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# Global trends and growth opportunities in Capital Markets Infrastructure – Securities Services



ACSDA GENERAL ASSEMBLY

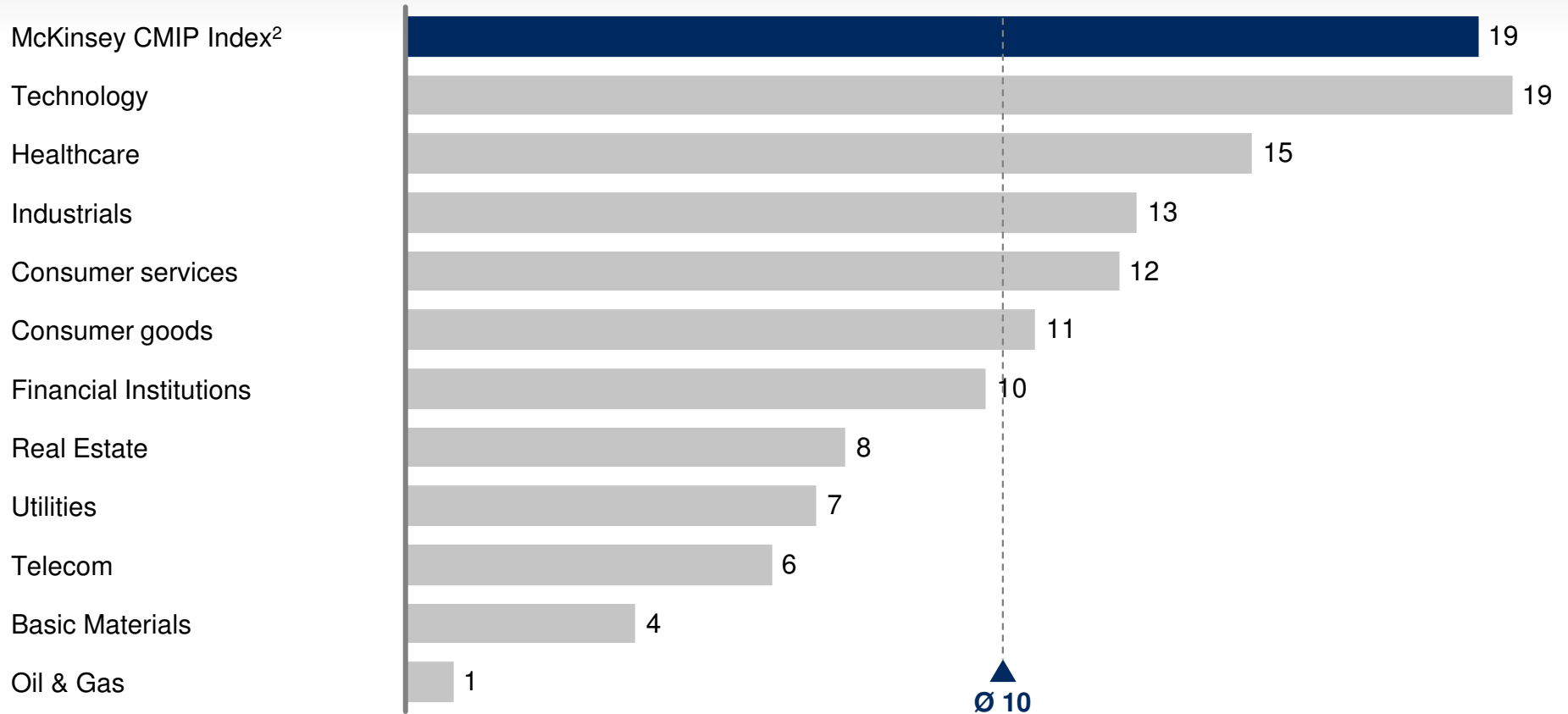
April 12, 2018

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# Capital markets infrastructure providers (CMIPs) have performed impressively over the past few years

## Total Return to Shareholders<sup>1</sup> – Last 5 Years

December 31, 2012 – January 31, 2018















<sup>1</sup> Datastream defined world level sector index on USD basis

<sup>2</sup> CMIP index is market capitalization weighted TRS index on USD basis for 40 companies, including 28 exchange groups (ASX, B3, Bats, BVC, Bolsa de Valores Lima, Bolsa Mexicana de Valores SAB de CV, Bolsas y Mercados Españoles, Bucharest Stock Exchange, Bursa Malaysia, CBOE, CME, Deutsche Boerse, DFM, Euronext, Gielda Papierow Wartosciowych, Hellenic Exchanges – Athens, HK Exchanges & Clearing, ICE, JPX, JSE, LSE, MCX, NSX, NZX, Nasdaq, Philippine Stock Exchange, SGX, TMX), 4 interdealer brokers (BGC Partners, Compagnie Financiere Tradition, ICAP, Tullett Prebon), and 8 information service providers (FactSet, IHS Markit, McGraw Hill, Moody's, Morningstar, MSCI, Thomson Reuters, Verisk Analytics). Please note that Tullett Prebon completed the acquisition of ICAP's voice-broking business in December 2016 to create TP ICAP

# The capital markets infrastructure industry comprises a diverse value chain

NOT EXHAUSTIVE

“Securities Services” – primary focus of today’s presentation

Activity	Examples of Players	
 <b>Trade Facilitation/ Execution</b>	<ul style="list-style-type: none"> <li>Exchanges &amp; alternative venues</li> <li>Dealer-to-Client (D2C) platforms</li> <li>Interdealer brokers (IDBs)</li> </ul>	
 <b>Clearing</b>	<ul style="list-style-type: none"> <li>Exchange-owned central counterparties (CCPs)</li> <li>Stand-alone CCPs</li> </ul>	
 <b>(I)CSD Settlement &amp; Asset Servicing<sup>1</sup></b>	<ul style="list-style-type: none"> <li>Central securities depositories (CSDs)</li> <li>International CSDs (ICSDs)</li> </ul>	
 <b>Custody &amp; Securities/Fund Administration</b>	<ul style="list-style-type: none"> <li>Custodians</li> <li>Corporate trusts</li> <li>Fund administrators</li> </ul>	
 <b>Information Services</b>	<ul style="list-style-type: none"> <li>Data &amp; analytics providers</li> <li>Credit rating agencies</li> </ul>	
 <b>Technology Infrastructure</b>	<ul style="list-style-type: none"> <li>OEMS<sup>2</sup>/portfolio system providers</li> <li>Matching/clearing engine providers</li> <li>Post-trade solution vendors</li> </ul>	

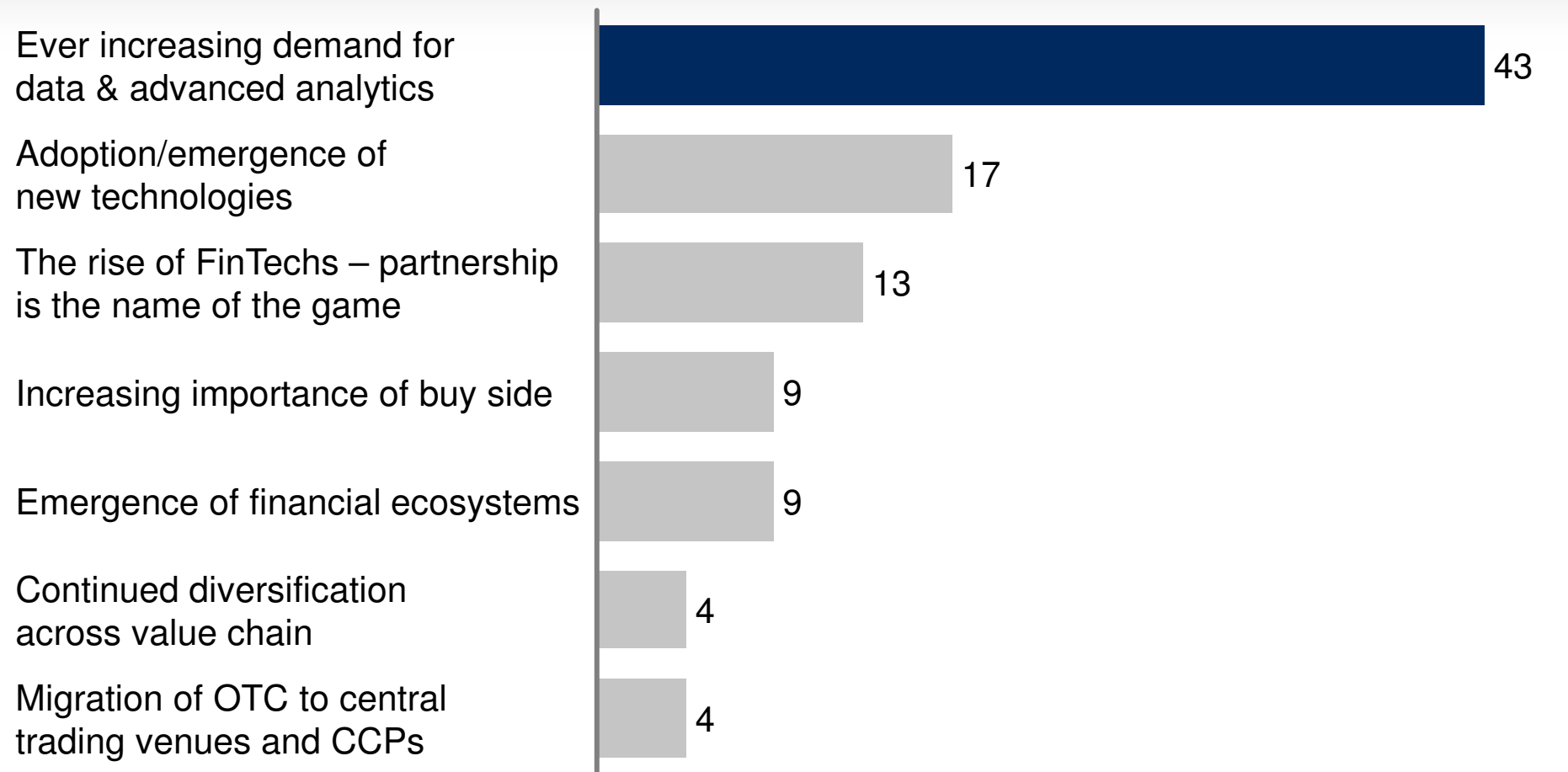
<sup>1</sup> Includes safekeeping and corporate actions; excludes corresponding services provided by intermediaries (e.g., banks)

<sup>2</sup> Order & execution management systems

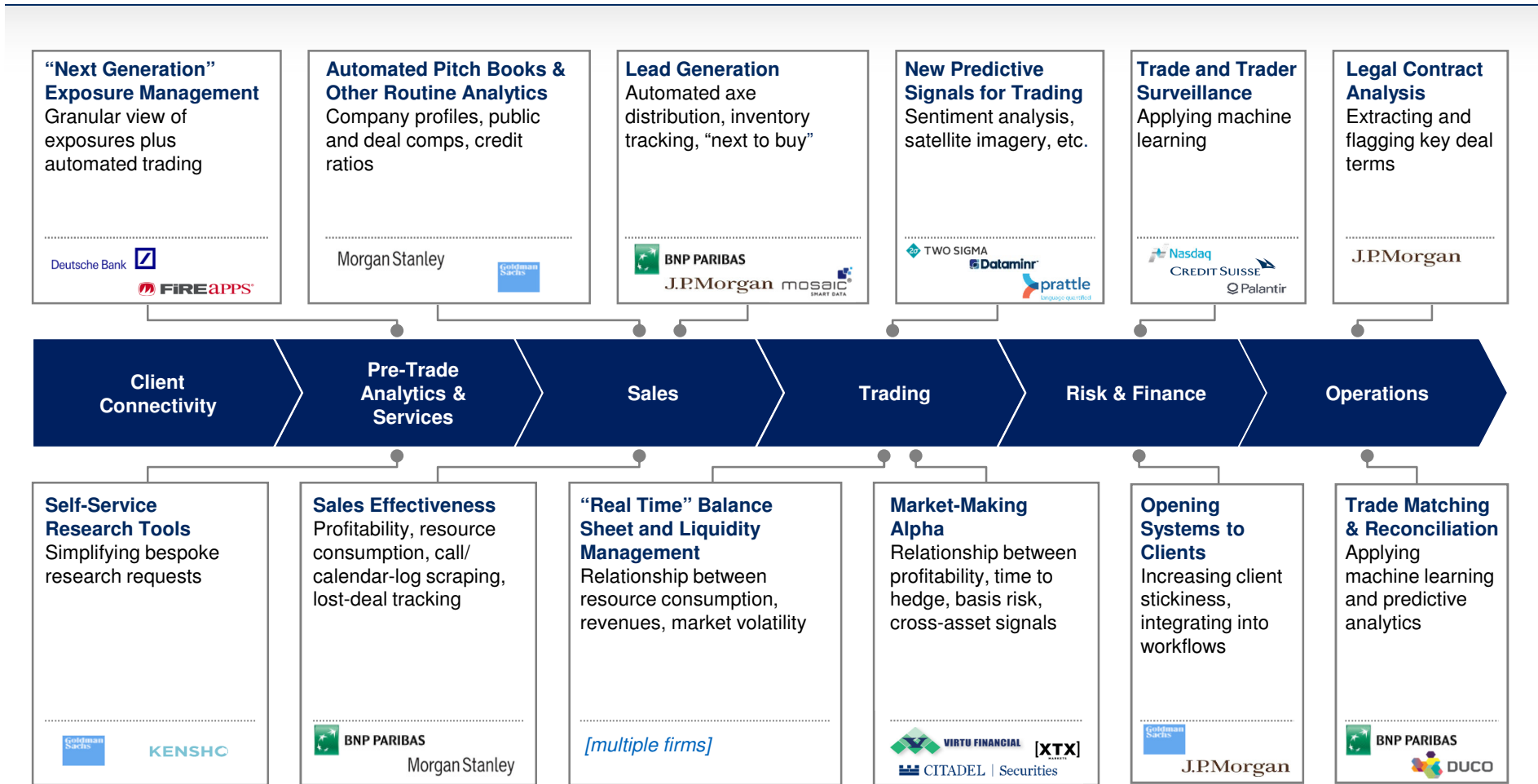
## Participants at our 2018 Global Capital Markets Infrastructure Roundtable view data & advanced analytics as the most impactful industry-shaping trend

### Which of these global trends do you see as being the most influential in shaping the industry over the next 5 years?

Share of responses, percent, n = 23



# There are a number of use cases in advanced analytics already being put to use across the capital markets value chain



## The next wave of innovation: Several technologies have the potential to re-shape the future of capital markets

### Cloud & Quantum Computing

- Cloud adoption in capital markets **at tipping point**, as cost/agility benefits outweigh security concerns
  - Majority of US financial institutions with **roadmap for broad-based adoption**
  - Still some **concerns over security of public cloud** and data protection exist, and need to be resolved
- Leading-edge capital markets participants **already exploring ways to leverage quantum computing** – potential to perform much more complex tasks than traditional computing

### Artificial Intelligence & Automation

- Robotics (process automation) **driving scalability and increasing efficiency**, especially for highly repetitive tasks
- **Increasing demand for artificial intelligence (AI) solutions**, driven in part by (i) high cost of regulatory non-compliance/poor risk management, (ii) need for more intelligent automation and (iii) imperative for alpha – improved data accessibility creating **ripe environment for AI**


### Distributed Ledger Technology

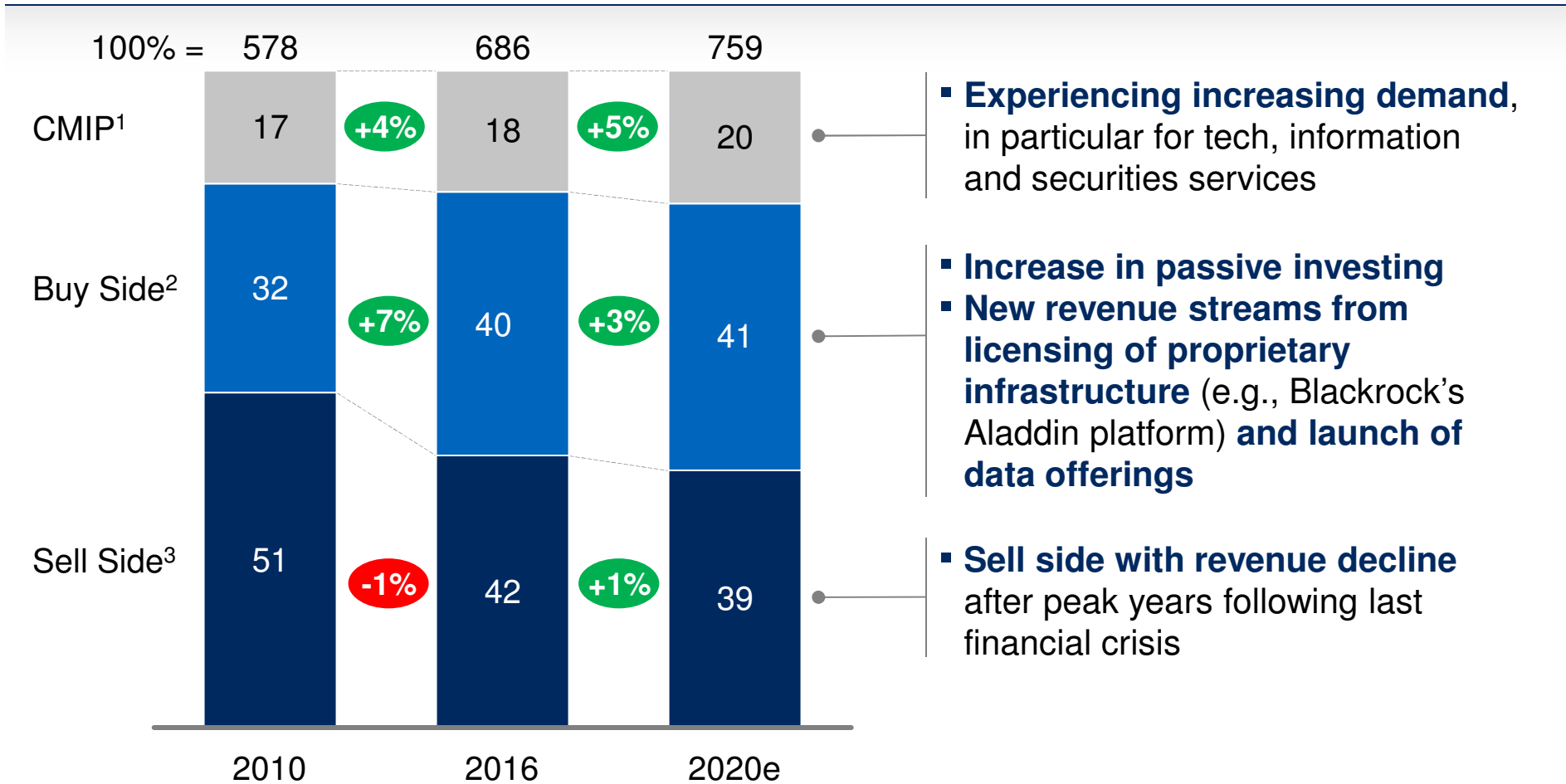
- **Distributed Ledger Technology (DLT)** could partially replace current centralized systems
  - **ASX/Digital Asset among frontrunners in DLT implementation within post-trade space** (PoC hitting preliminary milestones for distributed sub-ledger solutions for booking and settlement)
  - **First use cases in capital formation visible (e.g., ICOs)** – negative knock-on effect along the current CMIP value chain

Buy side gaining in stature, while capital requirements and other regulation keep pressure on sell side

### Global Capital Markets Ecosystem Revenues

USD billion, percentage of total

 Revenue CAGR



1 Excludes securities services

2 Revenues of major asset management players in the 20 largest countries, accounting for 95% of global AUM

3 Includes investment banking and institutional sales & trading revenues for banks and brokers



# Five theses on the future of the securities services industry

- 1 Optimism tempered despite some tailwinds**
  - **Persistent profitability challenges for investment managers** will translate into further margin pressure for securities services players – risk of commoditization
  - On the other hand, **continued AUM growth** likely to buffer industry, with additional **upside from value-added services and expected rise in interest rates**
- 2 Market structure changing**
  - **Industry consolidation will continue, albeit slowly** (as concentration already high), while **niche players with bespoke offerings will continue to thrive**
  - **Target2Securities (T2S) will change the European post-trade landscape**, allowing global custodians to connect directly with CSDs, thereby increasing competition
- 3 Technology as disruptive force – critical to leverage it**
  - **Technology will continue to be a game changer**, but only for those able and willing to invest meaningfully
  - **AI and automation can get the industry on the next S-curve in efficiency**
  - **FinTechs should be viewed as potential partners** rather than as competitors
- 4 Several “no regret” moves warrant consideration**
  - **Optimize customer experience and pricing** – differentiate based on value-add
  - **Apply automation at scale in core** to increase efficiency without sacrificing service
  - **Offer data as well as enhanced risk/regulatory management services**
  - **Enhance cyberattack readiness** and strengthen broader crisis management
- 5 Clear strategic positioning mandated**
  - **There are different ways to win in securities services** – firms need to choose between **four strategic archetypes**, potentially in tandem with **two emerging value propositions**, to inform resource allocation/other strategic choices in coming years
  - **Firms that fail to commit to a proven path are most at risk**

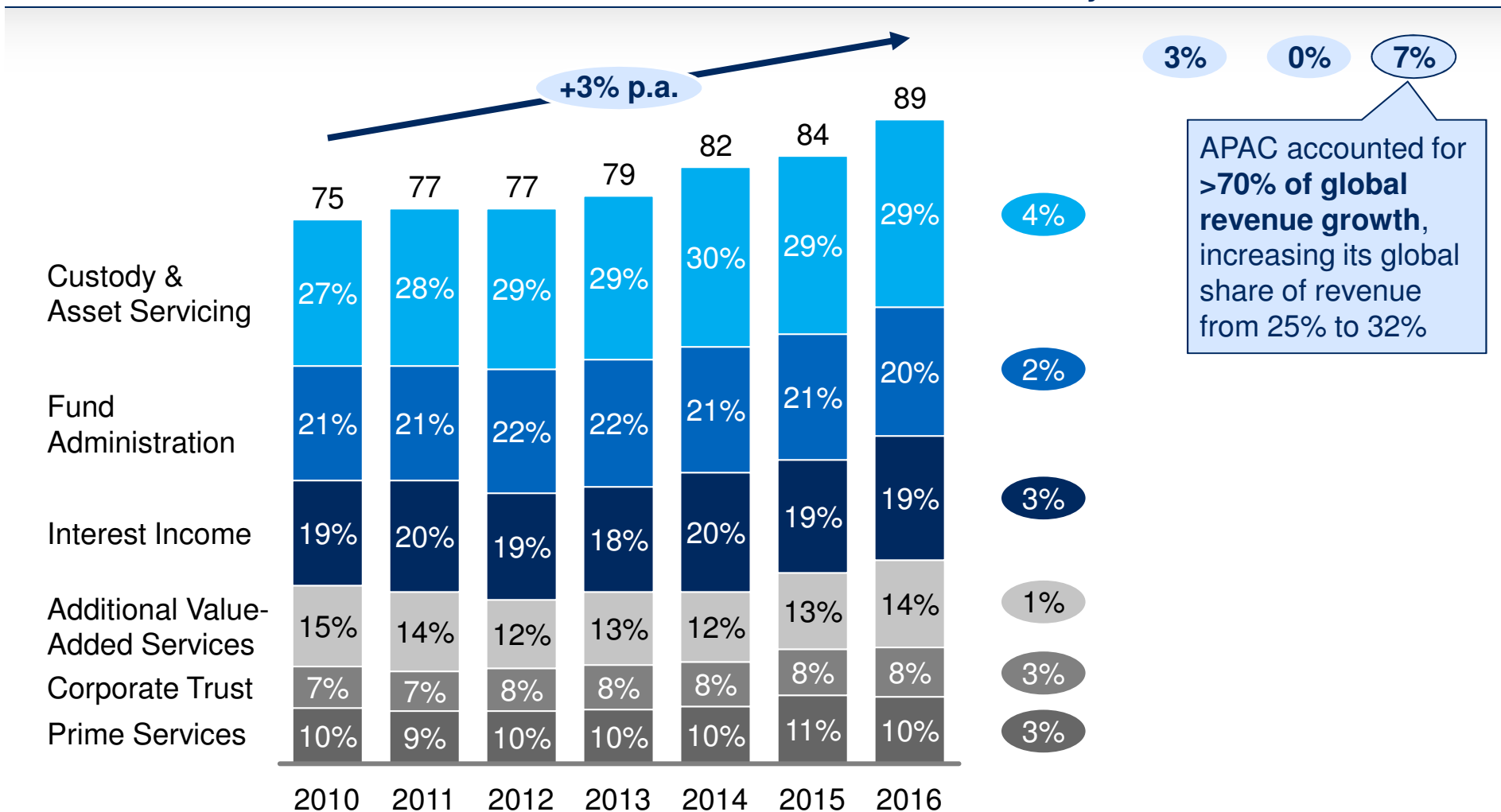


**1** The securities services industry grew at low single-digit rates globally between 2010 and 2016 – most of revenue growth driven by APAC

**Global Securities Services Revenues by Product**  
USD billion

**CAGR 2010-2016**

**Globally Americas EMEA APAC**

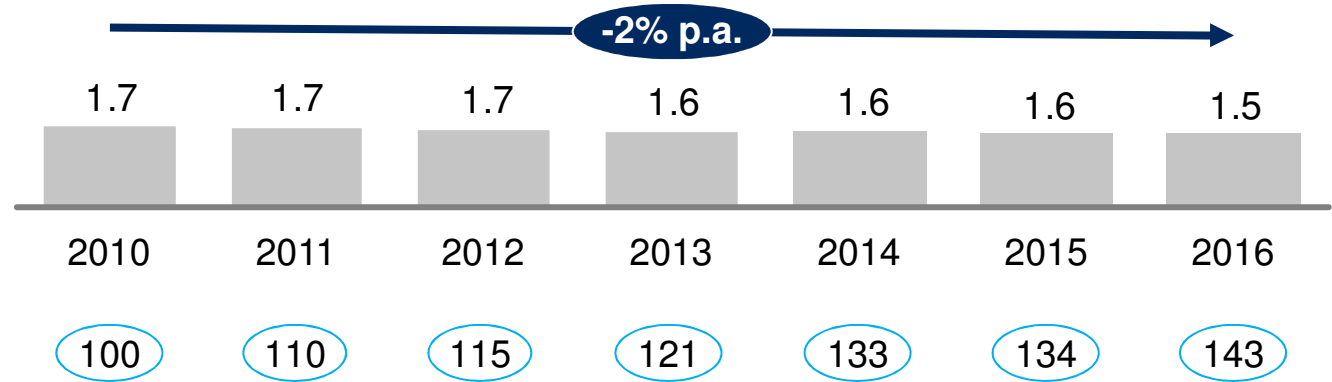


# 1 Over the past decade, both custodians and fund administrators have experienced unabating margin compression

## Custody Business<sup>1</sup>

Revenue margin  
(custody  
revenues/assets  
under custody) in  
basis points

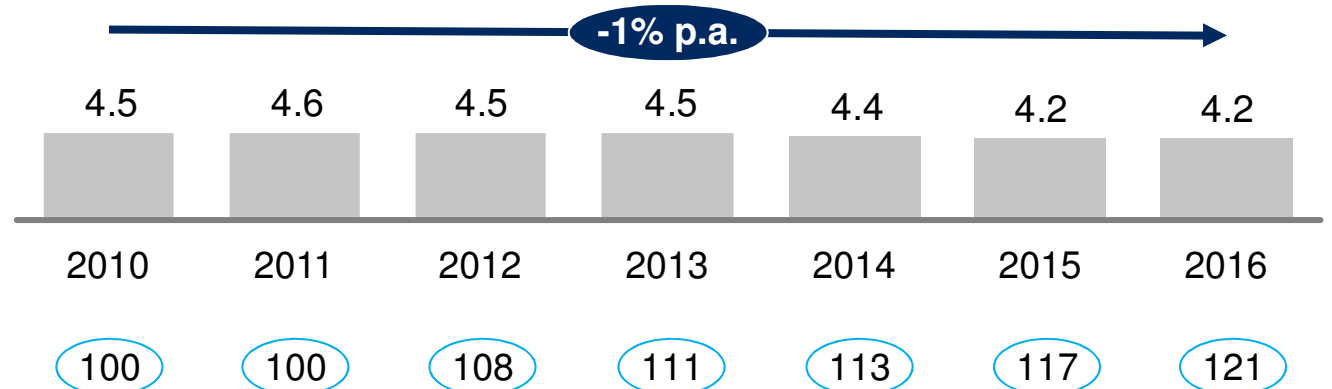
AUC volumes, indexed  
(2010 = 100)



## Fund Administration Business

Revenue margin  
(fund administration  
revenues/assets under  
administration) in  
basis points

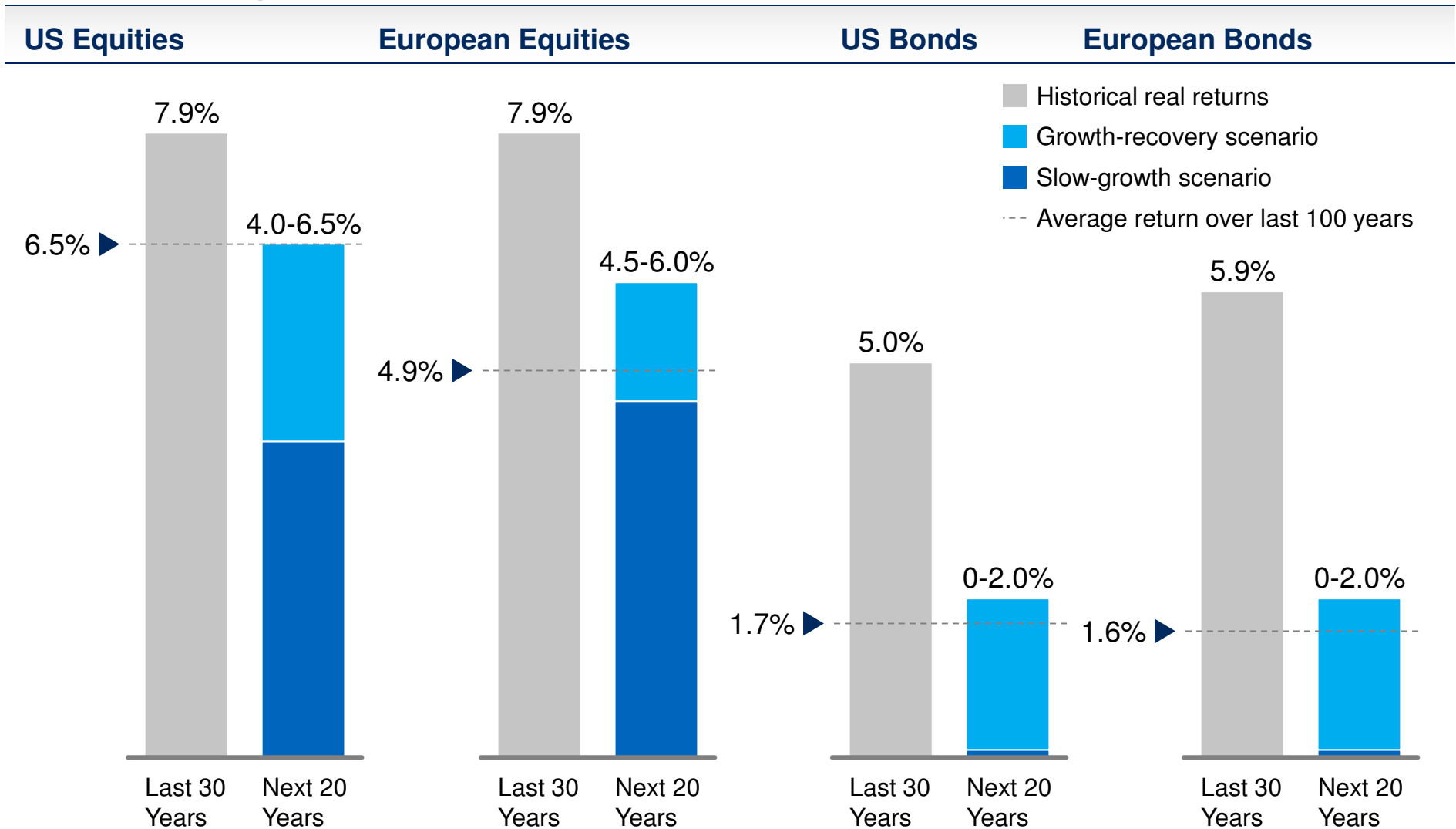
AUA volumes, indexed  
(2010 = 100)






<sup>1</sup> Includes local and global custody

# 1 The end of supernormal returns reshaping expectations – asset managers likely to stay under pressure

## Historical and Expected Returns









# 1 Interest income and additional value-added services will be growth drivers in the securities services industry through 2022

 >5%  
  2% to 4%  
  -1% to 1%

**Outlook**  
CAGR 2017-22E

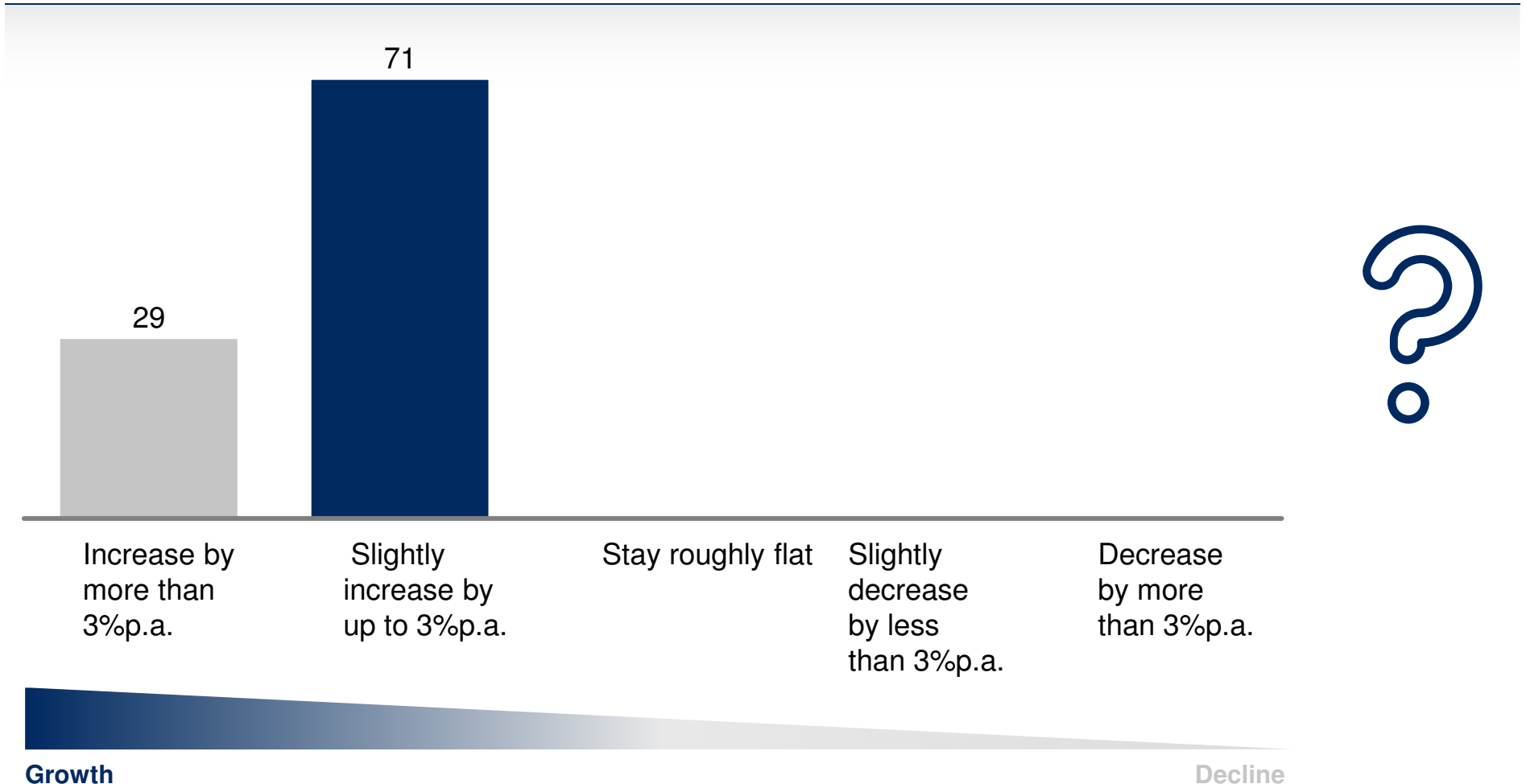
## Growth Drivers

<b>Custody &amp; Asset Servicing</b>	<ul style="list-style-type: none"> <li>▪ Assets under custody (valuation) expected to rise</li> <li>▪ Custody fee margins expected to decline</li> </ul>	
<b>Fund Administration</b>	<ul style="list-style-type: none"> <li>▪ Assets under administration (valuation) expected to rise</li> <li>▪ Level of outsourcing for middle and back office to remain stable</li> <li>▪ Fund administration fee margins expected to decline</li> </ul>	
<b>Interest Income</b>	<ul style="list-style-type: none"> <li>▪ Global interest rates expected to increase in developed markets</li> </ul>	
<b>Additional Value-Added Services</b>	<ul style="list-style-type: none"> <li>▪ Collateral management volumes expected to rise</li> <li>▪ FX and cash management business to remain stable</li> </ul>	
<b>Corporate Trust</b>	<ul style="list-style-type: none"> <li>▪ Bond valuation to remain stable</li> <li>▪ Corporate trust fees to remain stable</li> </ul>	
<b>Prime Services</b>	<ul style="list-style-type: none"> <li>▪ Securities lending volumes to remain stable</li> <li>▪ Lending/borrowing fee (for intermediary) to remain stable</li> </ul>	

# 1 Participants at our Securities Services CXO Roundtable at Sibos 2017 also expect moderate future growth rates

## How do you think global securities services revenues will change over the next 5 years?

Annual global securities revenue pool development, 2017-2022, percent



# Five theses on the future of the securities services industry

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### 3 Getting on the next S-curve in efficiency will require the deployment of multiple emerging AI and automation technologies



#### Robotic Process Automation

Automate routine tasks through existing user interfaces (e.g., data extraction and cleaning)



#### Smart Workflows

Integrate tasks performed by groups of humans and machines (e.g., month-end processes)



#### Machine Learning

Identify patterns in data through supervised and unsupervised learning (e.g., decision algorithms)



#### Natural Language Processing

Create seamless interactions between humans and technology (e.g., data-to-story translation)



#### Cognitive agents

Build a virtual workforce capable of supporting employees and customers (e.g., employee service centers)

#### Two types of automation

- Task-level automation to substitute manual, transactional activities
- Full E2E process automation using smart workflow

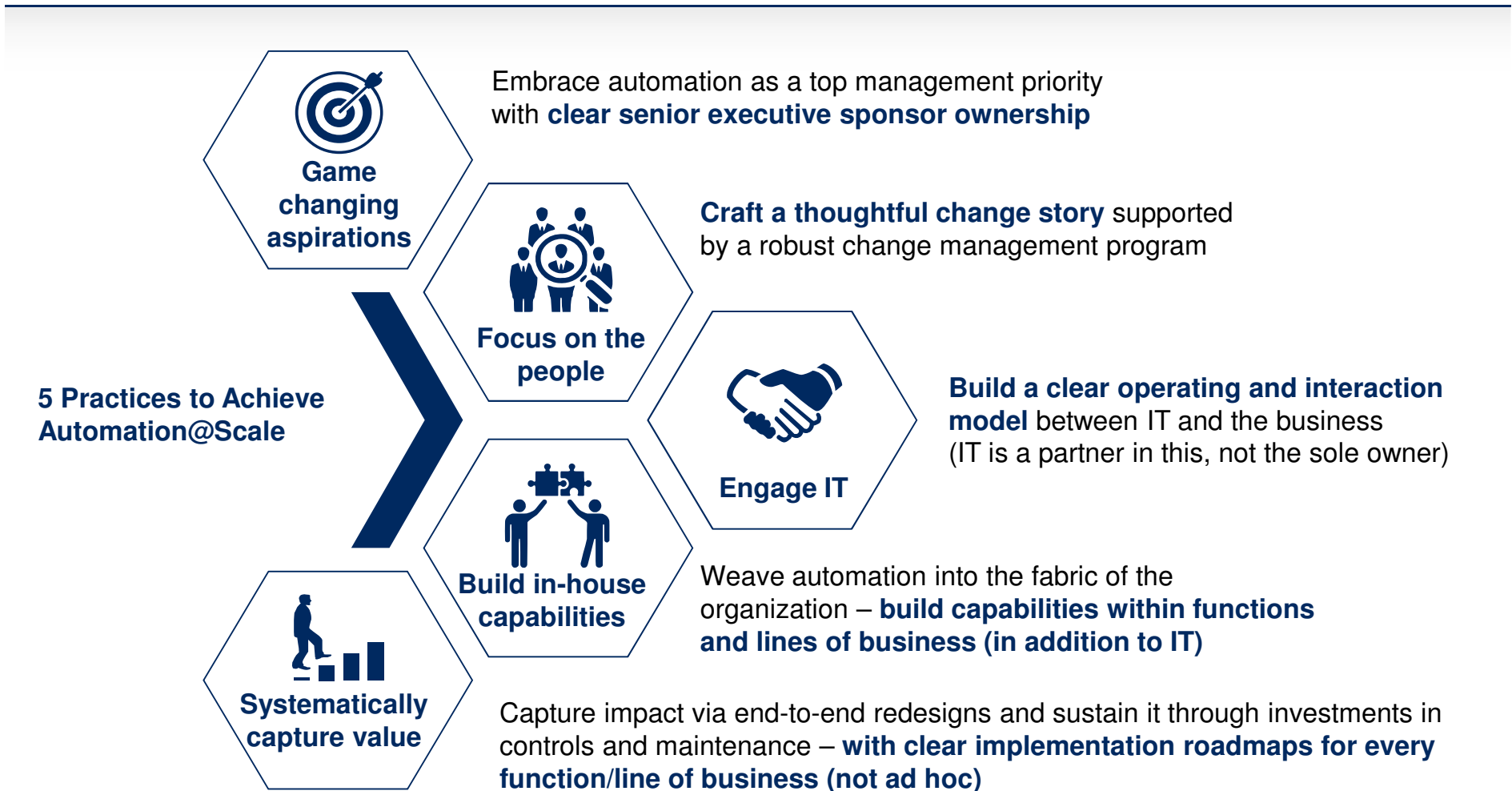
### 3 Assessing potential for automation and robotics in securities services functions

Suitability for automation and robotics

Low Med High

		Repetitive	Rules-Driven	High Impact	Low Risk	Overall Assessment
<b>Clearing &amp; Settlement Services</b>	Match trade	High	High	Med	High	High
	Position cash and securities for clearing	High	High	Med	Med	Med
	Calculate net debit/credit positions	High	High	Med	High	High
	Receive and deliver cash and securities	High	High	High	High	High
<b>Custody &amp; Asset Servicing</b>	Maintain and hold physical assets	Low	Low	Low	Low	Low
	Track market activity	High	High	High	High	High
	Inform security owners of relevant corporate actions	High	High	High	Med	High
	Identify corporate governance events and capture customer's vote	Med	High	Med	Med	Med
	Collect dividends, interest, or principal payments	High	High	High	Med	High
	Collect foreign jurisdiction withholding tax rebates and perform other related tax services	High	High	High	Med	High
<b>Fund Administration Services</b>	Account for and value assets	High	High	High	Med	High
	Perform comparison with standard benchmarks	High	High	High	High	High
	Calculate and report fund net asset value	High	High	High	High	High
	Maintain individual subaccounts on behalf of investors	High	High	Med	Med	High
	Provide communication to investors	Med	High	Med	Med	Med
<b>Corporate Trust Services</b>	Maintain record of investors and account balances	High	High	High	High	High
	Collect and distribute interest and dividends	High	High	Med	Med	High
	Send periodic reports/statements	High	High	High	High	High
	Address investor issues (e.g., lost/stolen certificates)	Med	Med	Med	Med	Med

### 3 In our experience, there are five key practices that are critical to achieving sustainable impact from automation



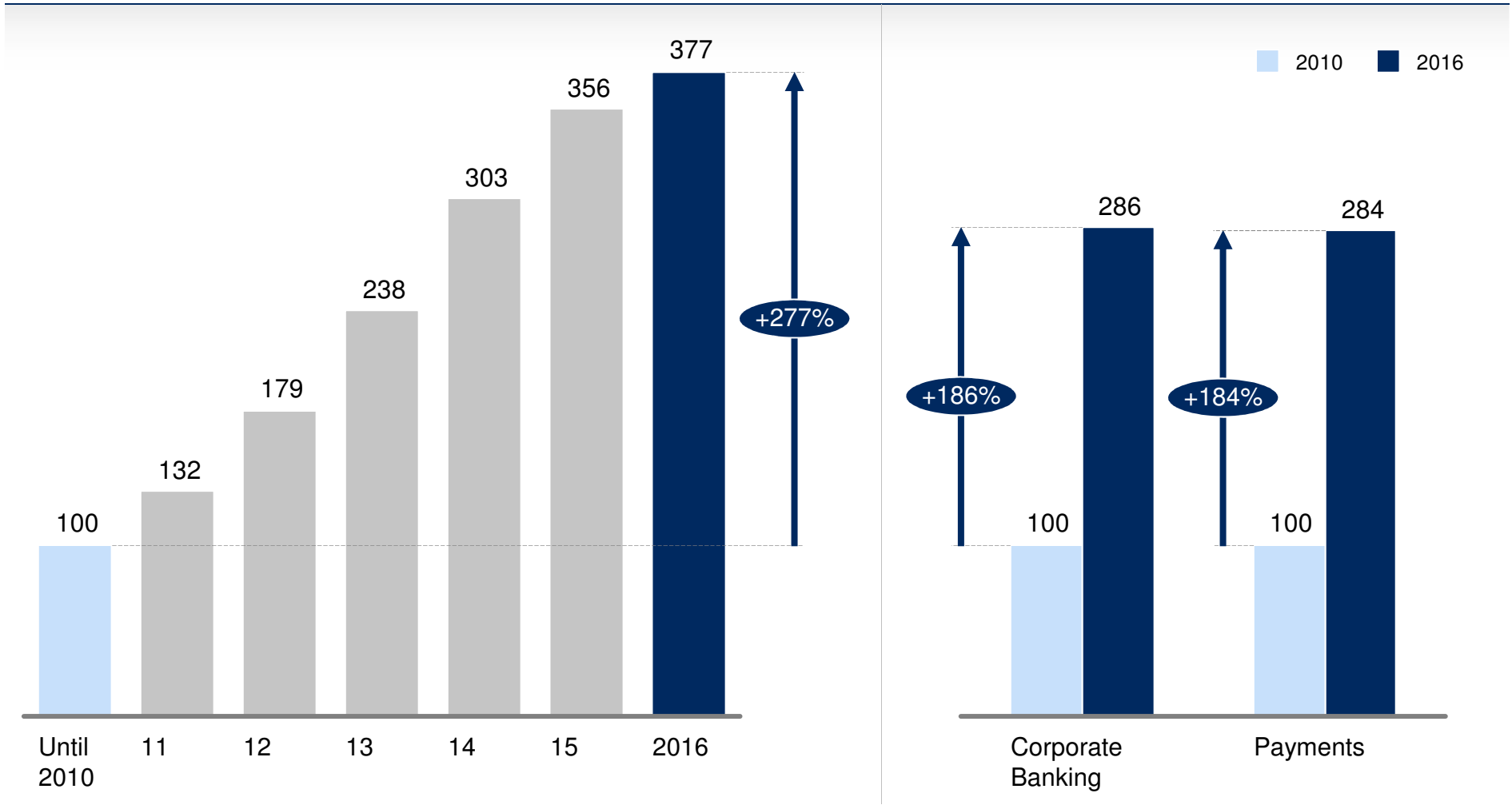
### 3 FinTech activity in CMIP almost 4x that in 2010, outpacing other areas in banking – time to view FinTechs as partners rather than as competitors

#### Evolution of FinTech Activity in CMIP

Cumulative number of CMIP-related FinTechs, indexed, 2010 = 100

#### Evolution of FinTech Activity in Corporate Banking & Payments

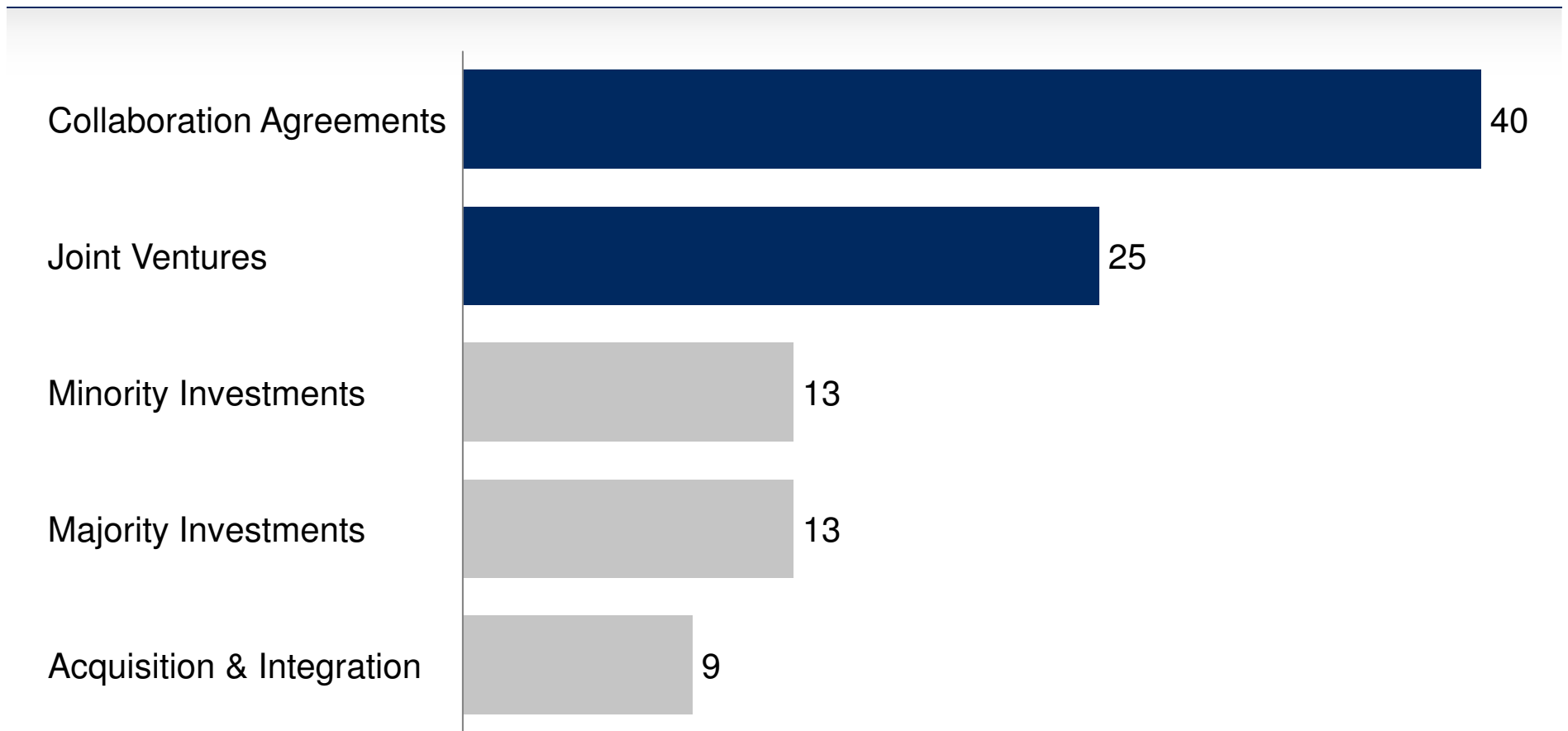
Indexed, 2010 = 100



### 3 FinTech partnership models: Incumbents focus on collaboration agreements and JVs when engaging with FinTechs

#### What models are most efficient when it comes to FinTech relationships?

Share of participant responses from WFE/McKinsey FinTech Survey 2017, percent, n = 46



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## 5 Four strategic archetypes will continue to thrive, potentially in tandem with two emerging value propositions

### Established Winning Strategic Archetypes

#### Global Full-Service Providers



- Firms covering all key geographies and offering comprehensive securities services to customers in major markets
- Full-service providers use the advantages of economies of scale and skill

#### Regional Leaders with Broad Offerings



- Broad service offering in home region, with scale in core local markets
- Regional leaders capitalizing on deep expertise in country markets and close ties to local customers and regulators

#### Core Securities Services Providers at Scale



- Focus on crucial, but non-differentiated, core services in custody, asset servicing and fund administration
- Cost and efficiency leader with highly automated operations and avoidance of complexity

#### Focused Boutiques

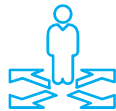


- Focus on tailored, bespoke services
- Focus on specialized asset classes



### New Value Propositions

#### Ecosystem Orchestrators



- Core custody and fund administration platform enhanced by a variety of both adjacent and completely new services
- Leveraging technology and partnering with FinTechs in an open-platform environment – understanding customers, offering value-added products/services and creating strong customer relationships will be key

#### Data & Analytics Powerhouses



- Generating significant revenue streams from insights on markets, investor behavior, risk and regulation
- Requires truly differentiated data exhaust and strong advanced analytics capabilities to create IP that can be monetized at scale – data must be a strategic priority

## Your presenter today



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- Previously served as:
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  - Executive Managing Director, COO and Principal of R. G. Niederhoffer Capital Management, a quantitative global macro hedge fund