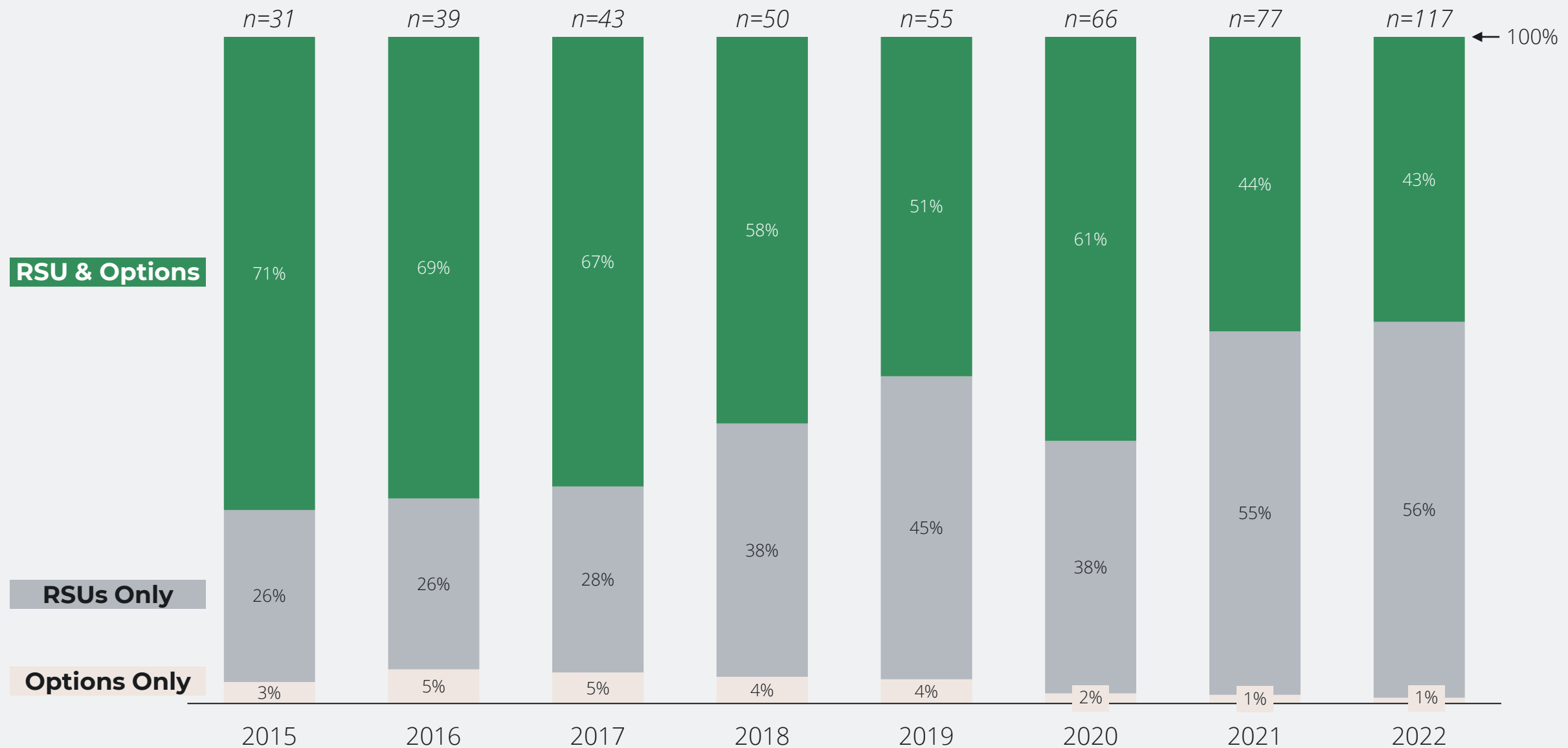
Net Dilution has historically hovered around the 2% level, before spiking in 2022



- Overall long-term median across all companies over the last 8 years = **2.0% p.a. Net Dilution**
- The notable spike in 2022 is most likely driven by the significant correction in public tech valuations (*meaning companies had to likely issue more equity to maintain a similar level of remuneration on a dollar basis*)

Options or RSUs?

Type of equity grants issued by US-listed growth tech companies over the last 8 years



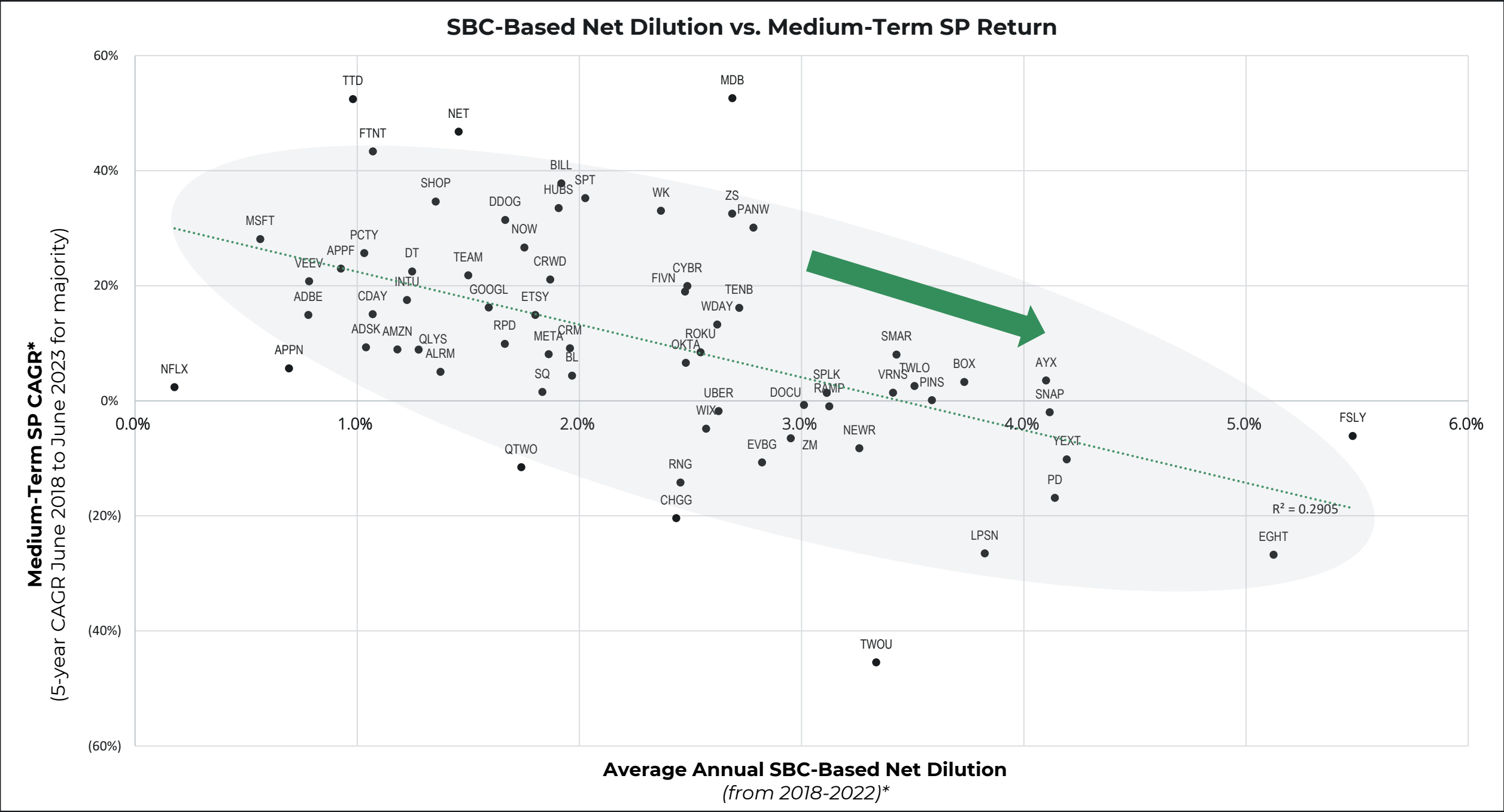
- **The rise of RSUs:** The share of US-listed growth tech companies issuing RSUs (or equivalent) as the ONLY form of equity-based compensation has significantly increased from 26% to 56% in the last 8 years
- **Options only:** Only one company in our dataset has granted ZERO RSUs over the last 8 years - **Netflix!**



So What?

SBC-Based Dilution vs. Medium-Term SP Returns

We plotted average SBC-based dilution against medium-term SP performance to test if there was any correlation...



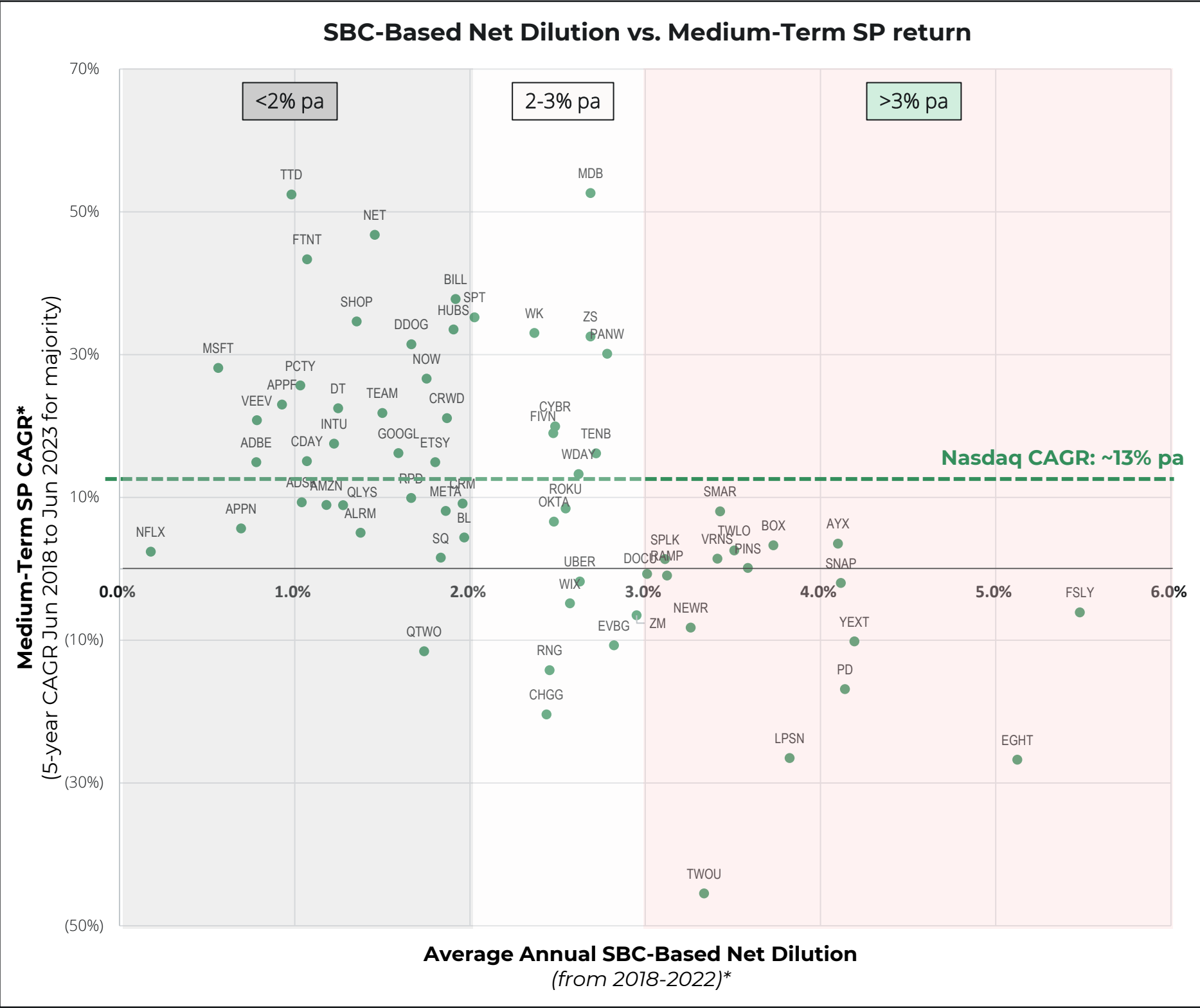
We observe an inverse correlation between a company's level of SBC-based net dilution and its medium-term stock price performance

*Medium-Term Stock Price (SP) CAGR: Calculated as 5y CAGR from 30 June 2018 to 30 June 2023 for 54/66 (82%) companies in analysis. The remainder was calculated as half-yearly increments from 3.5y CAGRs to 4.5y CAGRs depending on IPO date.

*Average Annual SBC-Based Net Dilution: Calculated as average SBC-based net dilution over 5 years from 2018 to 2022 for 50/66 (76%) companies (IPO in 2017 or prior). Average dilution over 4 years (2019 to 2022) was taken for 5/66 (8%) of companies (IPO in 2018). Average dilution over 3 years (2020 to 2022) was taken for 11/66 (17%) of companies (IPO in 2019). Companies that had an IPO in 2020-2021 were excluded due to insufficient time horizon to assess medium-term SP performance.

SBC-Based Dilution vs. Medium-Term SP Returns

Takeaways – We can divide this chart into 3 zones



- From 30 June 2018 to 30 June 2023 (5y), the **NASDAQ compounded at a 5y CAGR of ~13% pa**

- Red zone: Of the 17 companies that had an average annual SBC-based net dilution of greater than 3%:**

- ZERO outperformed the NASDAQ
- A majority (10 of the 17, or 59%), delivered a negative SP return

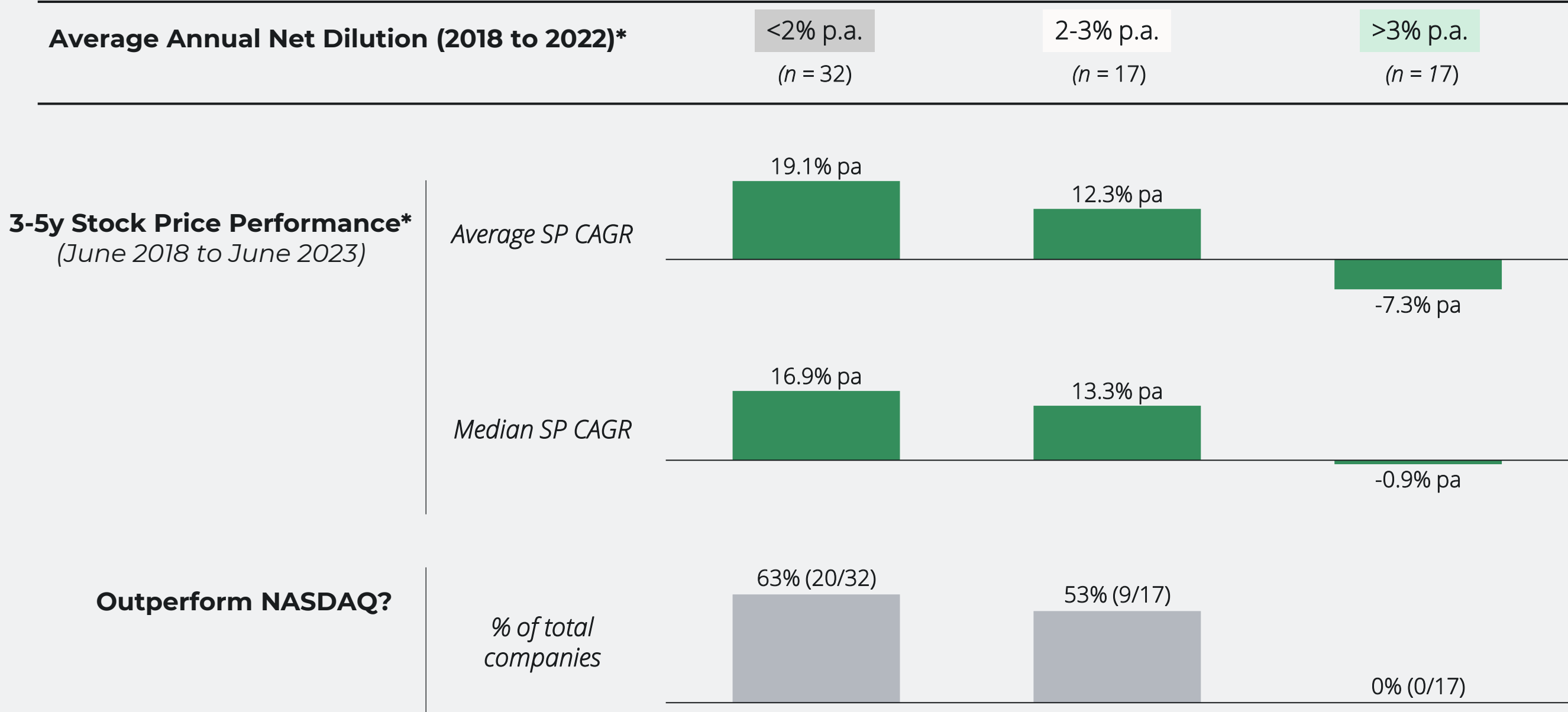
- On the other hand,**
 - Companies keeping dilution low are more likely to beat the market**
 - Although lower annual SBC-based dilution does not necessarily guarantee strong stock price performance - e.g. QTWO, RNG, CHGG

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Keeping Net Dilution to Less Than 3% p.a.

We believe growth technology companies should target an average annual SBC-based net dilution of less than 3% p.a.



Growth technology companies that dilute greater than 3% p.a. from SBC on a net basis,
are EXTREMELY UNLIKELY to outperform the market

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Chicken or Egg?

Key Considerations

- We are not saying that there is a **causation between dilution and SP performance**.
 - Over a 5-year period, the most significant correlate to a company's SP performance is the change to its valuation multiple (e.g. EV/NTM Rev), which is in turn driven by its fundamental business performance (at least in part)
- **We are simply observing a correlation between a company's SBC-based dilution and its medium-term SP performance.**
 - One hypothesis is that companies who are more disciplined on dilution are more likely to possess the same DNA of discipline throughout their business and management style – from disciplined capital allocation to strict cost control – which over the medium to long term, should drive superior shareholder value creation.
- We acknowledge and believe that there could be a **virtuous/vicious cycle at play**:
 - If a company's valuation multiple expands, driving stock price up, the company is **able to issue less dilutive stock** to maintain the same level of remuneration on a dollar basis → potentially leading to a virtuous cycle.
 - Conversely, if a company's valuation multiple compresses, driving stock price down, the company **has to issue more dilutive stock** to maintain the same level of remuneration for employees on a dollar basis → leading to a vicious cycle.

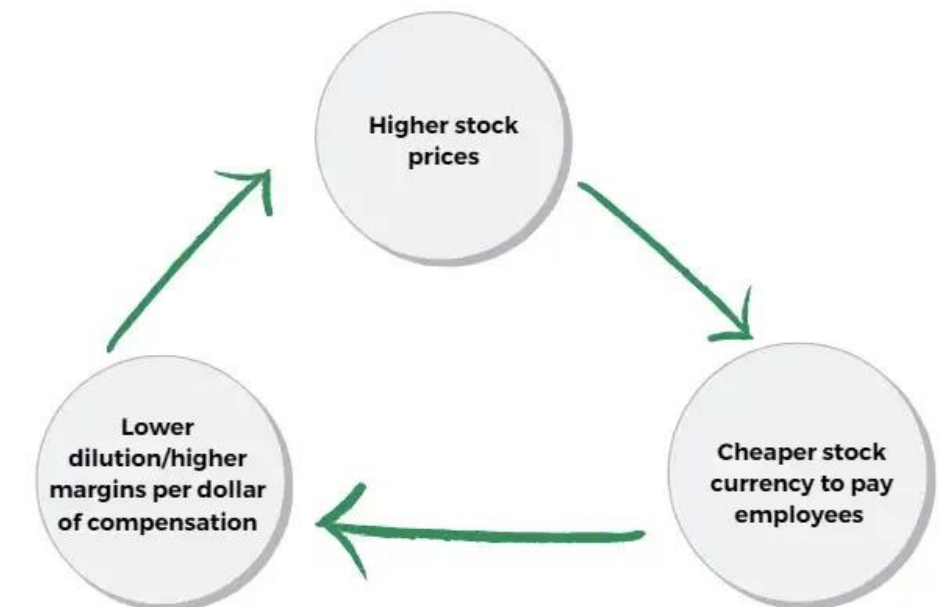


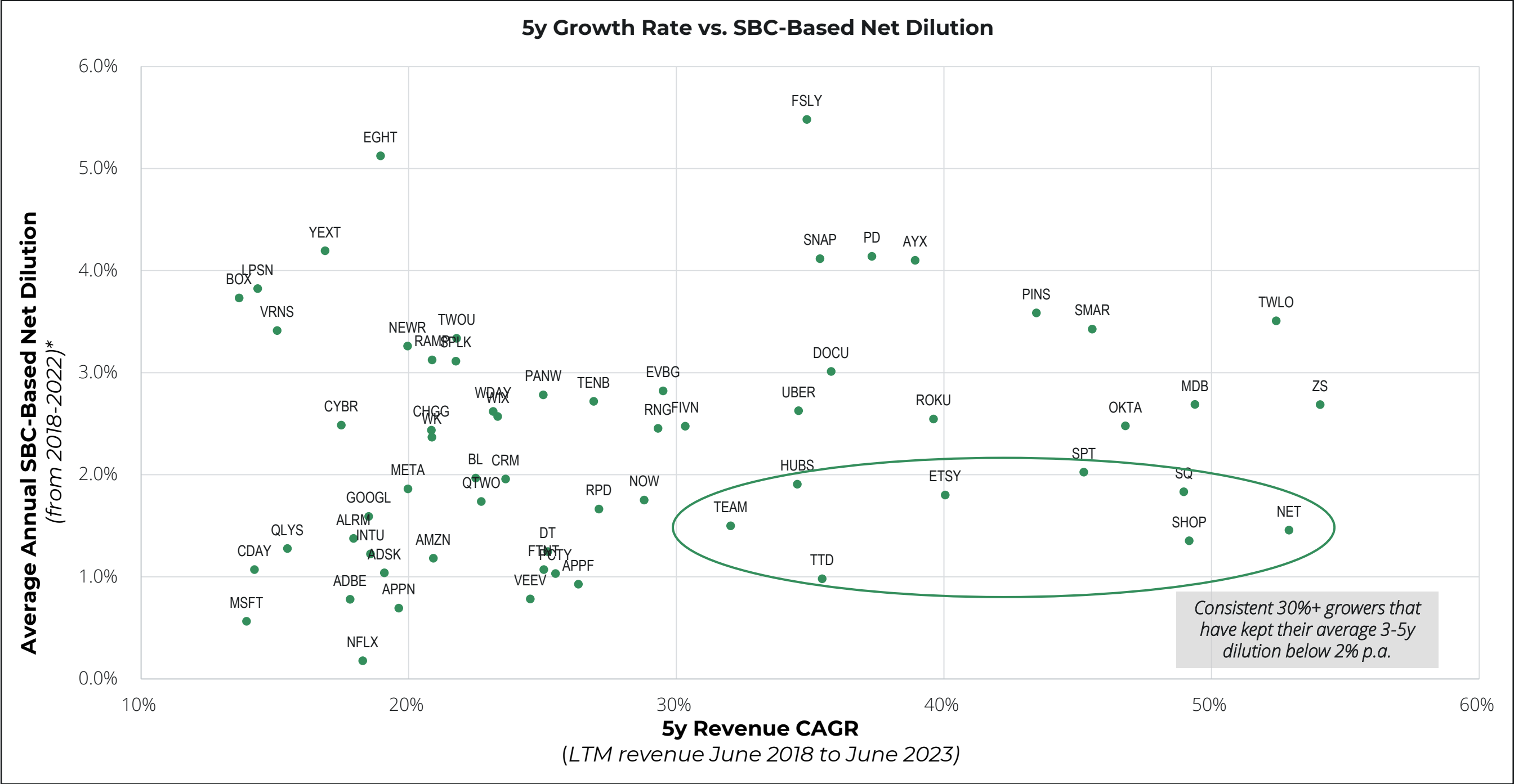
Fig 1: The virtuous cycle of SBC when stock prices are rising



Other Things We Tested

Other Things We Tested: Growth Rate vs. SBC-Based Dilution

Should our company be allowed to issue more dilutive equity, if we are growing faster?

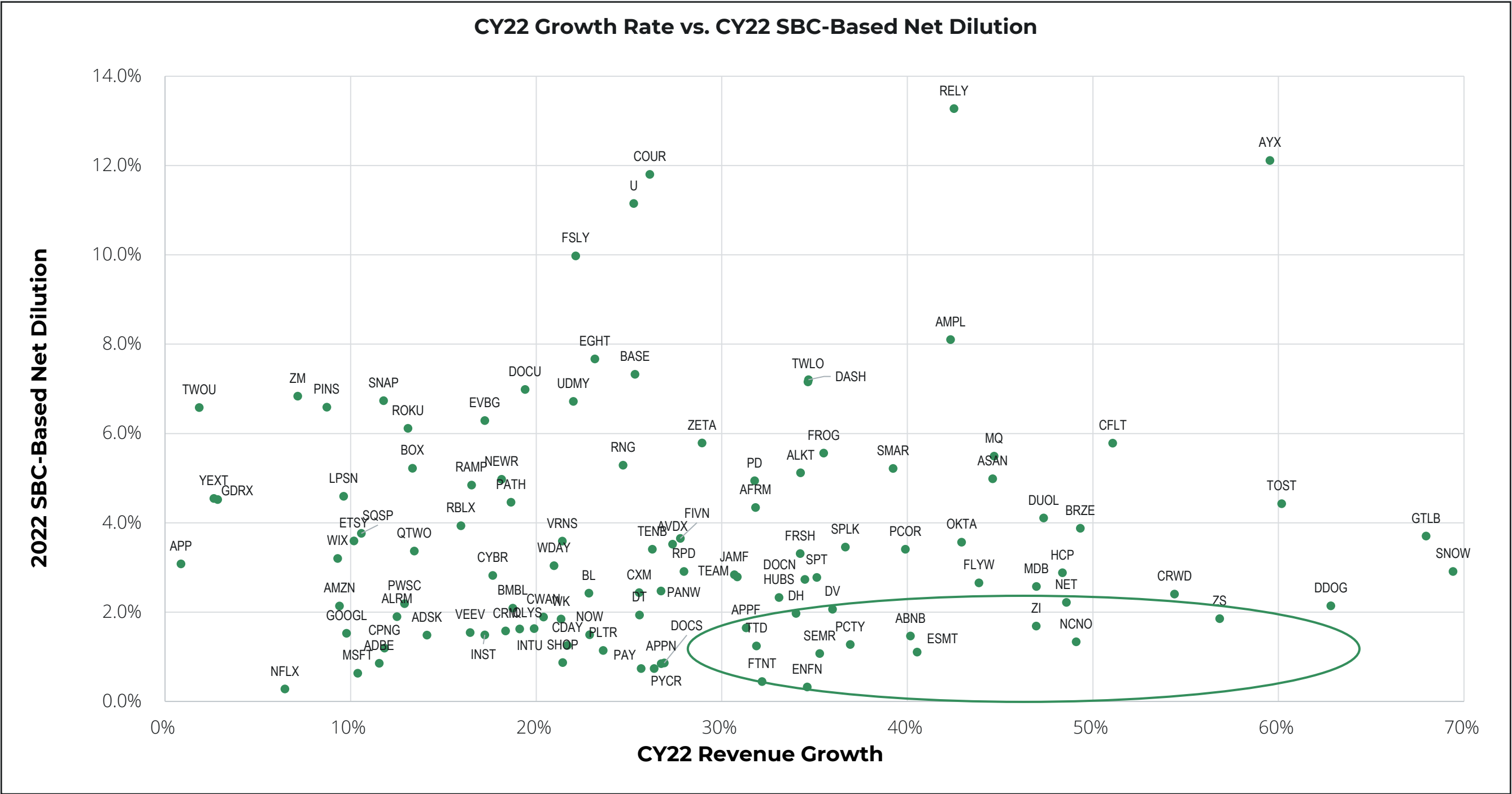


Our analysis shows minimal correlation between a company's growth rate and their average level of annual SBC-based dilution

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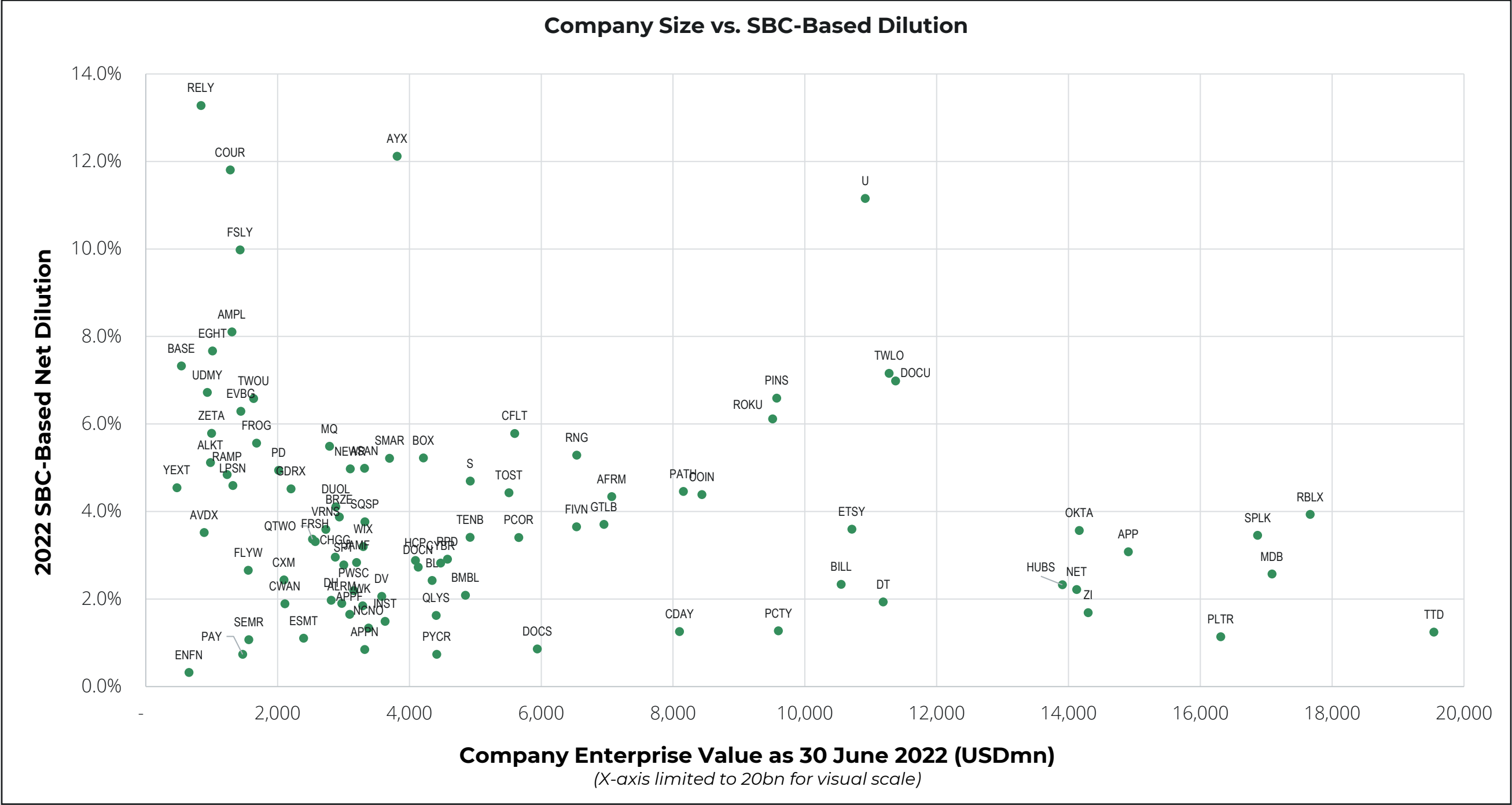
Other Things We Tested: Growth Rate vs. SBC-Based Dilution (CY22 Only)

Should our company be allowed to issue more dilutive equity, if we are growing faster?



Other Things We Tested: Company Size vs. SBC-Based Dilution

Should our company be allowed to issue more dilutive equity, if we are smaller / younger?

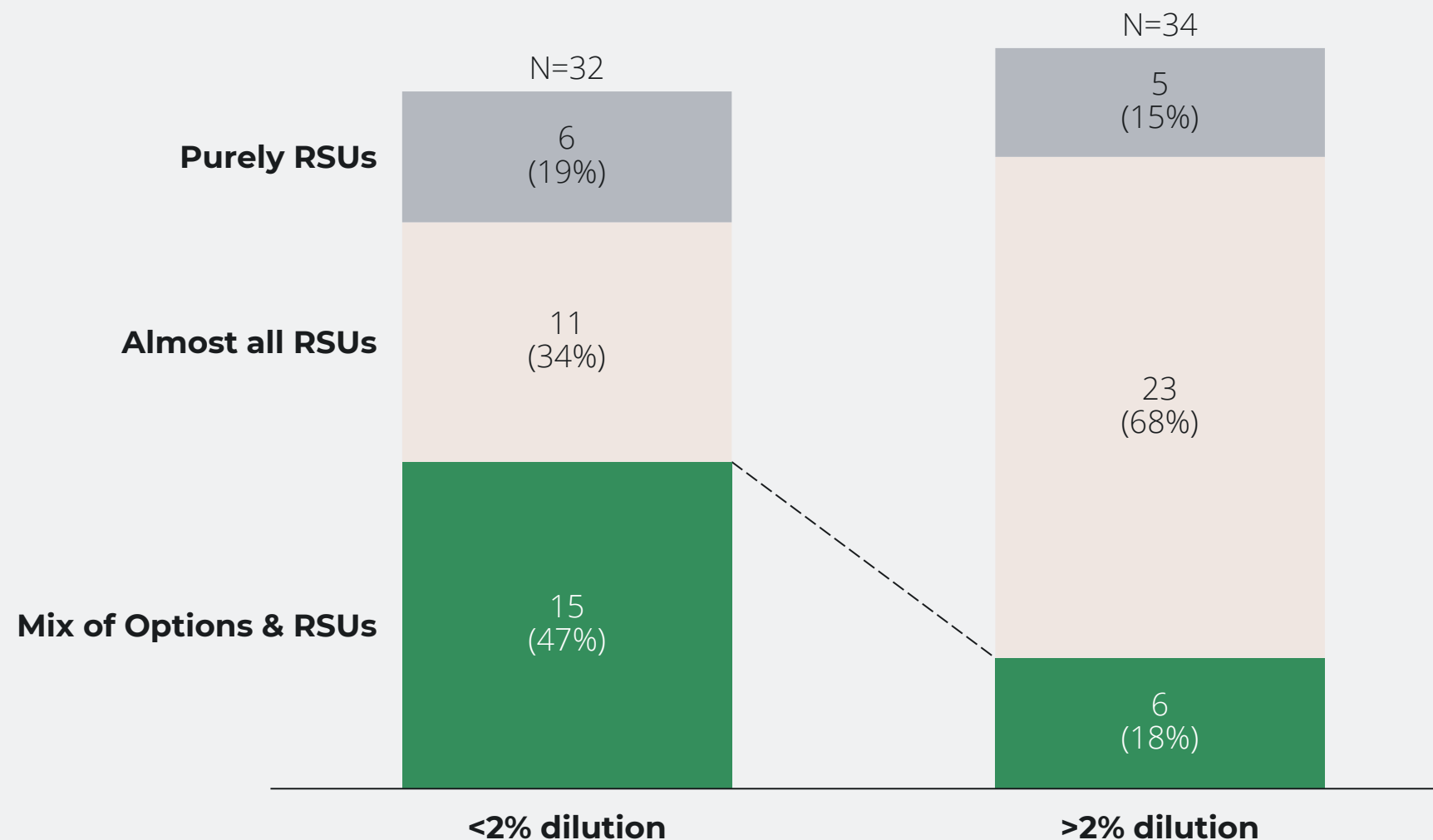


No clear correlation between company size & level of SBC-based dilution

Options or RSUs?

Type of equity grants issued by US-listed growth tech companies over the last 8 years

- We split Cohort 1 (n=66 US-listed growth technology companies that IPO'd in 2019 or earlier) into two groups based on their average SBC-based dilution over the last 3-5 years – less than and greater than 2% p.a. dilution
- We then categorised every company's type of SBC plan into 3 categories based on at least 3-8 years of data (2015-2022)

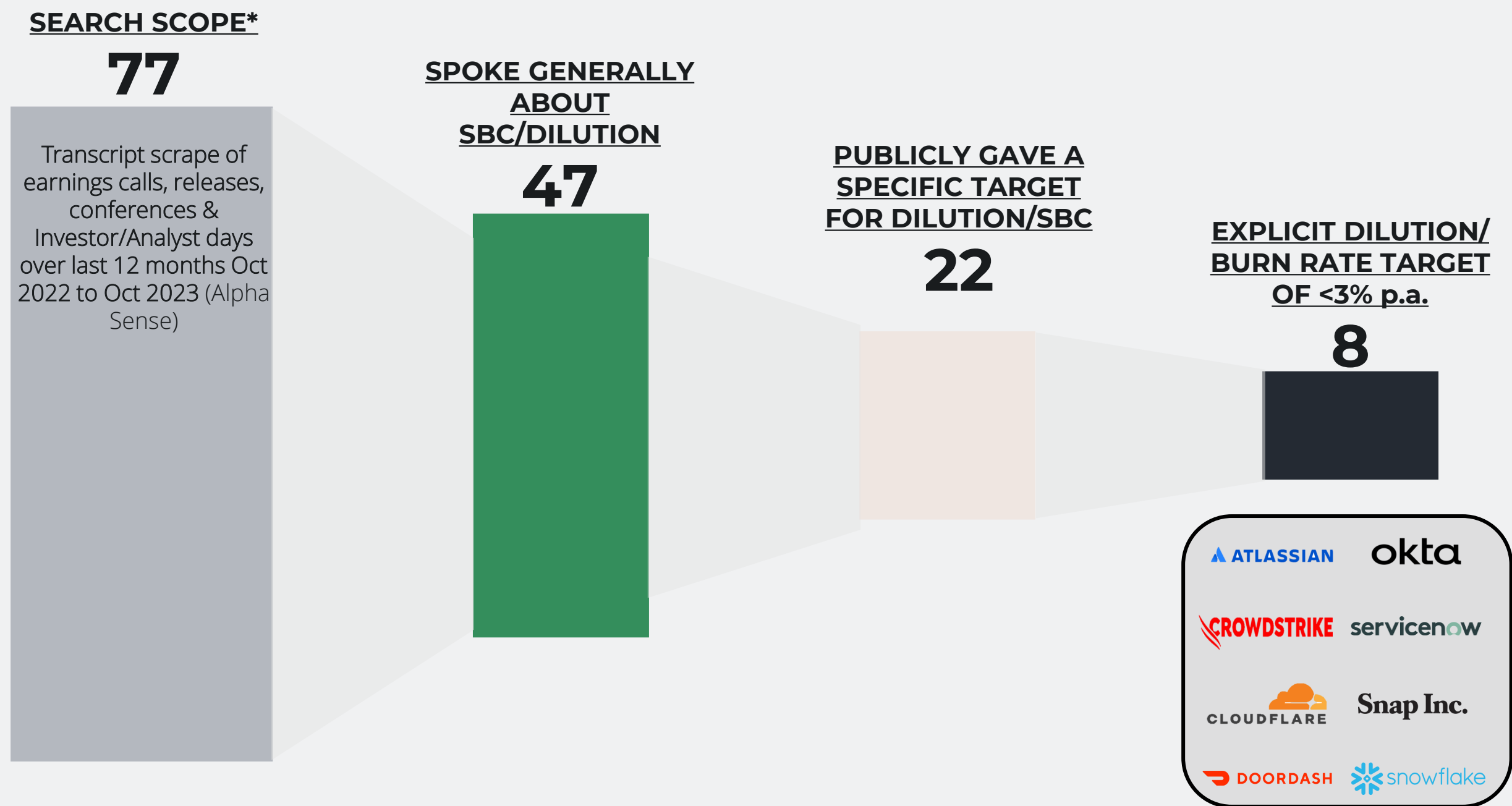


- We found that **the less dilutive half of the cohort (less than 2% dilution) had a much higher proportion of equity plans with a 'mix of options & RSUs'.**
- This observation suggests that there are **potential advantages of including options in a company's equity policy**, as these instruments seem to be associated **with less overall dilution over the medium term.**

**Several Management
Teams are Now Explicitly
Guiding on Dilution**
(Examples)

Management Guidance on SBC-Based Dilution

While a lot of companies spoke about dilution over the last 12 months, only 8 of 77 in our sample search have publicly given an explicit dilution target of <3%



*US-listed growth technology companies that were public prior to Jan 1, 2021

Management Guidance on SBC-Based Dilution

8 example companies that have publicly guided to less than 3% SBC-based net dilution



SHARE DILUTION TARGET

<1%

'Based on our current forecast for stock issuances, we now **expect net dilution in 2023 to be well under 1%**, prior to any additional potential stock repurchases.'

2Q23 Earnings Release



SHARE DILUTION TARGET

<2%

'we've always been focused on managing dilution. Our **targets over the last several years have been less than 2%**'

Jefferies Software Conference May 2023



SHARE DILUTION TARGET

<2%

'In FY23, we **expect less than 2% year-over-year increase in diluted share count**'

2Q23 Letter to Shareholders



SHARE DILUTION TARGET

2%

'Dilution target. **We're reiterating our long-term target of 2%**. You can see in 2023, we are at 3%. We're forecasting it to be 2%'

Snowflake Analyst Day June 2023



SHARE DILUTION TARGET

<3%

'Having said that, we think that we are going to continue to show low dilution, **less than 2% this year, and strive to keep it under 3% for next year.**'

2Q24 Earnings Call



SHARE DILUTION TARGET

<3%

'We are committed to incremental equity compensation dilution well below many of our peers, **targeting less than 3% net burn rate annually.**'

4Q22 Earnings Call



SHARE DILUTION TARGET

<3%

'In the near term... we prefer to see **dilution not exceed 3% year-over-year** over any extended period of time'

Investor Day Feb 23

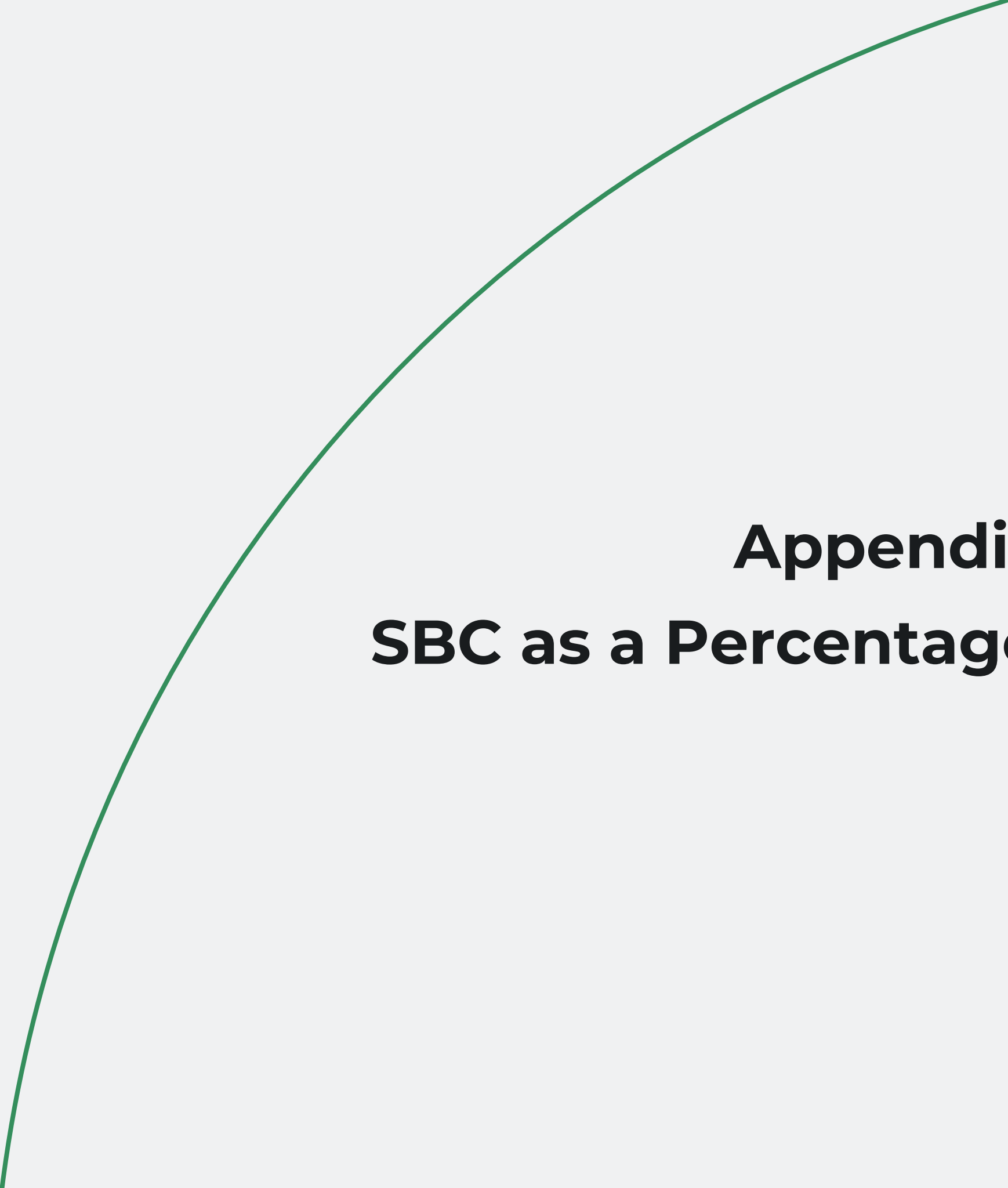


SHARE DILUTION TARGET

2-3%

'...our historic norms for net dilution **was in the 2% to 3% range**... dilution for FY '24 will be back within our historical range...we remain committed to further reduction over the long term.'

1Q24 Earnings Call

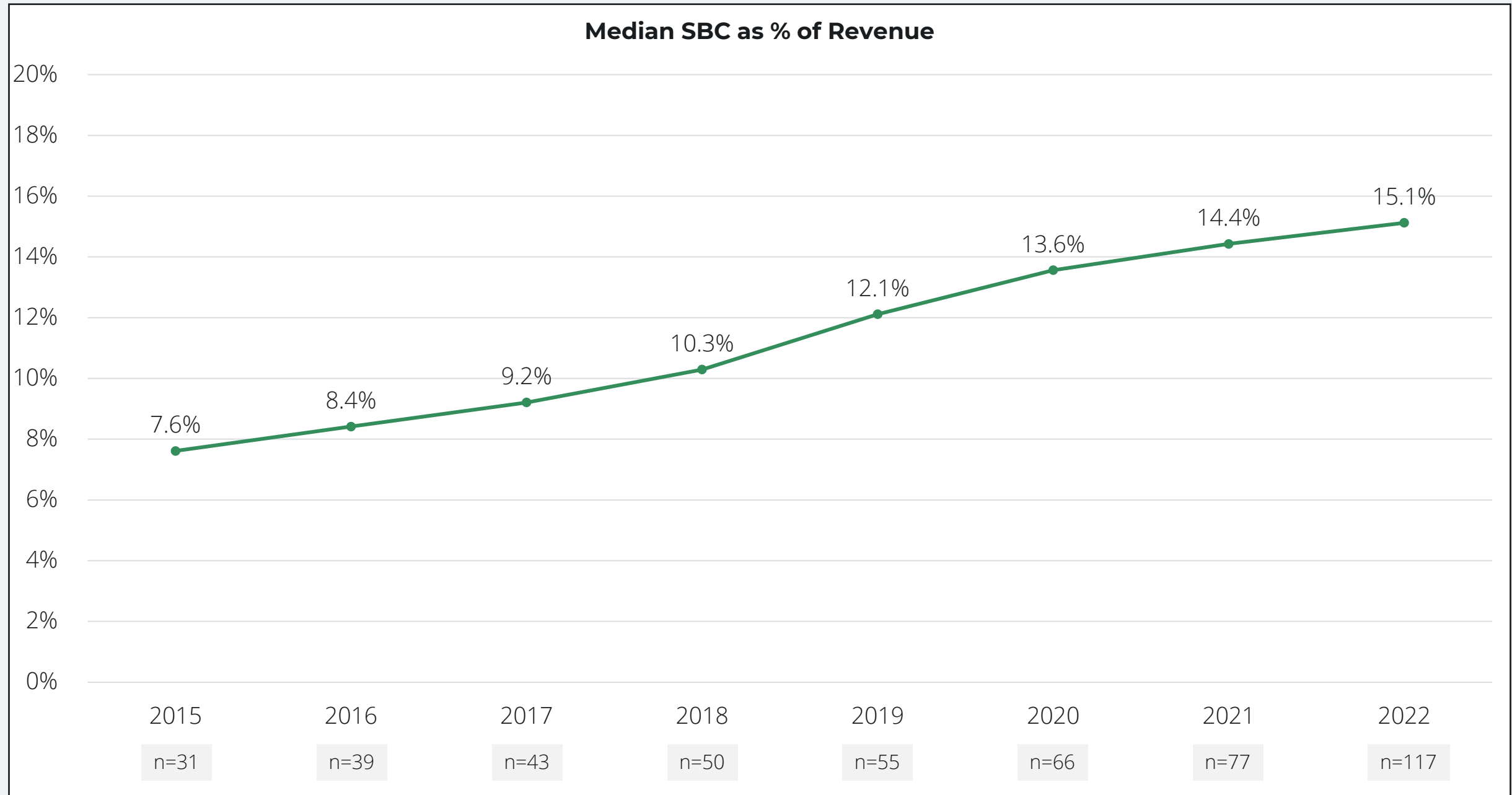


Appendix:

SBC as a Percentage of Revenue

SBC as % of Revenue

Median across US-listed growth technology companies from 2015 to 2022

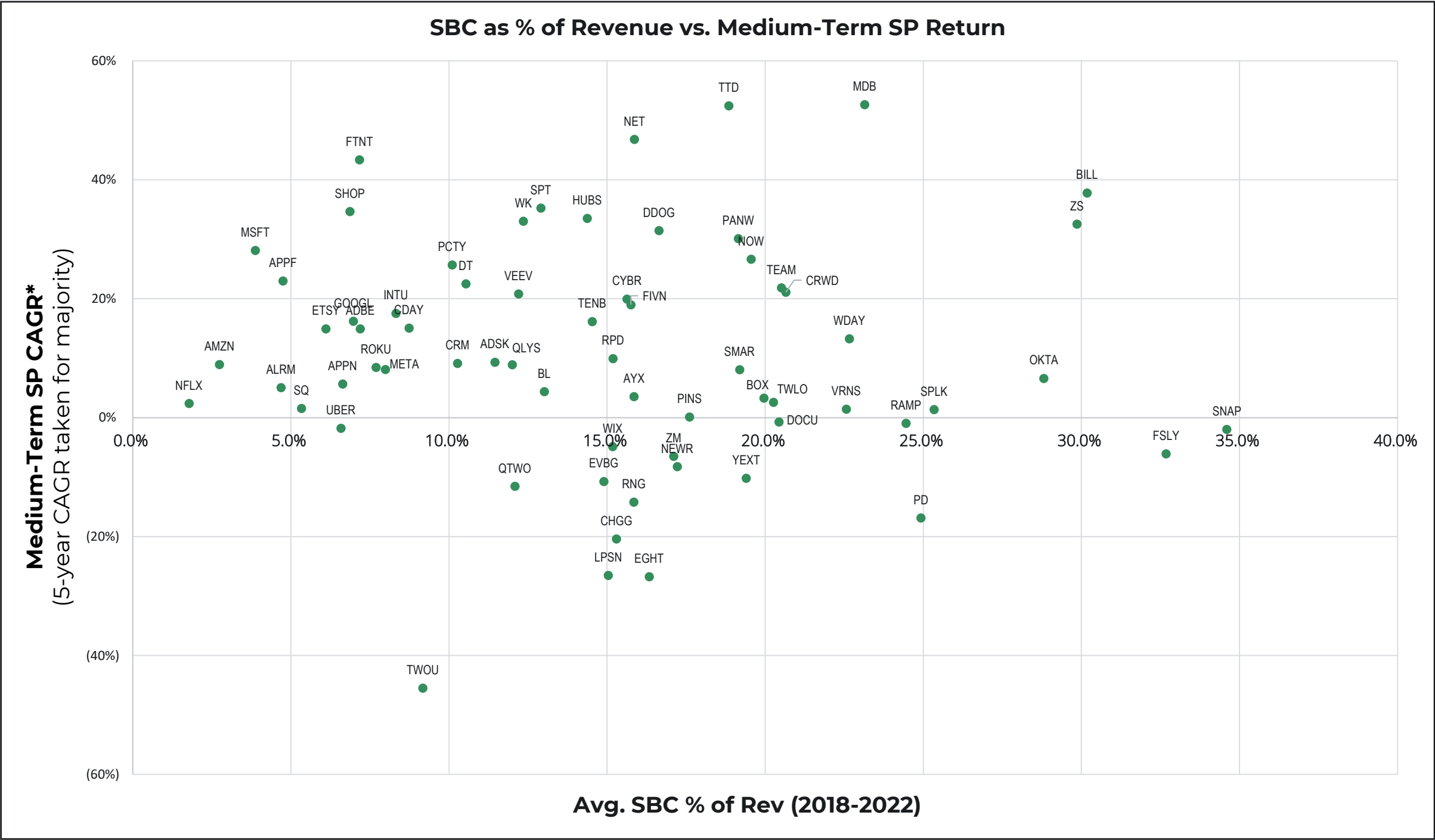


Clear upwards trend from 2015 to 2022. We believe this is driven (at least partly) by:

- 1/ A strong bull market for US growth technology over the last decade (prior to 2022), helping to elevate stock prices
- 2/ General shift in equity plan composition to favour greater use of RSUs over options

SBC % of Revenue vs. Medium-Term SP Returns

We plotted average SBC as % of revenue against medium-term SP performance to test if there was any correlation...



Unlike SBC-based dilution, SBC as % of revenue shows almost no correlation with medium-term SP performance of a company

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