

# 2019 ANNUAL SPRING PENSION CONFERENCE



**CFA Society  
Toronto**

**#CFATOPENSION**

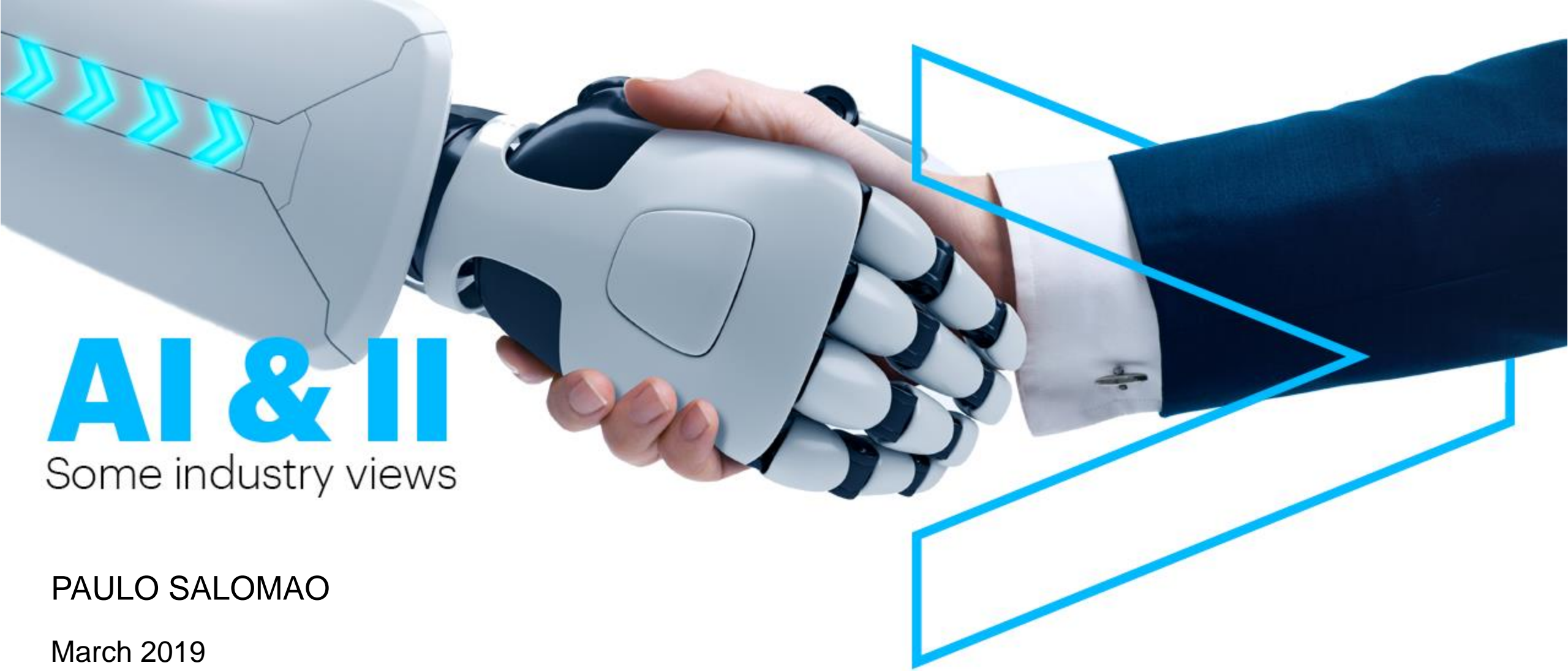
# RECENT AND FUTURE EVOLUTION OF AI IN INVESTMENT MANAGEMENT

PAULO SALOMAO, MANAGING DIRECTOR OF ASSET  
MANAGEMENT & PENSIONS, ACCENTURE



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Toronto

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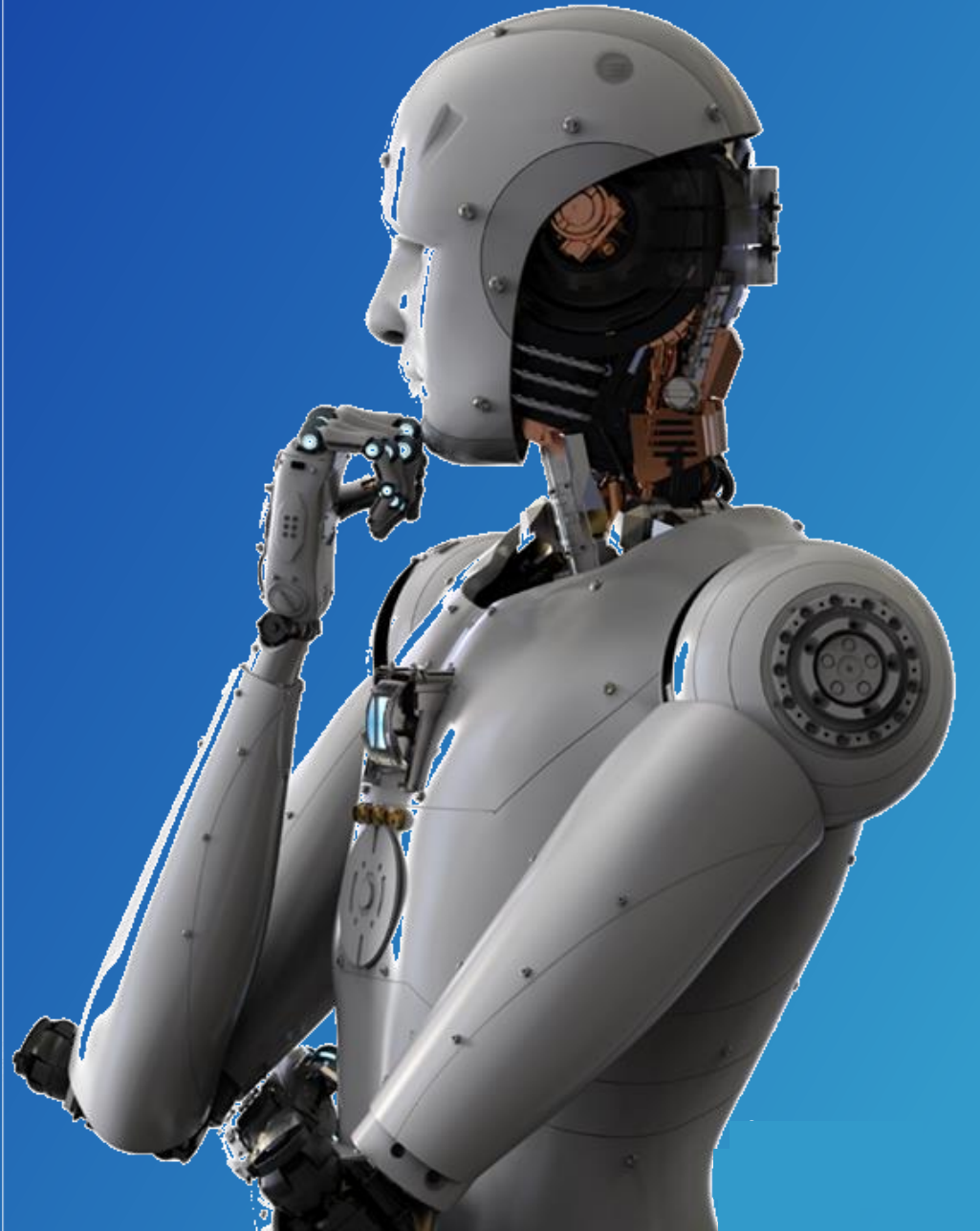
# AI & II

Some industry views

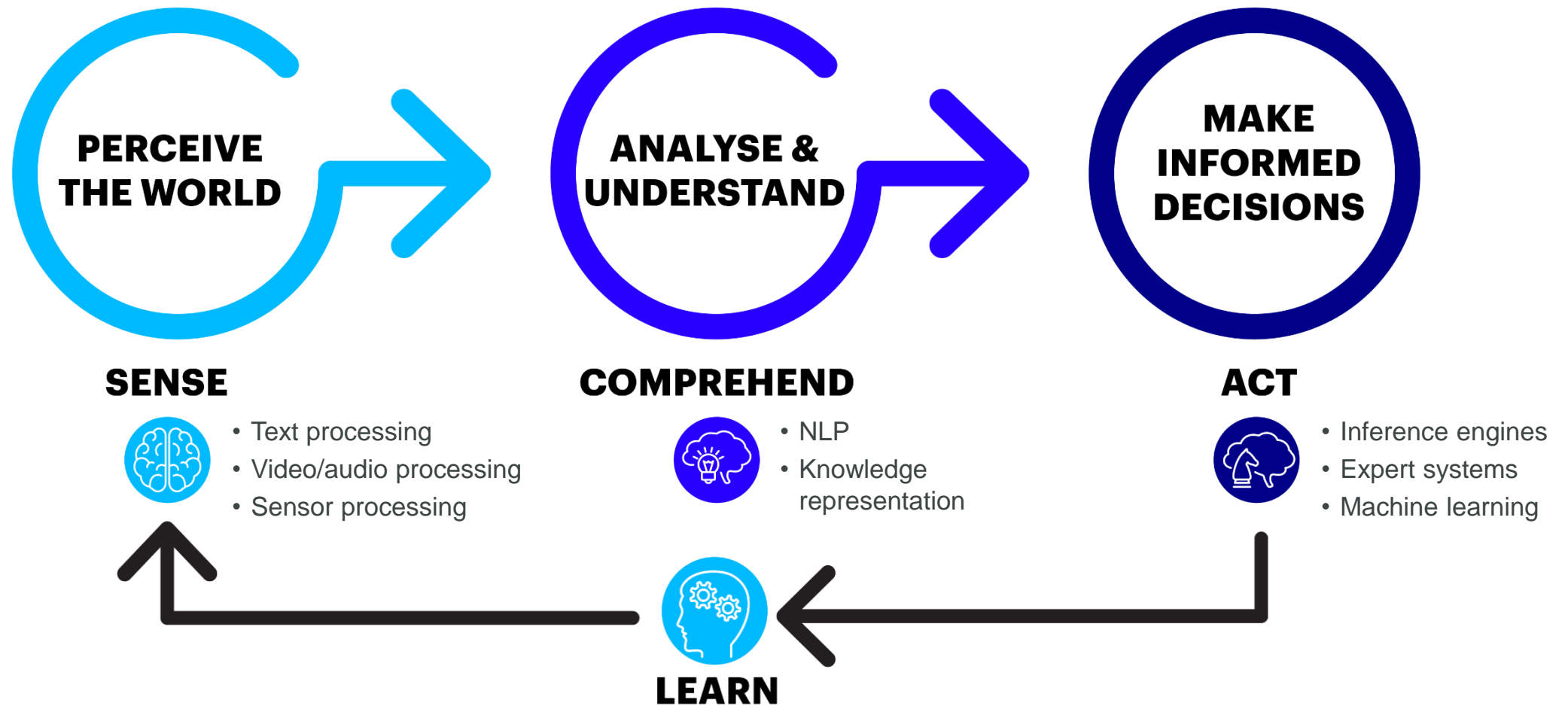
PAULO SALOMAO

March 2019

# AI definition and a quick background



# SMART MACHINES THAT EXTEND HUMAN CAPABILITIES BY SENSING, COMPREHENDING, ACTING AND LEARNING



# “ARTIFICIAL INTELLIGENCE” WAS FIRST COINED IN THE 1956 DARTMOUTH SUMMER RESEARCH PROJECT ON AI



John MacCarthy



Marvin Minsky



Claude Shannon



Ray Solomonoff



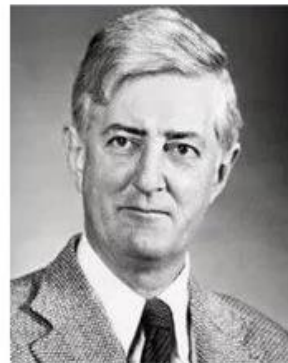
Alan Newell



Herbert Simon



Arthur Samuel



Oliver Selfridge



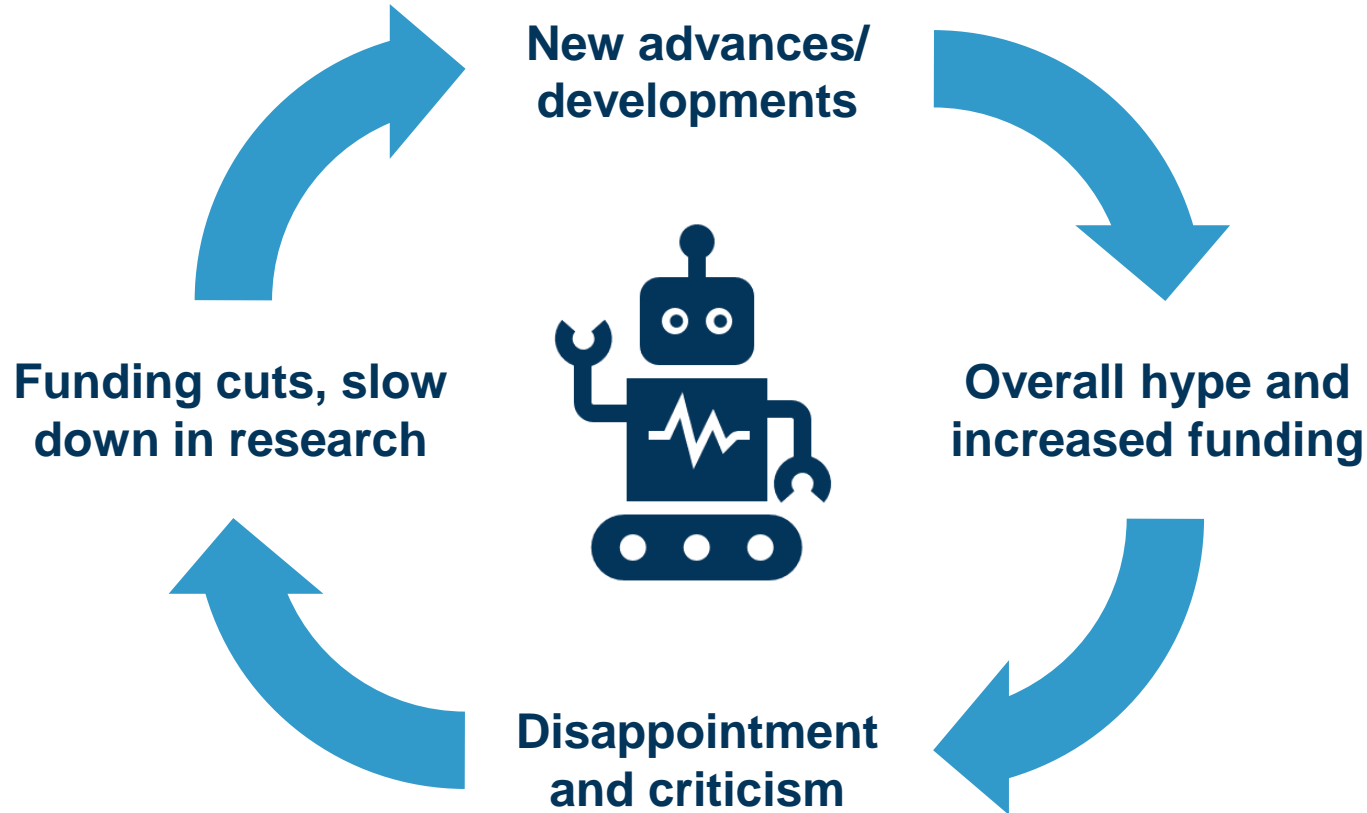
Nathaniel Rochester



Trenchard More

*“In this 2-month, 10-man study of artificial intelligence [...] an attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves. [...] For the present purpose the artificial intelligence problem is taken to be that of making a machine behave in ways that would be called intelligent if a human were so behaving.”*

# THERE HAVE BEEN A FEW “AI WINTERS” SINCE 1956



## 1960's

Machine translation and the Automatic Language Processing Advisory Committee (ALPAC)

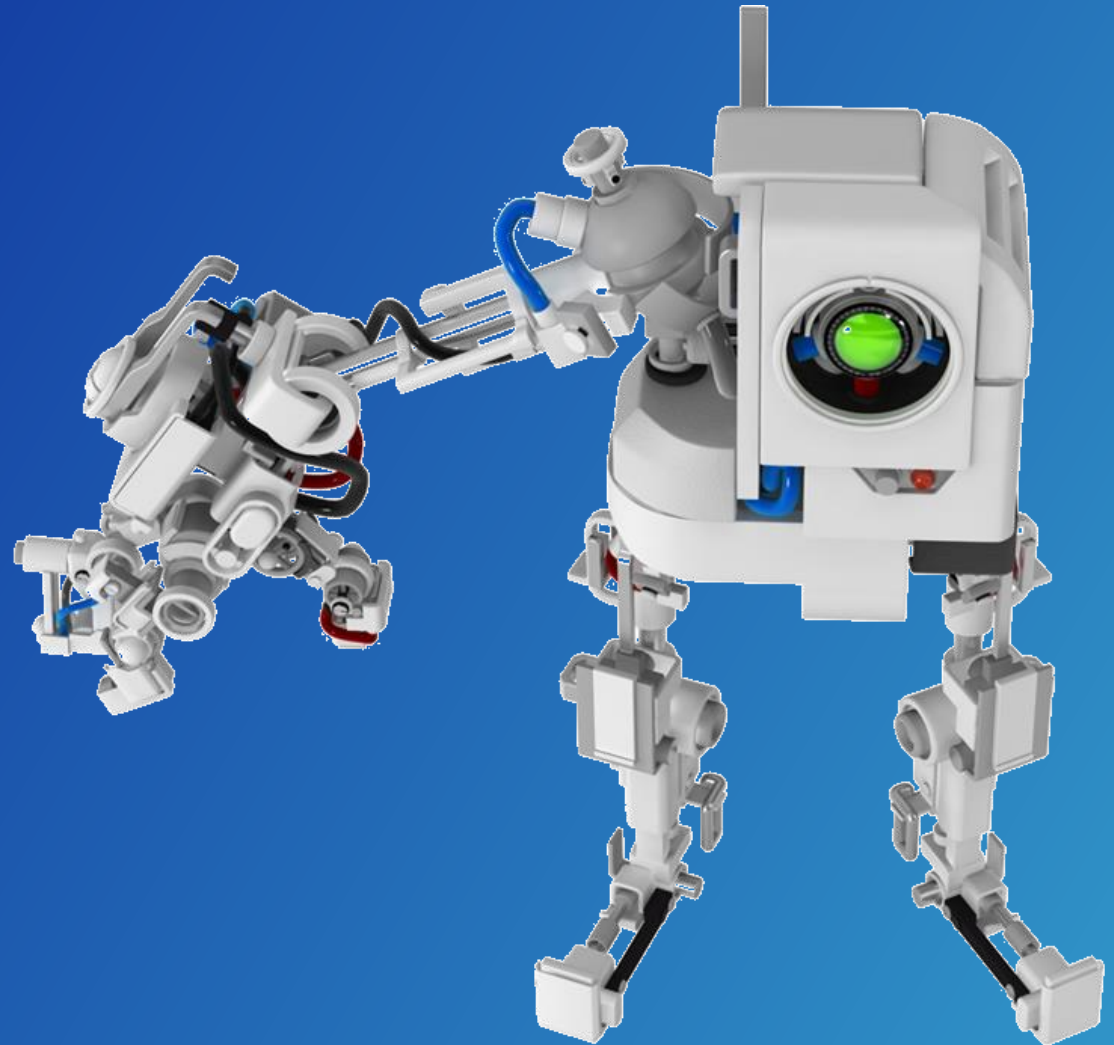
## 1970's

Micro worlds and the Lighthill report to the UK parliament

## 1980's

Expert systems with specialized machines and the rising desktop computer processing power

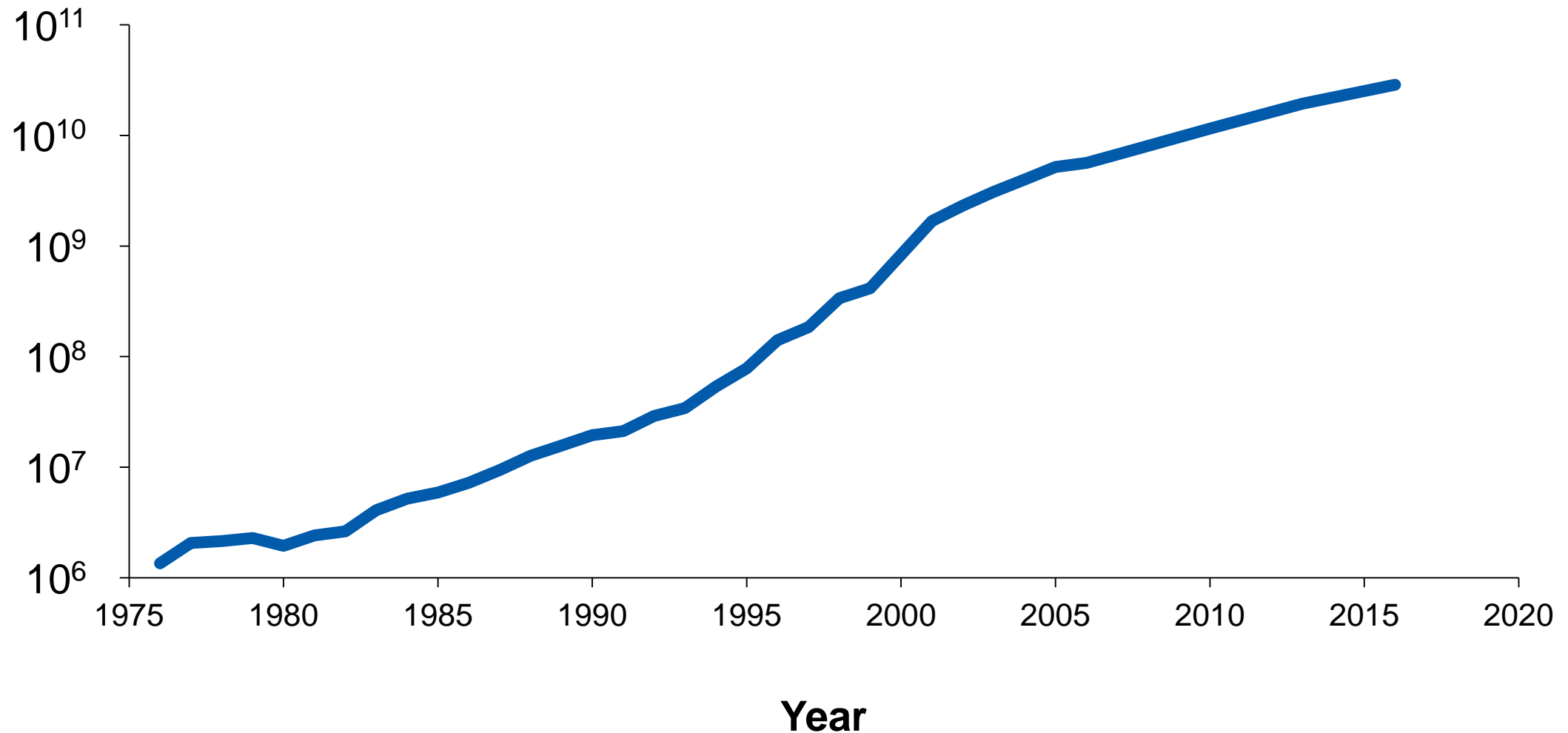
**But this  
time, it  
will be  
different!**  
(...or so they say)





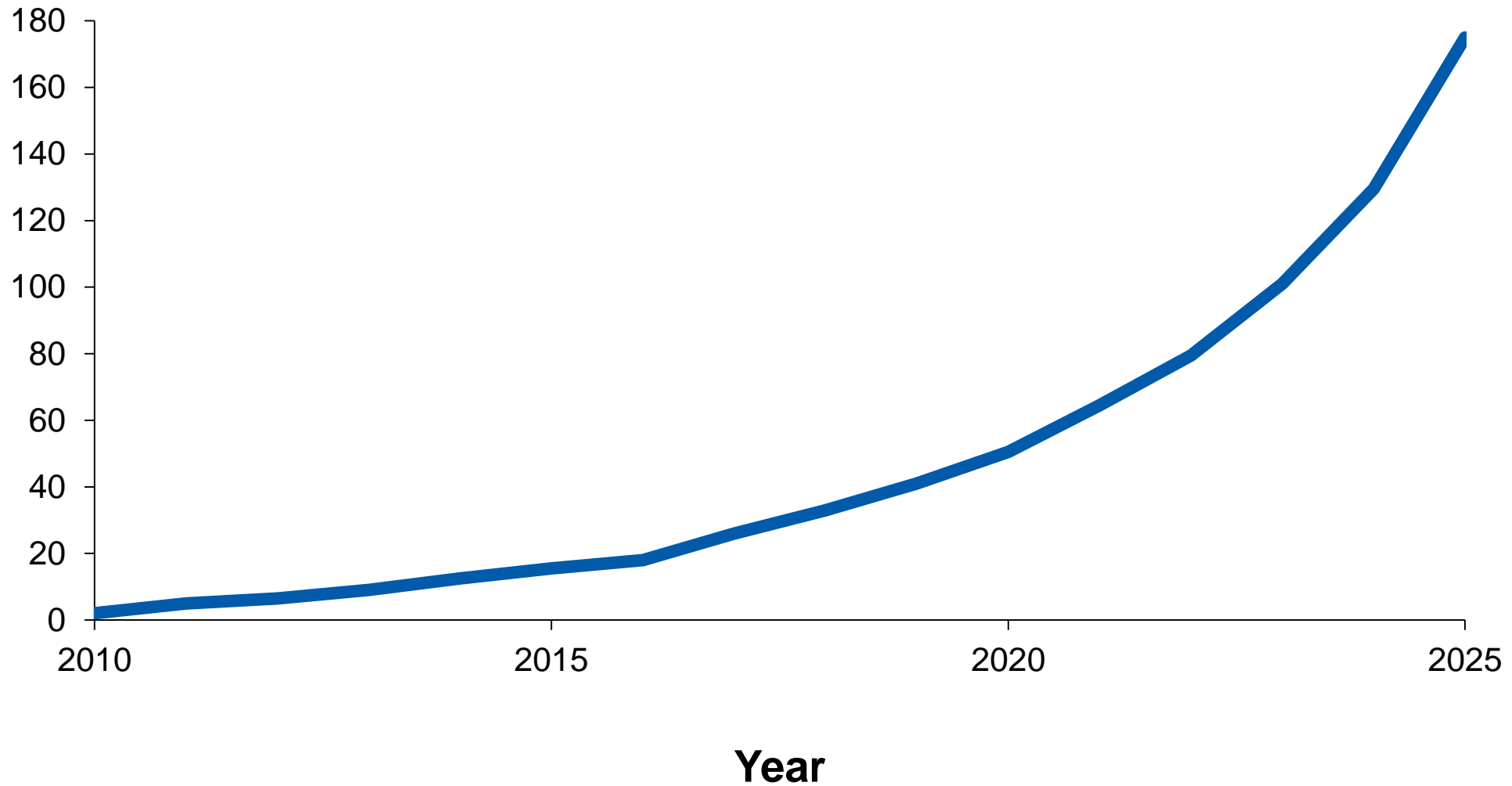
# WE HAVE A LOT MORE COMPUTING POWER AVAILABLE

## Logarithm plot of clock speed (Hz)



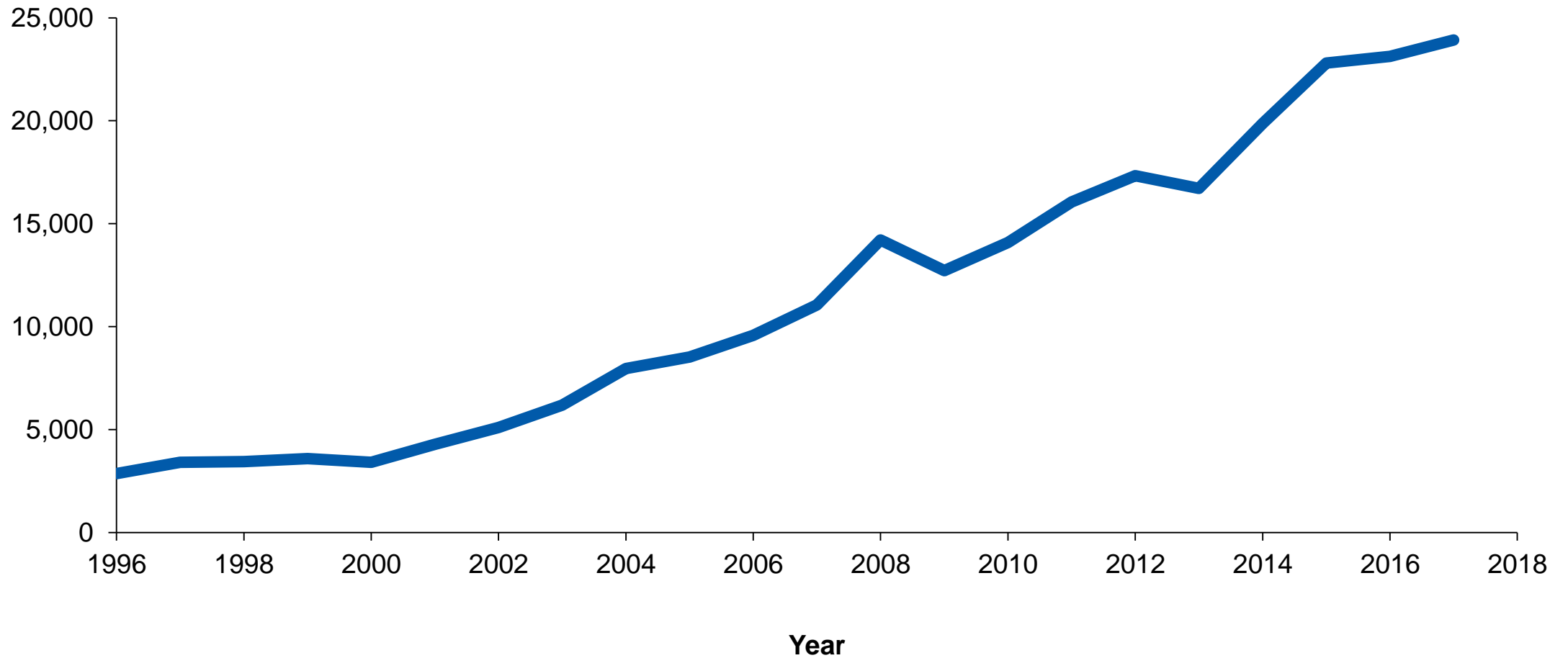
# WE HAVE A LOT MORE DATA AVAILABLE

## Size of the global datasphere (Zb)



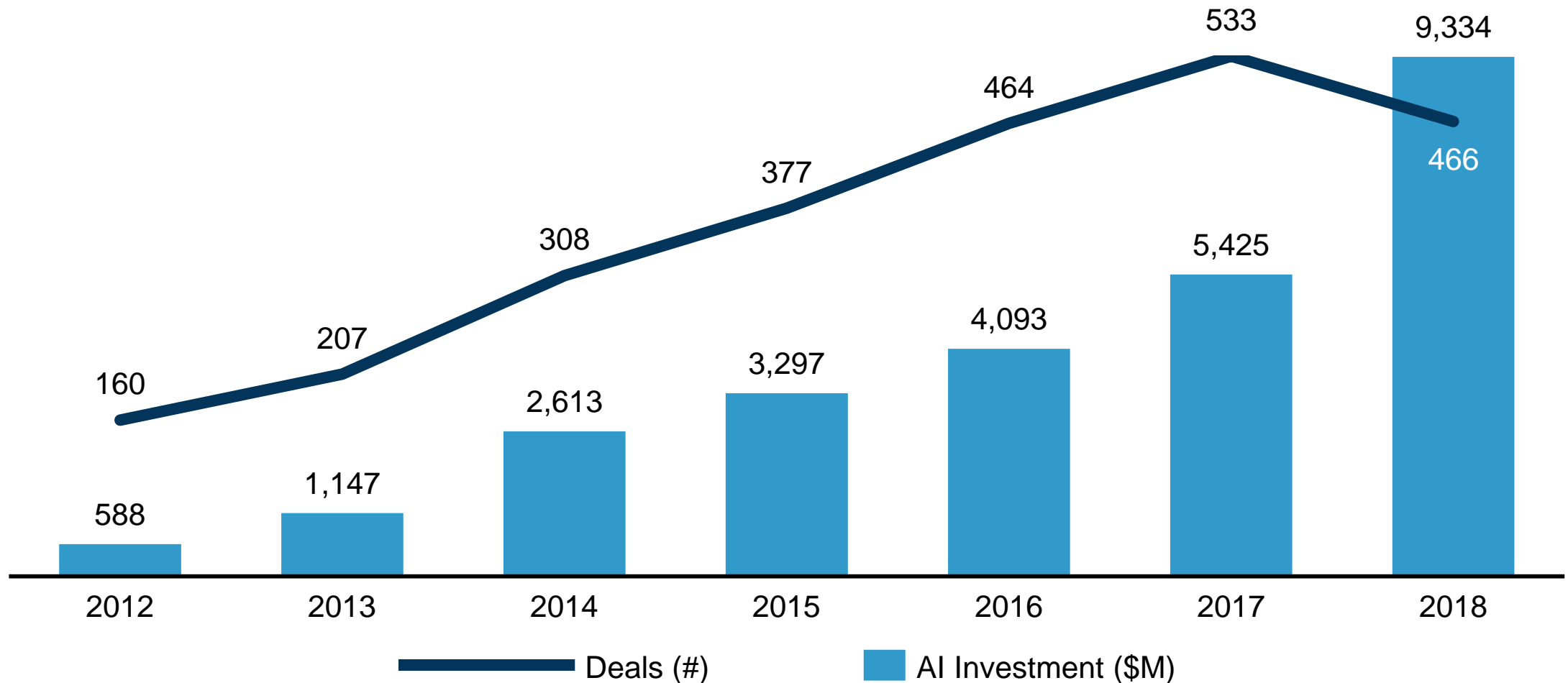
# THERE IS A LOT MORE AI RESEARCH TAKING PLACE

## AI papers published in Elsevier's Scopus database



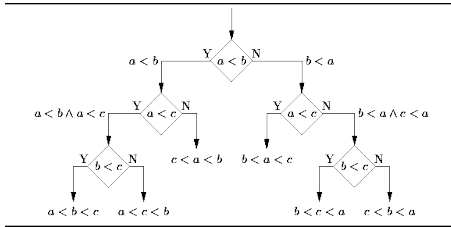
# THERE IS A LOT MORE INVESTMENT TAKING PLACE

## Total number of deals and disclosed VC investment in ai

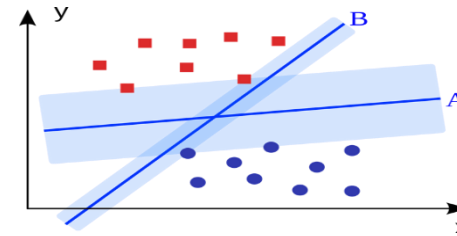


# AND WITH ALL THIS... COOL ALGORITHMS COME TO LIFE!

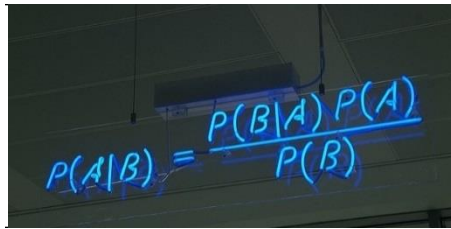
## Example algorithms sitting behind AI solutions



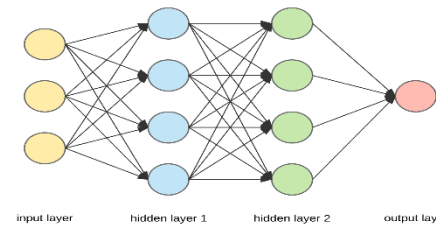
**Decision trees**



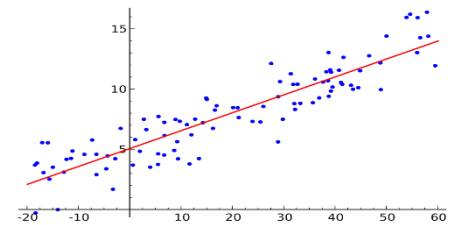
**Support Vector Machines**



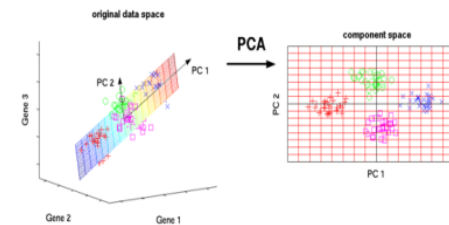
**Naïve Bayes Classification**



**Artificial neural networks**



**Ordinary least squares regressions**



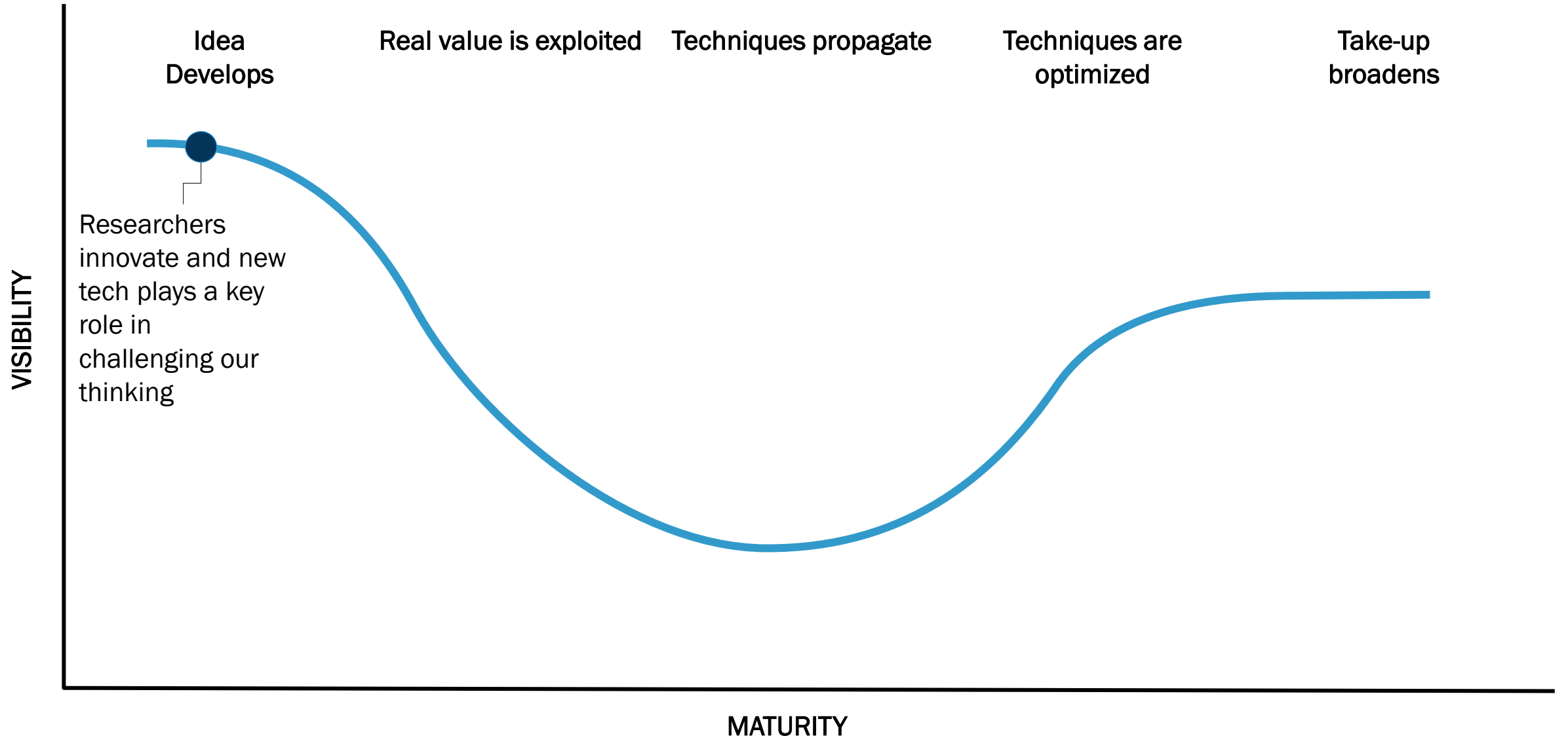
**Principal component analysis**

# A framework for maturity of AI solutions



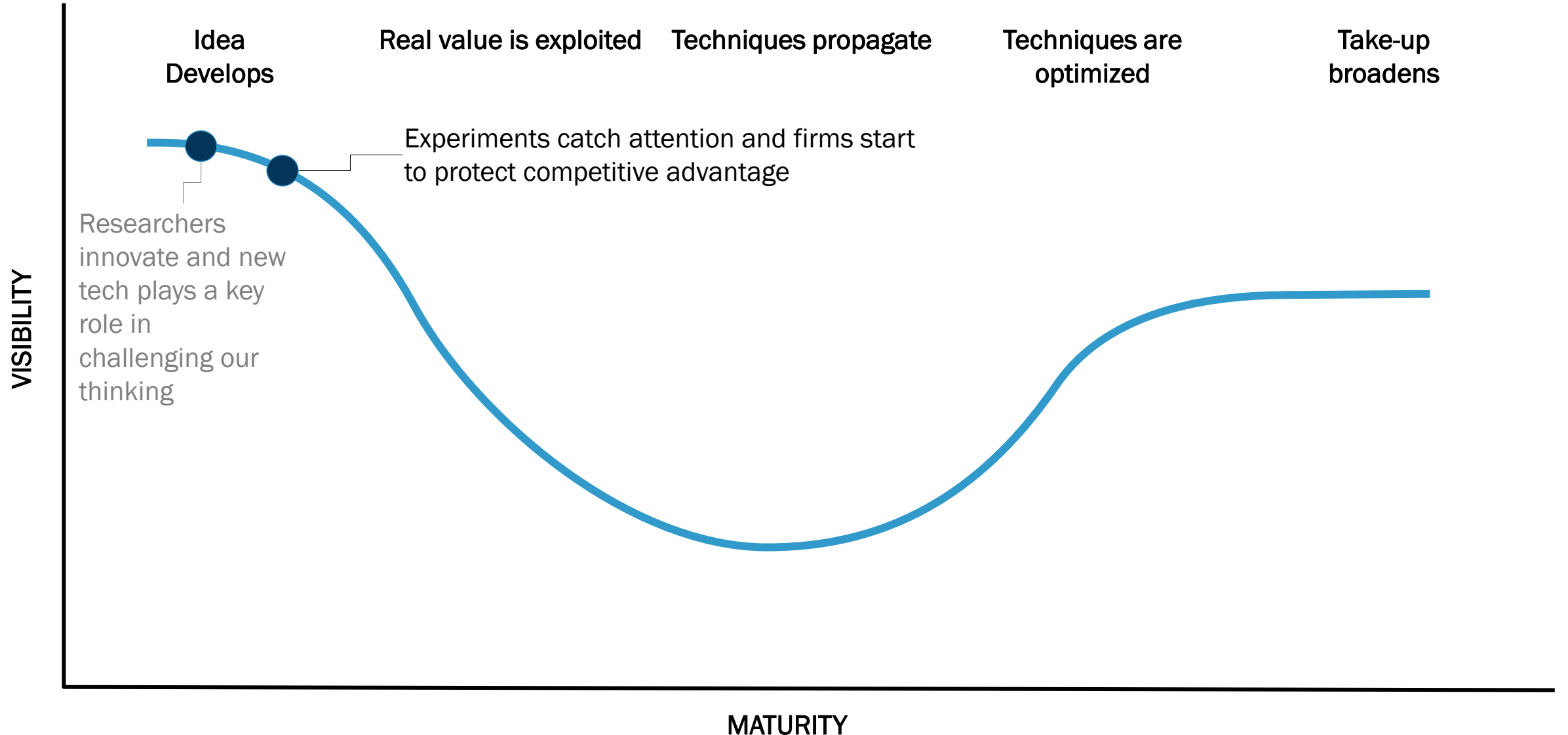
# A FRAMEWORK FOR INNOVATION MATURITY

AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# A FRAMEWORK FOR INNOVATION MATURITY

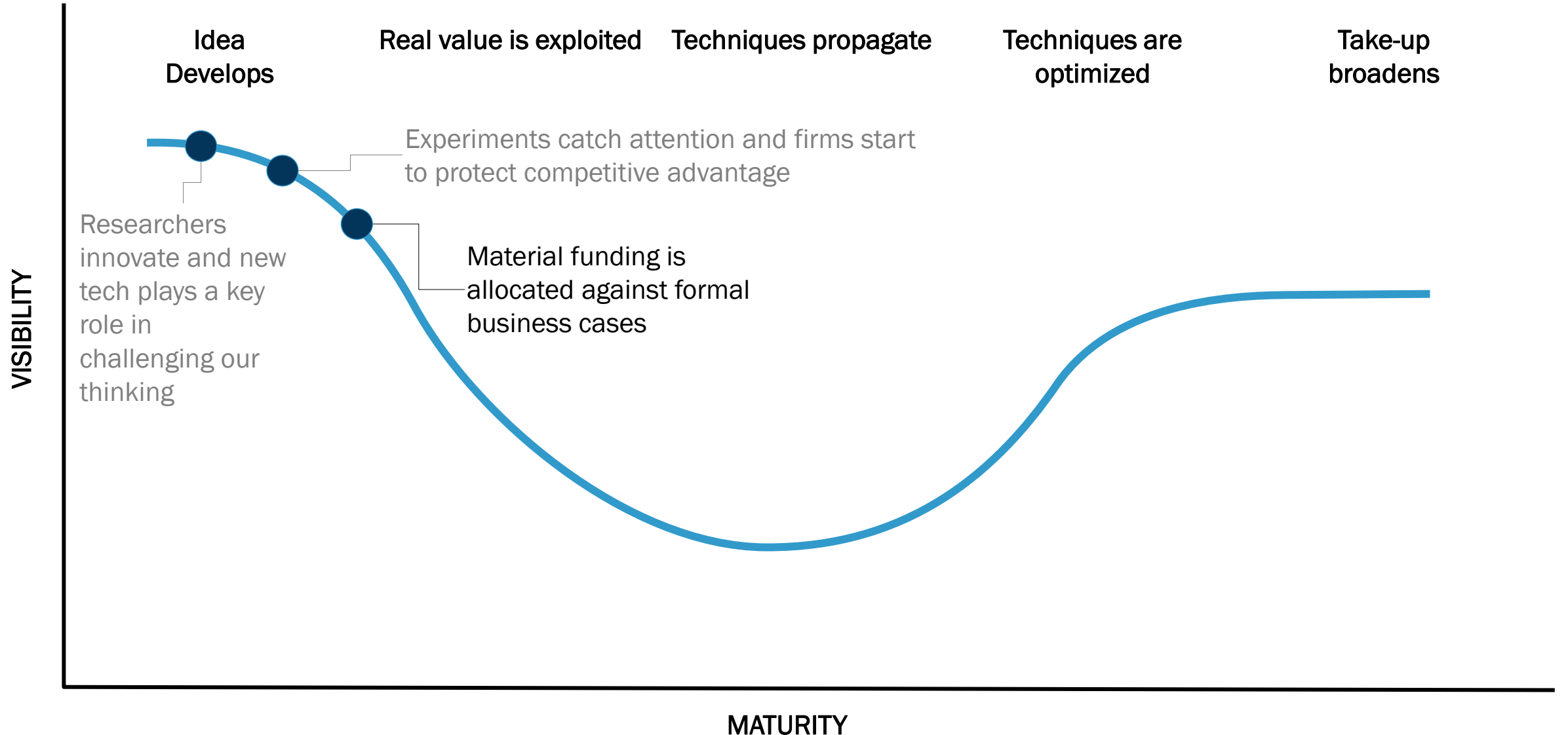
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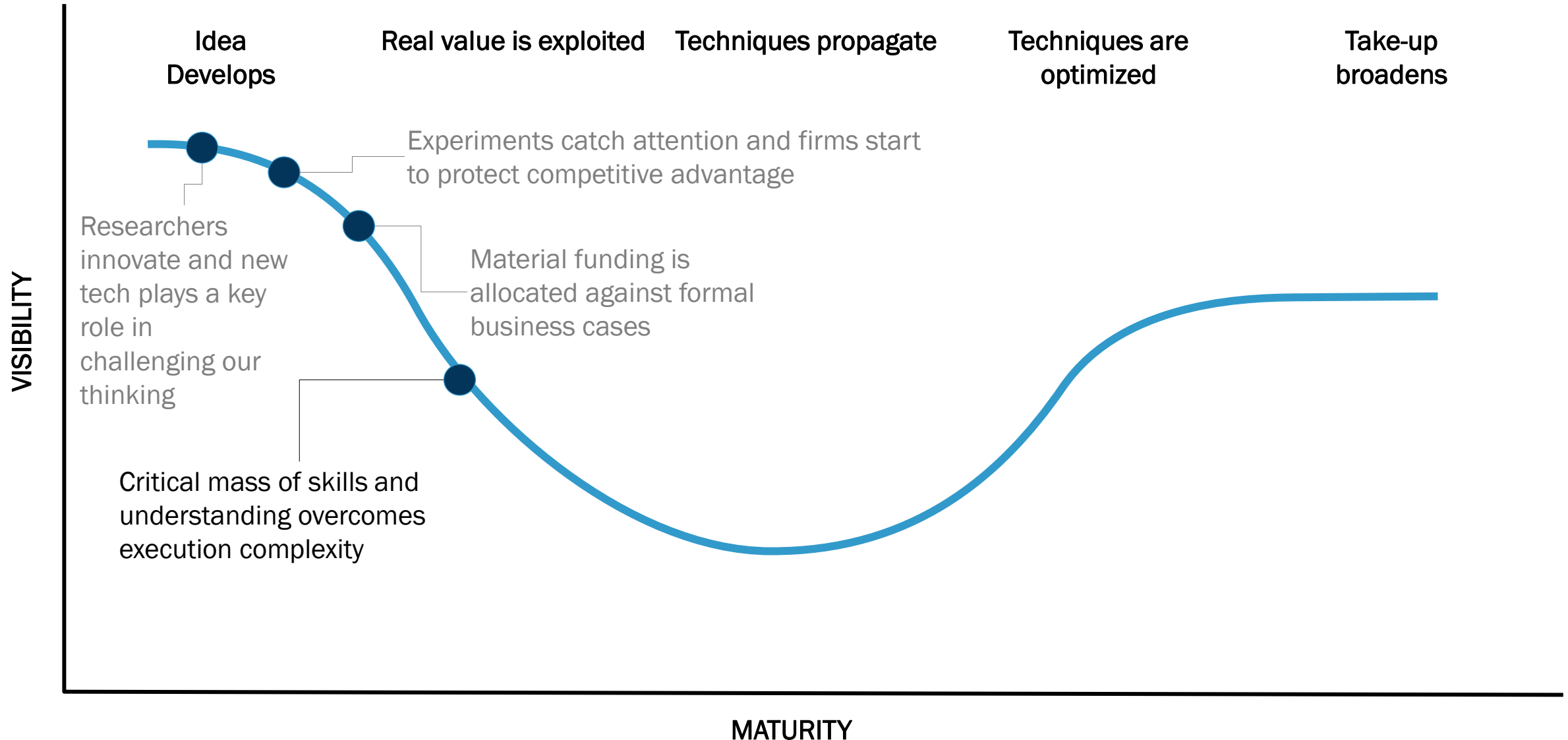
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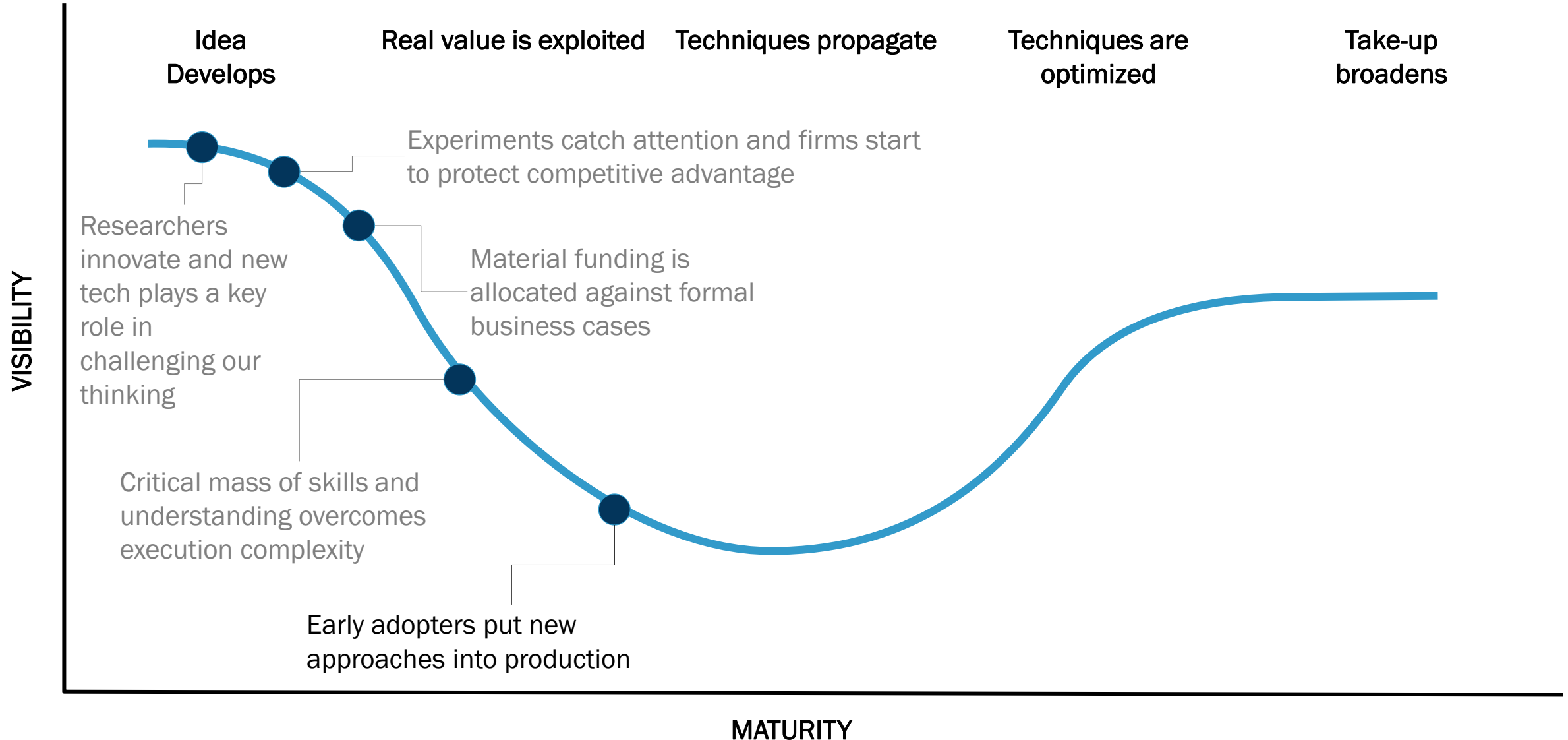
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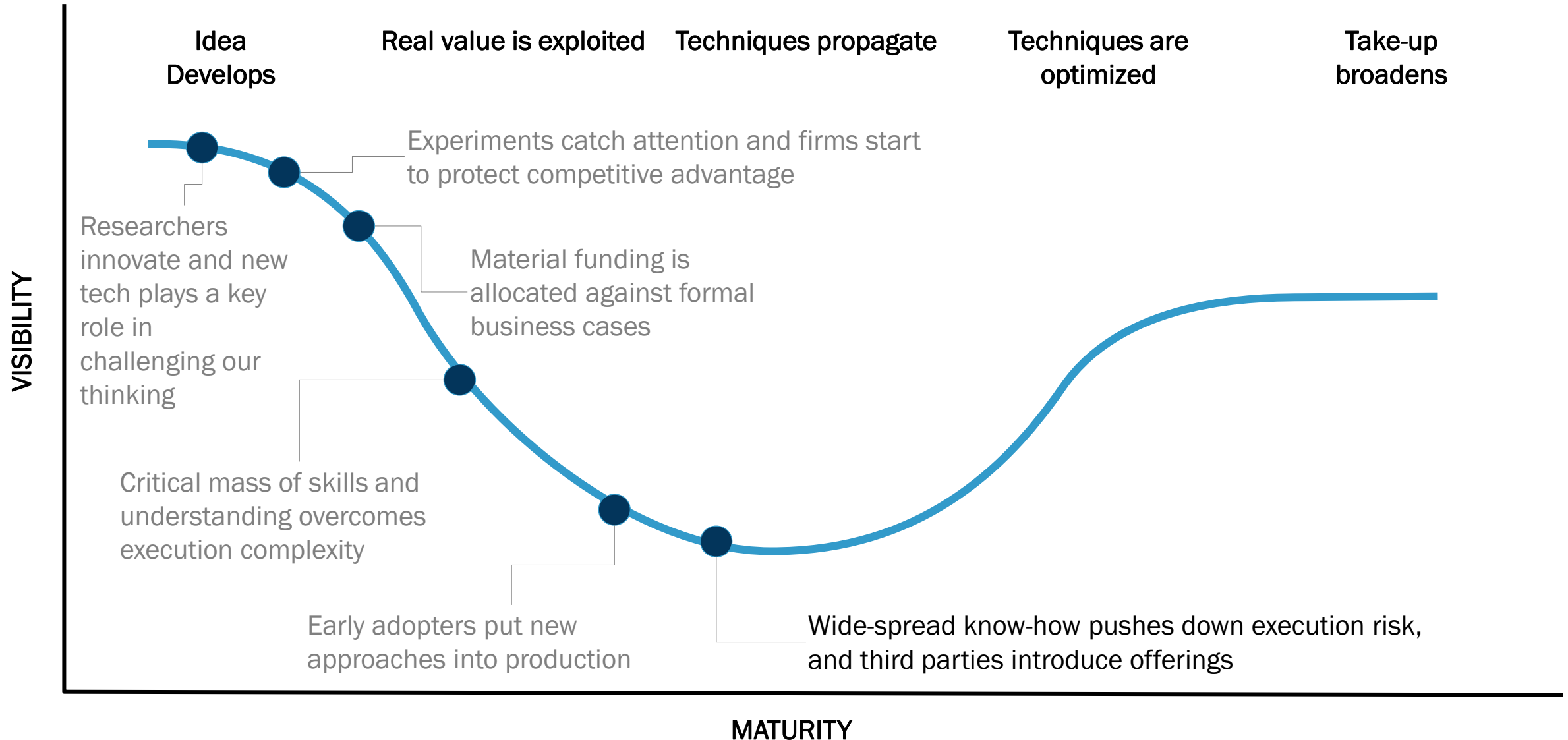
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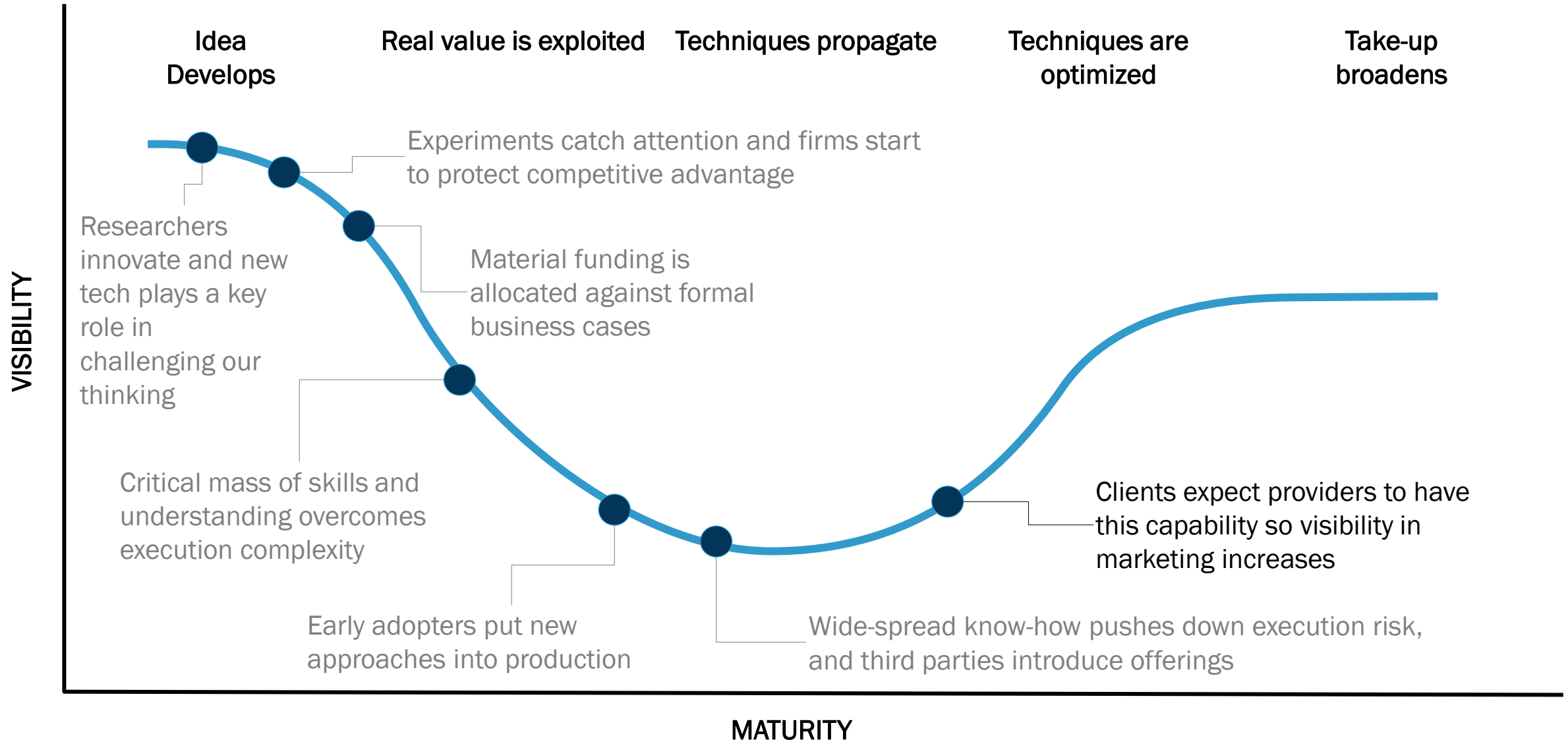
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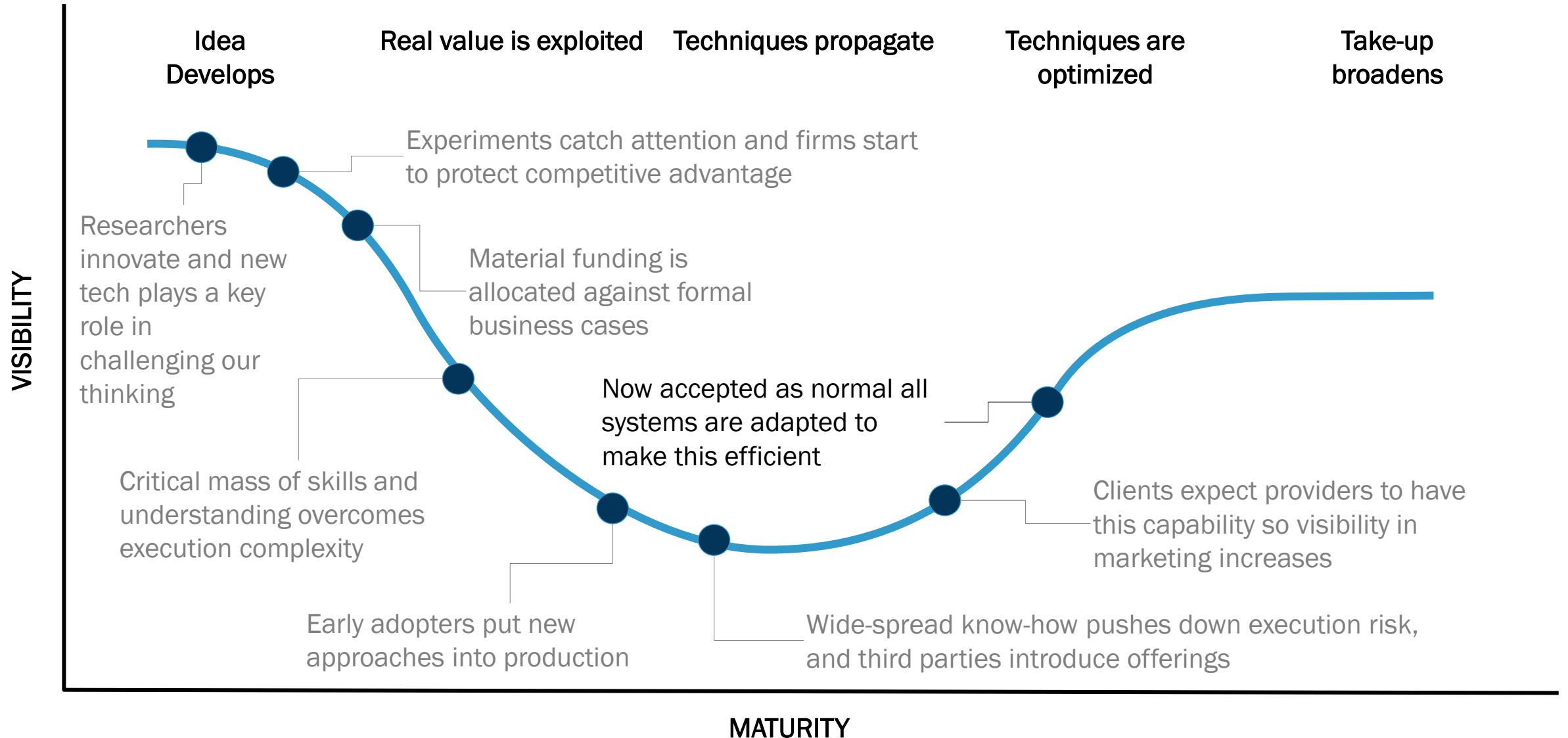
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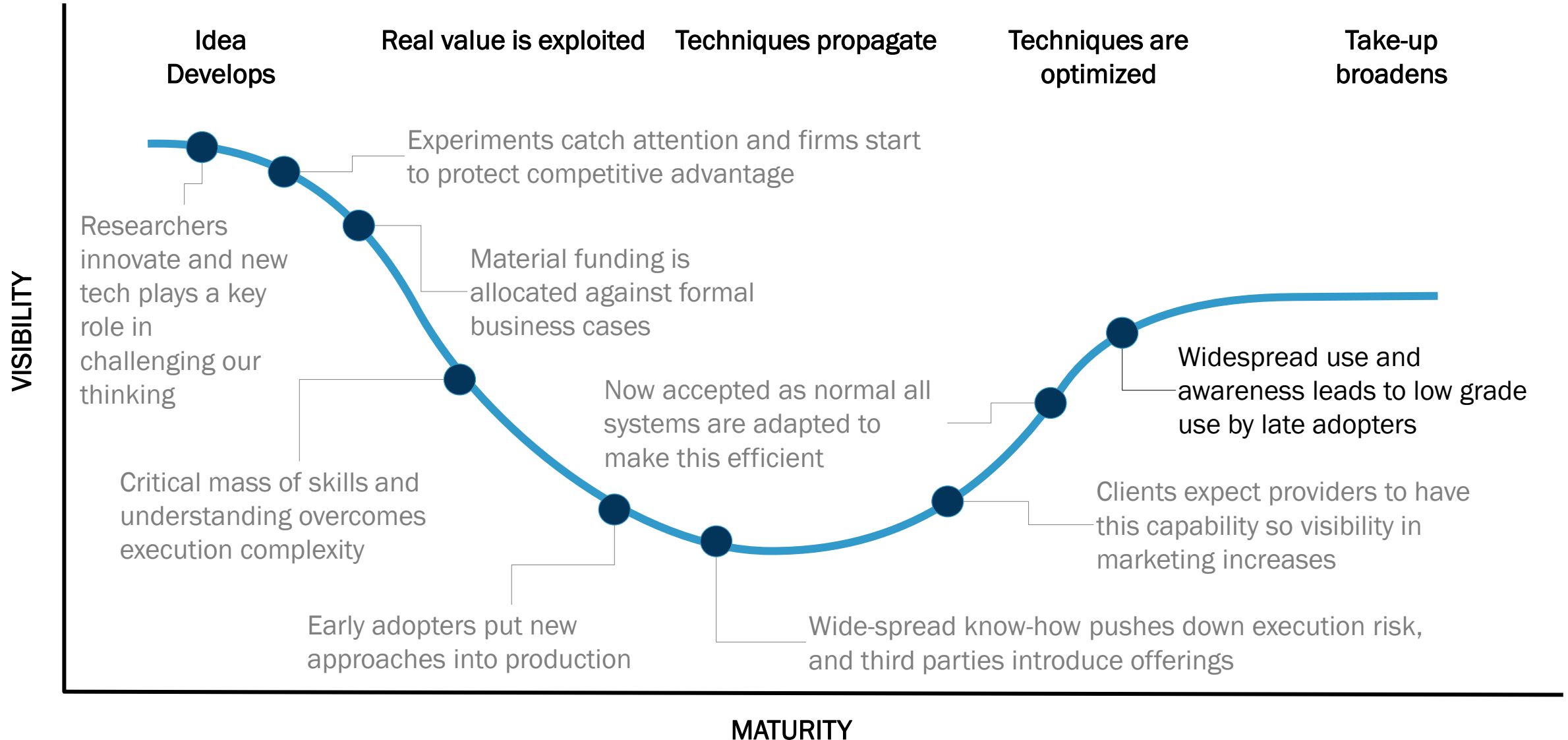
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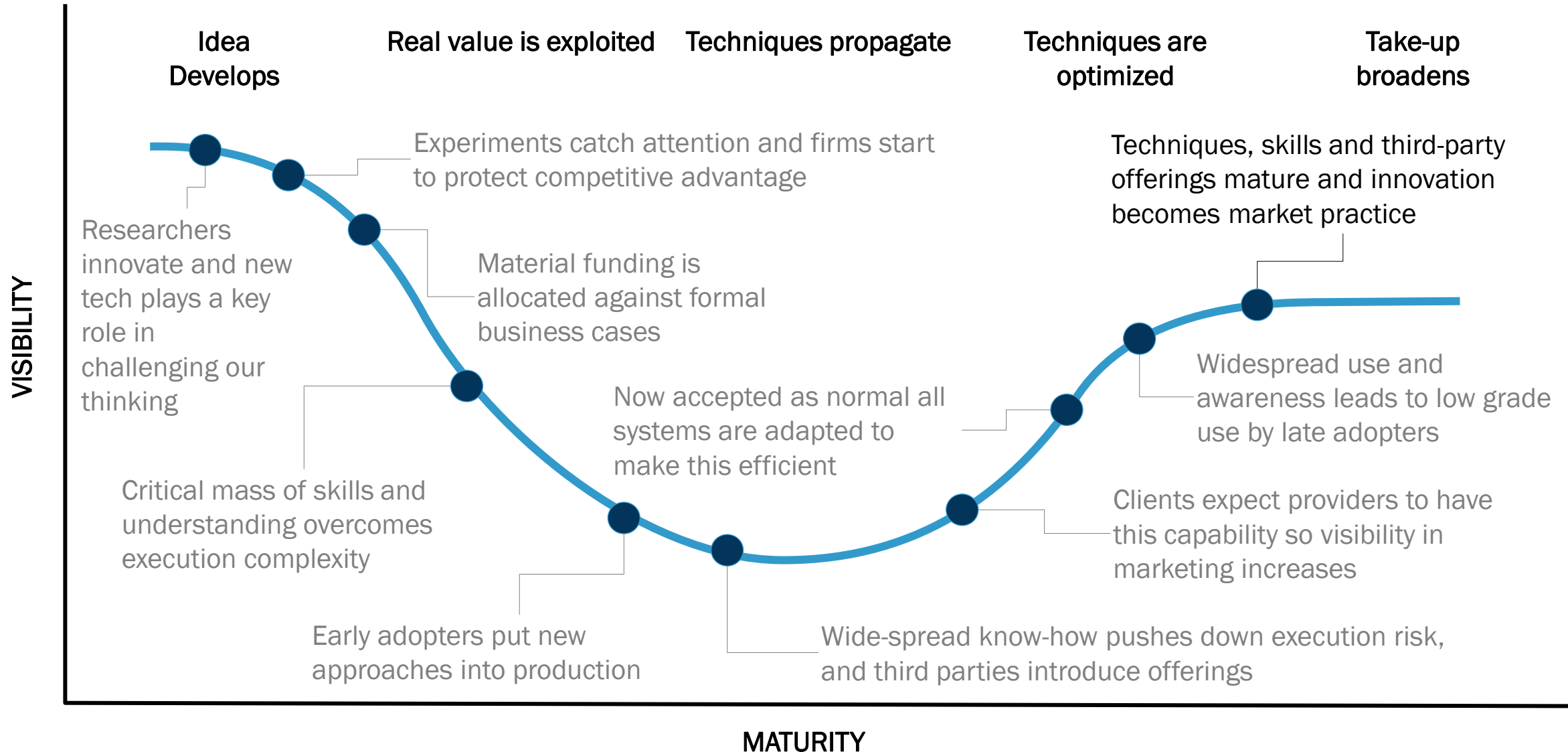
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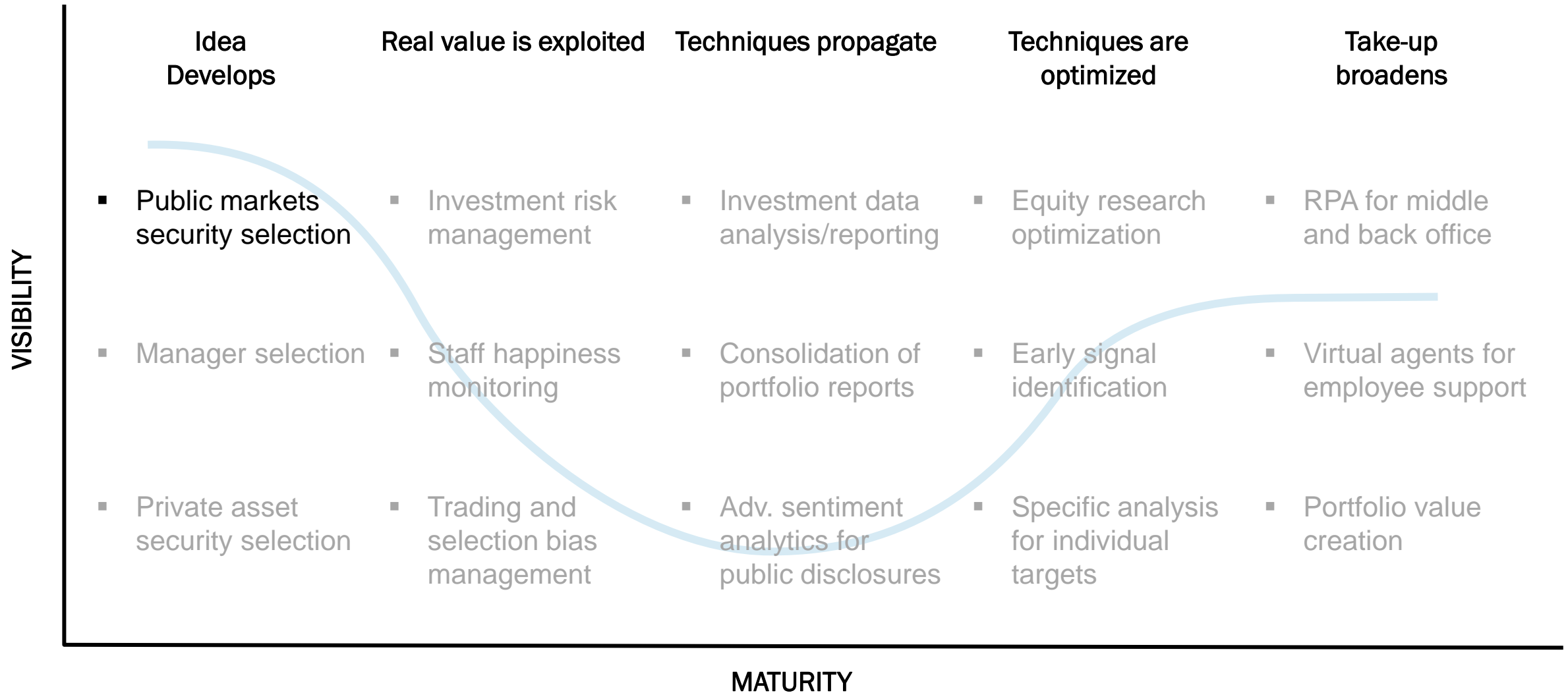


# AI use cases in investment management



# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# IDEA DEVELOPS – PUBLIC MARKETS SECURITY SELECTION

AIEQ – AN ETF WHERE STOCK SELECTION IS DRIVEN BY AI



# WHAT DOES IT MEAN IN THE REAL WORLD?

## PERSISTENCE

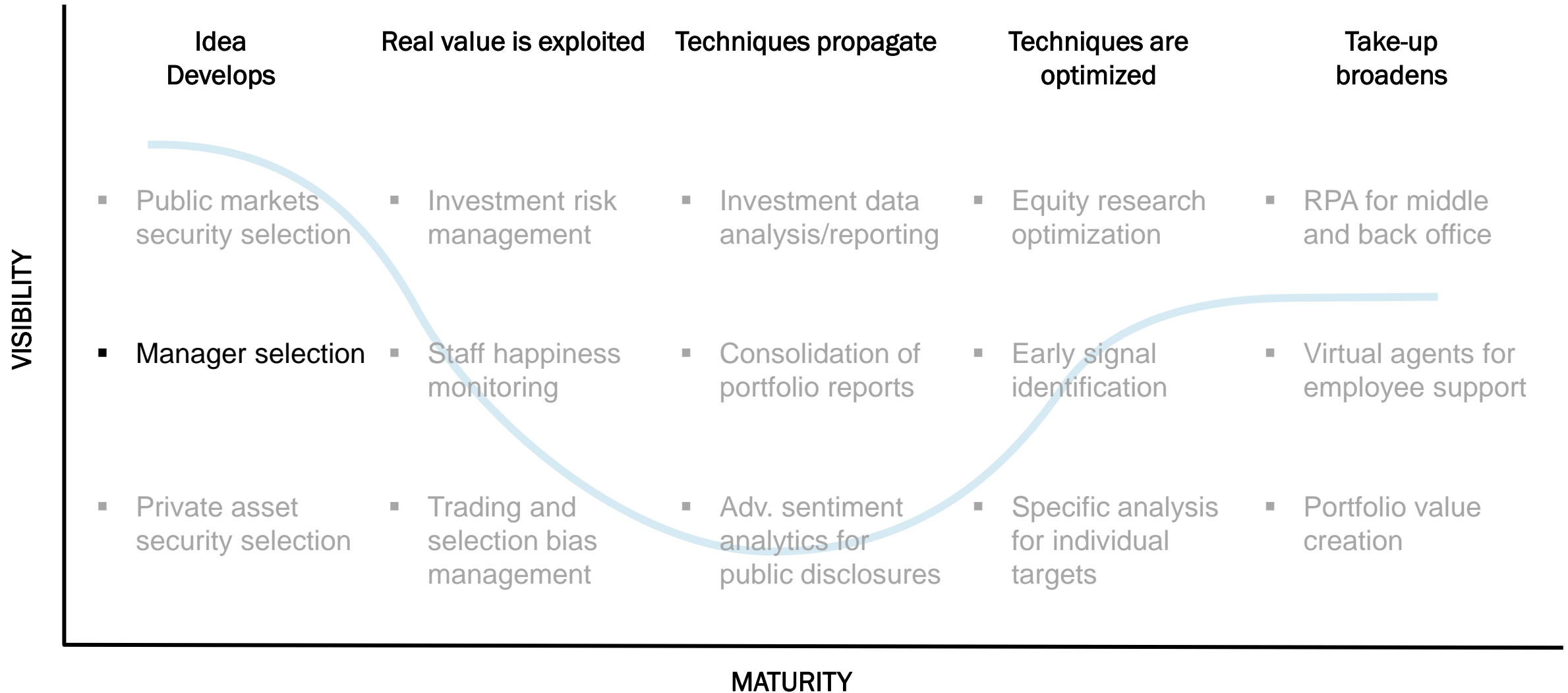


**If we all died today...  
it would keep trading**

- Ben Goertzel, Chief Scientist, Aidyia (hedge fund with 100% AI trading)

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# IDEA DEVELOPS – MANAGER SELECTION

## GPIF PARTNERS WITH SONY TO IMPROVE MANAGER SELECTION



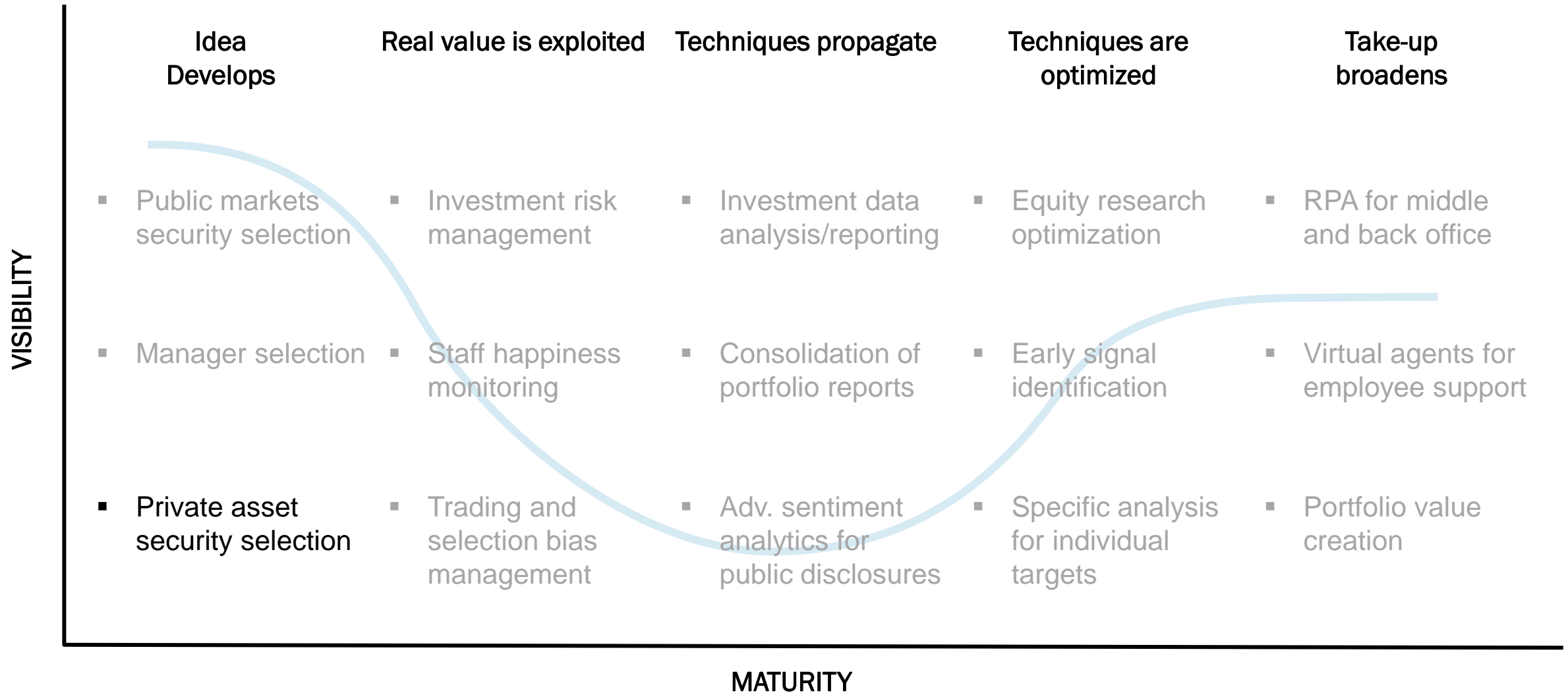
+



- Proof-of-concept to test using deep learning to detect the investment style of managers using data collected daily by GPIF
- The system properly detects different fund managers' styles and drifts, enabling evidence-based, prompt analysis of investment styles
  - Tools like Barra/Aladdin evaluate styles via changes in return in terms of multiple factors and the sensitivity to each factor.
  - GPIF's system directly analyses the funds' behavior, which makes it possible to detect style drift earlier and more directly
- Goal is to leverage the system to enable more constructive in-depth dialogue around fees and manager line-up, based on objective data

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# IDEA DEVELOPS – PRIVATE SECURITY SELECTION

## HONE – LEVERAGING AI TO AUGMENT PRIVATE ASSET INVESTMENT DECISION MAKING

**\$400M+**  
to invest



AI applied to  
AngelList  
platform



Trained with  
Crunchbase,  
Pitchbook...



From seed to Series A

Market:  
**16%**

Hone team:  
**40%**

Hone AI alone:  
**40%**

Hone team + AI:  
**50%+**



# IDEA DEVELOPS – PRIVATE SECURITY SELECTION

## SKYLINE AI – USING AI IN THE REAL ESTATE INVESTMENTS SPACE



[AI INVESTMENT MANAGEMENT](#) [ABOUT](#) [CAREERS](#) [BECOME AN INVESTOR](#) [CONTACT US](#) [INVESTORS LOGIN](#)

### The AI Investment Management Edge

Our technology enables us to yield the ultimate investment advantage by:



Predicting future rent and disposition prices with high accuracy



Identifying market trends in advance



Pinpointing opportunities with ideal risk-reward ratios



Locating and exploiting market anomalies



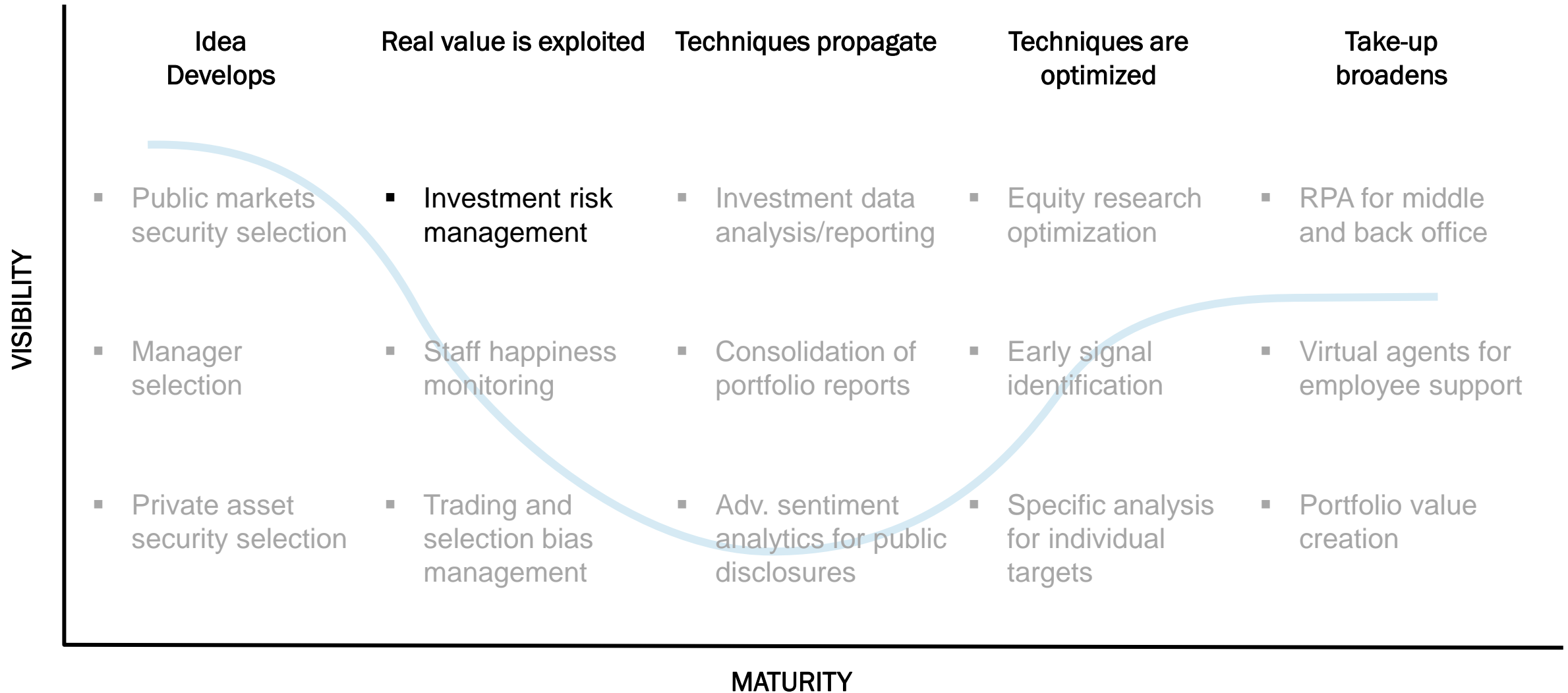
Capturing arbitrage between asking price and market price



Perfectly timing renovation decisions and rent increases

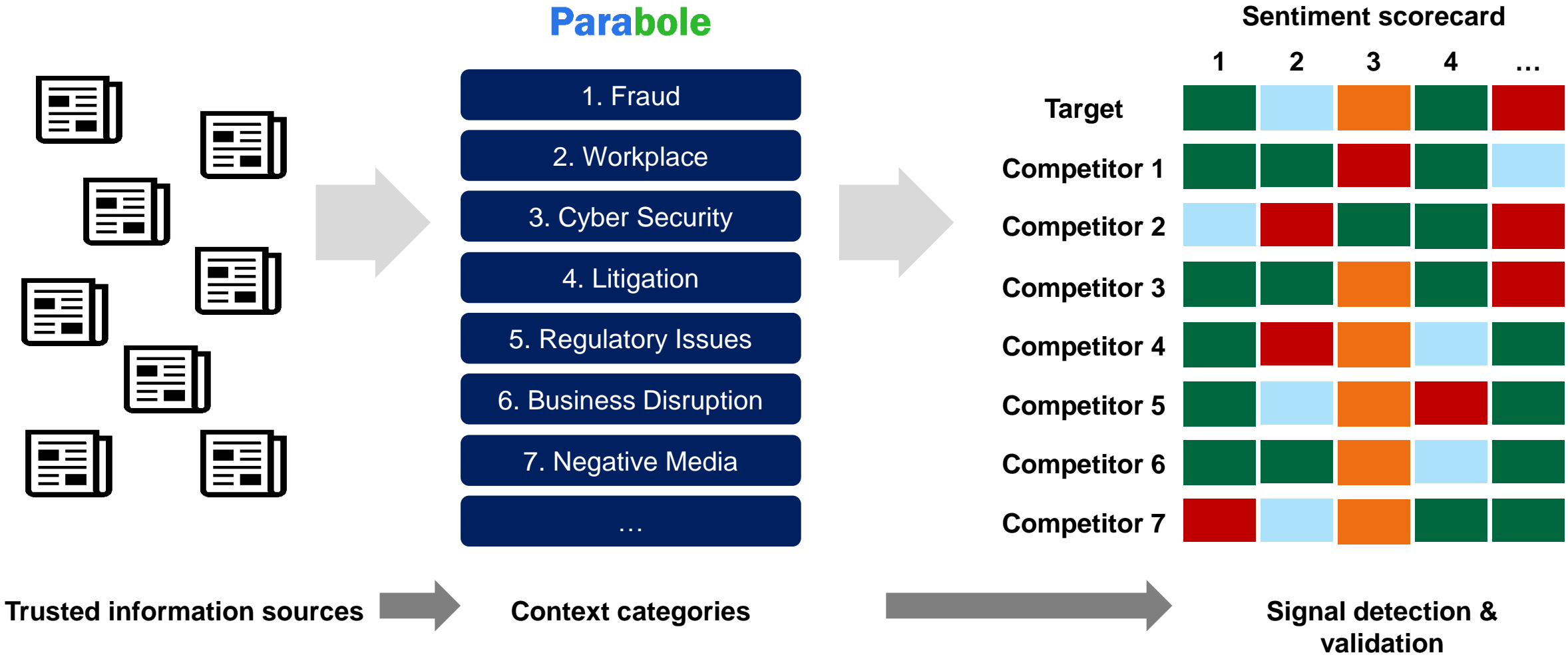
# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# REAL VALUE IS EXPLOITED – INVESTMENT RISK MANAGEMENT

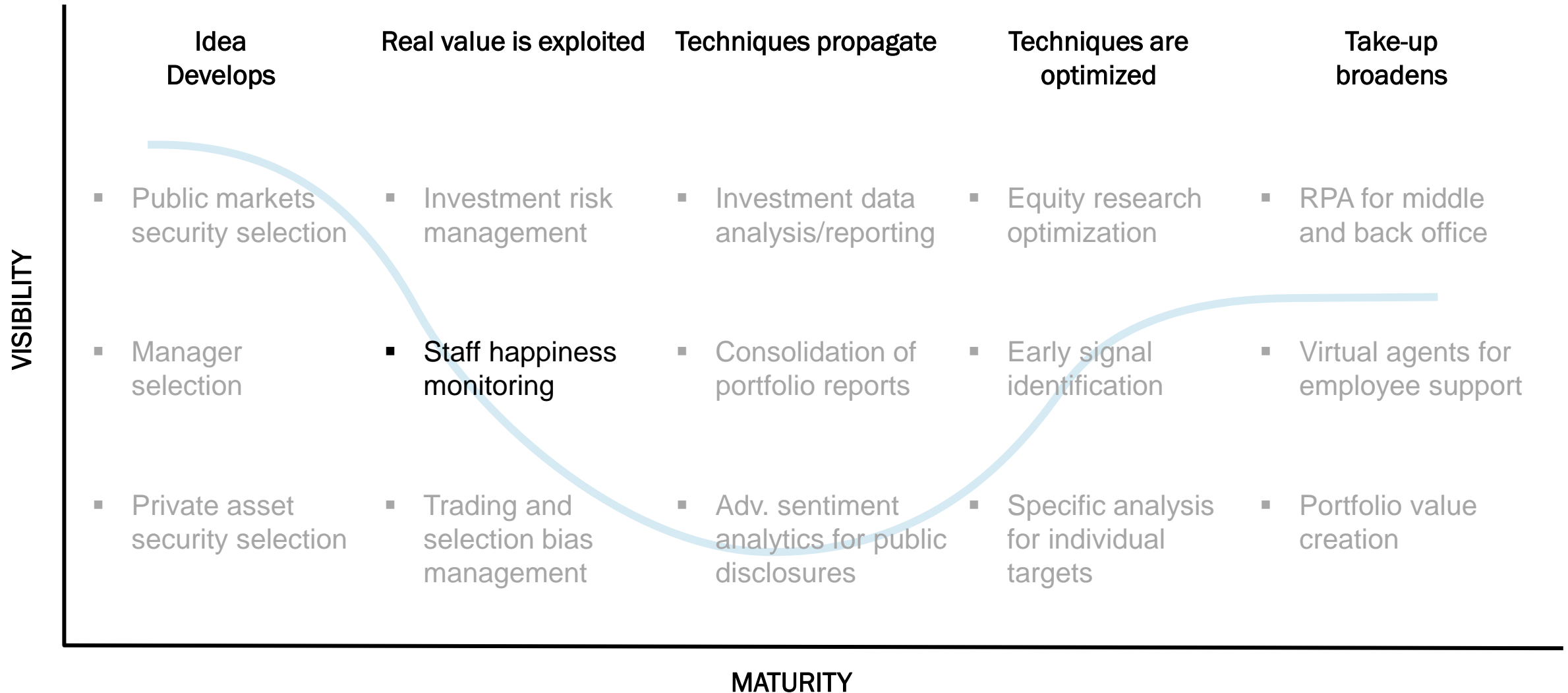
## USING PARABOLE AI TO MONITOR INVESTMENT RISK MANAGEMENT



Source: Accenture, Parabole AI

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# REAL VALUE IS EXPLOITED – STAFF HAPPINESS MONITORING

## INCREASING EMPLOYEE RETENTION AND MORALE USING AI



Algorithm that analyzes keywords and emojis sent among employees on Slack to gauge whether a team is feeling happy



K E E N C O R P

Provides real-time snapshots of employee engagement by searching anonymized emails to uncover word patterns and contextualize them as positive or negative emotions



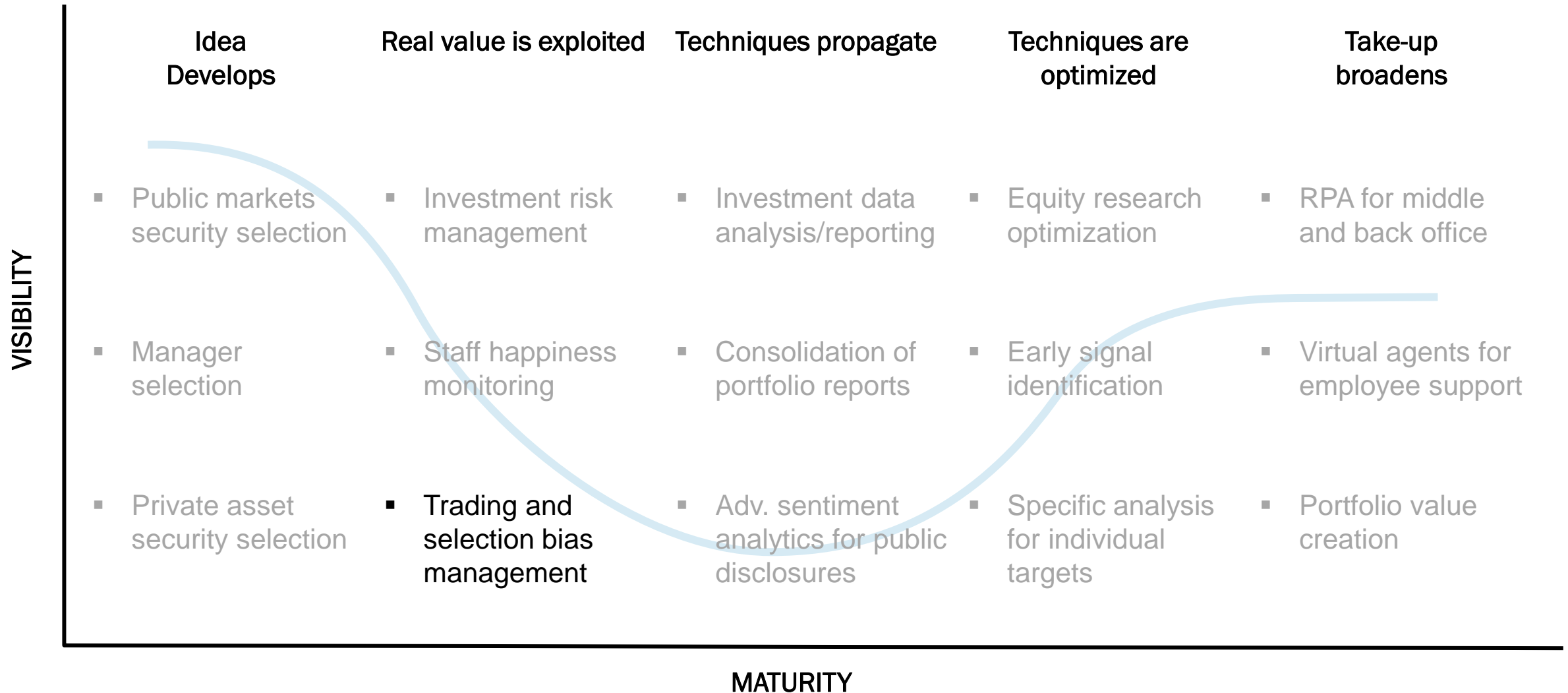
Matches employees with internal opportunities while showing them insightful gap analysis focused on what employees need to work on to better prepare for the next step



Leverages organizational network analysis to analyze the work styles of productive employees and generate insights around how to increase productivity and happiness

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# REAL VALUE IS EXPLOITED – TRADING/SELECTION BIAS MGT

## HOW AI CAN HELP IMPROVE THE QUALITY OF HUMAN JUDGEMENT



**Disposition effect.** Traders tend to sell shares that have been going up in price for some time, and hold onto shares in steady decline



**Recency effect.** When traders incur morning losses, they tend to trade more aggressively in the afternoon



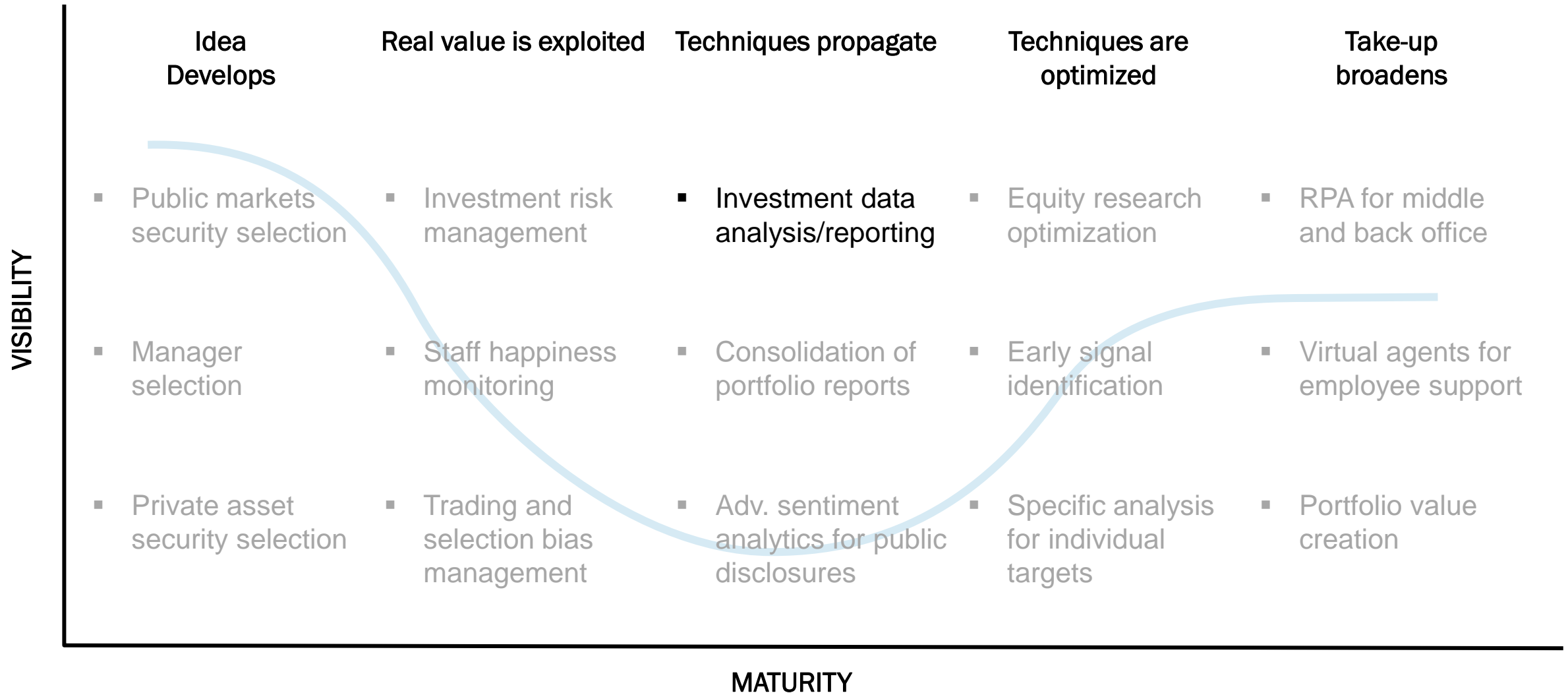
**Overconfidence effect.** Traders rely more on their own reasonings or feelings than on accurate investment forecasting



**Status quo effect.** Many traders prefer, sometimes irrationally, to stick to their established portfolio rather than change

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY





# TECHNIQUES PROPAGATE – INVESTMENT DATA ANALYSIS

## EAGLE INVESTMENT SYSTEMS AND ARRIA PARTNERSHIP

### **Arria and Eagle Investment Systems Announce Strategic Alliance to Empower Investment Managers with Natural Language Generation (NLG), a form of Artificial Intelligence Software (ARRIA NLG PLC)**

Market News Publishing, Inc.

**ARRIA NLG PLC ("ARRAF-0") - Arria and Eagle Investment Systems Announce Strategic Alliance to - Empower Investment Managers with Natural Language Generation (NLG), - a form of Artificial Intelligence Software**

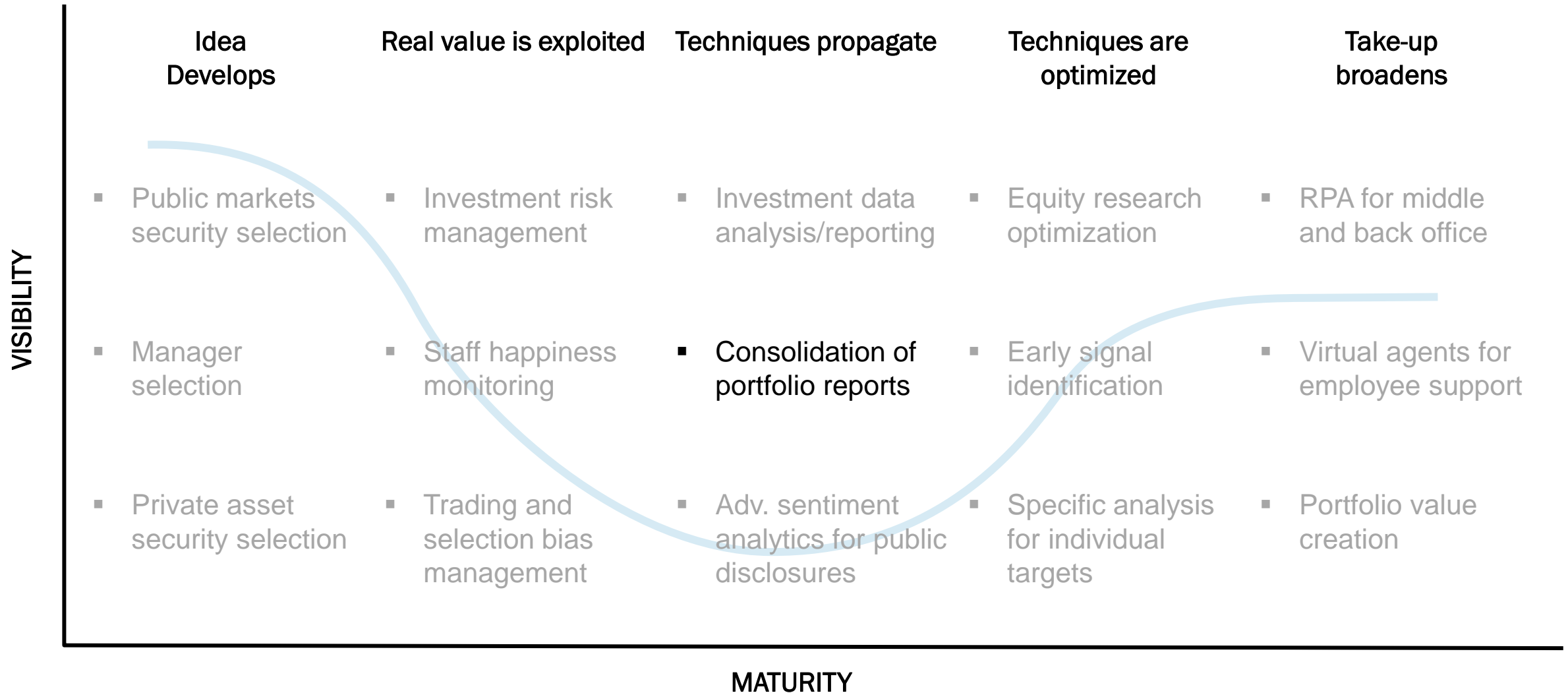
**Arria NLG and Eagle Investment Systems, a BNY Mellon company, announced a strategic alliance to enhance process automation using advanced natural language generation (NLG) technology.**

This alliance provides Eagle's clients with access to Arria's NLG capabilities which will connect directly to Eagle's product suite. The Arria platform can determine the critical facts and generate automated, real-time insights and narratives in plain, easy-to-understand language. This helps to inform faster decision-making, as users see insights they may otherwise have missed or misunderstood, and helps increase consistency in how results are interpreted and communicated across the organization.

"We are excited to offer our clients access to Arria's NLG capabilities to help with the analysis of data stored within the Eagle platform," said **Joel Kornblum**, Eagle's Global Head of Strategic Alliances. "We are working with Arria to build a set of capabilities in portfolio management, portfolio analysis and performance measurement that will help our clients potentially reduce the amount of time they spend writing personalized client summaries and reports."

# AI ADOPTION IN INVESTMENT MANAGEMENT

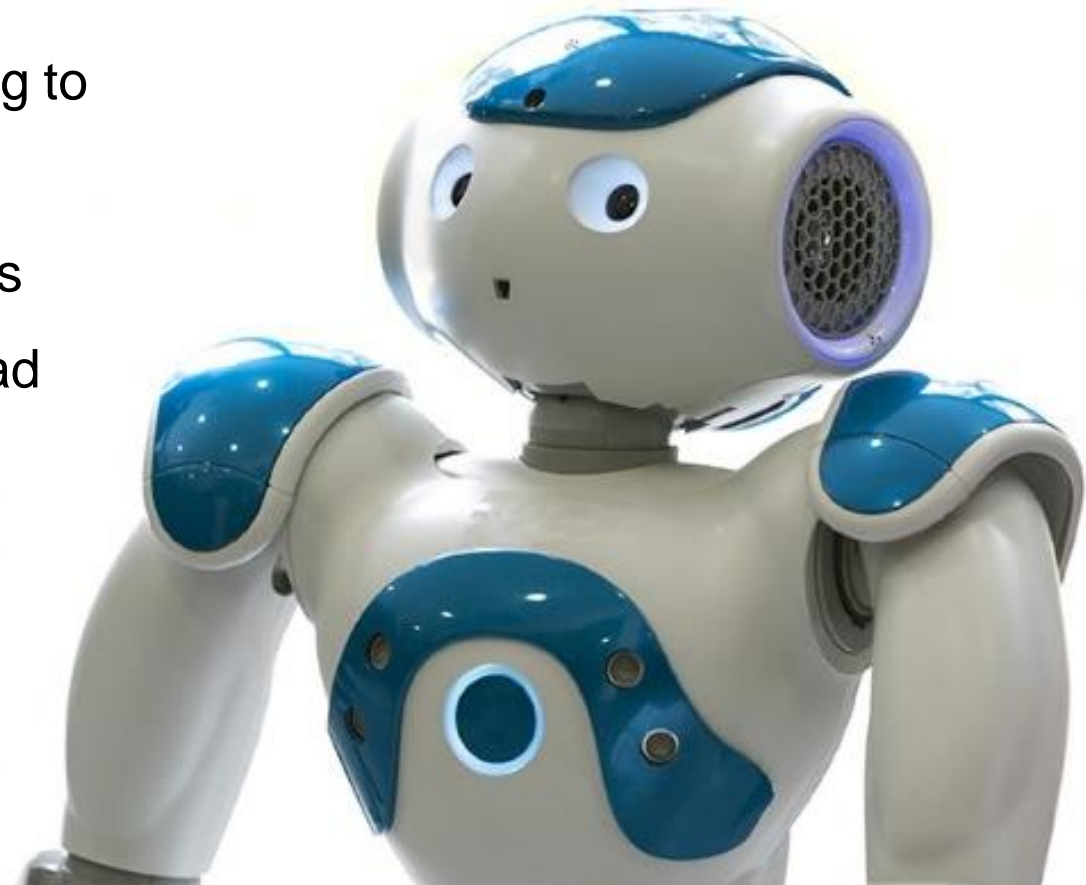
## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# TECHNIQUES PROPAGATE – CONSOLIDATION OF PORT. REPORTS

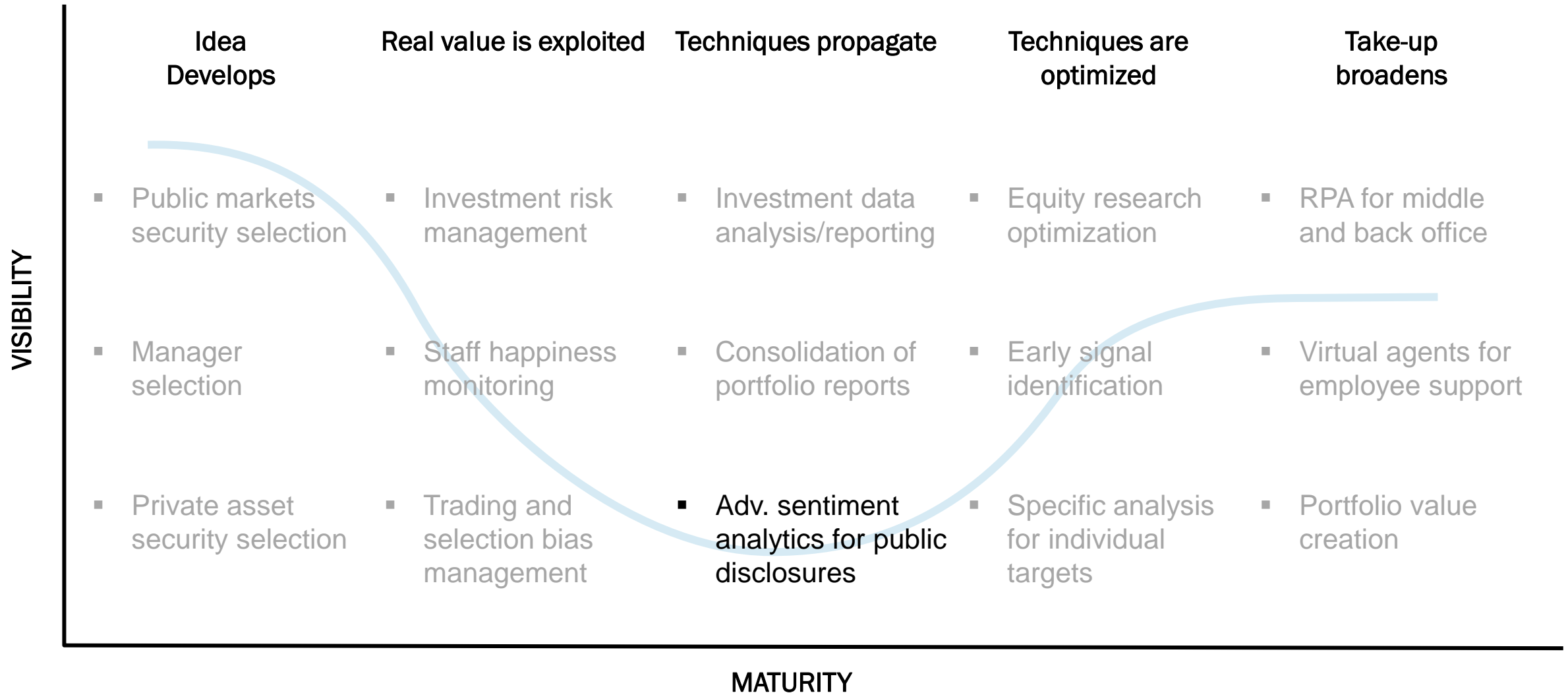
## COLLECTING INFORMATION FROM PORTFOLIO COMPANIES IN A SEAMLESS MANNER

- Portfolio company reporting comes in all shapes and forms, especially for minority owners
- Leading funds are using natural language processing to
  - Consolidate portfolio-level financial information
  - Identify potential areas of focus/concern for PMs
  - Release staff time to focus on solutioning instead
- More than 90% of information can be extracted seamlessly, releasing substantial PM/analyst time



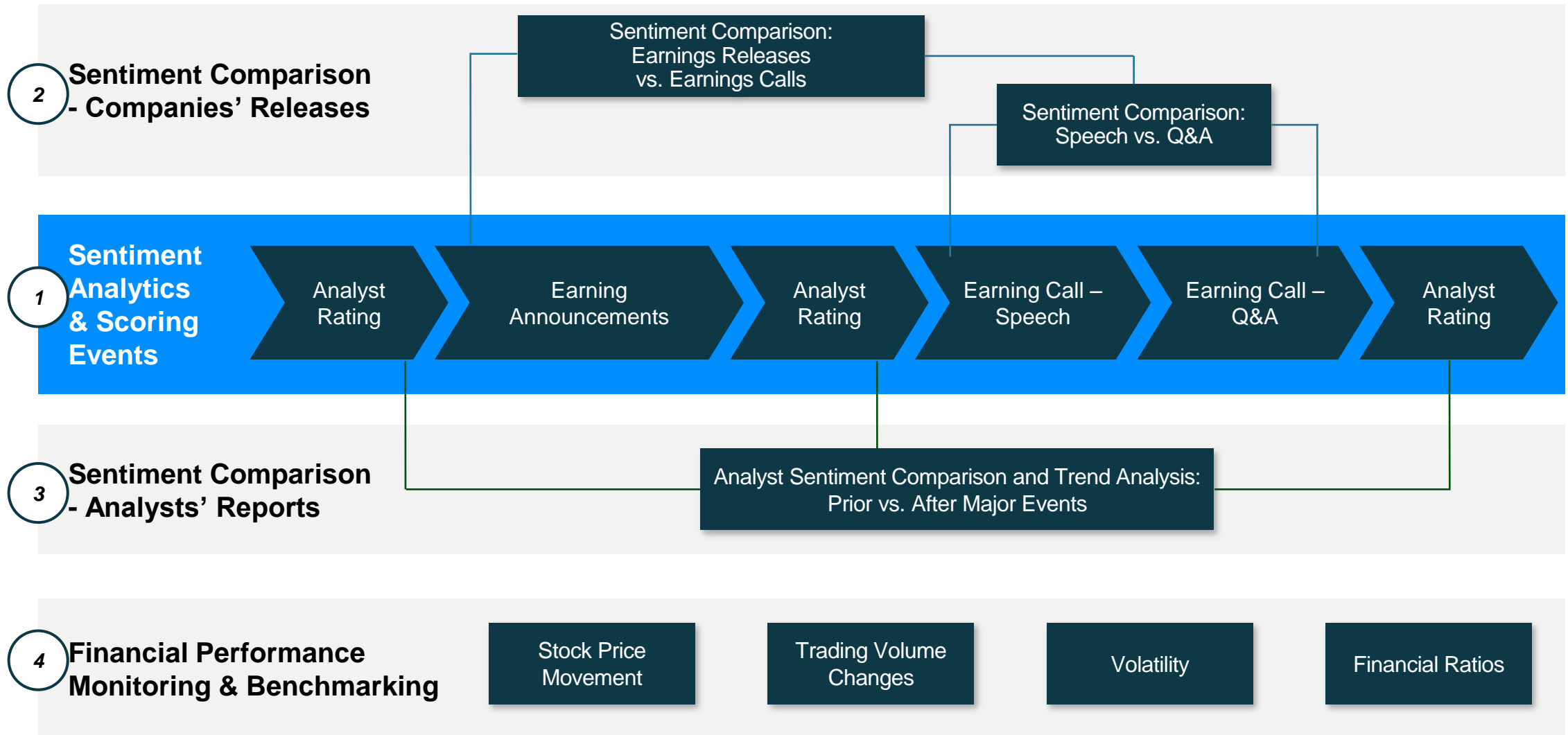
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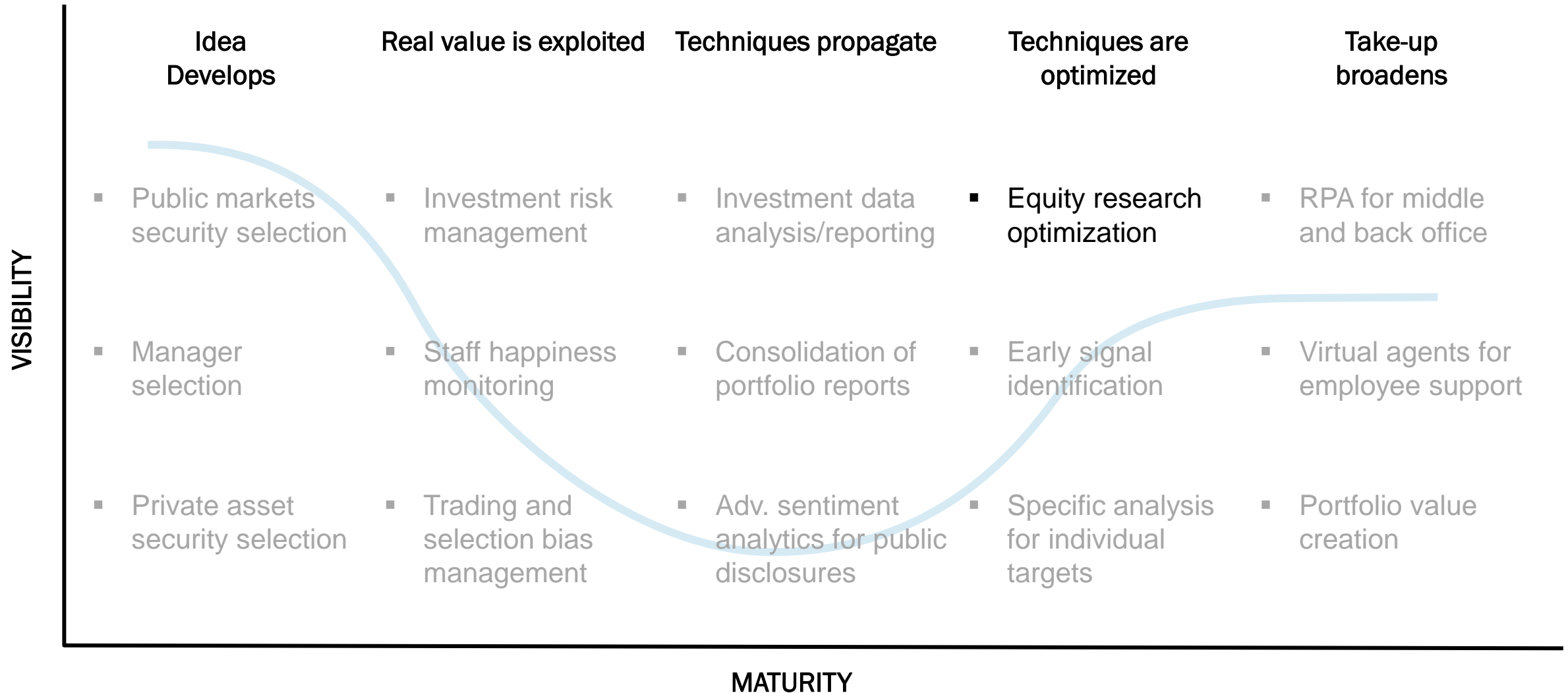
# TECHNIQUES PROPAGATE – ADVANCED SENTIMENT ANALYTICS

## CALL TRANSCRIPTS VS. COMPANY REPORTS COMPARISON



# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# TECHNIQUES ARE OPTIMIZED – INVESTMENT RESEARCH

## ALPHASENSE PLATFORM EXAMPLE

The screenshot displays the AlphaSense platform interface. At the top, a search bar contains the query "artificial intelligence investment management". Below the search bar, various filters are visible, including "WATCHLISTS" (None Selected), "TIMEFRAME" (Last 2 Years), "SOURCES" (All), "INDUSTRIES" (All), "COUNTRIES" (All), "MARKET CAPS" (All), "TAGS" (Any), and "TEXT FILTERS" (None). The search results are displayed in a list view, with the top result highlighted in blue. The result is a press release from Eagle Investment Systems +1, dated 06 FEB 19, with a score of 100. The document title is "Arria and Eagle Investment Systems Announce Strategic Alliance to Empower Investment Managers with Natural Language Generation (NLG), a form of Artificial Intelligence Software (ARRIA NLG PLC)".

Below the search results, there is a "DOCUMENT RESULTS OVER TIME (MONTHLY)" chart showing a trend line and bars for Research, Transcripts, News, and Company Docs. The chart shows a general upward trend in document volume over the last 2 years.

The main content area displays the full text of the press release, with key phrases highlighted in yellow. The title is "Arria and Eagle Investment Systems Announce Strategic Alliance to Empower Investment Managers with Natural Language Generation (NLG), a form of Artificial Intelligence Software (ARRIA NLG PLC)". The text describes the strategic alliance between Arria NLG PLC and Eagle Investment Systems, a BNY Mellon company, to enhance process automation using advanced natural language generation (NLG) technology.

COMPANY	SOURCE	SCORE	DATE
ARES	10K	100	28 FEB 19
Eagle Investme...	PR	100	06 FEB 19
APO	10K	100	01 MAR 19
BBL.TH	ARS	100	20 MAR 19
KN.FR	ARS	100	25 MAR 19
MAYBANK.MY	ARS	100	13 MAR 19
8058.JP	ARS	100	05 FEB 19
PEO.PL	ARS	100	28 FEB 19
8309.JP	ARS	100	20 MAR 19
EMG.GB	ARS	100	11 MAR 19
VCTR	10K	100	15 MAR 19
ERIC	ARS	100	01 MAR 19

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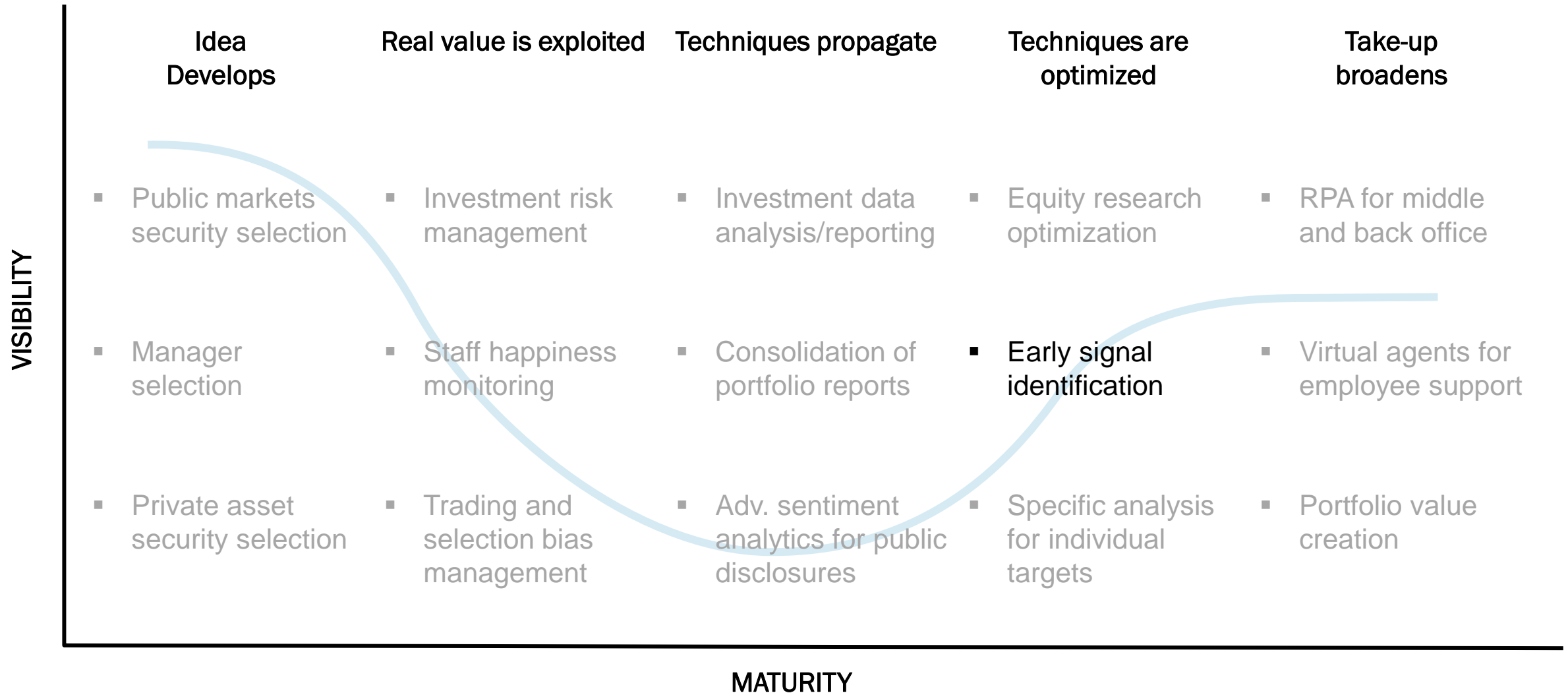
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TRIAL EXPIRES IN 6 DAYS

# AI ADOPTION IN INVESTMENT MANAGEMENT

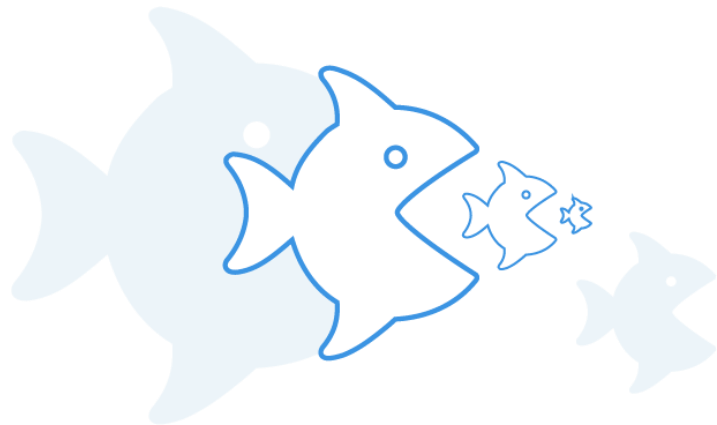
## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY





# TECHNIQUES ARE OPTIMIZED – EARLY SIGNAL IDENTIFICATION

## EXAMPLE: ACCRETE.AI's RUMOR HOUND SOLUTION



M&A rumors emerge from countless data sources



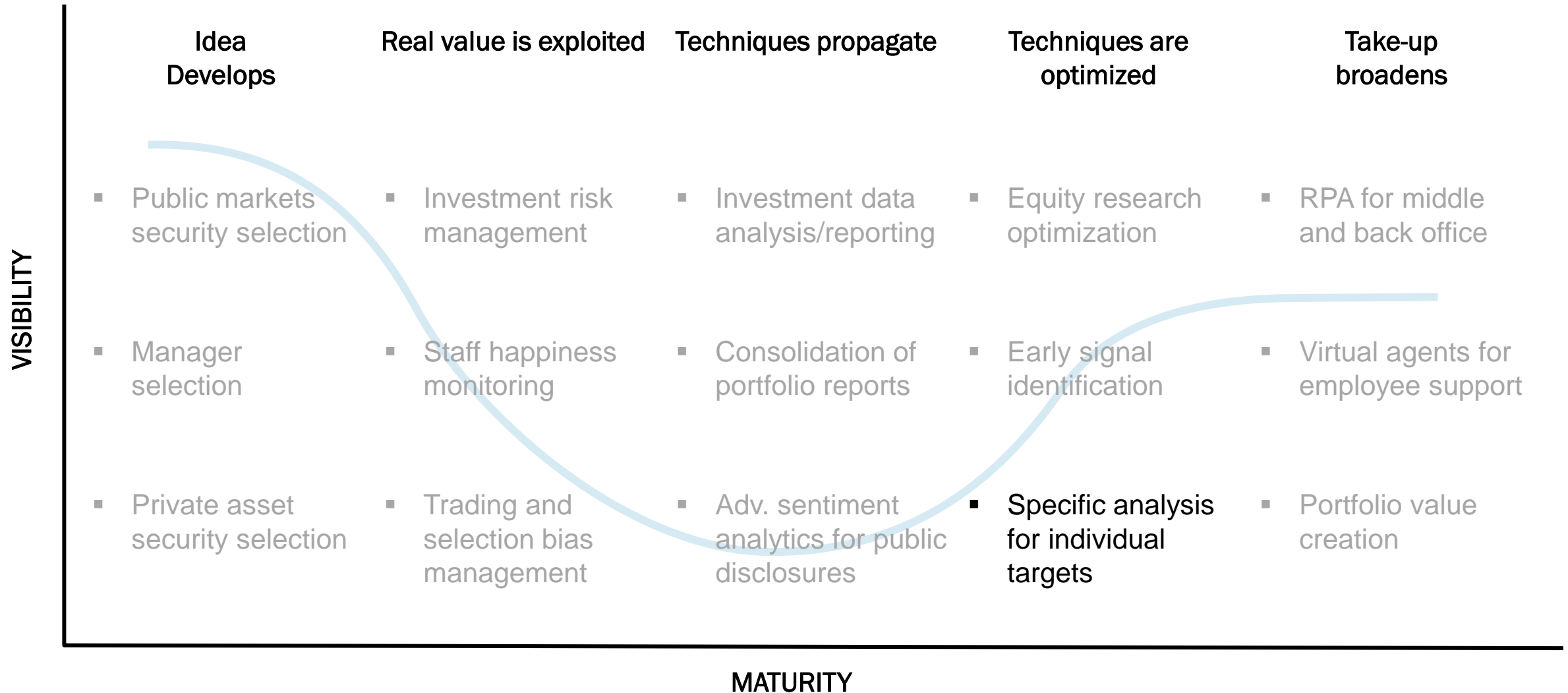
Humans can't effectively sift through these sources in a timely manner and find the credible rumors



Scrape thousands of unstructured data sources in real-time to create a list of rumored acquisition targets scored by credibility and market moving potential (e.g., social media influence, recency)

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# TECHNIQUES ARE OPTIMIZED – SPECIFIC TARGET ANALYSIS

## SOME EXAMPLES OF HOW SATELLITE IMAGERY CAN SUPPORT INVESTMENT DECISIONS



Crop yield



Real estate construction activity



Retail and mall traffic patterns



New car inventory levels



Oil storage volumes



Refugee movements



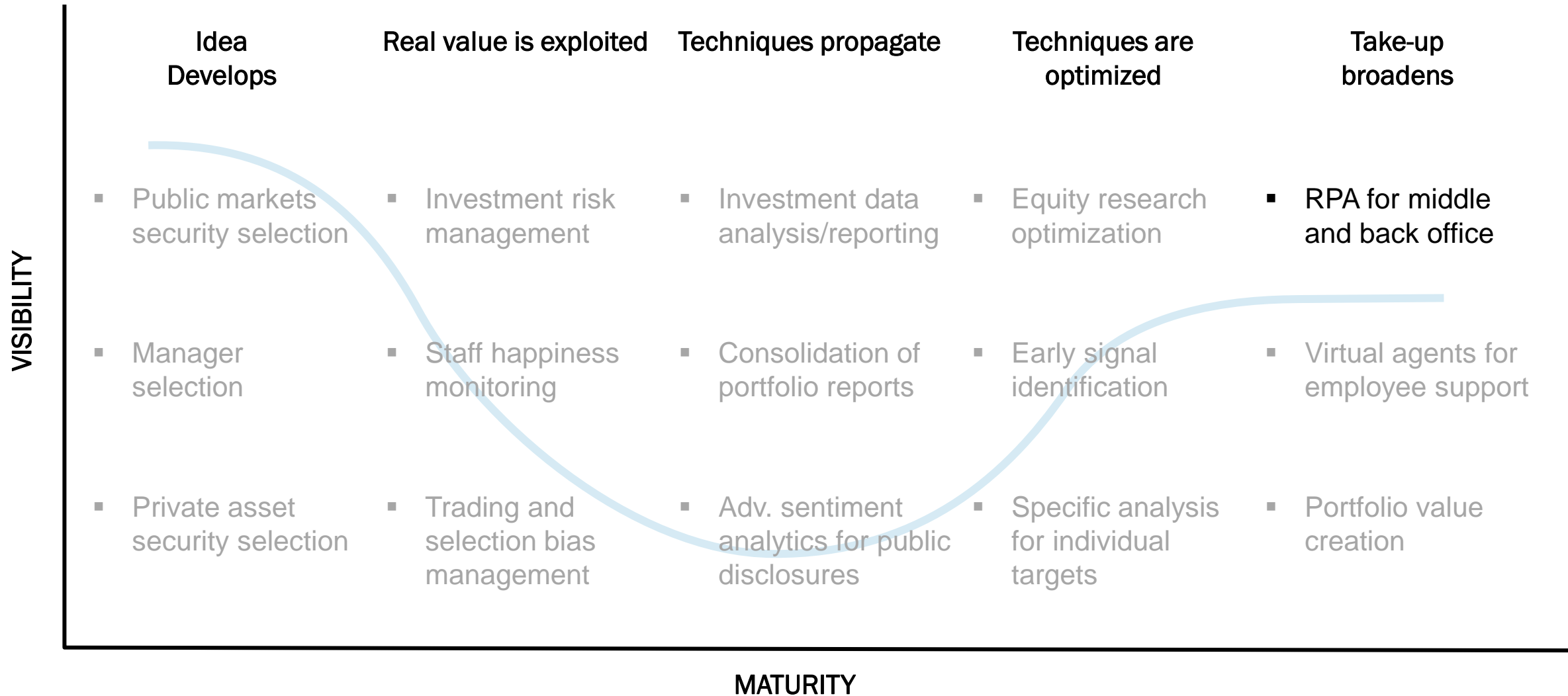
Steel plant outages



Natural catastrophic loss

# AI ADOPTION IN INVESTMENT MANAGEMENT

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# TAKE-UP BROADENS – RPA FOR MIDDLE & BACK OFFICE

## EXAMPLE FINANCE ACTIVITY THEMES THAT CAN BE PERFORMED USING RPA



### Data Extraction

e.g. processes that require an extraction of data from the system (internal/external)



### Reconciliation

e.g. processes that include reconciliation of data from 2 or more systems



### Journal Processing

e.g. processes that include posting of transactions, adjustment of journals



### Calculation

e.g. processes that include calculation of models, adjustments, accruals, etc.



### Email Requirement

e.g. processes that include submission of reports or manual sign-offs (usually requested via email)

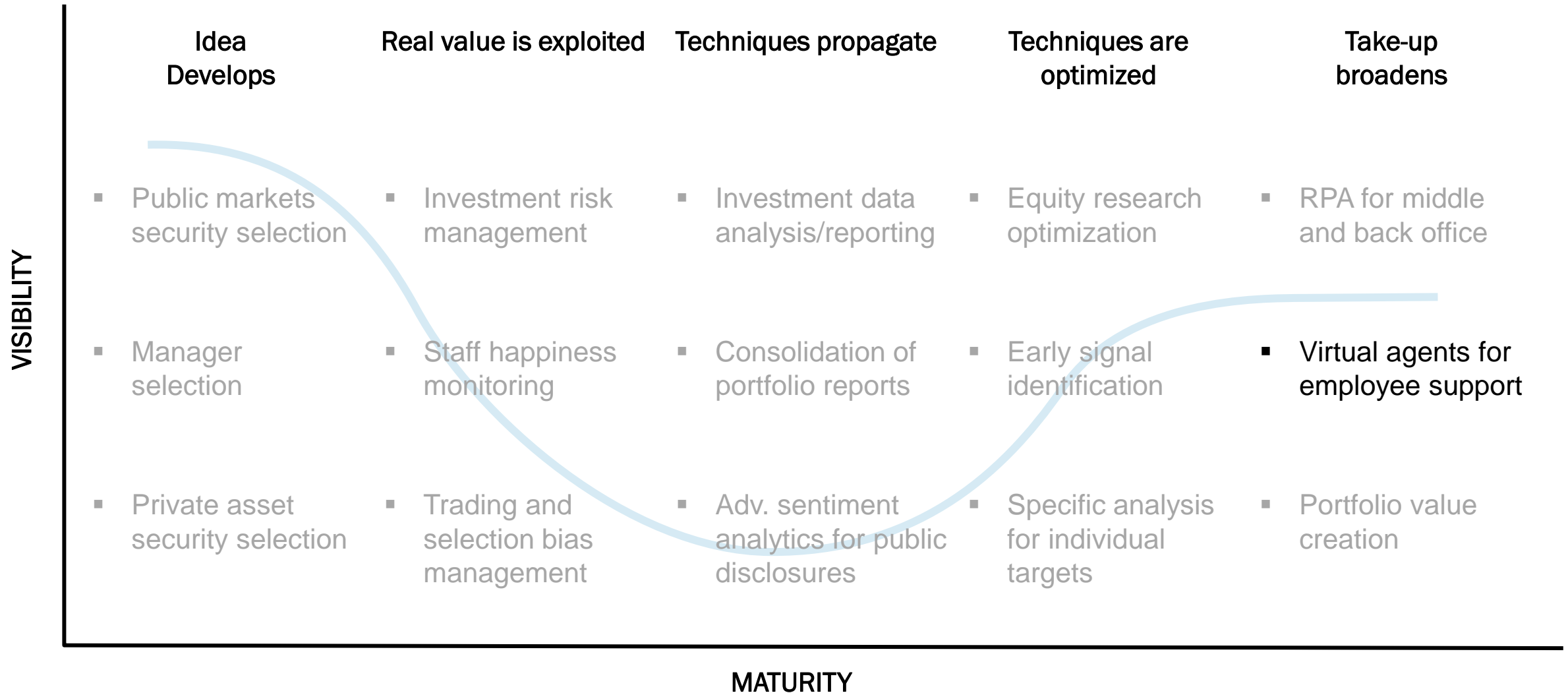


### Report Generation

e.g. processes that require the creation of internal and/or external reports

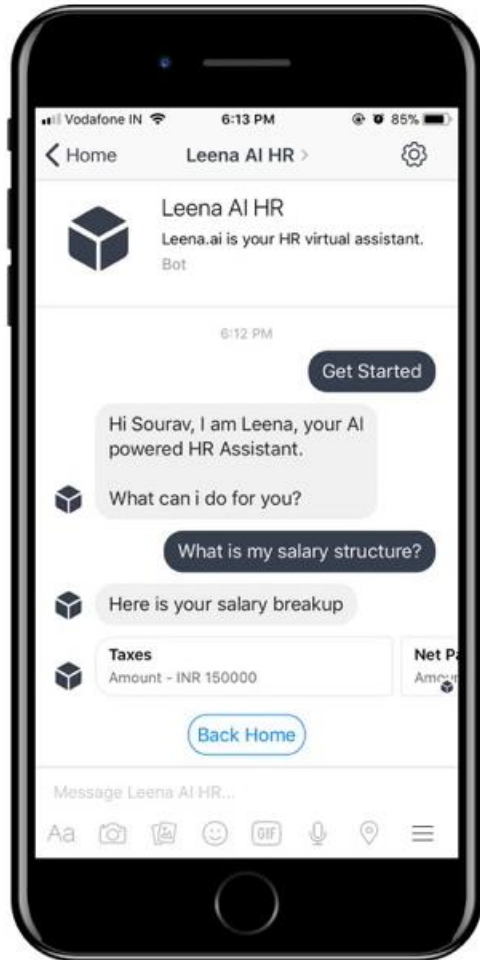
# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY



# TAKE-UP BROADENS – VIRTUAL AGENTS FOR EMPLOYEE SUPPORT

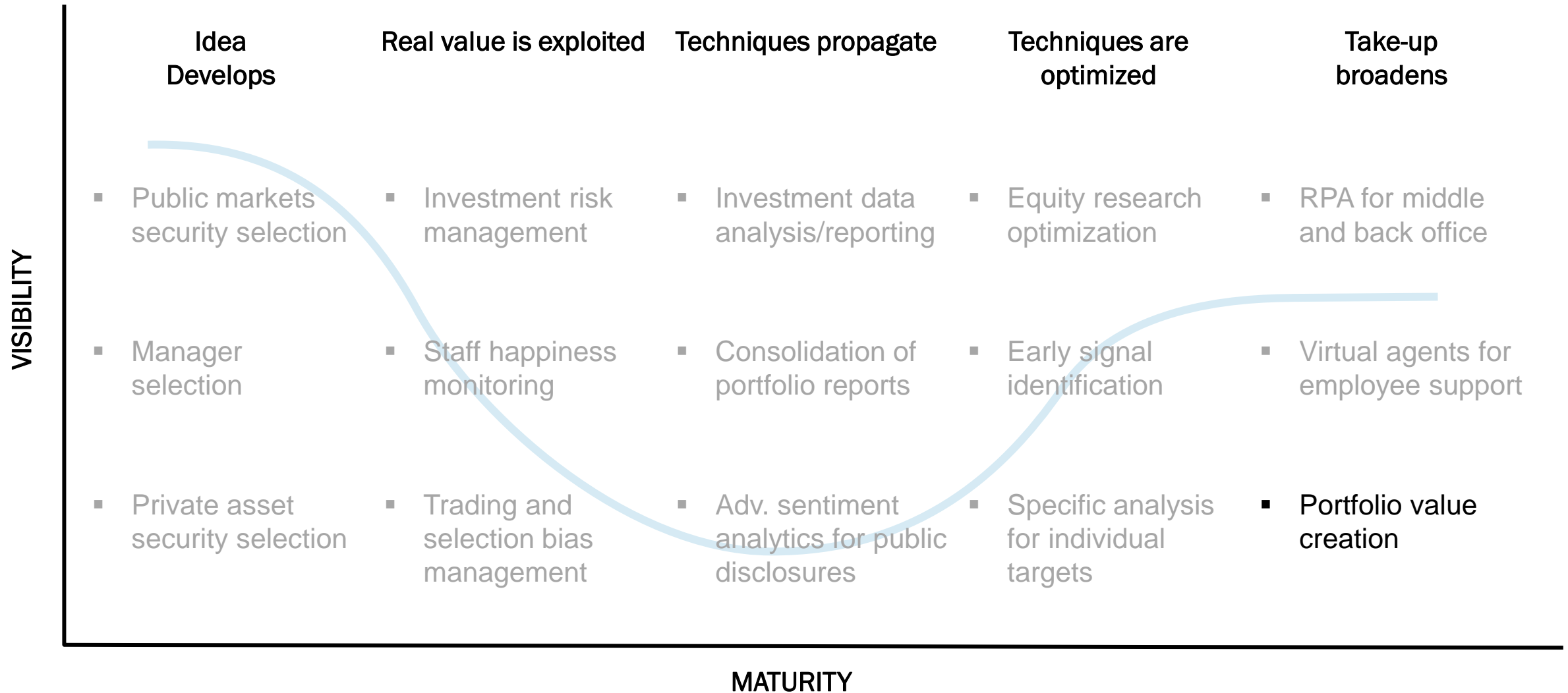
## EXAMPLE: LEENA AI



- Automate repetitive HR service queries (e.g., check time off available, request/approve leaves, request tax documents, consult company policies)
- Support performance management (e.g., schedule conversations, provide and consolidate feedback, extract insights from performance discussions)
- Get a pulse of the organization (e.g., conduct engagement surveys, track organizational engagement and employee happiness, connect employees with mentors)

# AI ADOPTION IN INVESTMENT MANAGEMENT

## AI USE CASES IN INVESTMENT MANAGEMENT ARE AT DIFFERENT STAGES OF MATURITY





# TAKE-UP BROADENS – PORTFOLIO VALUE CREATION

## EXAMPLE TOOL – AURORA AI

Aurora is a self-learning algorithm to map financial G/L, Vendor, PO, Cost Center data to cost categories leveraging a global spend database



1

### COLLECT

Leverage millions of anonymous transactions.



2

### CLEAN

Perform a data clean up and compile a sanitized data set.



3

### ANALYZE

Extracted statistical rules that leads to the creation of a base model.



4

### VERIFY

Passed new client data through the base model to assign default cost categories.



5

### LEARN

The algorithm self-learns the statistical rules based on the corrections and confirmations captured by human reviews.

# CLOSING THOUGHTS

Helpful or not...



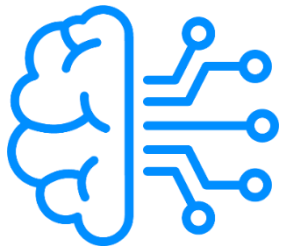
Artificial intelligence is not the panacea – but it can unlock large value if specific areas

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First mover advantage in AI is still a reality – there is lots of value in information asymmetry

---



AI is only as good as the data fueling it – invest in data foundations and organize to use AI

# MACRO RISK VS. MARKET REWARD

ERIC LASCELLES, CHIEF ECONOMIST, RBC GLOBAL ASSET  
MANAGEMENT



CFA Society  
Toronto

#CFATOPENSION



## Macro risk versus market reward

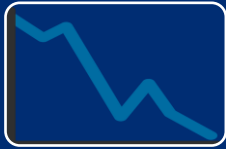
Eric Lascelles, Chief Economist

March 2019

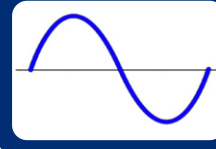


**Global Asset  
Management**

# Some key macro themes



Temporary market hit due to rate and growth concerns



Late in business cycle and edging forward



Growth slowing from good to OK across 2018-2020



Recession risk high, but not happening yet



Headwinds: fin. conditions, protectionism, fading fiscal



China slowing, but government stepping in



U.S. economic lead may diminish vs. other DM



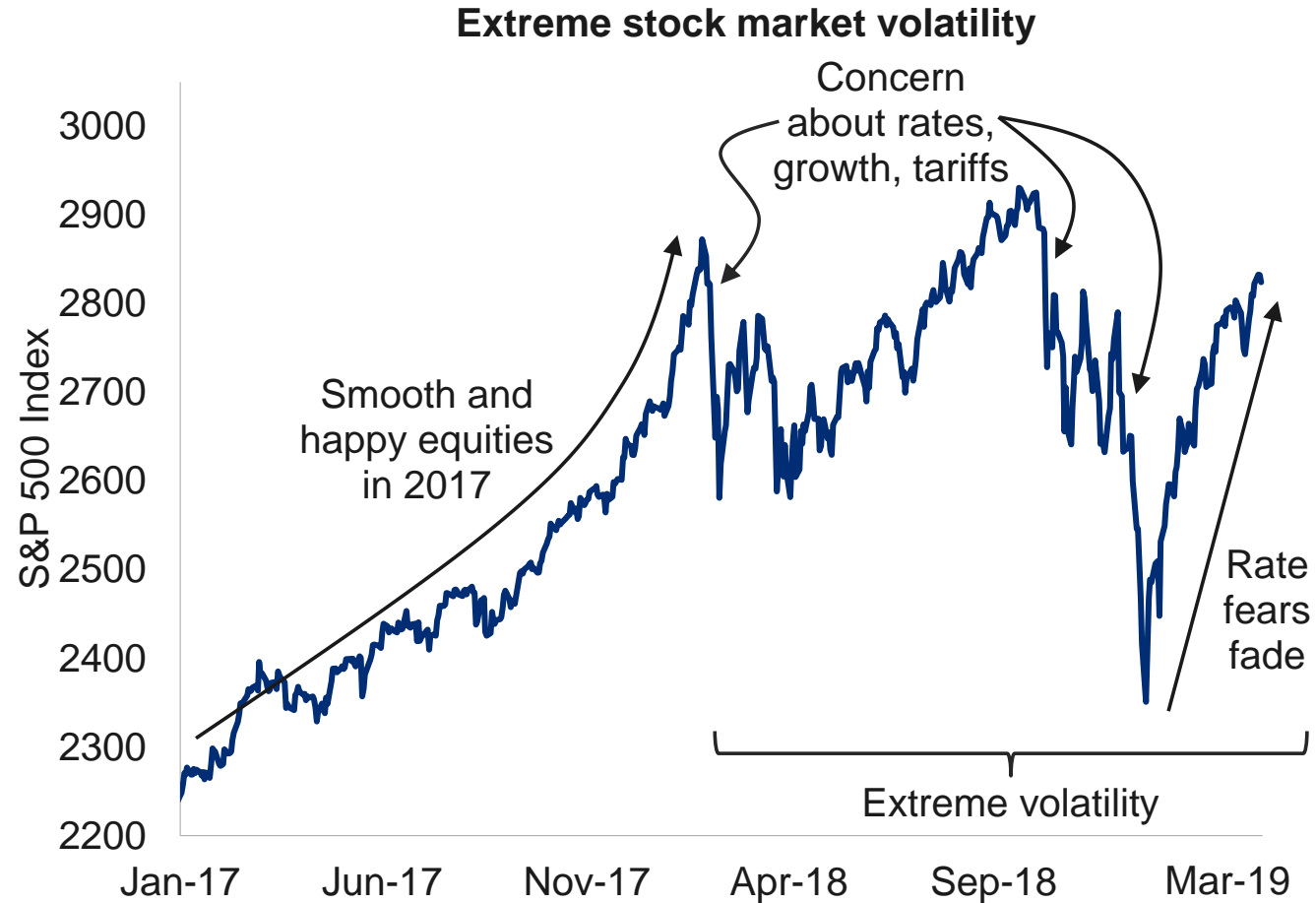
Canada hit by U.S., oil, competitiveness, housing



Tight economy = rates and inflation less low

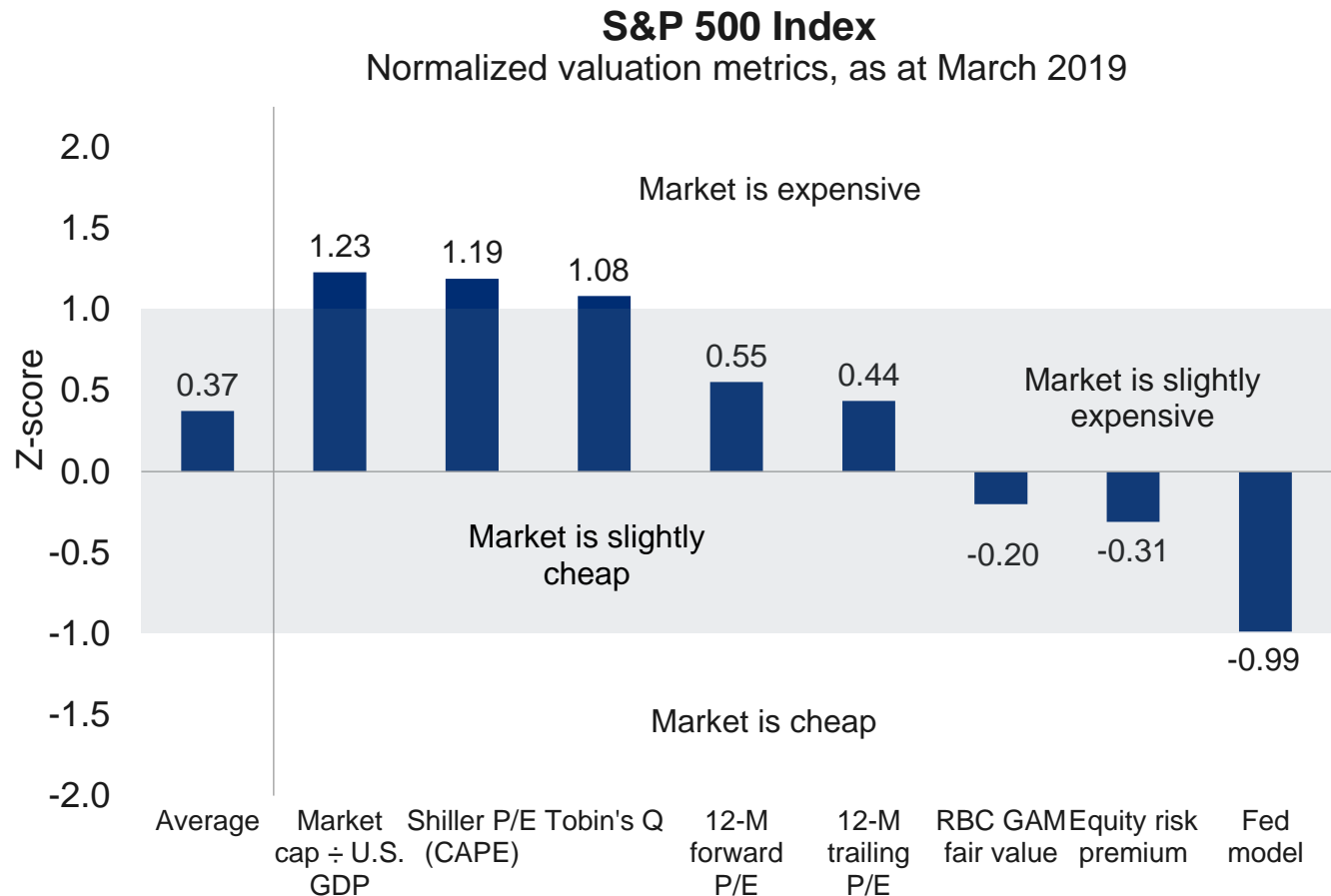
Source: RBC GAM

# Wild gyrations in stock market



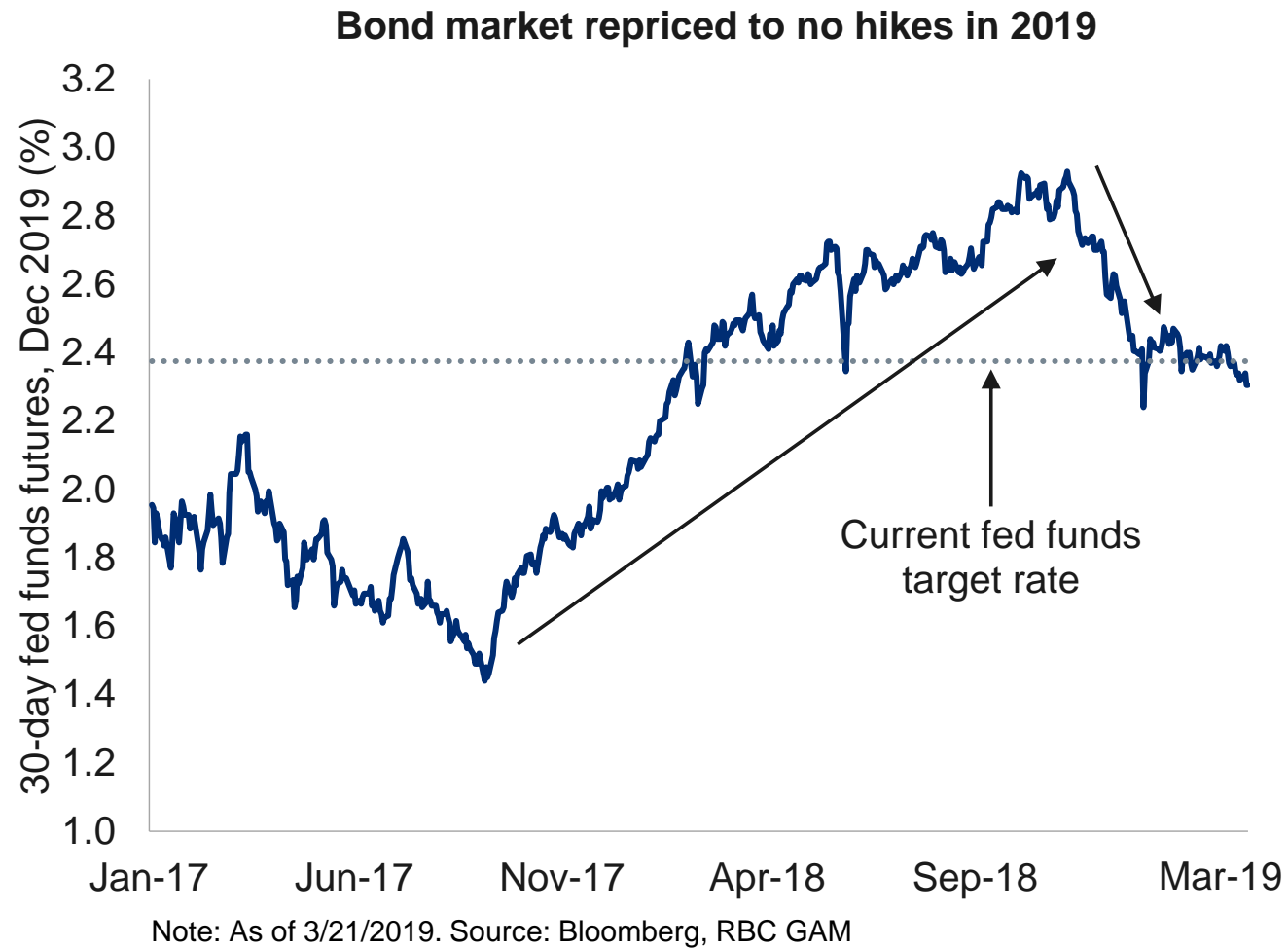
Note: As of 3/20/2019. Source: WSJ, Haver Analytics, RBC GAM

# U.S. stock market was briefly cheap, but no longer



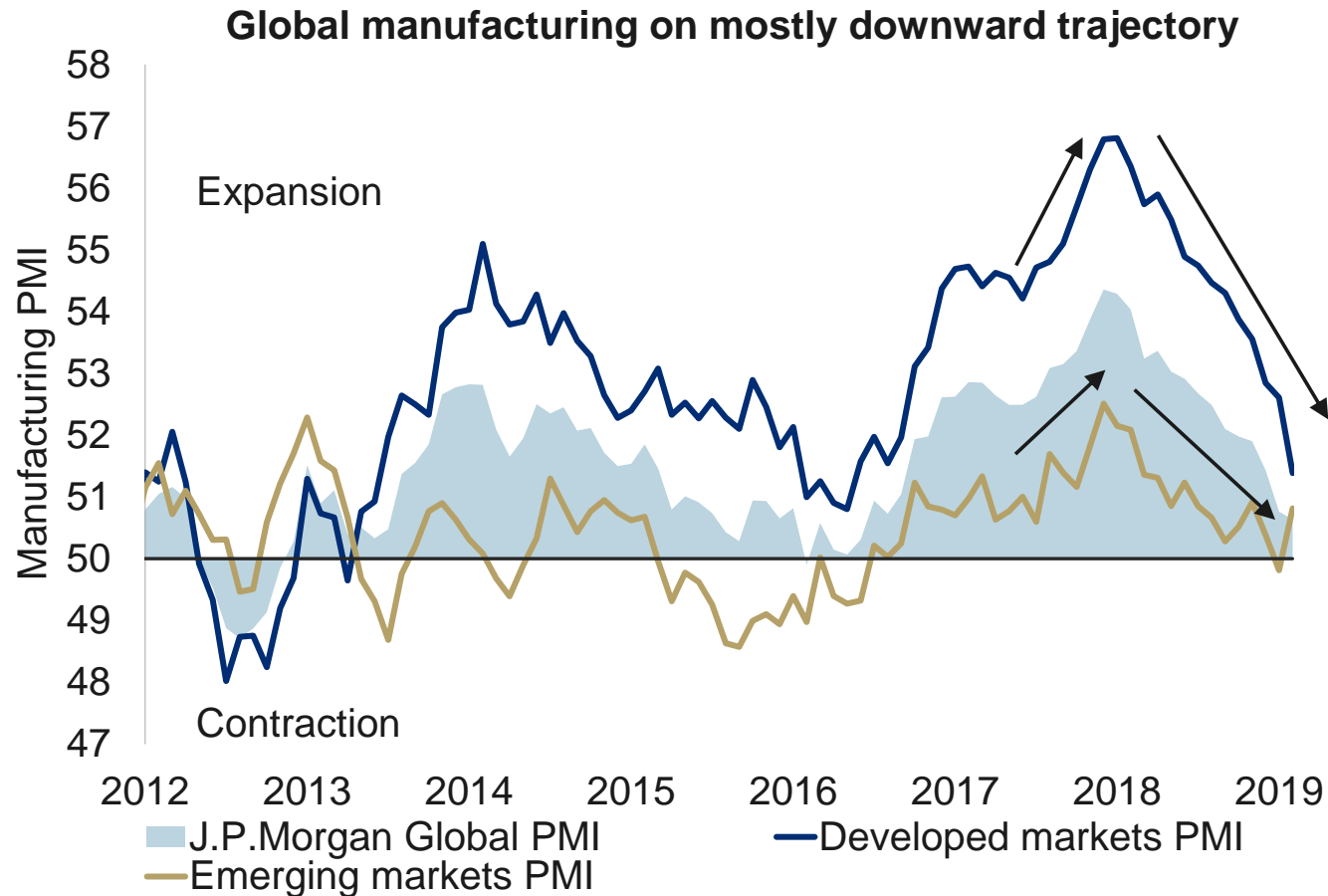
Notes: Historical data from Jan 1956 for Tobin's Q, 12-month forward P/E, Shiller P/E, 12-month trailing P/E, equity risk premium and Fed model. Historical data from Mar 1956 for market cap ÷ U.S. GDP. Historical data from Jan 1960 for RBC GAM fair value. Source: Haver Analytics, RBC CM, RBC GAM

# Markets now expect Fed pause, maybe even a cut



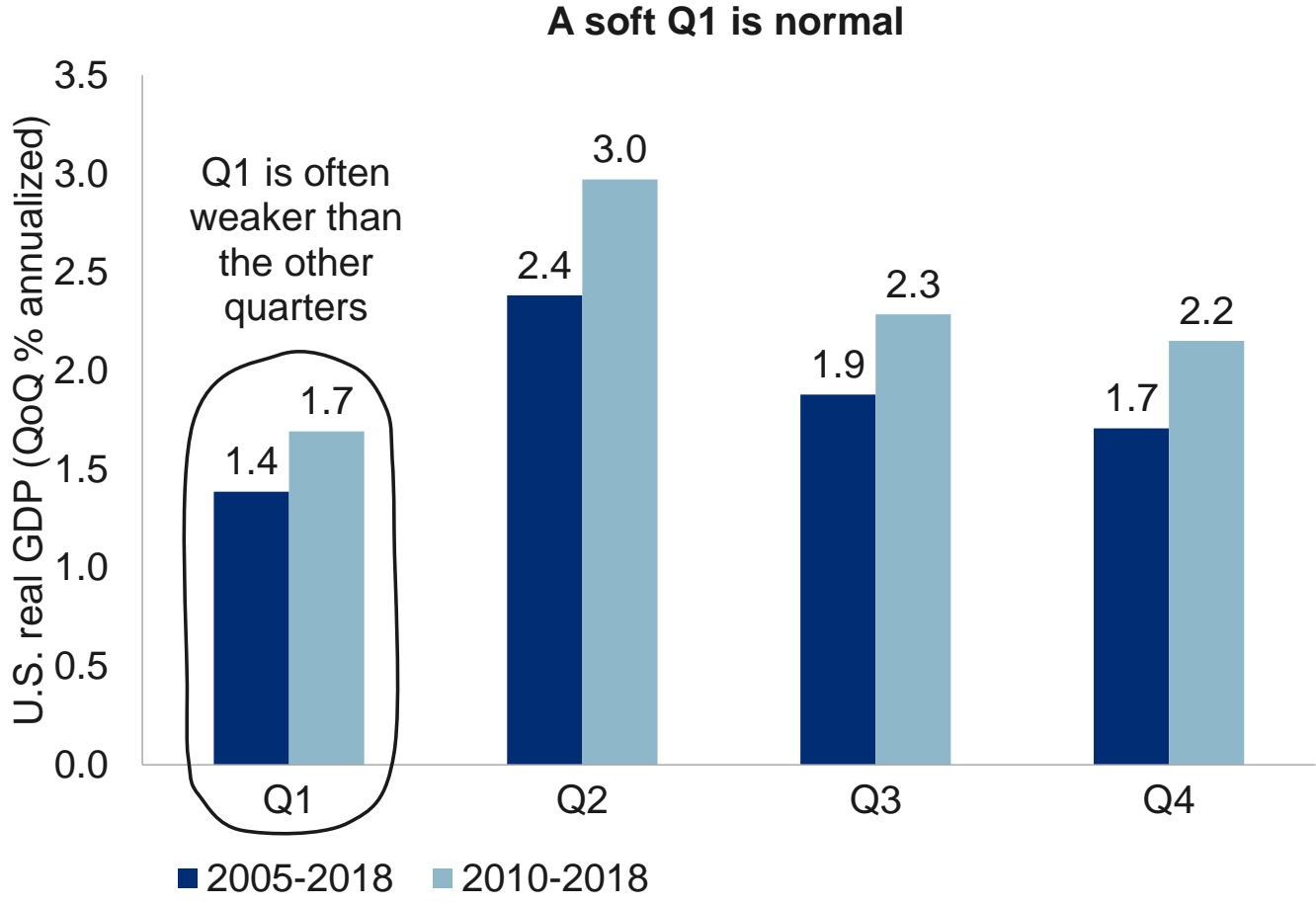


# Cyclical: Global growth continues to slow



Note: As of Feb 2019. PMI refers to Purchasing Managers Index for manufacturing sector, a measure for economic activity. Source: Haver Analytics, RBC GAM

# Don't forget about Q1 seasonal distortion



Note: As of Q4 2018. Source: BEA, Haver Analytics, RBC GAM

# Growth headwinds ahead, but keep in perspective

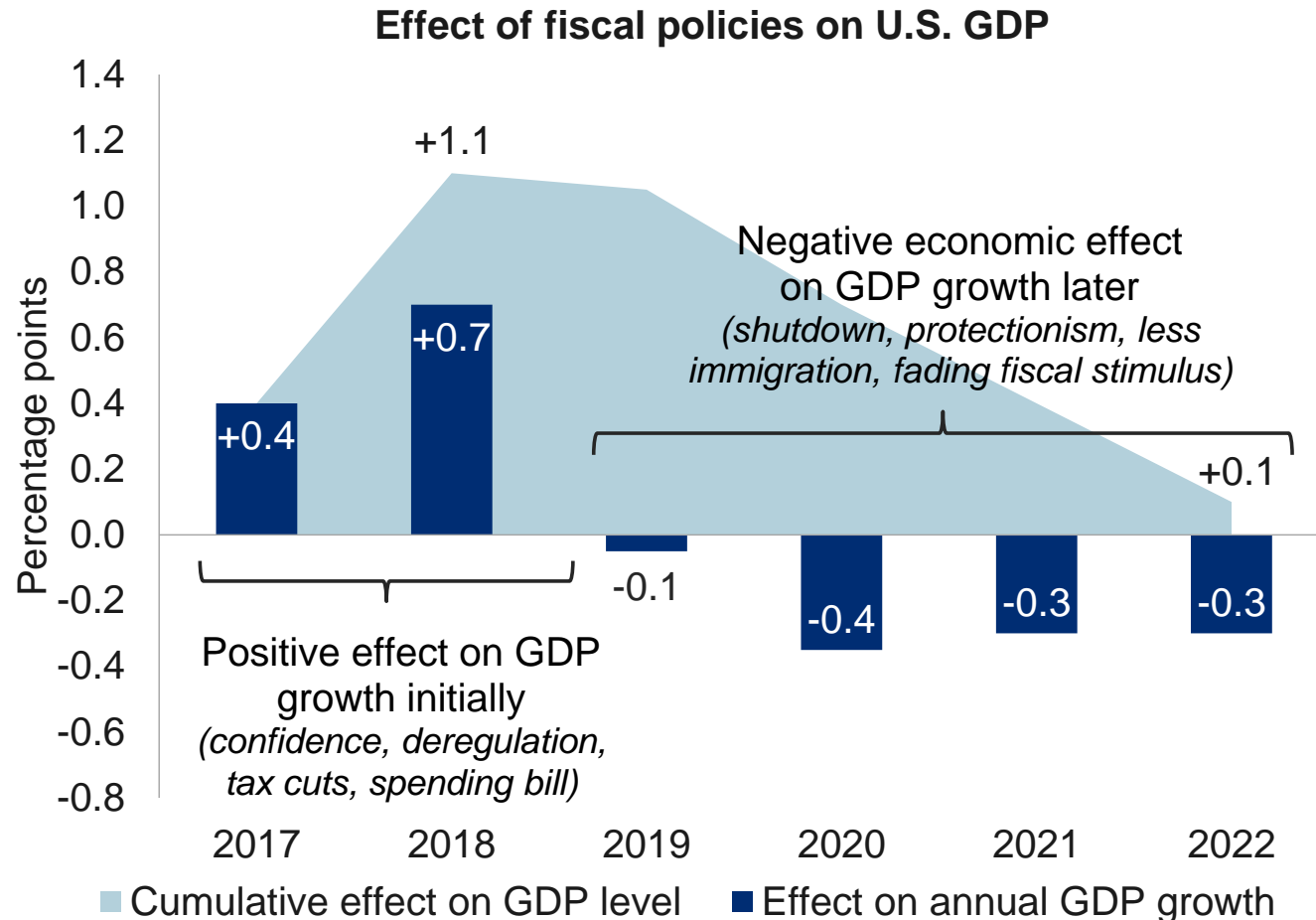
	Global impulse	U.S. impulse
1)	Negative economic momentum	Resilient so far
2)	Tighter financial conditions	Worse for U.S.
3)	Higher protectionism	U.S. instigated
4)	Mixed fiscal prospects globally	Fading U.S. fiscal tailwind

<b>2019 GDP forecast</b>	<b>+3.5%</b>	<b>+2.25%</b>
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**Less growth than 2017 and 2018,  
but in line with post-crisis norm**

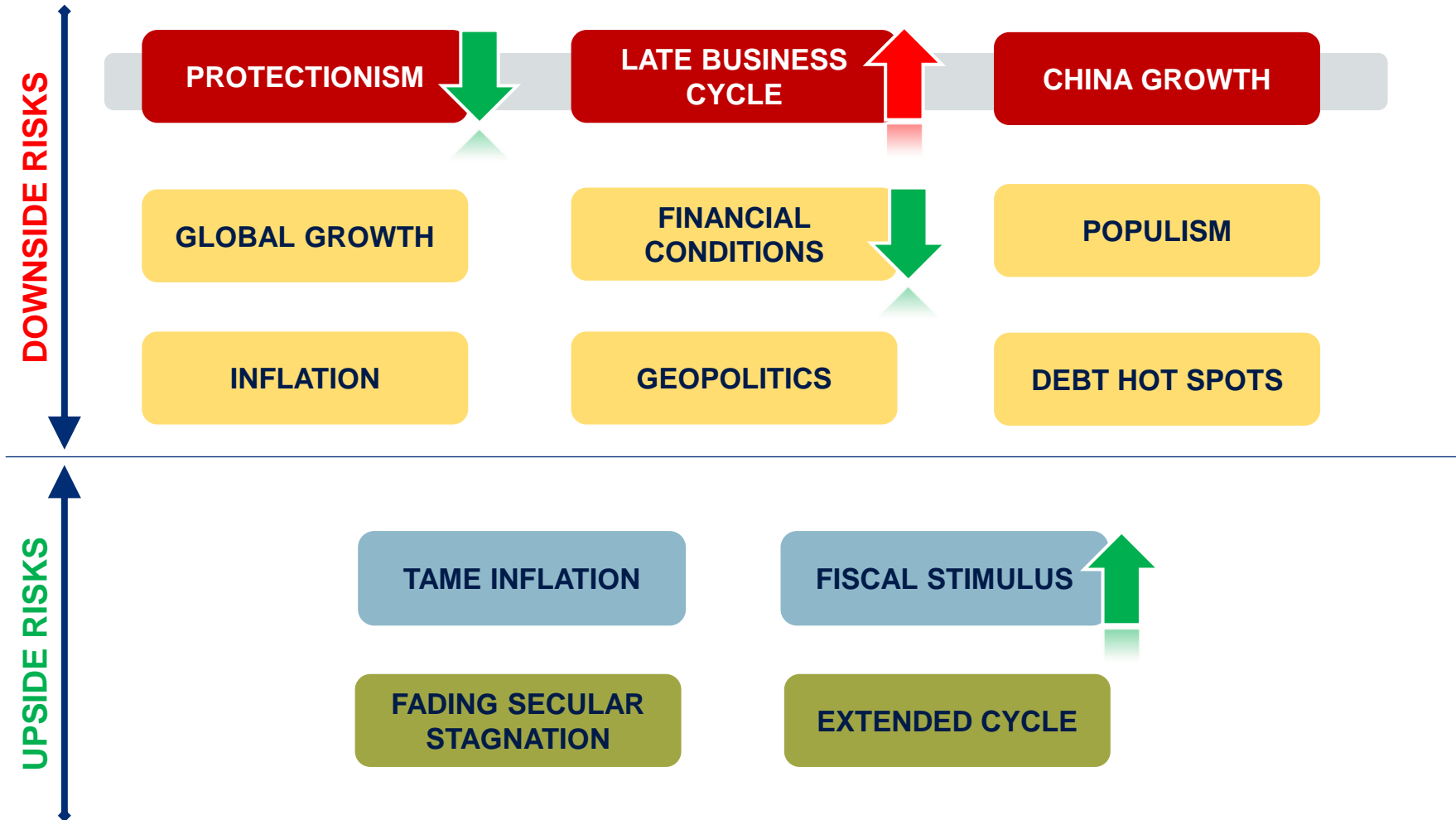
Source: Haver Analytics, RBC GAM

# Trump economic effect: shifting into reverse



Source: RBC GAM assumptions and calculations

# Macro risks: varied and substantial



Source: RBC GAM

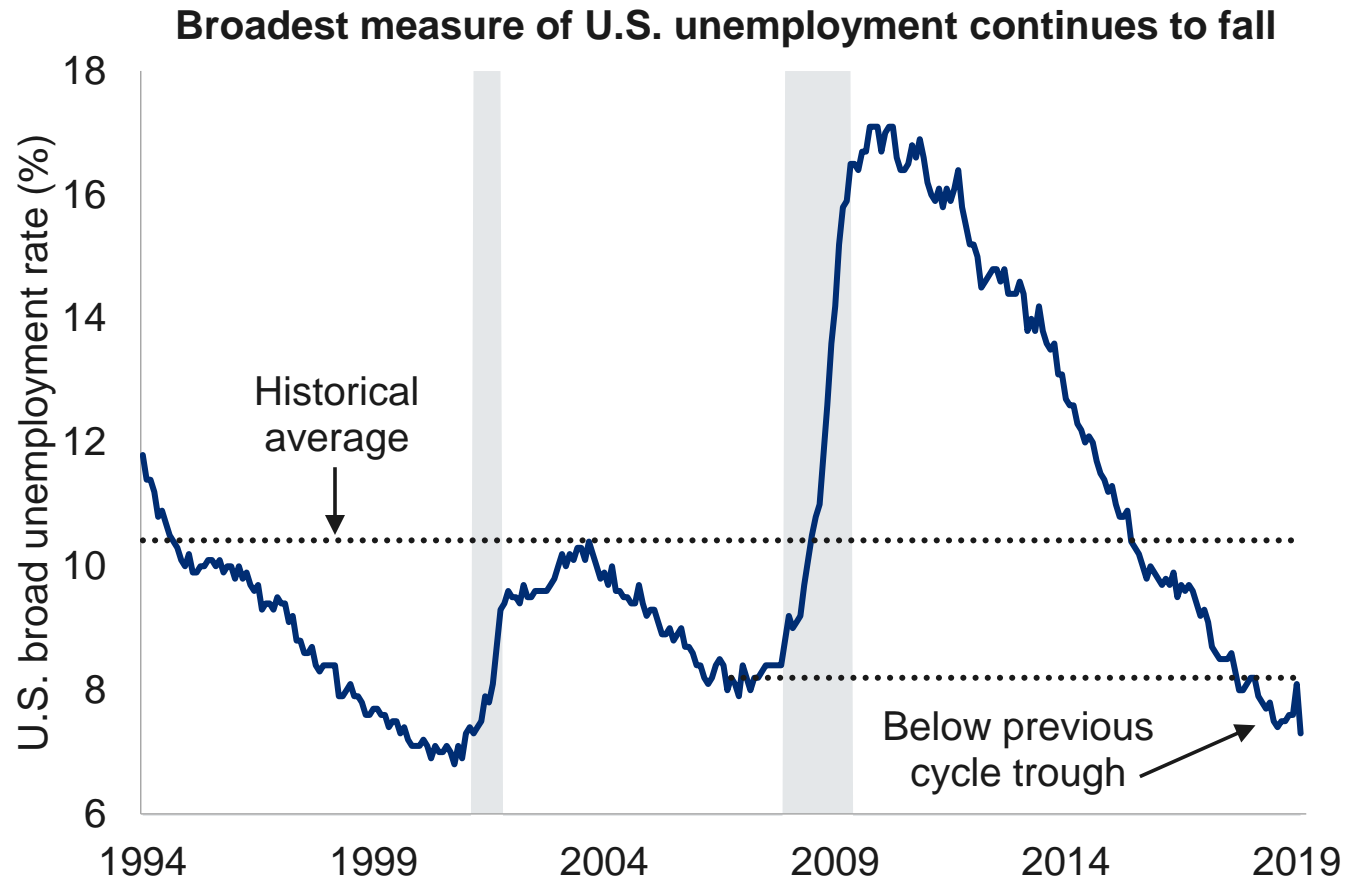
# U.S. is “Late cycle” and moving forward; “End of cycle” now more probable than “Mid cycle”

U.S. business cycle scorecard

	Start of cycle	Early cycle	Mid cycle	Late cycle	End of cycle	Recession
Inventories		Dark shading	Light shading			
Consumer durables		Light shading	Dark shading	Dark shading		
Leverage			Dark shading	Light shading		
Housing			Dark shading	Dark shading		
Equity profitability			Dark shading	Dark shading		
Prices			Light shading	Dark shading	Light shading	
Monetary policy			Light shading	Dark shading	Light shading	
Credit			Light shading	Dark shading	Light shading	
Business investment			Light shading	Dark shading	Light shading	
Bonds				Dark shading	Light shading	
Economic trend				Dark shading	Dark shading	
Employment				Dark shading	Dark shading	
Equity direction				Dark shading	Dark shading	
Economic slack				Dark shading	Dark shading	
Volatility				Dark shading	Dark shading	
Sentiment				Light shading	Dark shading	
Cycle age					Dark shading	
<b>Scores for each stage of business cycle</b>	<b>0</b>	<b>1.5</b>	<b>6.5</b>	<b>14</b>	<b>9.5</b>	<b>0</b>

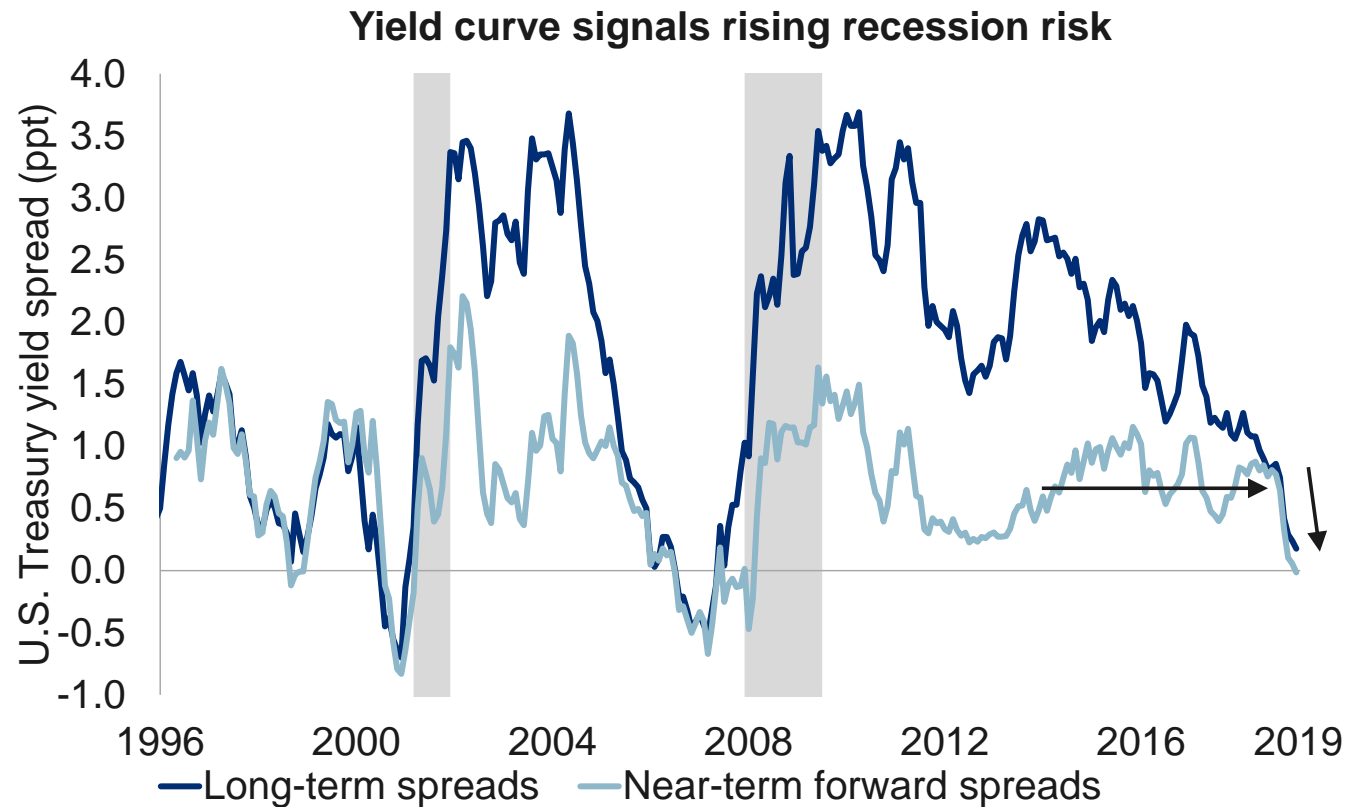
Legend: Dark shading indicates the most likely stage of business cycle (full weight); light shading indicates alternative interpretation (0.5 weight). Source: RBC GAM

# U.S. labour market unusually tight



Note: As of Feb 2019. Broad unemployment rate defined as U-6 unemployment rate. Historical average since 1994. Source: BLS, Macrobond, RBC GAM

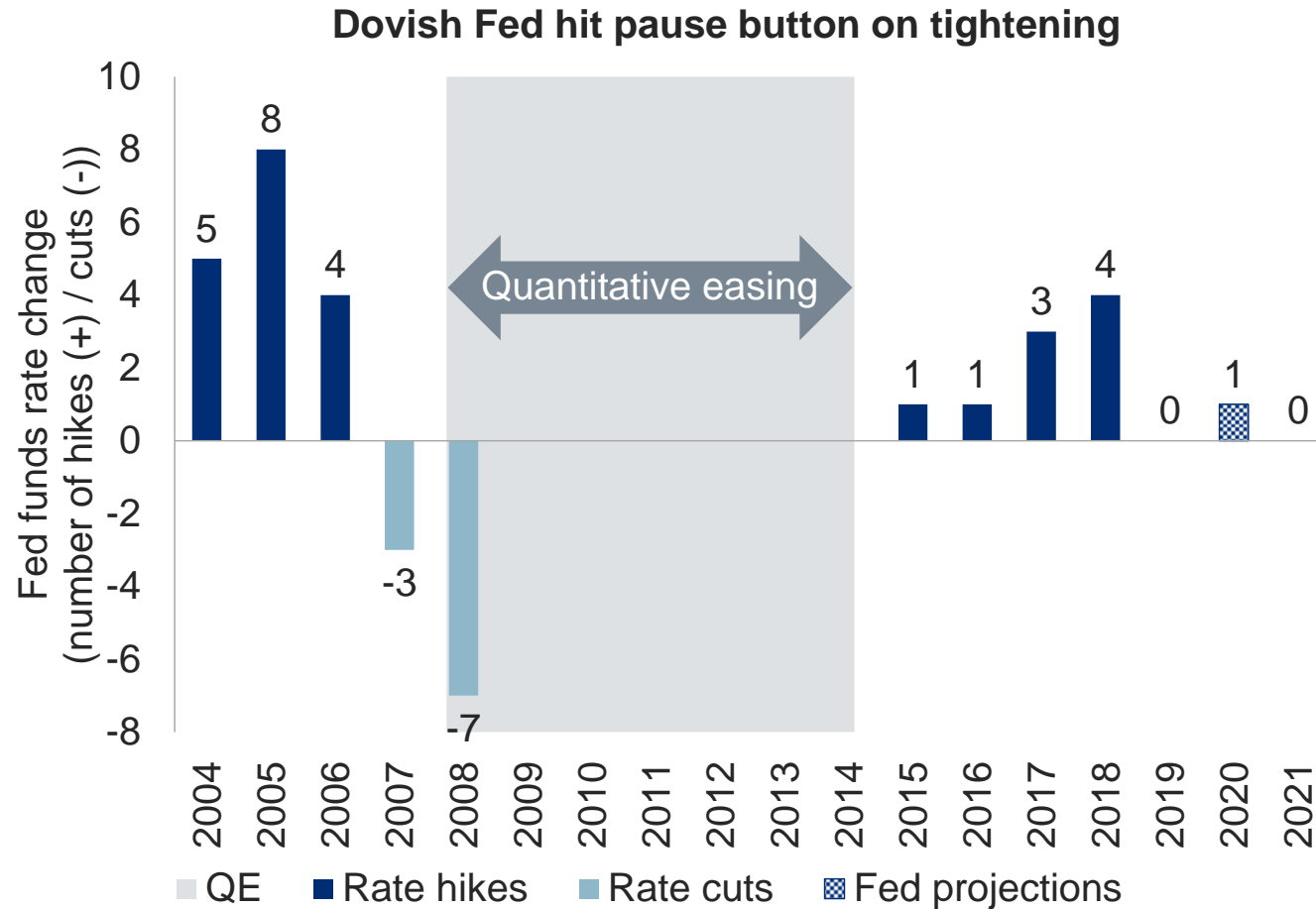
# U.S. recession risk rising



Note: As of Mar 2019. Long-term spreads measured as 10-year U.S. Treasury yield minus 3-month Treasury yield. Near-term forward spread is forward rate of 3-month Treasury bill 6 quarters from now minus spot 3-month Treasury yield. Shaded area represents recession. Source: Engstrom and Sharpe (2018), FEDS Notes, Washington: Board of Governors of the Federal Reserve System; Bloomberg; Haver Analytics; RBC GAM



# Fed tightening mostly (if not completely) done



Note: As of 3/20/2019. Source: Federal Reserve Board, Haver Analytics, RBC GAM

# “Neutral” interest rates may be lower than commonly imagined


It is rare for borrowing costs to exceed 10-year average



Note: As of Feb 2019. Shaded area represents recession.  
Source: Federal Reserve Board, Haver Analytics, RBC GAM

# U.S. growth scenarios for the year ahead

---

Scenario for year ahead	Normal odds	Current odds	U.S. GDP growth
Bear	15%	40%	<1.5%
Base	75%	50%	1.5% – 3.0%
Bull	10%	10%	>3.0%
Scenario-weighted growth	2.1%	1.7%	

Note: Bear scenario is not necessarily the same as recession. Probabilities are stylized.

Source: RBC GAM forecasts

# More wage increase is likely coming



Note: 6-month moving average of intention to raise wages in next 3 months (Feb 2019) in 6-month lead. Wages and salaries as of Q4 2018. Source: NFIB Small Business Economic Survey, BLS, Haver Analytics, RBC GAM

# Key protectionist issues

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*Awaits approval*



*Asymmetric access to China is key issue*



*Steel, aluminum & auto tariffs meant to extract trade concessions*



Trade war? 15% chance

Source: RBC GAM

# Sign of global trade woes



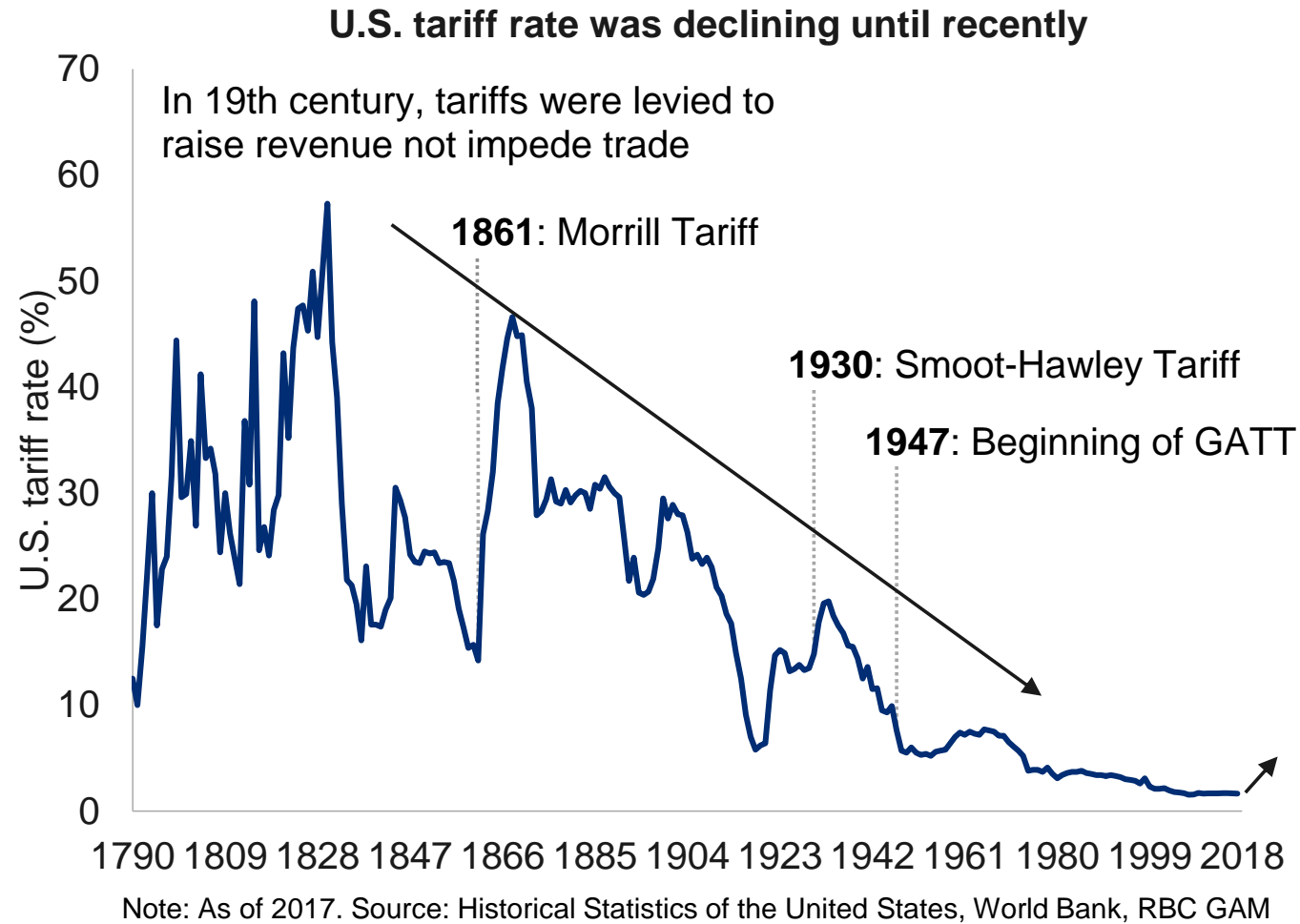
Note: As of Q3 2018. Nominal exports in U.S. dollars. Source: WTO, RBC GAM

# U.S. trade scenarios and consequences

Scenario	Likelihood	Detail	Economic effect
<b>Worst case</b>	<b>15%</b>	Trade war	US: -0.7 to -4.0% CN: -0.8 to -1.8% CA: -1.1 to -4.8%
<b>Negative</b>	<b>40%</b>	Substantial tariffs	US: -0.4 to -0.8% CN: -0.4 to -0.8% CA: -0.4 to -0.8%
<b>Slightly negative</b>	<b>25%</b>	Small tariffs	US: -0.3% CN: -0.2% CA: -0.4%
<b>Neutral</b>	<b>10%</b>	Trump tariffs unwind	US: 0.0% CN: 0.0% CA: 0.0%
<b>Best case</b>	<b>10%</b>	Foreign barriers fall to pressure	US: positive CN: ? CA: ?

Source: RBC GAM

# The long view on tariffs – still pretty low = limited econ damage





# Trade war ammunition extends well beyond tariffs

---

## Tariffs:

- Universal
- Geographic filter
- Product filter

## Non-tariff barriers:

- Import quota
- Domestic subsidy
- Border thickness
- Technical barrier
- U.S. blocking WTO judge appointments



## Investments:

- Restrict inward capital flows
- Restrict inward corporate acquisitions
- Sell foreign holdings (China: U.S. bonds)

## Export restrictions:

- Access to Chinese “rare Earths”
- Access to advanced U.S. tech

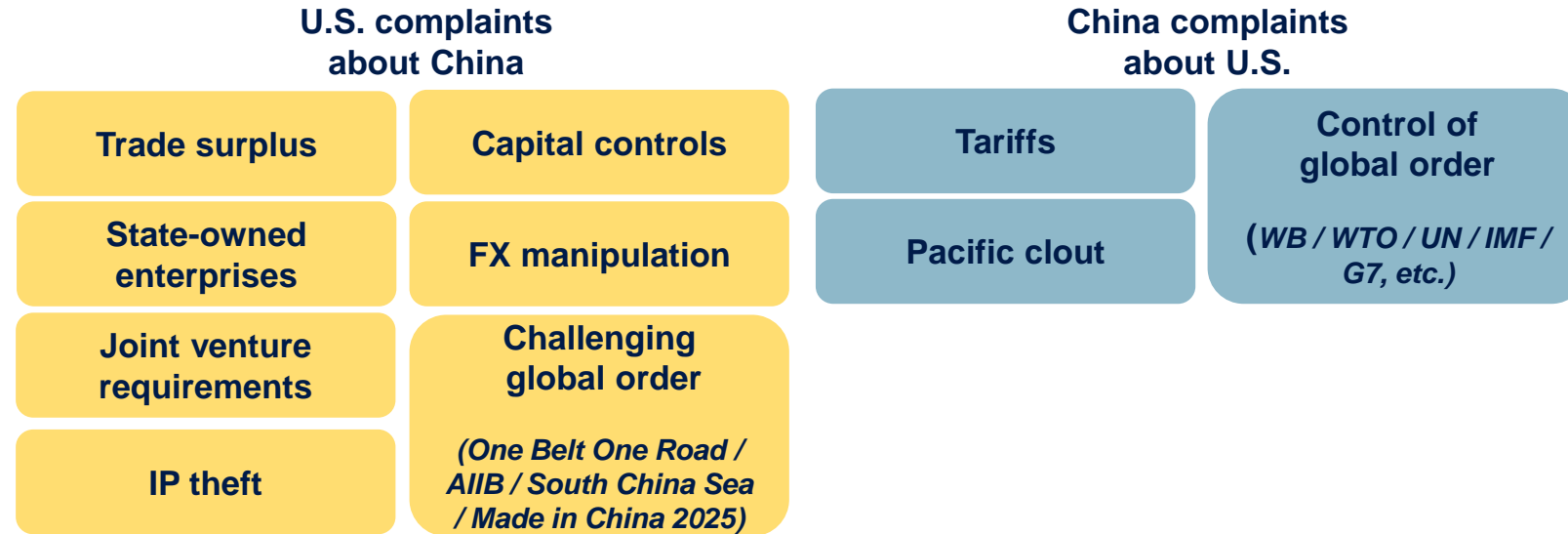
## Other pressure points:

- Immigration restrictions
- Constrain individual firms (ZTE, Huawei, Qualcomm, Micron, Apple)
- Access to \$ clearance system
- Gov’t procurement contracts
- Exchange rate manipulation
- Universal Postal Union
- Inflame public sentiment (boycott, tourism)
- Military posturing

Source: RBC GAM

# Hard to resolve underlying U.S.-China frictions

## SOURCES OF FRICTION:



RELATIVE CLOUT:	U.S.	China
GDP	\$20.1T	\$14.0T
GDP/capita	\$62.1K	\$10.1K
Military	2.2M soldiers 3.3K aircraft 6.8K nuclear	3.4M soldiers 1.5K aircraft 0.3K nuclear
Population	327M	1,415M

Source: Haver Analytics, Wikipedia, RBC GAM

# A very different political environment in 2019 – 2020



## Washington, D.C.

- Democrats won House
- Congress now divided
- **Difficult to legislate in '19-20**



## Mueller investigation

- Growing scope & intensity
- Chance of lengthy Trump indictment/impeachment
- **Hard to legislate during chaos**

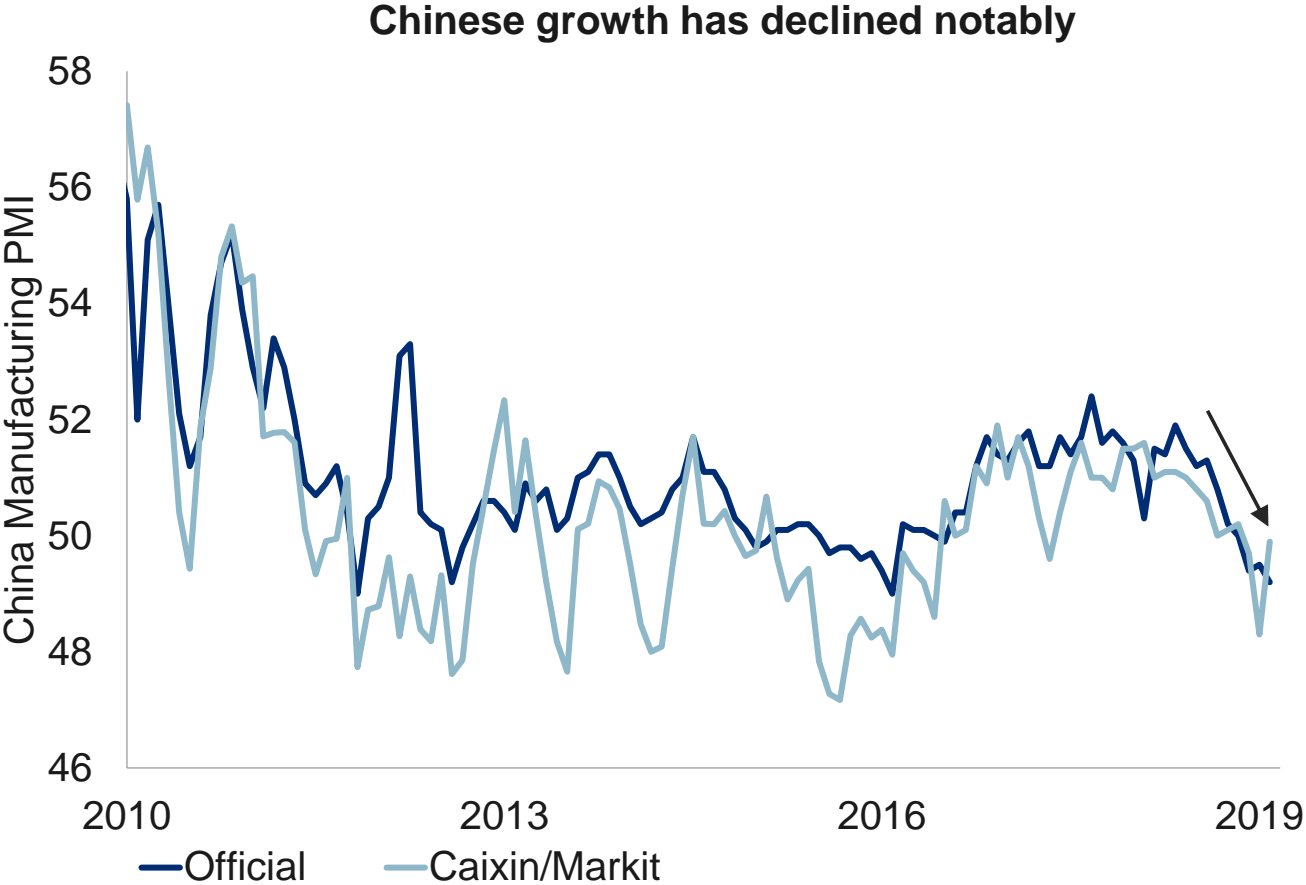
**Paralysis:** Tax cuts 2.0, immigration, infrastructure, health

**Bigger battles:** shutdown, NAFTA approval, Trump impeachment?

**Unaffected:** Tariffs, foreign policy, executive orders

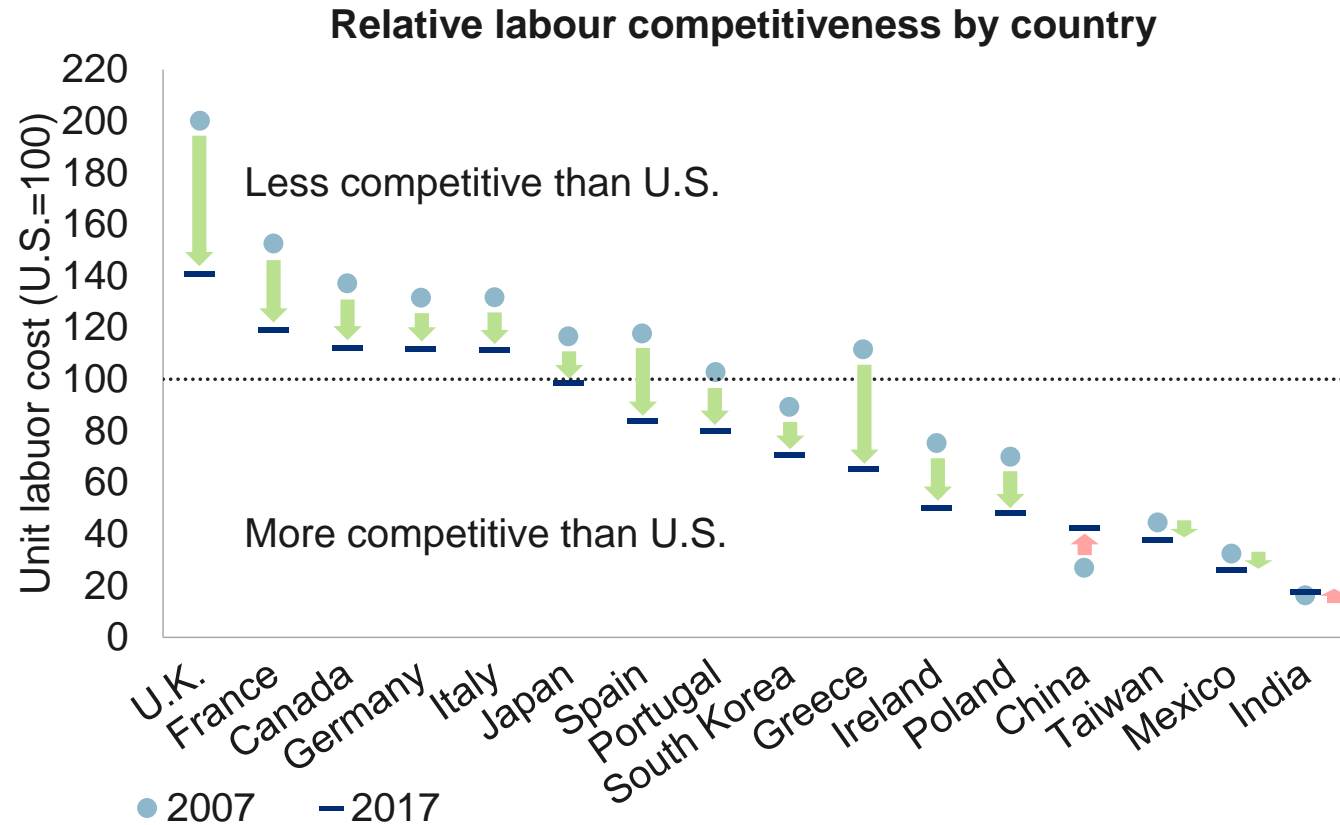
**Presidential election 2020: markets fret over populist right vs far-left scenario**

# China growth clearly slowing



Note: As of Feb 2019. Source: China Federation of Logistics & Purchasing, IHS Markit, Macrobond, RBC GAM

# China losing competitiveness



Note: Competitiveness factors not considered include energy costs, the price of inputs, tax rates, labour laws and regulatory burden. Market exchange rate used to convert wages to reflect actual labour costs facing firms; purchasing power parity exchange rates used to convert real value added to reflect the quantity of goods produced on the presumption that multinationals could then sell them into any market. Source: The Conference Board International Labor Comparisons program, Macrobond, RBC GAM

# Chinese policymakers to the rescue

Stimulus	Assessment
Currency	<ul style="list-style-type: none"> <li>Moderate depreciation over past year</li> </ul>
Monetary policy	<ul style="list-style-type: none"> <li>Repeated rate cuts / money injections</li> </ul>
Fiscal policy	<ul style="list-style-type: none"> <li>Local government infrastructure</li> <li>Inducement for corporate cap ex</li> <li>Personal income tax cuts</li> <li>Corporate tax cuts: VAT &amp; social security contribution</li> <li>Encourage lending to manufacturers and small businesses</li> </ul>
Regulations	<ul style="list-style-type: none"> <li>Easier housing market rules</li> </ul>
Other considerations	
Prior track record	<ul style="list-style-type: none"> <li>Chinese policymakers historically among best in world</li> <li>Have previously succeeded in restoring growth</li> </ul>
Complications	<ul style="list-style-type: none"> <li>China's structural tailwinds fading</li> <li>Trying not to re-inflate debt</li> <li>Stimulus works with a lag</li> <li>New unfamiliar kind of stimulus → less infrastructure-driven</li> </ul> <p><b>= Less success than prior efforts?</b></p>

Source: RBC GAM

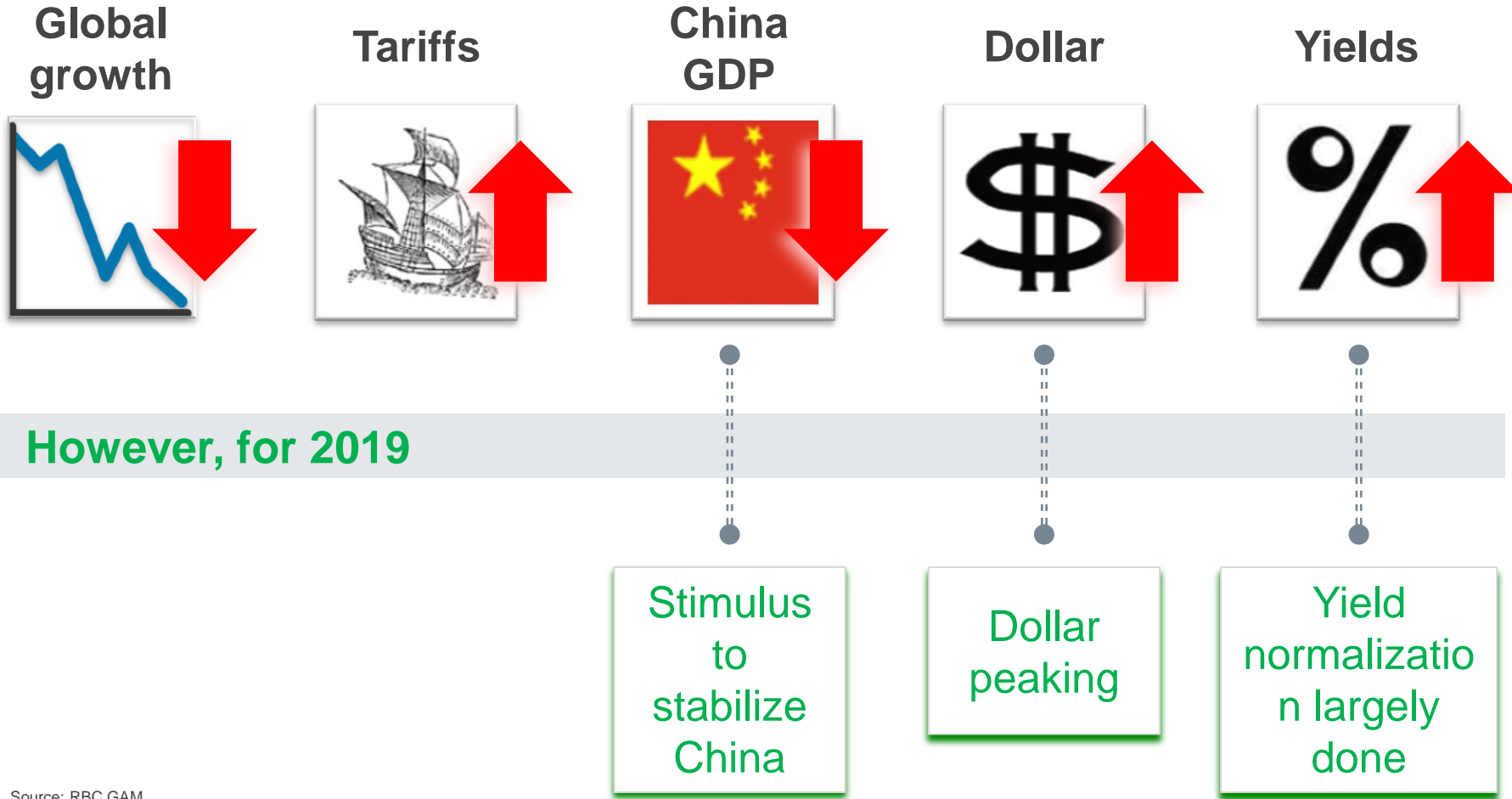
# Chinese credit concerns are valid

	Credit-to-GDP risk	Debt servicing risk, private nonfinancial sector	Debt servicing risk, households	Cross-border claims to GDP risk
China	High	High	--	Low
Canada	High	High	Moderate	Moderate
Switzerland	High	Moderate	--	Low
Turkey	Moderate	High	--	Low
Norway	Low	Low	Moderate	High
Japan	Moderate	Low	Low	Moderate
Mexico	Moderate	Moderate	--	Low
Indonesia	Moderate	Moderate	--	Low
Thailand	Moderate	Low	High	Low
France	Moderate	Moderate	Low	Low
Russia	Low	High	High	Low
Korea	Low	Moderate	High	Low
Germany	Low	Low	Low	Low
India	Low	Moderate	--	Low
Brazil	Low	Low	--	Low
U.S.	Low	Low	Low	Low
U.K.	Low	Low	Low	Low
Italy	Low	Low	Low	Low
Spain	Low	Low	Low	Low

Note: Calculations by BIS of deviation from normal credit metrics as predictor of future credit problems. Data for private-sector non-financial debt includes corporate and household. 12-quarter growth rate of cross-border claims in all currencies as percentage of GDP. Source: BIS Quarterly Review, March 2018, RBC GAM

# Emerging-market challenges significant, but may fade

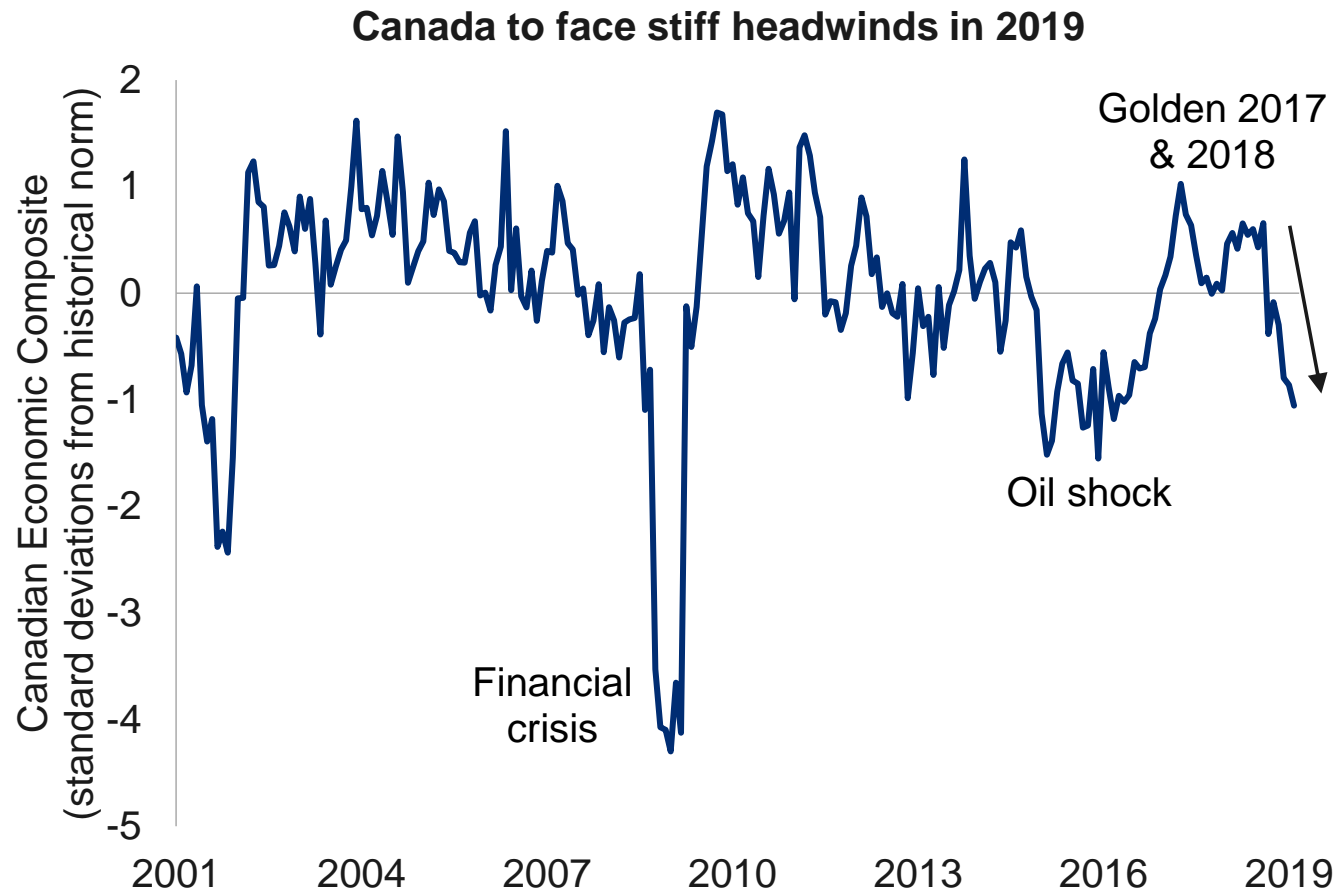
## Negative EM macro factors from 2018



Source: RBC GAM

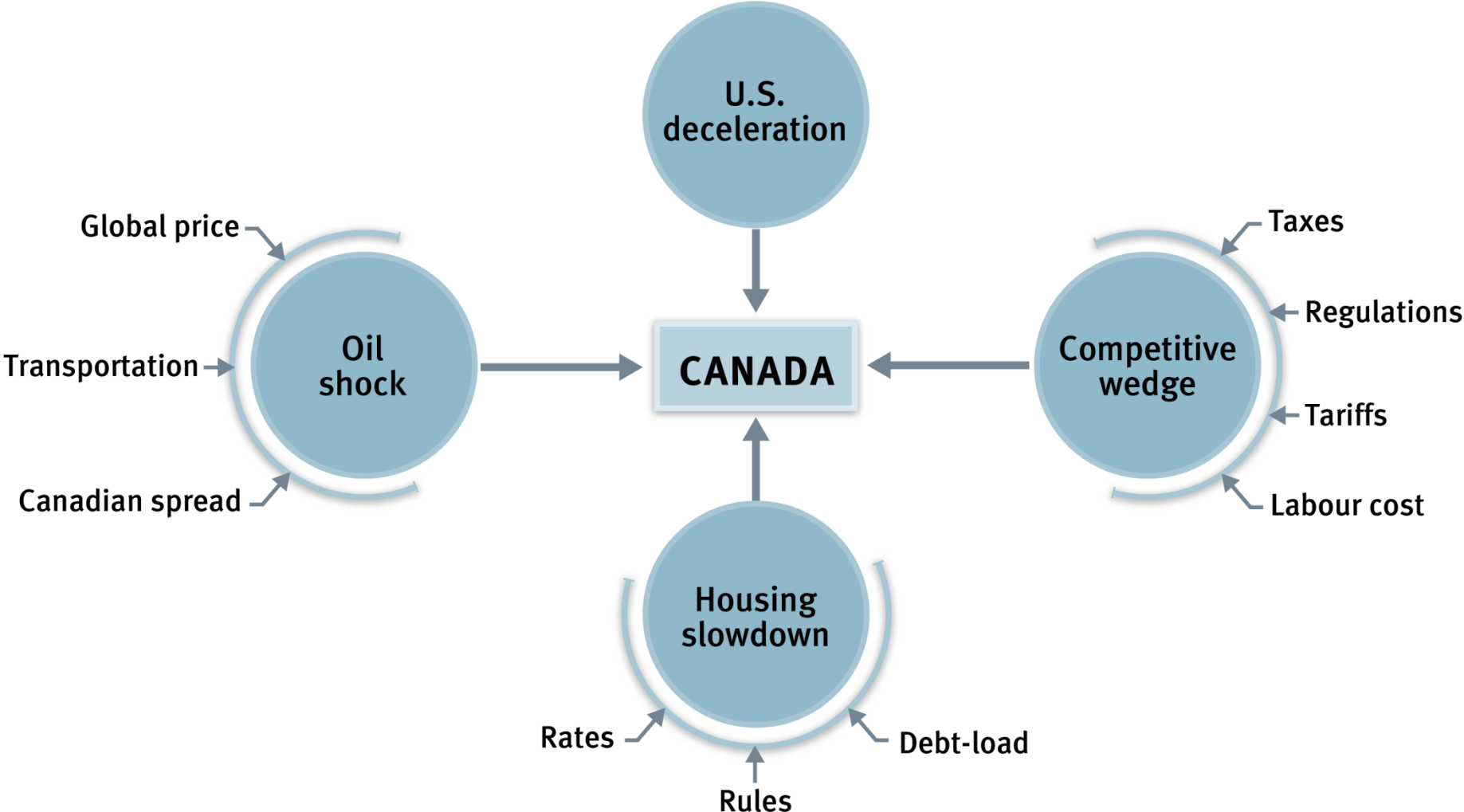


# Canadian leading indicator sends weakening signal



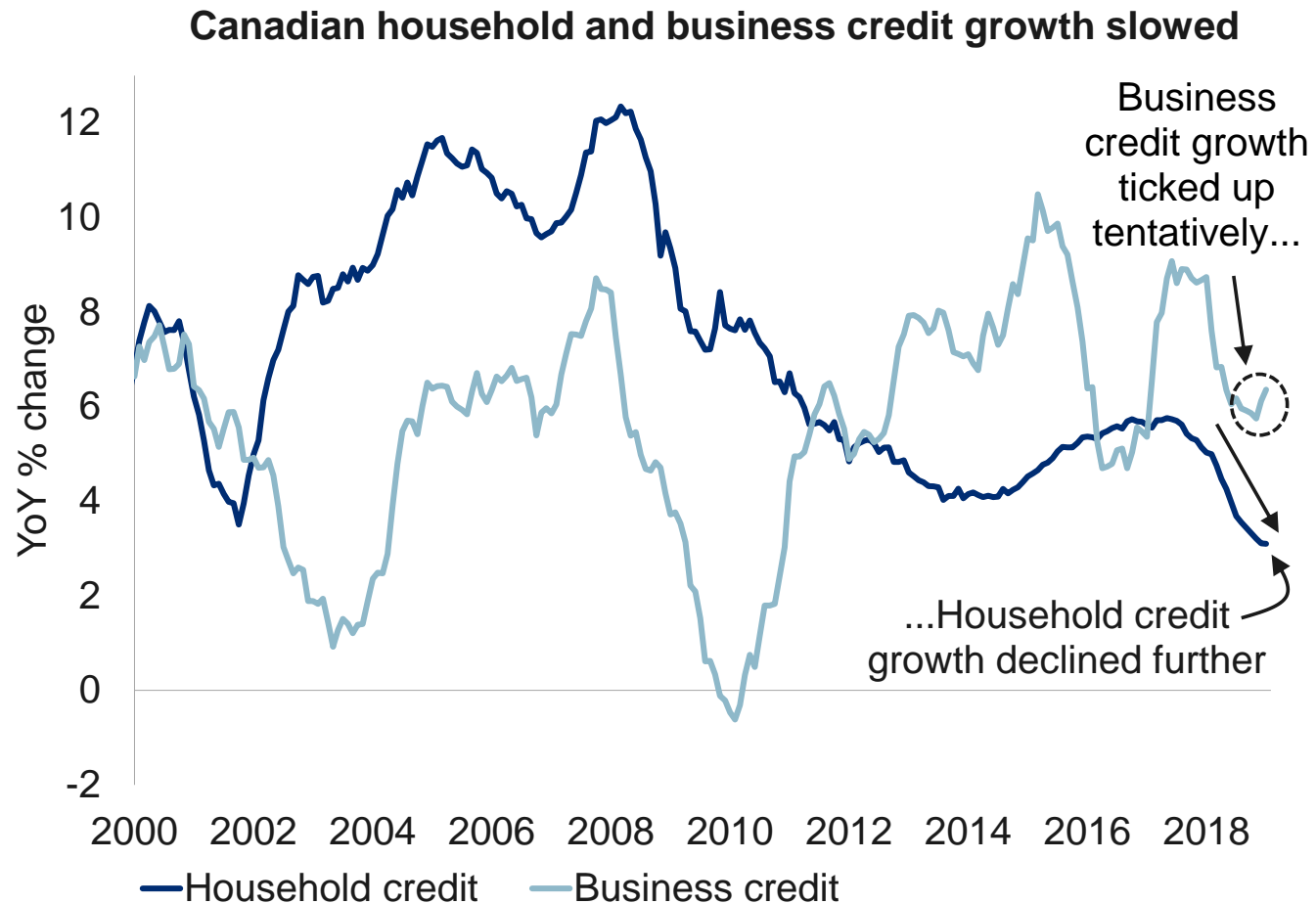
Note: As of Feb 2019. Composite constructed using four leading indicators from surveys on Canadian businesses. Source: CFIB, Macrobond, RBC GAM

# Canadian macro challenges



Source: RBC GAM

# Canadian economy starting to see less credit growth



Note: As of Jan 2019. Source: Bank of Canada, Haver Analytics, RBC GAM

# Long term: U.S. productivity trend gradually reviving



Note: As of Q4 2018. Productivity measured as rolling 8-quarter annualized % change of the business sector real output per hour of all persons. Shaded area represents recession. Source: BLS, NBER, Haver Analytics, RBC GAM

# Long-term headwinds to developed-world growth

Human factors	Economic structure	Post-crisis
<ul style="list-style-type: none"> <li>• Demographics:               <ul style="list-style-type: none"> <li>• Slower pop. growth</li> <li>• Rising retired %</li> </ul> </li> <li>• Decelerating gains in:               <ul style="list-style-type: none"> <li>• Education</li> <li>• Health</li> <li>• Urbanization</li> </ul> </li> <li>• Rising complacency:               <ul style="list-style-type: none"> <li>• Low labor mobility</li> <li>• More segregated</li> <li>• Less risk-taking</li> </ul> </li> <li>• Falling societal trust</li> <li>• Higher inequality</li> </ul>	<ul style="list-style-type: none"> <li>• Fading globalization</li> <li>• Declining creative destruction:               <ul style="list-style-type: none"> <li>• Lower firm turnover</li> <li>• Higher firm concentration</li> </ul> </li> <li>• Goods → services</li> <li>• Maturing EM economies</li> </ul>	<ul style="list-style-type: none"> <li>• Populism/protectionism</li> <li>• Secular stagnation:               <ul style="list-style-type: none"> <li>• Diminished expectations</li> <li>• Less business investment</li> <li>• Skill decay</li> </ul> </li> <li>• Debt excesses               <ul style="list-style-type: none"> <li>• Servicing</li> <li>• Deleveraging</li> </ul> </li> </ul>
	<div style="background-color: #003366; color: white; text-align: center; padding: 5px;"><b>Technology</b></div> <ul style="list-style-type: none"> <li>• Running out of big new innovations?</li> </ul>	

Source: RBC GAM

# Overview

## Macro

- Economic growth is OK but slowing
- Our forecasts tilt below consensus
- Drags from protectionism, financial conditions, fiscal fade
- U.S. leads DM, but to slip toward rest
- China slowing; Canada has headwinds
- Inflation may edge higher, but no problem



## Themes

- Economic speed limit has edged higher
- But no economic slack left:
  - Rising wages / normal inflation
  - Extreme monetary stimulus gone
  - Late in business cycle



## Markets

- Markets to remain volatile
- Limited risk-taking appropriate
- Stocks moderately cheaper than bonds
- Stocks can rise modestly on earnings
- Bond yields flat to slightly higher
- Cautious credit: old cycle
- USD in peaking process



## Risks

- Late business cycle / recession risk
- Protectionism
- China growth
- Global growth
- Worse financial conditions
- Rising inflation
- Populism / Geopolitics
- Debt hot spots

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# SUSTAINABLE FINANCE AND CLIMATE RISK: PRACTICAL GUIDANCE FROM THE FIELD

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CFA Society  
Toronto

#CFATOPENSION



# Canada's Expert Panel on Sustainable Finance

CFA Pension Conference

March 28, 2019

**Barbara Zvan**

*Chief Risk & Strategy Officer, OTPP  
Director, Cadillac Fairview*



## What is Sustainable Finance?

No universal definition, for the purpose of discussion the Panel views it as:

**Capital flows** (as reflected in lending and investment), **risk management** (such as insurance and risk assessment) and **financial processes** (including disclosure, valuation and oversight) that **assimilate environmental and social factors** as a means of **promoting economic growth** and the **long-term stability of the financial system.**

The Panel is particularly focused on engaging mainstream capital markets in sustainable finance.

## Timeline

- Apr '18:** Launched by Ministers McKenna and Morneau
- Oct '18:** Interim Report published
- Spring '19:** Final Report due

## Members



**TIFF MACKLEM**

Dean of Rotman; Former Senior Deputy Governor of the Bank of Canada; Director, Scotiabank



**ANDY CHISHOLM**

Former Goldman Sachs partner; Co-Head, Global FI Group and Senior Strategy Officer; Director, RBC



**KIM THOMASSIN**

EVP of Legal Affairs and Secretariat for Caisse de dépôt et placement du Québec



**BARBARA ZVAN**

Chief Risk & Strategy Officer for OTPP; Director, Cadillac Fairview

## Foundational Elements



Clarity On Climate Policy



Reliable Information



Effective Climate-related Disclosures



Clear interpretation of Fiduciary Duty



Knowledgeable Support Ecosystem



Effective and Consistent Regulation

## Financial Products & Markets



Building Retrofits for Energy Efficiency and Climate Adaptation



Sustainable Infrastructure



Cleantech innovation



Innovation in Oil and Gas Industries



Optimized Electricity Generation and Transmission



Sustainable Asset Management and Financial Products



Green and Transition-linked Financial Products

# Understanding climate-related financial risk drivers

## Systemic climate risk versus holding-specific climate risk

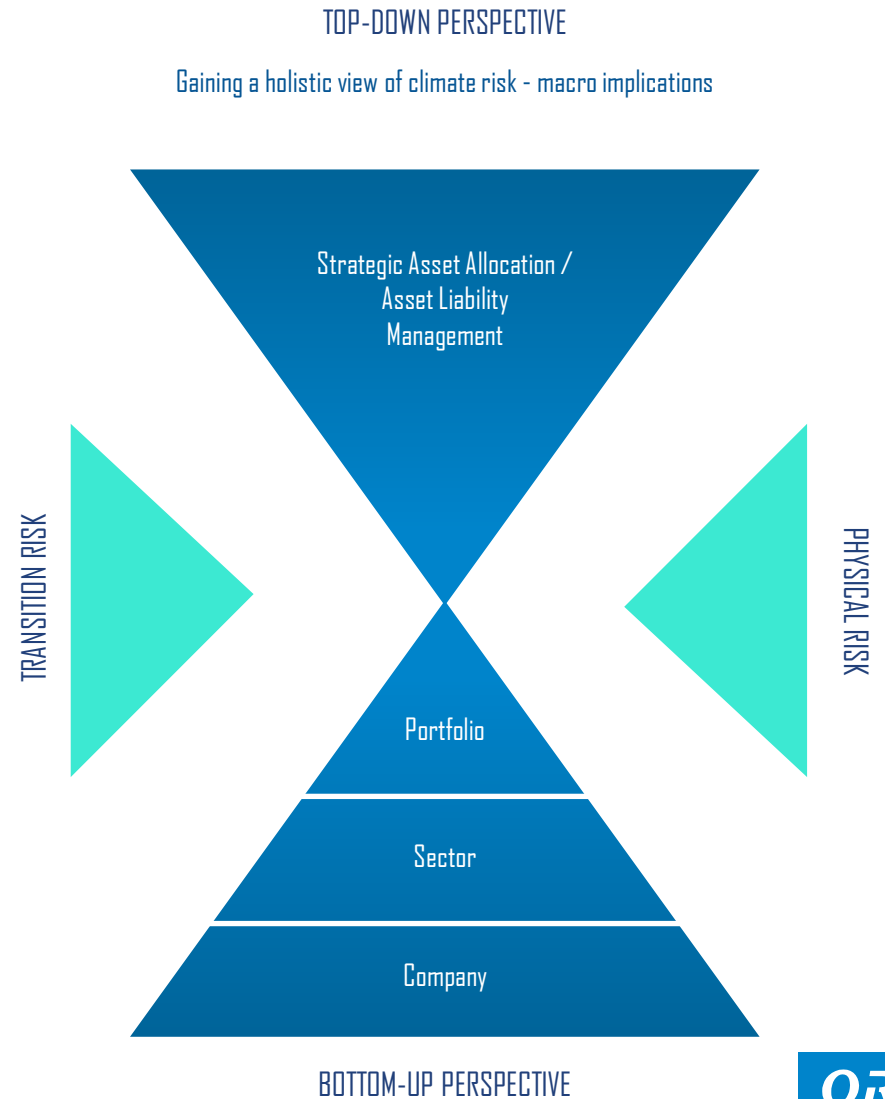
- Climate-related risks are **systemic** and therefore **unhedgeable**.
- **Climate change** will fundamentally impact how the **economy performs as a whole**.
- **'Stock-picking'** is **insufficient** to manage systemic risk.
- Therefore, taking **climate change** into account as a **risk driver** in your **strategic investment decision-making is crucial**.



# Combining 'top down' & 'bottom up' analysis

- Top-down (macro perspective) and bottom-up (holdings-specific) approaches to scenario analysis are complementary.
- They each enable different stages of the investment process to become 'climate-informed'.
- Combination of both enables a consistent climate intelligent investment strategy

Applying **scenario** analysis to investments, using either a **top-down** or **bottom up** approach or a combination of the two



# Introducing our TOP-DOWN scenario approach

... in partnership with...  **cambridge  
econometrics**  
clarity from complexity

Developed in R&D project with 5 institutional investors...

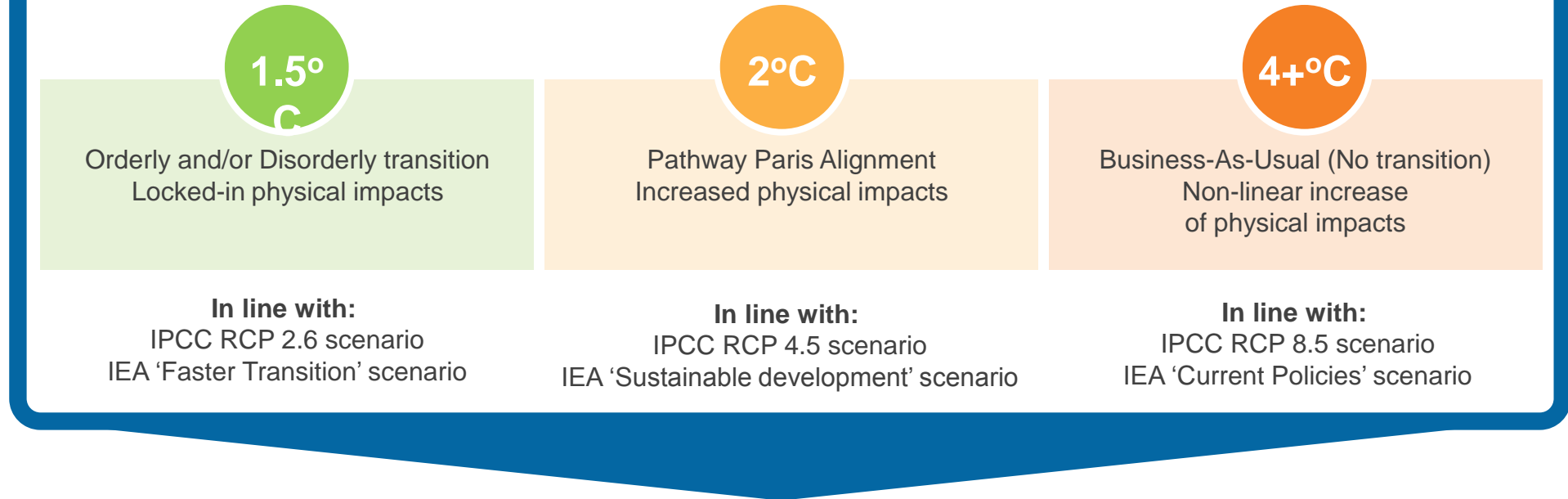


... and supported by leading academic institutions...



*Underlying climate science models, as well as Cambridge Econometric's macro-economic model and the Ortec Finance stochastic financial model are established and well respected. What is unique and new in our solution is that we combine them.*

## Global Warming Pathways Modelled

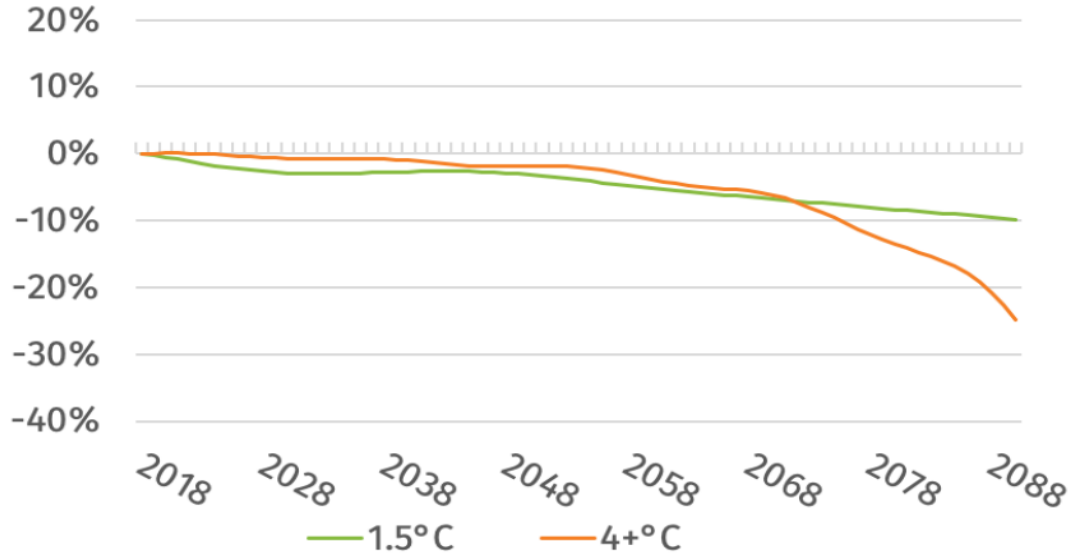


*Annual climate-related transition & physical impacts, differentiated per country, up to*

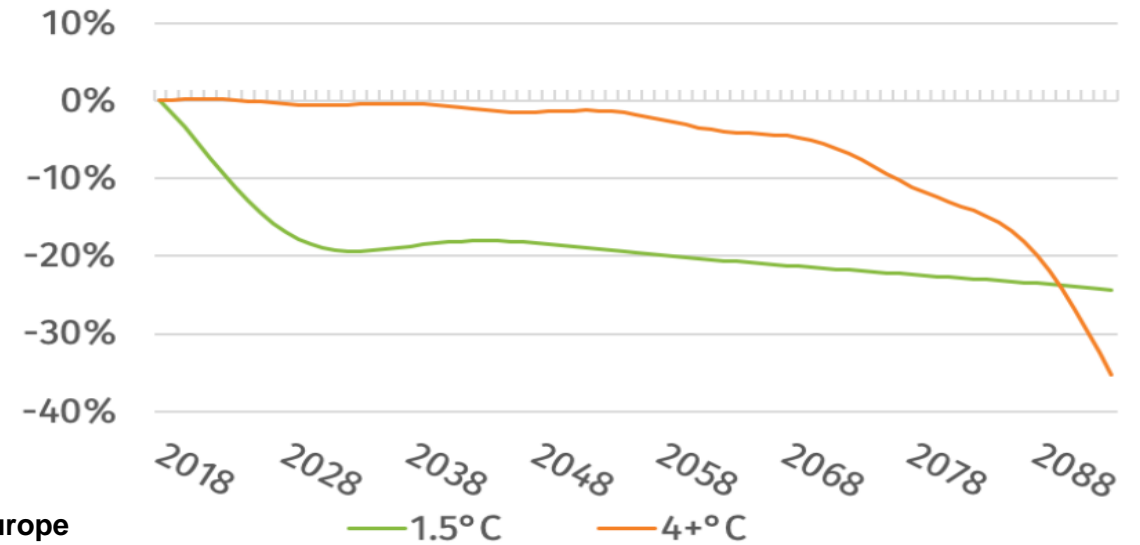
*2100.*

# Results: GDP as risk driver

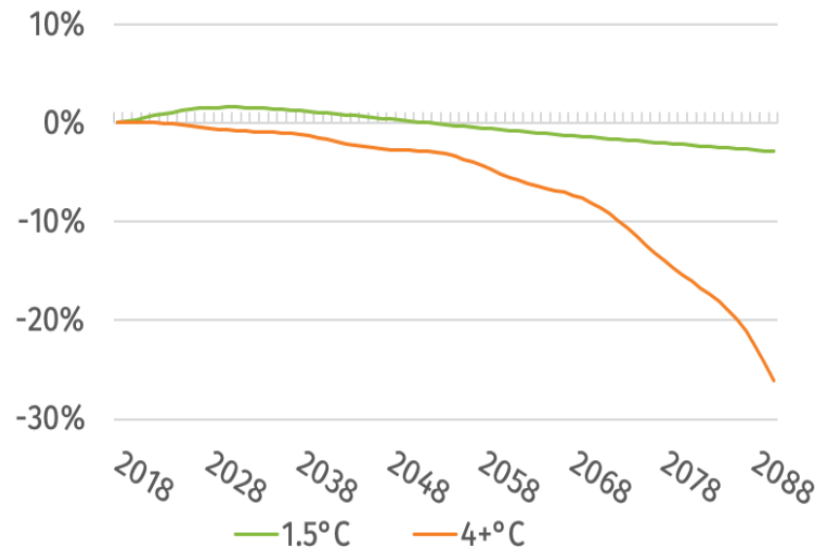
USA



Canada



Europe

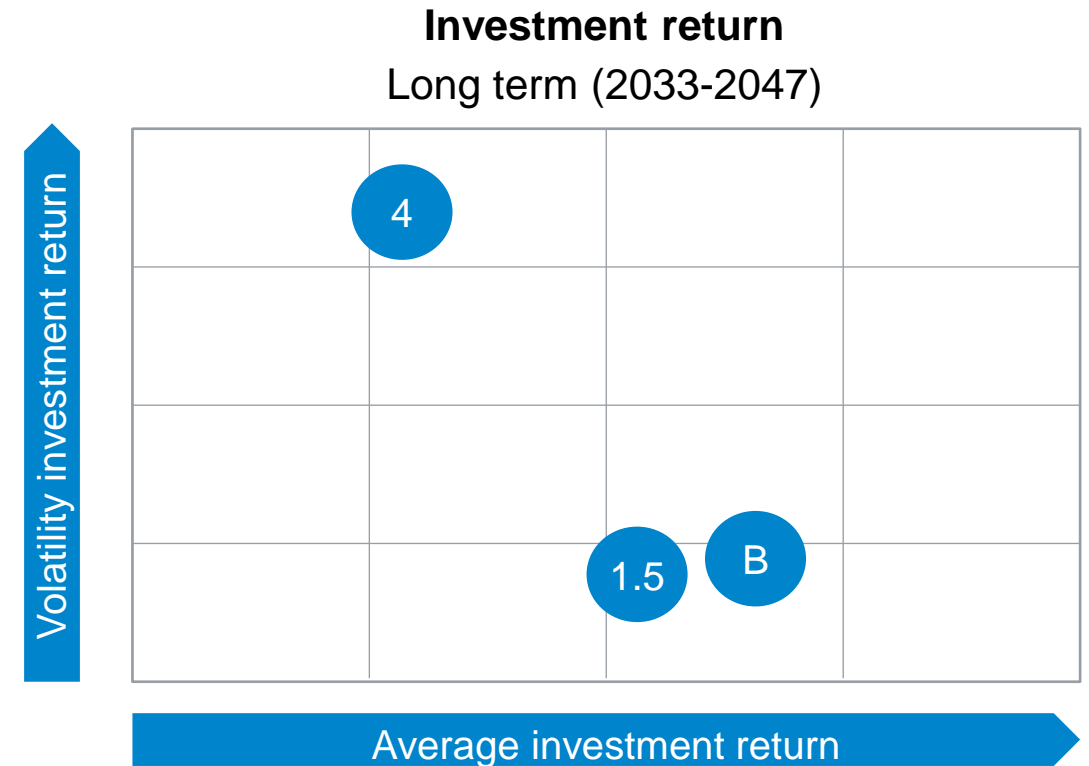
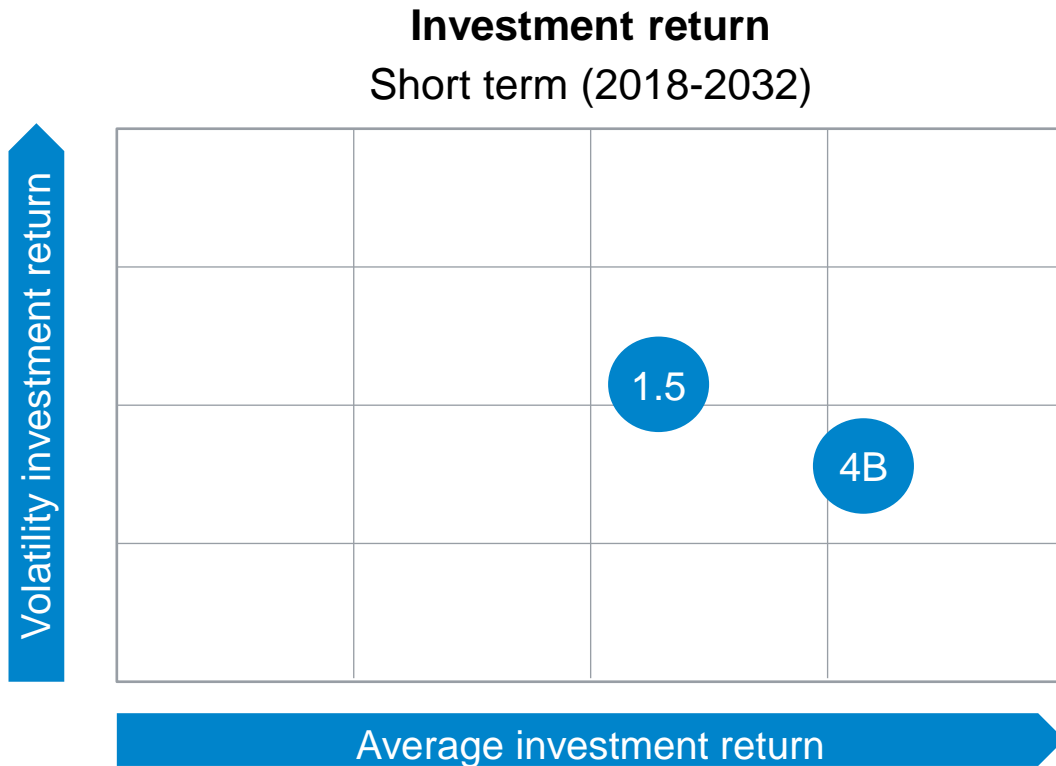


**Climate-adjusted GDP growth**  
(cumulative difference compared to climate-uninformed market expectation)



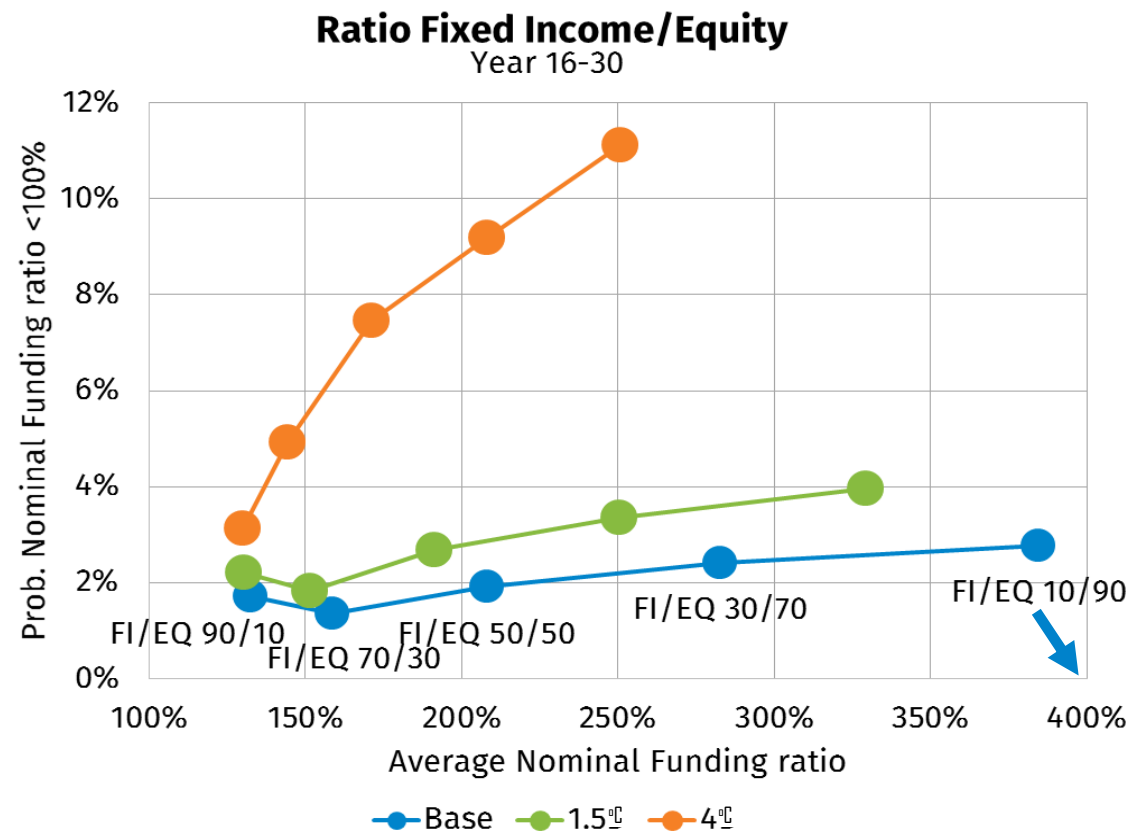
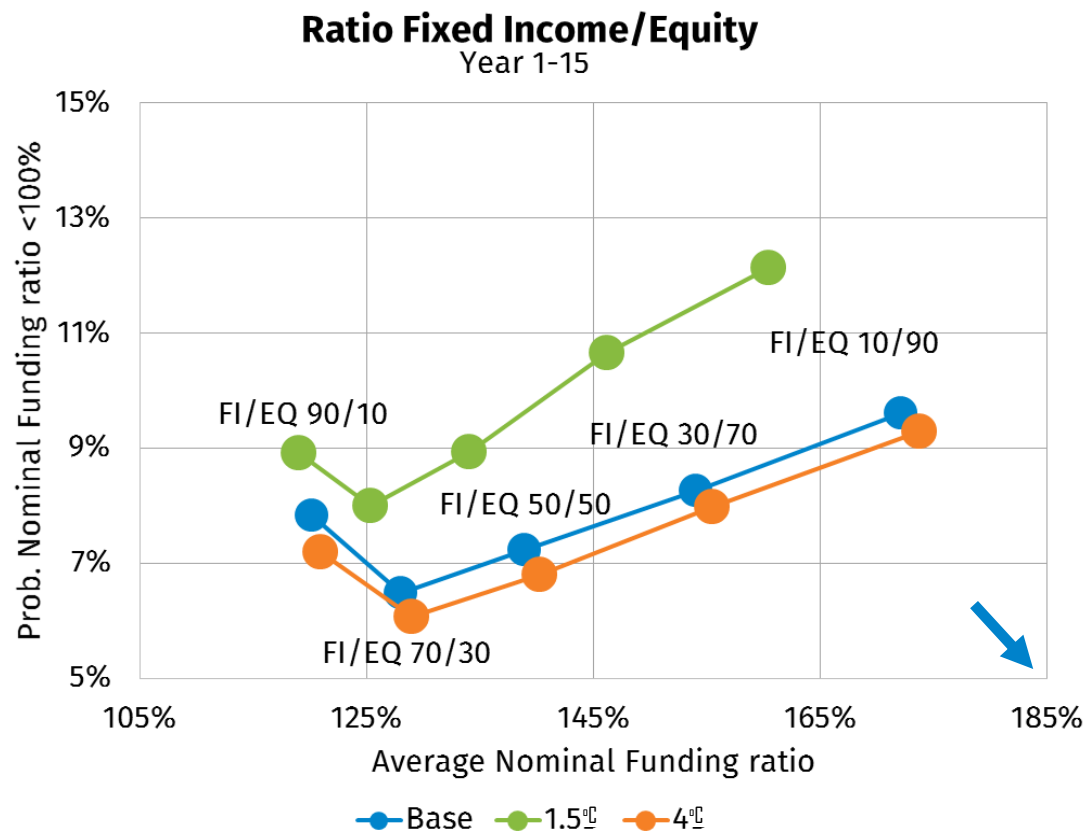
# ALM INSIGHTS: from climate-uninformed to climate risk-aware

*How robust is your policy framework for different climate paths?*



- Different climate pathways are expected to impact economic and financial risk drivers in their own way, per horizon and per region.
- Are expected returns for different climate paths still aligned with required return?

# ALM INSIGHTS: Funding ratio (Ratio Fixed Income/Equity)



- The results in the first 15 years are comparable for the base scenario and 4°C. The 1.5°C scenario has higher risks and increasing the exposure to equity results in a faster increase of the probability of underfunding compared to base and 4°C.
- For year 16-30 it holds that under the 4°C scenario a higher allocation to equity results in fast increasing probabilities of underfunding whereas under the base and 1.5D scenario the increase of this probability is only limited.

---

# Building solid projects and strong businesses

This document constitutes privileged and confidential information and cannot be transmitted or communicated without the prior consent of la Caisse.



# A leading global institutional investor

**\$309.5 B\***

US\$226.6 B

NET ASSETS  
AS AT DECEMBER 31, 2018

**41**

CLIENTS, MAINLY PUBLIC  
RETIREMENT FUNDS  
AND INSURANCE PLANS

**50+**

YEARS OF INVESTING

**90%**

OF ASSETS MANAGED  
INTERNALLY

**AAA**

CREDIT RATING ASSIGNED  
BY S&P, MOODY'S, DBRS  
AND FITCH RATINGS

\*Unless otherwise indicated, all data in this presentation as at December 31, 2018 and all amounts in Canadian dollars.

# One approach, four investment priorities

## Building for the long term

### Less-liquid assets and credit

> Increase the allocation to less-liquid assets (private equity, real estate, infrastructure), as well as credit

### Globalization

> Pursue the globalization strategy, through a targeted approach in growth markets

### Climate change

> Implement the investment strategy to address climate change and contribute to the transition to a low carbon economy

### Impact in Québec

> Maximize la Caisse's impact on the Québec economy and companies

# An ambitious strategy for climate change

**- 25%**

CARBON INTENSITY  
BY 2025

**FACTORING**  
IN CLIMATE CHANGE

INTO ALL  
ACTIVITIES

**+\$8B**

IN LOW CARBON ASSETS  
BY 2020

STRONGER  
**LEADERSHIP**

WITHIN THE INDUSTRY  
AND WITH BUSINESSES

# Low carbon investments

~ \$18 B

~ US\$14.4 B

Exposure as at December 31, 2017

BY TYPE

Renewable energy  
52%



High-efficiency real estate  
28%

Sustainable transportation  
20%

LA CAISSE'S COMMITMENT

+ \$8 B

IN LOW CARBON ASSETS BY 2020

A 50% INCREASE



**Innergex**  
Canada

Renewable energy  
Fixed Income  
\$150-million loan for the acquisition of Alterra Power



**Eurostar**  
Europe

Sustainable transportation  
Infrastructure  
30% stake



**Azure Power Global**  
India

Solar energy  
Private investment in public equity  
21% stake



**Invenergy Renewables**  
United States and Canada

Wind and solar energy  
Infrastructure  
52.4% economic stake



**AddÉnergie**  
Canada

Solutions for charging electric vehicles – Infrastructure  
Investment to add 8,000 new charging stations over five years



**Liberty Place**  
Sydney, Australia

High-efficiency real estate  
Office building  
24% ownership

# DIVERSITY PANEL: BEYOND AWARENESS TO PRACTICAL TIPS ON MAKING CHANGE HAPPEN

SUE LEMON, CFA, CFA SOCIETY TORONTO; KELLY BATTLE, CFA, SIONNA & TANYA VAN BIESEN, CATALYST



CFA Society  
Toronto

**#CFATOPENSION**



# DRIVING CHANGE: DIVERSITY & INCLUSION IN INVESTMENT MANAGEMENT



CFA Institute

# METHODOLOGY

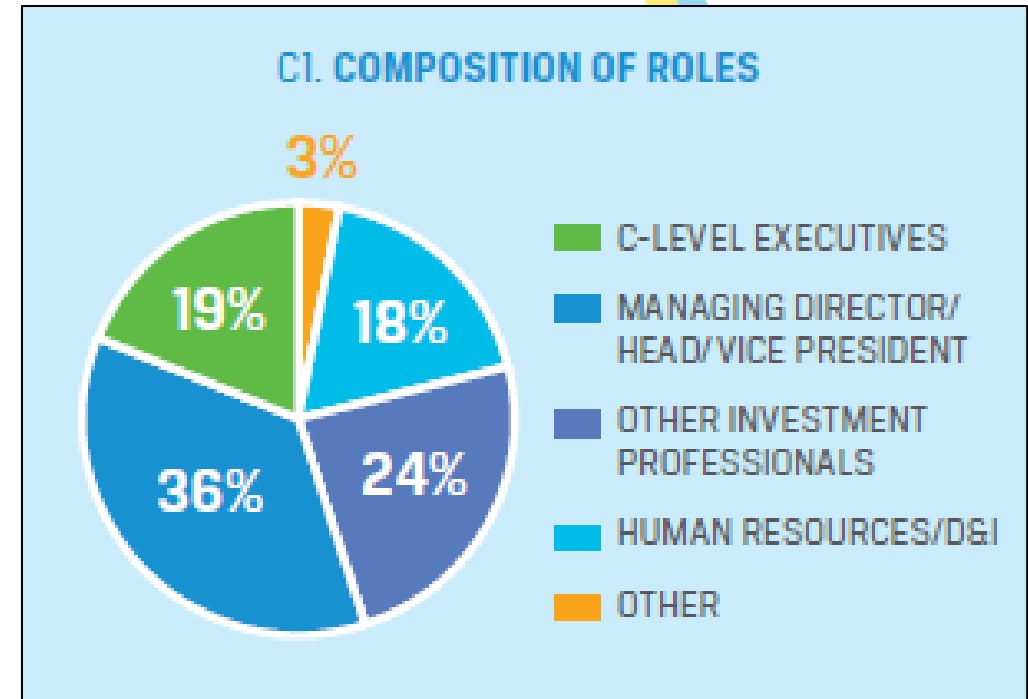
6 workshops over 8 months

Locations: Toronto, Boston, New York, Philadelphia, Chicago, San Francisco

344 participants

99 firms

\$38 trillion AUM



# DIVERSITY DEFINITION

*The variety of differences and similarities/ dimensions among people, such as:*

Age  
Belief system  
Class/caste  
Culture  
Disability  
Education  
Ethnicity  
Gender  
Gender identity

Generation  
Geography  
Job role and function  
Language  
Marital status  
Mental health  
Nationality  
Native or indigenous origins

Parental status  
Personality type  
Race  
Religion  
Sexual orientation  
Thinking style  
Work experience  
Work style



# INCLUSION DEFINITION

A dynamic state of operating in which diversity is leveraged to create a

- fair,
- healthy, and
- high performing organization or community.

An inclusive environment ensures equitable access to resources and opportunities for all.

It also enables individuals and groups to feel safe, respected, engaged, motivated, and valued for who they are and for their contributions toward organizational societal goals.



# 20 RECOMMENDED ACTIONS

- 1 **Define diversity**
- 2 **Intersectionality**
- 3 **Culture vs. policy**
- 4 **Biases**
- 5 **Storytelling**
- 6 **Data**
- 7 **Communication**
- 8 **Candidate slates**
- 9 **Know your candidate.**
- 10 **Interview**
- 11 **Returnship**
- 12 **Mentors and sponsors**
- 13 **“Cultural taxation”**
- 14 **Internal networks**
- 15 **Retention**
- 16 **“Always on” recruiting**
- 17 **Compensation**
- 18 **Outreach**
- 19 **Open dialogue**
- 20 **Business diversity**



# EXPERIMENTAL PARTNERS PROGRAM

The 2018 CFA Institute Driving Change: Diversity & Inclusion report identified **20 recommended actions** for investment firms that seek greater diversity and inclusion at their firms. Firms that contributed to that report and other firms are invited to become Experimental Partners.

Firms will select up to **three action items** from the report to implement as they see fit from March 30th, 2019 through to December 2020. Quarterly check points (via phone or in writing) will allow Experimental Partner firms to drive toward progress and determine what works in practice.

Based on input from the Experimental Partners, CFA Institute plans to report the findings in an update or new edition of the report.

*NB: We will publish a list of firms but will not attribute details about any firm's specific activities except by prior consent. For more information contact: [joshua.chance@cfainstitute.org](mailto:joshua.chance@cfainstitute.org) or Phone: +1 (434) 951-5488*



# THE NEXT CHAPTER IN ASIA'S GROWTH STORY

CATHERINE YEUNG, INVESTMENT DIRECTOR, FIDELITY INTERNATIONAL



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Toronto

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# Unearthing China's Megatrends

March 2019

Catherine Yeung

Investment Director



# What can China's past tell us?



## Terracotta Warriors

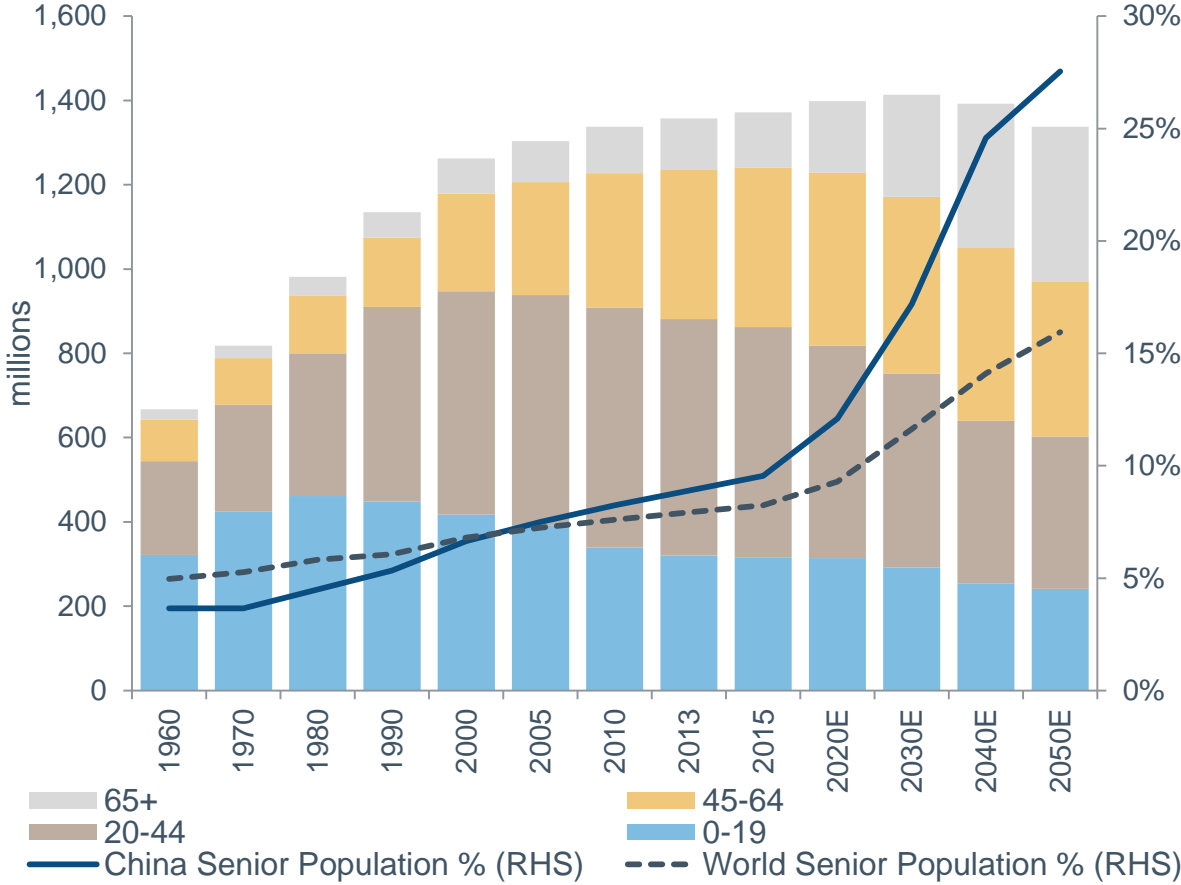
Emperor Qinshihuang's Mausoleum site Museum

*The Terracotta Army was discovered in 1974 in Xi'an, China. Over 6,000 life-size clay soldiers were buried with the first Emperor of China, Qin Shi Huang, to protect him in his afterlife.*

# Understanding China's demographics

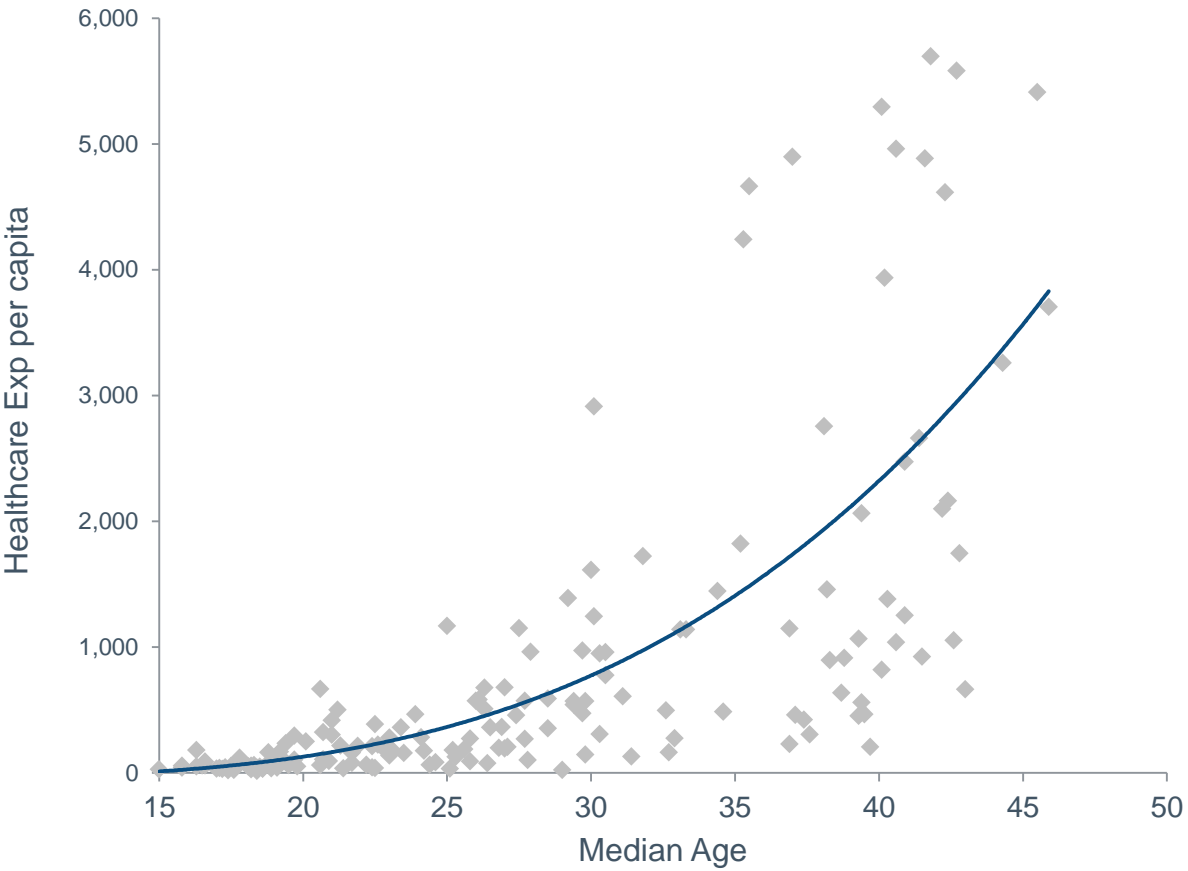
## Costs of an aging population

### Demographics in China



Source: IMF database

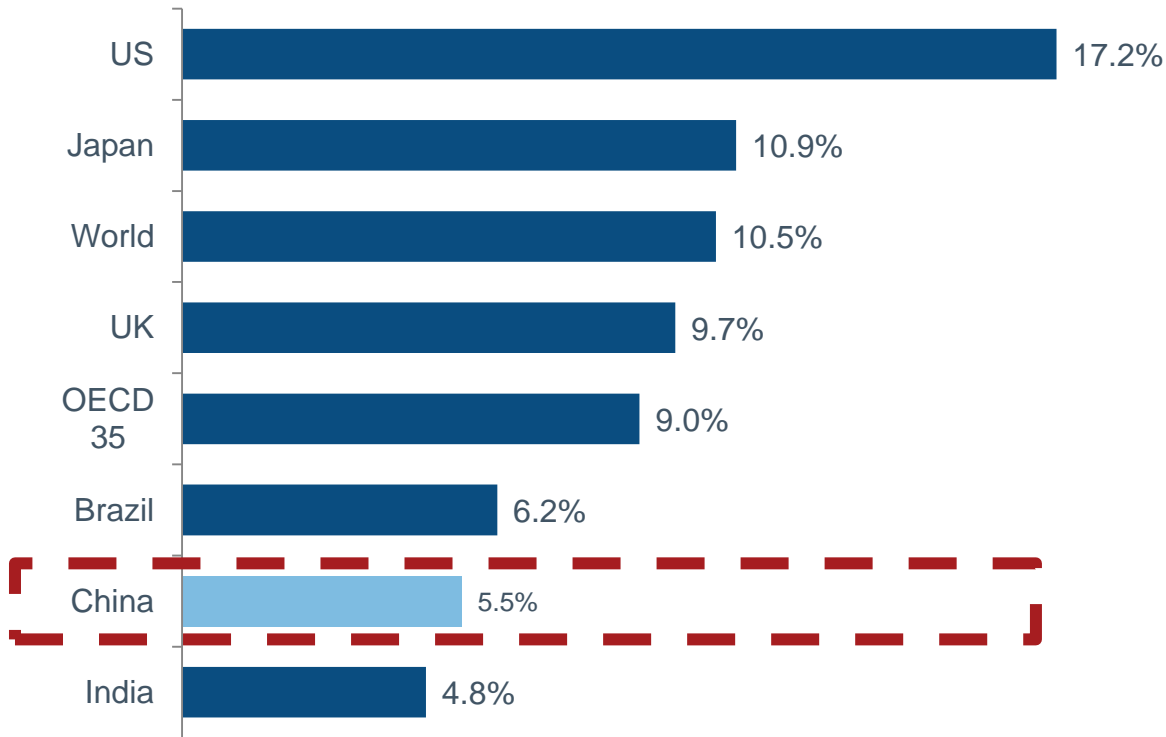
### Healthcare spending versus age



# China's healthcare sector: unmet demand

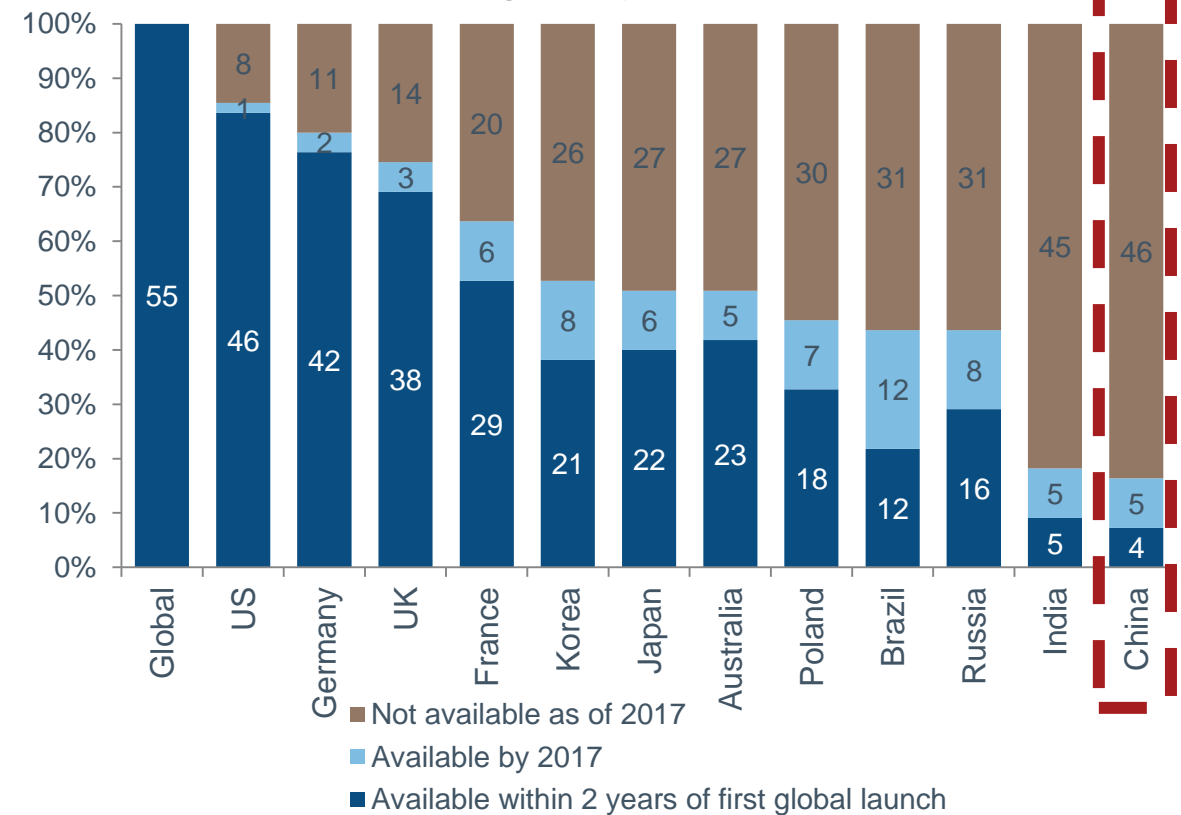
...with a significant lag in new drug launches

Healthcare expenditure as % of GDP



China underspends on healthcare...

Availability of 55 oncology drugs first launched globally in 2012-16



Source: OECD Health Statistics 2017, WHO Global Health Expenditure Database. Healthcare expenditure includes both government spending and out-of-pocket spending

Source: China Oncology Trends 2018

# Art imitates life – the influence of ‘Dying to Survive’



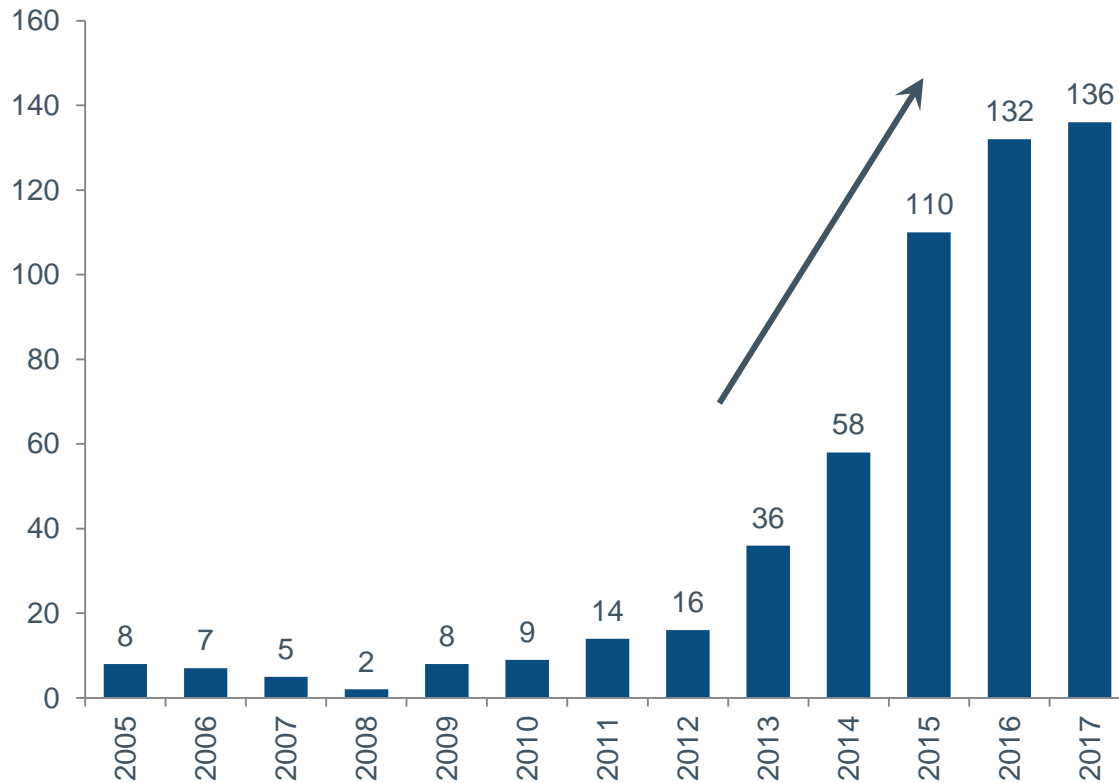
# Favourable structural drivers within the sector

Innovation is catching up with constructive policies to speed up approvals

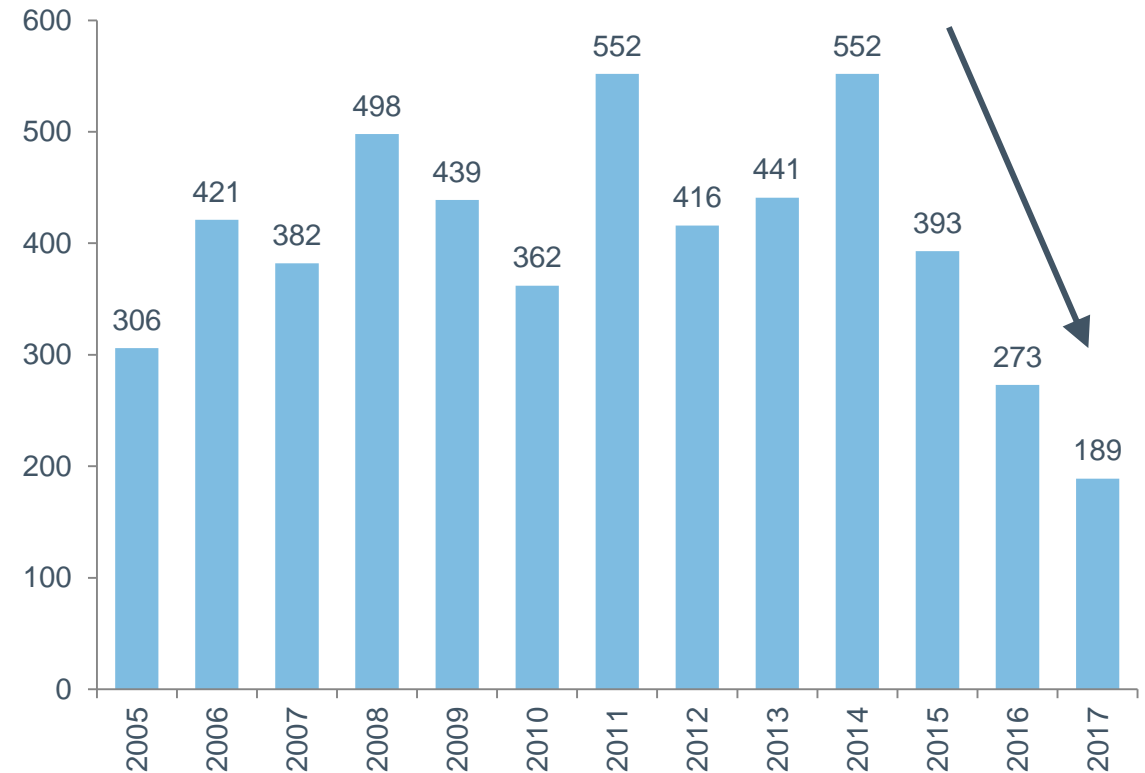
Increasing development on innovative drugs...

...as approval time being shortened significantly

# clinical application approved for “innovative drugs”



Time to get clinical trial approval for “innovative drugs”



Source: International Federation of Pharmaceutical Manufacturers and Associations

Source: Insight database. Innovative drugs are defined as new chemical entities globally. Approval time includes review in CDE and CFDA

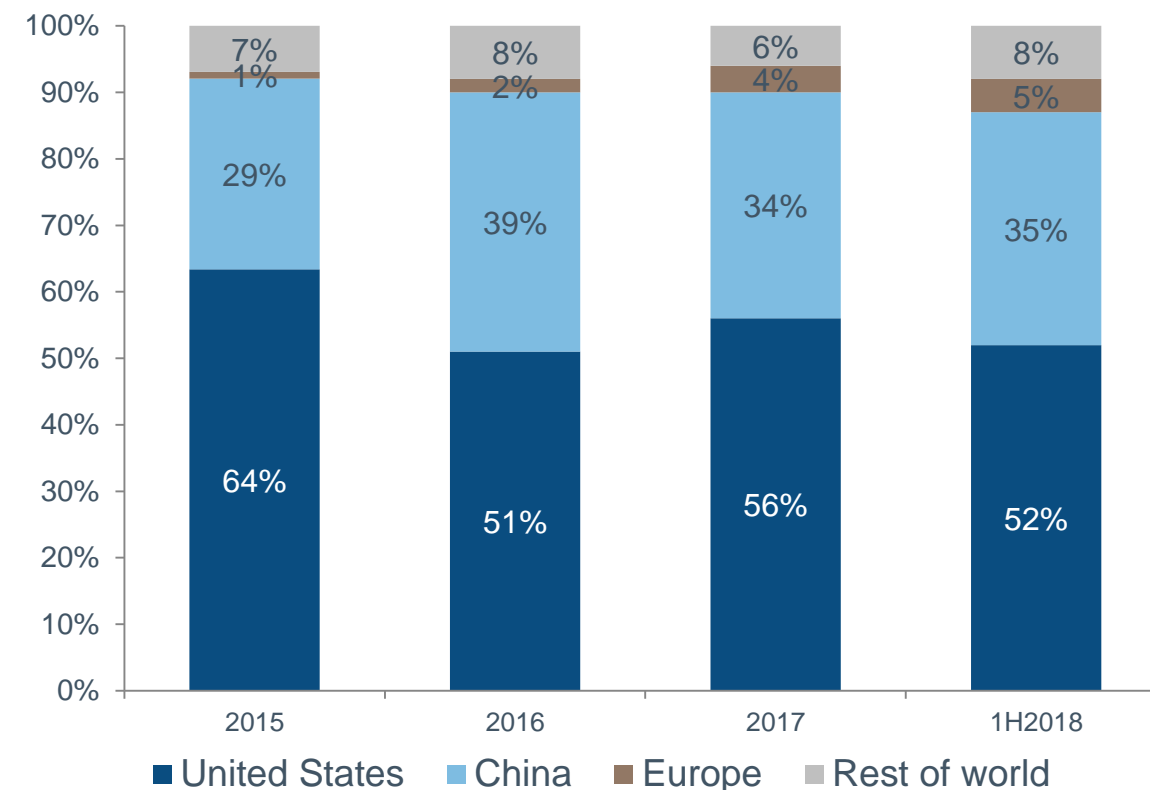
# Leader in biologics outsourcing – Wuxi Biologics

China's largest biologics outsourcing service provider



- Strong business model
  - End to end solution from molecule development (CRO) to commercial scale drug production (CMO)
  - High barrier of entry with client trust over intellectual property protection.
- Best management with longest track record and execution.
  - Strong and rising pipeline of projects
  - Integrated platform to attract and retain customers
- Favorable regulatory development since Oct 2017
  - Government promoting innovation
- **Risk to thesis: US/China trade relationship**

## Wuxi Biologics revenue breakdown by geography

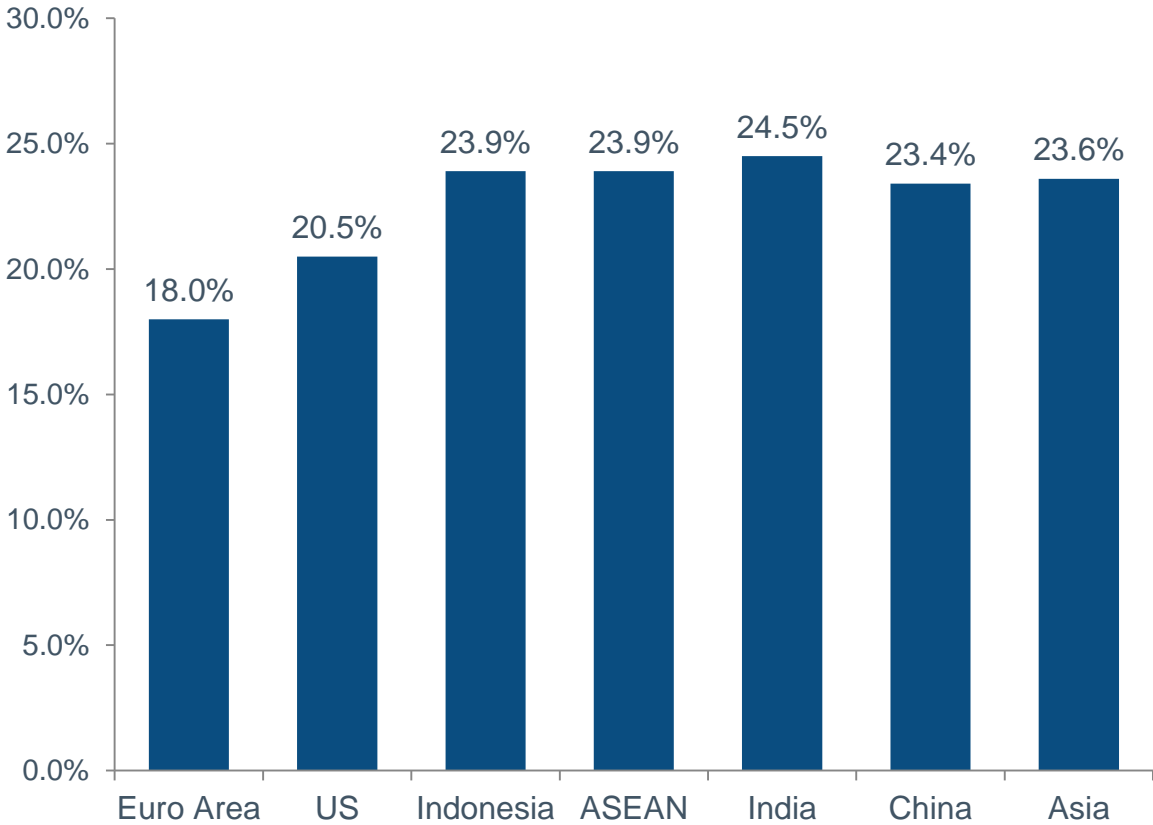


Reference to specific securities is for illustration only and should not be construed as a recommendation to buy or sell these securities.

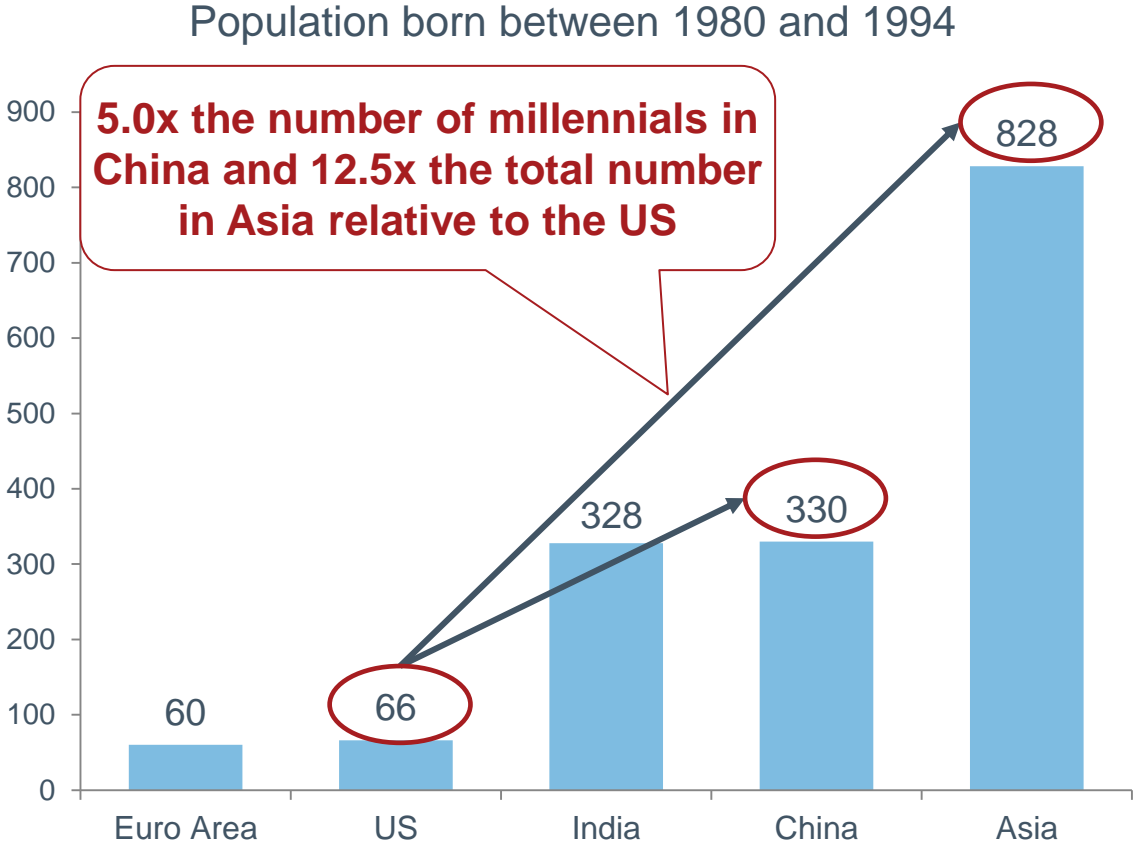
Source: Fidelity International, Company. Investors should note that the views expressed may no longer be current and may have already been acted upon by Fidelity.

# The Asian millennials: A powerful source of demand

Millennials as a percentage of total population, 2017



Number of millennials in 2017 (in millions)



Source: United Nations World Population Prospects, KKR  
 Note: Asia includes China, India, Japan, Hong Kong, Korea, and ASEAN (Indonesia, Malaysia, Philippines, Thailand, Singapore, and Vietnam)

# The power of the Chinese consumer

## Top 10 most popular brands in China

	2017 ranking			2018 ranking
1	Alipay		1	Alipay
2	WeChat		2	Android
3	Android		3	WeChat
4	IKEA		4	Huawei
5	Apple		5	Microsoft
6	Nike		6	Taobao
7	Estee Lauder		7	Intel
8	BMW		8	Meituan Dianping
9	Marriott		9	QQ
10	NetEase Cloud Music		10	Tmall

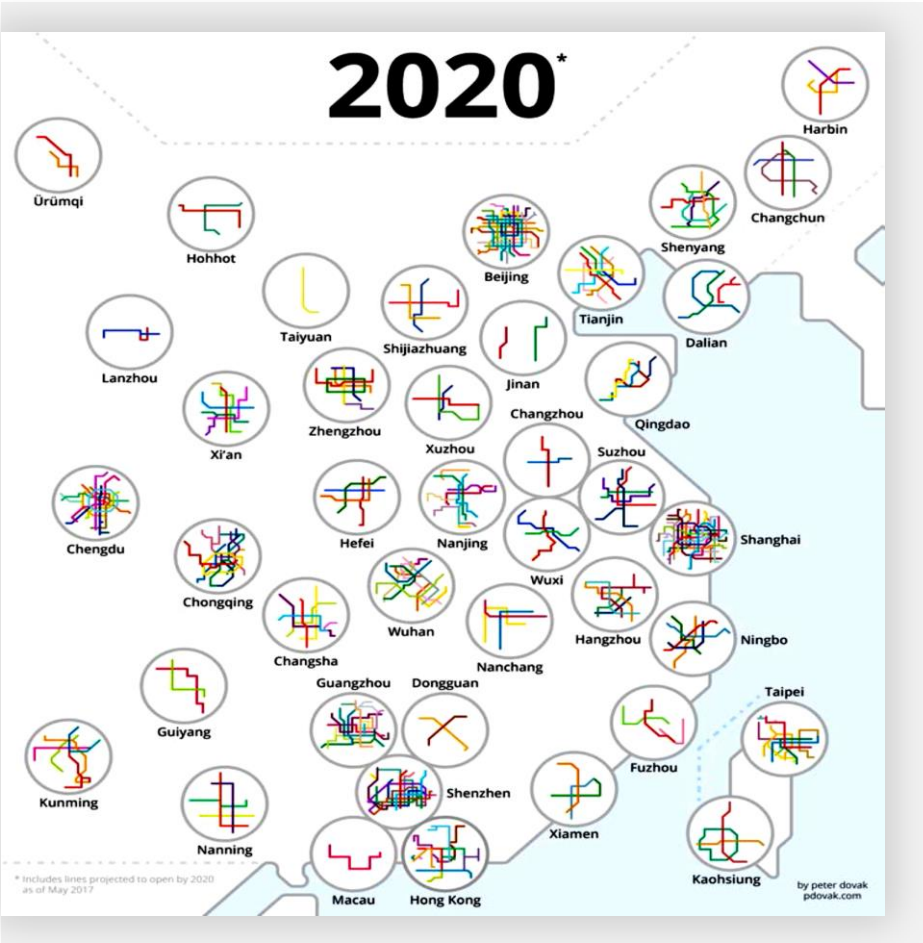
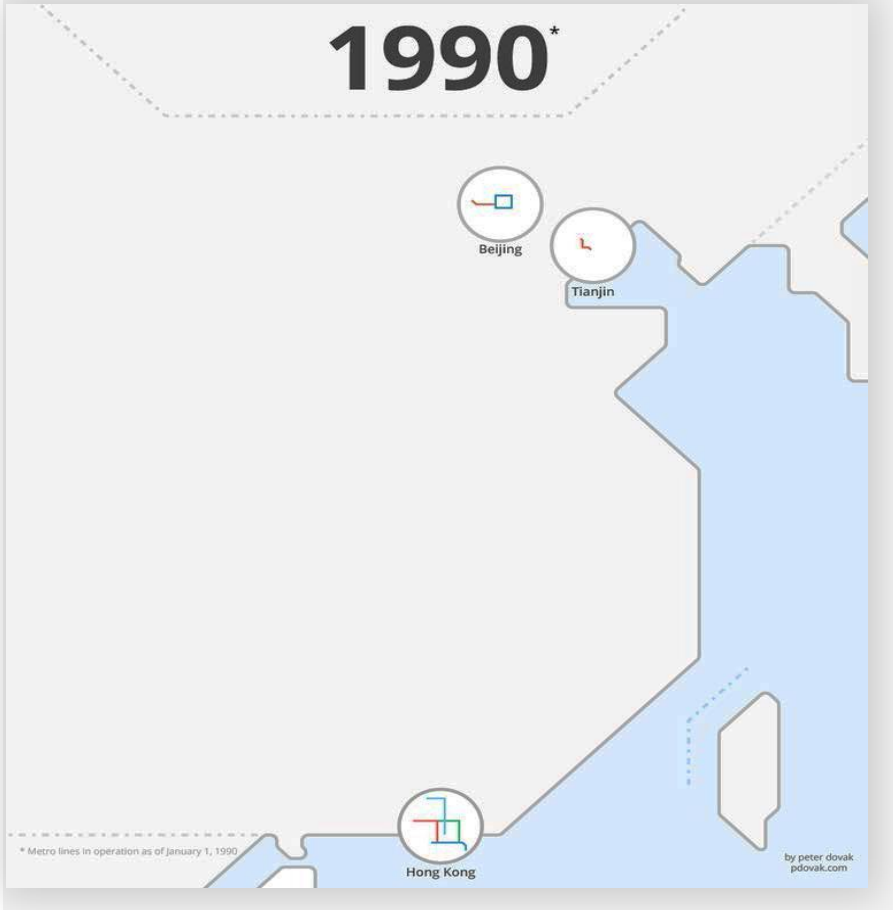
 Chinese brand

Source: Prophet Survey, Bloomberg



# Fixed Asset Investment plays a dual role for China's government

## The evolution of subways in Greater China



Source: TransitOriented, 2017

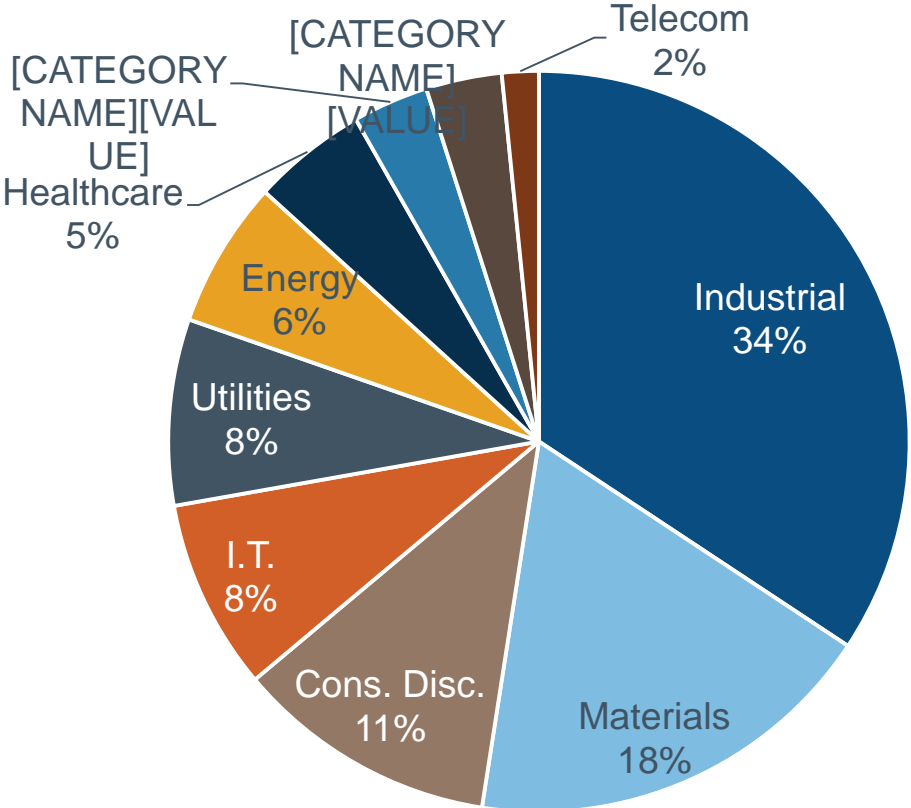
# Implementation of reforms remains a key focus

## Chinese SOE reform – from deleverage to deregulation

### List of SOE reforms

Projects	Effective date	No. of SOEs involved
Double-hundred action	August 2018	404
Mixed-ownership reform	July 2017 (Phase III) March 2017 (Phase II) September 2016 (Phase I)	50
Ten-project reform	July 2016	17
Four-project reform	July 2014	8

### Sector breakdown of engaged SOEs



Source: CLSA, CITICS 2018

Source: CLSA, Wind 2018

# Finding a balance between old China and new China

**Old China: mature industry dynamics, strong leadership, solid balance sheet, improving FCF and attractive dividend yield**

Company	Description	2018 PE	2018 PB	P/CF	Trailing Earnings CAGR (%)	2018-20 CAGR (%)	Div Yield (%)	FCF Yield (%)	Gearing
Shenhua	Largest coal mine	7.2x	1.00	4.41x	-3.9	5.5	22.7	Net cash	
CNOOC	Largest oil E&P	9.2x	1.23	4.8x	1.6	4.6	21.0	Net cash	
Dongfeng Motor	SOE Automobile Manufacturer	4.4x	0.50	27.8x	0.3	5.0	3.6	-18%	
Gree Electric	Largest AC manufacturer	9.5x	3.04	9.2x	7.4	-	6.4	Net cash	
Anhui Conch	Largest cement producer	6.1x	1.60	5.7x	0.3	3.6	17.7	Net cash	

**New China: Huge growth potential, much disruption opportunity, healthy balance sheet**

Company	Description	2018 PE	2018 PB	P/CF	Trailing Earnings CAGR (%)	2018-20 CAGR (%)	Div Yield (%)	FCF Yield (%)	Gearing
Tencent	Largest social platform	36.0x	8.5	24.0x	21.6	0.3	4.2	-20%	
Alibaba	Largest e-commerce platform	36.8x	6.38	20.0x	17.1	0.0	5.0	Net cash	
Hua Hong Semi	2 <sup>nd</sup> largest semiconductor	13.1x	1.10	8.5x	6.1	1.9	11.8	Net cash	
Hangzhou Hikvision Digital	Video surveillance products manufacturer	26.6x	8.1	31.8x	24.5	1.6	3.1	Net cash	
Hualan Biologics	Vaccines & biologics	30.4x	6.1	33.9x	20.2	0.83	2.9	Net cash	

Source: Bloomberg and F&I research, January 2019

# China Overview

## Key messages

### Macro:

- Synchronized global growth coming to the end; China taking another leg down, 2H stabilizing;
- Concern about growth opening doors for market reforms;
- Upside in investment, downside in consumption, exports facing structural adjustment

### Market:

- Be selective post YTD rally
- Stronger balance sheet/FCF/dividend provides support from sharp downside
- More balanced views between old and new economy sectors

**Fund: Abundant company-specific opportunities as 2019 evolves; maintain value bias**

Source: Fidelity International, January 2019  
Investors should note that the views expressed may no longer be current and may have already been acted upon.

# Putting the pieces together



Terracotta warrior



Shaanxi, China

# Important Information

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## Risks

Past performance is no guarantee of future results. An investment may be risky and may not be suitable for an investor's goals, objectives and risk tolerance. Investors should be aware that an investment's value may be volatile and any investment involves the risk that you may lose money. Performance results for individual accounts will differ from performance results for composites and representative accounts due to factors such as portfolio size, account objectives and restrictions, and factors specific to a particular investment structure.

The value of a strategy's investments will vary day to day in response to many factors, including in response to adverse issuer, political, regulatory, market or economic developments. The value of an individual security or a particular type of security can be more volatile than the market as a whole and can perform differently from the value of the market as a whole. Nearly all accounts are subject to volatility in foreign exchange markets.

Derivatives may be volatile and involve significant risk, such as, credit risk, currency risk, leverage risk, counterparty risk and liquidity risk. Using derivatives can disproportionately increase losses and reduce opportunities for gains in certain circumstances. Derivatives may have limited liquidity and may be harder to value, especially in declining markets. Derivatives involve leverage because they can provide investment exposure in an amount exceeding the initial investment. Leverage can magnify investment risks and cause losses to be realized more quickly. A small change in the value of an underlying asset, instrument, or index can lead to a significant loss. Assets segregated to cover these transactions may decline in value and are not available to meet redemptions. Government legislation or regulation could affect the use of these transactions and could limit the ability to pursue such investment strategies.

These materials may contain statements that are “forward-looking statements,” which are based on certain assumptions of future events. Forward-looking statements are based on information available on the date hereof, and Fidelity Investments Canada ULC (“FIC”) does not assume any duty to update any forward-looking statement. Actual events may differ from those assumed by FIC when developing forward-looking statements. There can be no assurance that forward-looking statements, including any projected returns, will materialize or that actual market conditions and/or performance results will not be materially different or worse than those presented.

# USMCA RATIFICATION: TOWARDS STABILITY IN NORTH AMERICAN TRADE

JEFFREY WRIGHT, ANALYST, EURASIA GROUP'S NORTH AMERICA  
PRACTICE



CFA Society  
Toronto

**#CFATOPENSION**

# Negotiations under threat: the outlook for USMCA ratification in the US

Jeffrey Wright

Analyst, US Practice, Eurasia Group

[wright@eurasiagroup.net](mailto:wright@eurasiagroup.net)



**CFA Society  
Toronto**





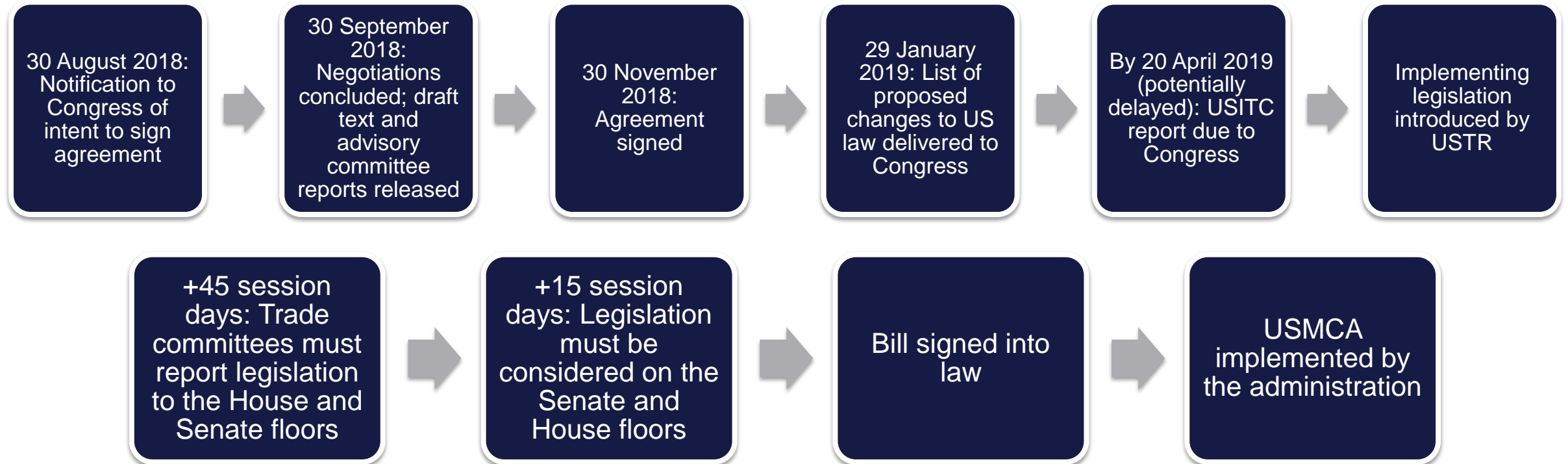
# Laying out scenarios for ratification

- We forecast a 60% chance that the USMCA is ratified in 2019
  - Reduced from 65% in late January due to the government shutdown
- House Democrats are the key actors, but we believe there will be enough pro-trade votes to ensure ratification
  - Democrats are wary of handing Trump a victory
  - But economic importance of NAFTA/USMCA likely to win out
- Trump's threat to withdraw serves as a bluff  
Democrats will be loathe to call



# A process that forces a decision

- Trade Promotion Authority (TPA) process means that delay is not an option – USMCA must be given an up-or-down vote by both chambers within a constrained period



Congress has 90 session days total to consider trade agreements under TPA, and that the House must act first, though the chambers can work concurrently. Including breaks, the maximum 90 session days could take through 1 November.



# Democrats have reservations – and constituencies

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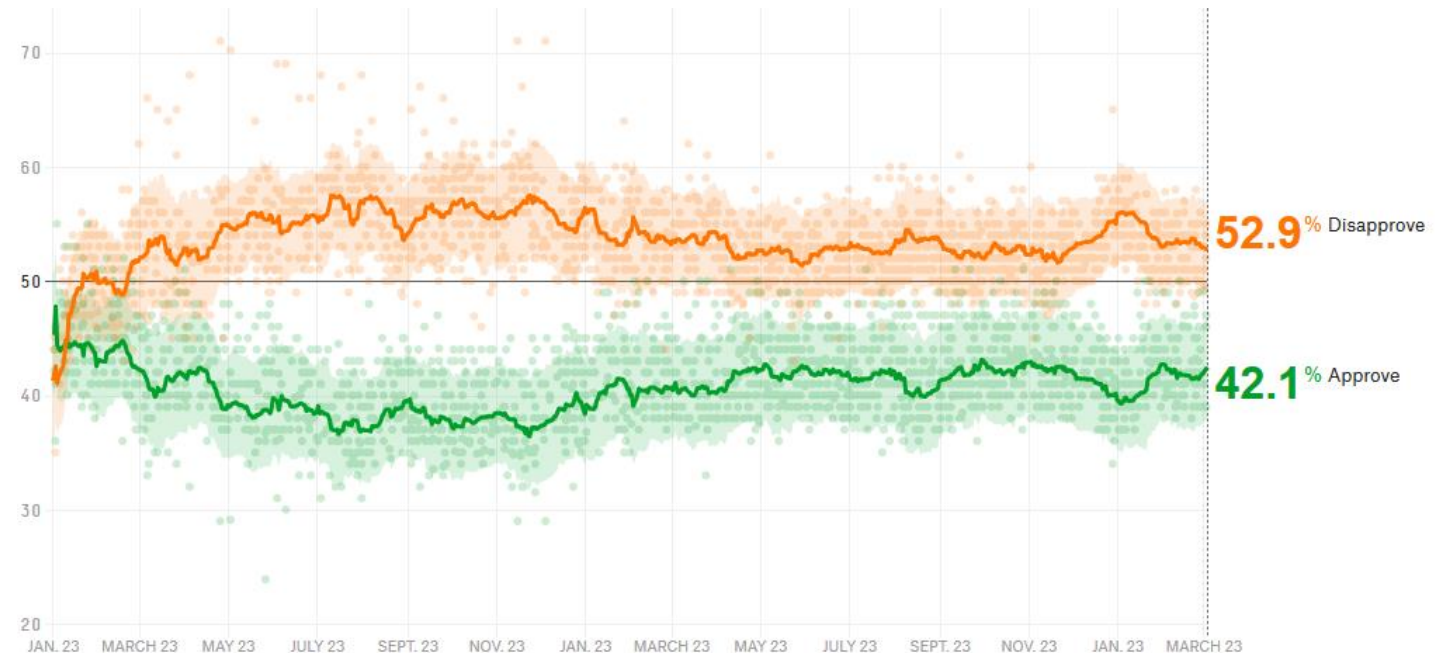
- Democrats have both political and substantive concerns with USMCA
- Objections to the enforcement of labor and environmental standards in Mexico
  - Passage of labor law could allay some concerns
  - Potential for USTR to negotiate side letter with Mexico on labor
- Labor unions are important Democratic constituencies, and some have rejected the deal
  - UAW is the most important, but others will object to removal of steel and aluminum tariffs
- Pharmaceutical chapter is seen as too friendly to drug companies, with drug prices a potent issue for Dems in 2018 and likely 2020
- Political concern with handing Trump a victory on a signature issue ahead of 2020



# Is USMCA a 2020 winner or a millstone?

- Both sides' calculations will depend on perceptions of 2020 political advantage
- Polling shows plurality support ratification, though many uninformed
- Trump sees trade as a signature issue, but Dems must appear to be fighting for working class support
- Both sides would prefer to avoid the economic consequences of rejection or withdrawal

Poll-adjusted average approval rating for President Trump, as of 26 March, from FiveThirtyEight



# Metals tariffs could delay progress on USMCA

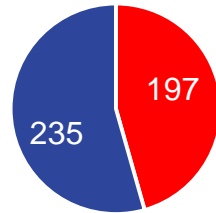
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- The US faces pressure from Canada and business groups to remove steel and aluminum tariffs before USMCA is ratified in Washington and Ottawa
- The administration knows it needs to remove tariffs to move forward, but is dragging feet on replacing tariffs with quotas or removing them altogether
  - Trump believes that tariffs are working, despite evidence
- Influential members of Congress – especially Senate Finance Chair Sen. Chuck Grassley – are pushing the White House to remove tariffs without quotas
- We expect Trump will comply in April, but any delay should be watched closely



# Some early vote counting

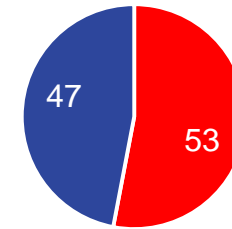
## House balance



■ Republicans ■ Democrats

- 218 needed for passage, meaning 21 Democrats provided no Republican defections
- Nearly all Republicans are likely to vote yes out of support for Trump
- Of the 28 Democrats who voted yes on TPA in 2015 (Congress' last difficult trade vote) 22 are still in Congress and are persuadable

## Senate balance



■ Republicans ■ Democrats

- Senate ratification will be relatively easy
- Only 50 votes needed, and 3-5 Democrats are likely to vote yes, in addition to all Republicans
- Bottom line: trade votes are always close, but pro-trade forces have substantial resources



# Withdrawal: Trump's trump card

---

- Trump has used threats to withdraw from NAFTA before, and will not hesitate to return to them if it appears that Democrats will reject the USMCA
- Actual withdrawal remains extremely unlikely – result would be years of court fights to litigate constitutional questions about separation of powers
- But the fight would be disruptive and costly, for all three economies, and Democrats don't want it
- If Trump signaled intent to begin six-month withdrawal process, pressure on Democrats to produce enough votes would be enormous
- Bottom line: all parties want to avoid this outcome, and that knowledge gives Trump leverage



# USMCA's economic impact likely to be modest

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- The agreement's effect on GDP is likely to be minimal, especially in the US
  - Likely no more than 0.1% GDP boost annually, with some chance of GDP decline
  - Those numbers, if echoed by the USITC, may complicate Trump's sales job
- NAFTA already eliminated nearly all tariffs in North America, so not much room for gains that move the needle
- Largest effect will be on the auto sector, where higher wage costs and domestic content requirements will raise costs
- Gains for the US dairy sector as Canada allows greater market access
- Pharmaceutical rules will benefit US drug companies, bring higher prices in Canada





# What might 2020 elections mean for USMCA?

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- As an incumbent with a strong economy, Trump must be considered the frontrunner 20 months before the 2020 election
- Even if a Democrat unseats Trump, USMCA implementation is likely to continue unchanged
  - No appetite for another renegotiation effort
- Democratic field will likely split on USMCA stances
  - Sanders, Warren already oppose deal, but centrist wing including Klobuchar and Biden likely to be more supportive
- Parties are battling for control of the trade issue;
  - Trump can point to concrete successes on USMCA, KORUS, soon US-China
  - Democrats will say that his trade agenda has hurt working Americans and helped large corporations

