



WORLD SILVER SURVEY 2018

April 2018

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THE SILVER MARKET IN 2017

– SILVER PRICES

– DEMAND

– SUPPLY

- Mine supply
- By products:
 - Copper/Zinc/Gold

– INVESTMENT

– OUTLOOK



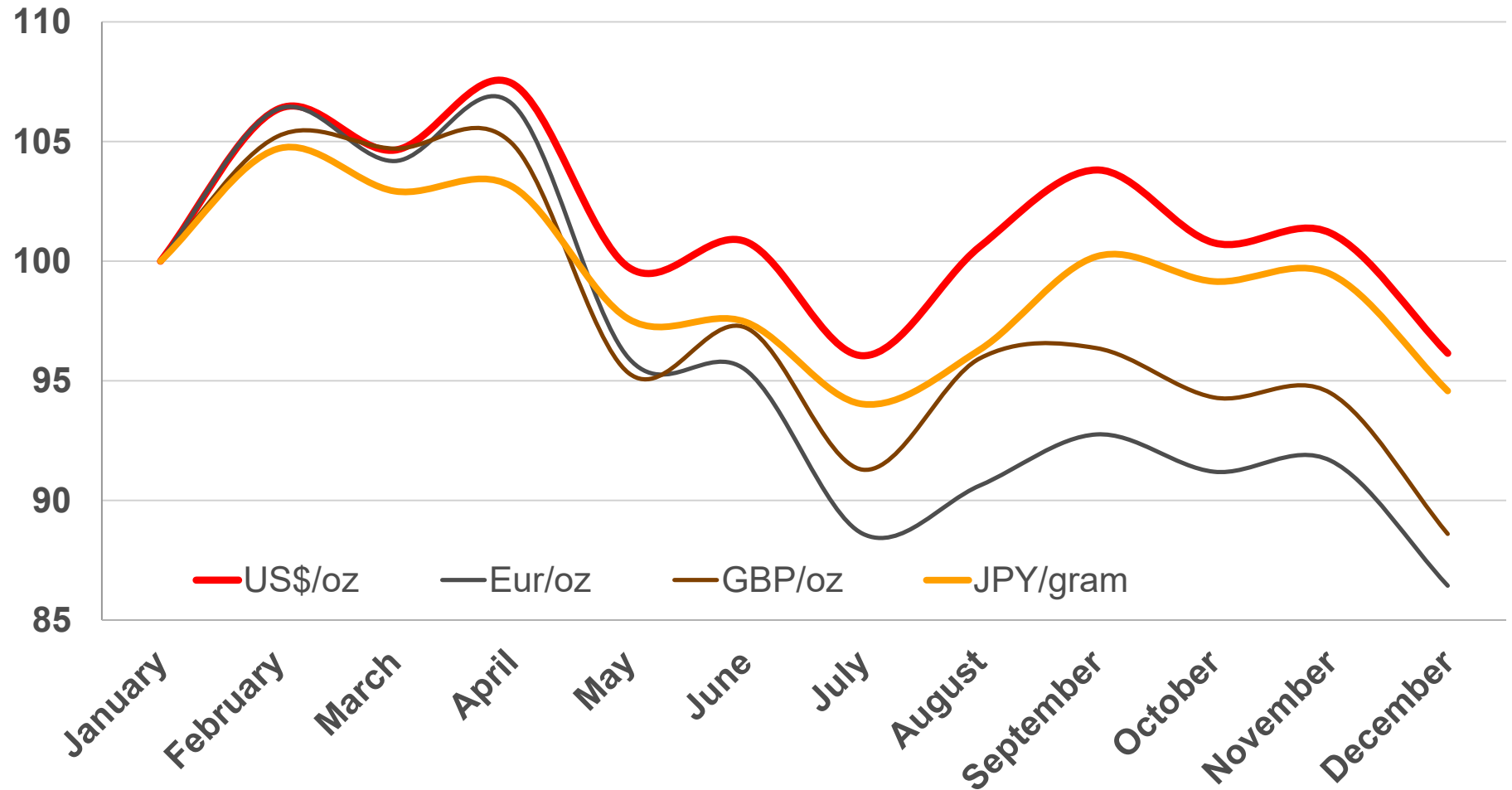
SILVER PRICES

SILVER PRICE IN DIFFERENT CURRENCIES IN 2017, Jan 2017 = 100

Prices in different currencies on an intra year basis: Silver in...

- Euro: - 14%
- GBP: - 11%
- Yen: - 5 %
- USD: - 4%

Silver Price in different currencies

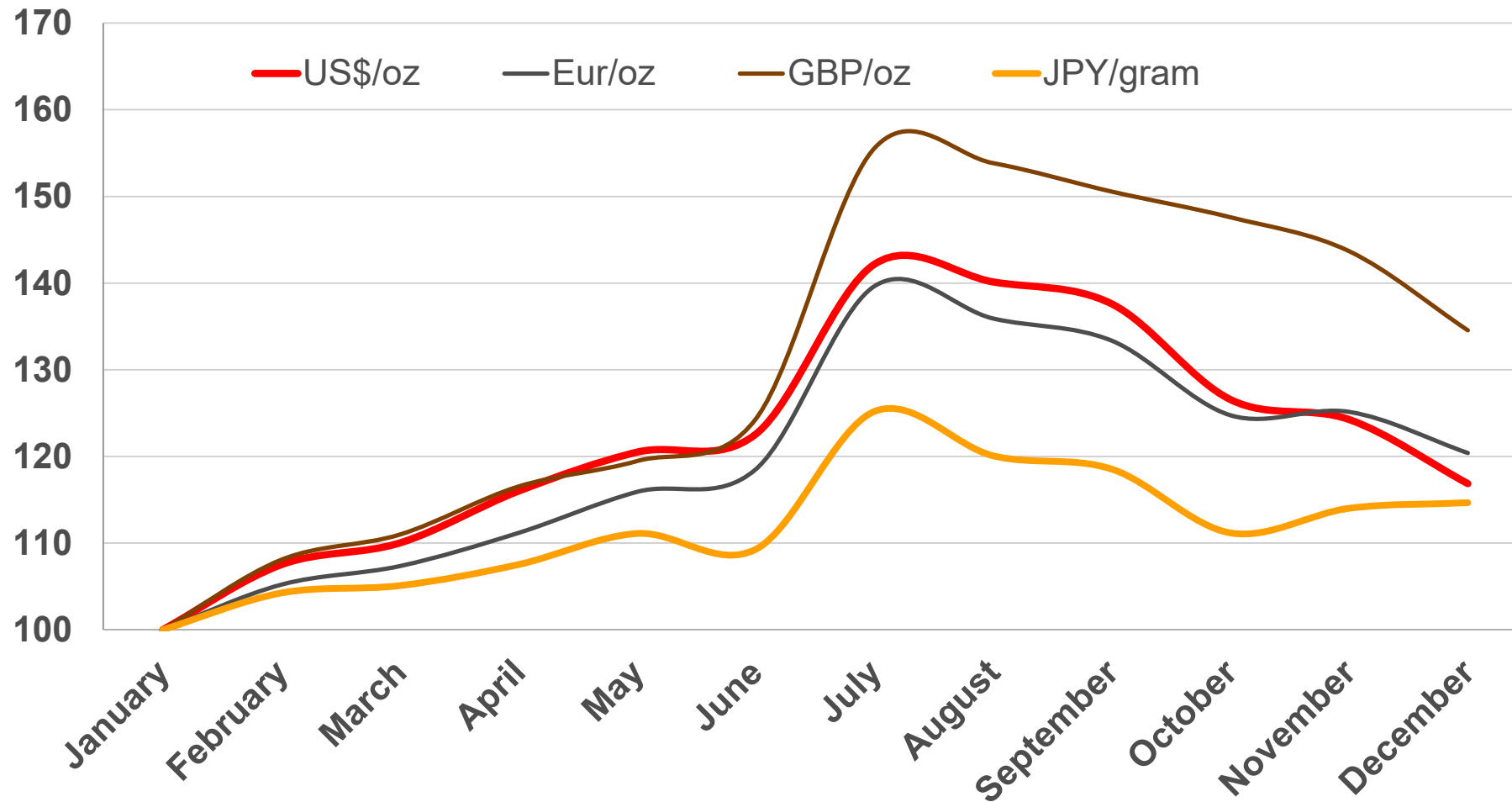


SILVER PRICE IN DIFFERENT CURRENCIES IN 2016, Jan 2016 = 100

Prices in different currencies on an intra year basis: Silver in...

- GBP: + 35% (-11%)
- Euro: + 20% (-14%)
- USD: + 17% (-4%)
- Yen: +15% (-5%)

Silver Price in different currencies



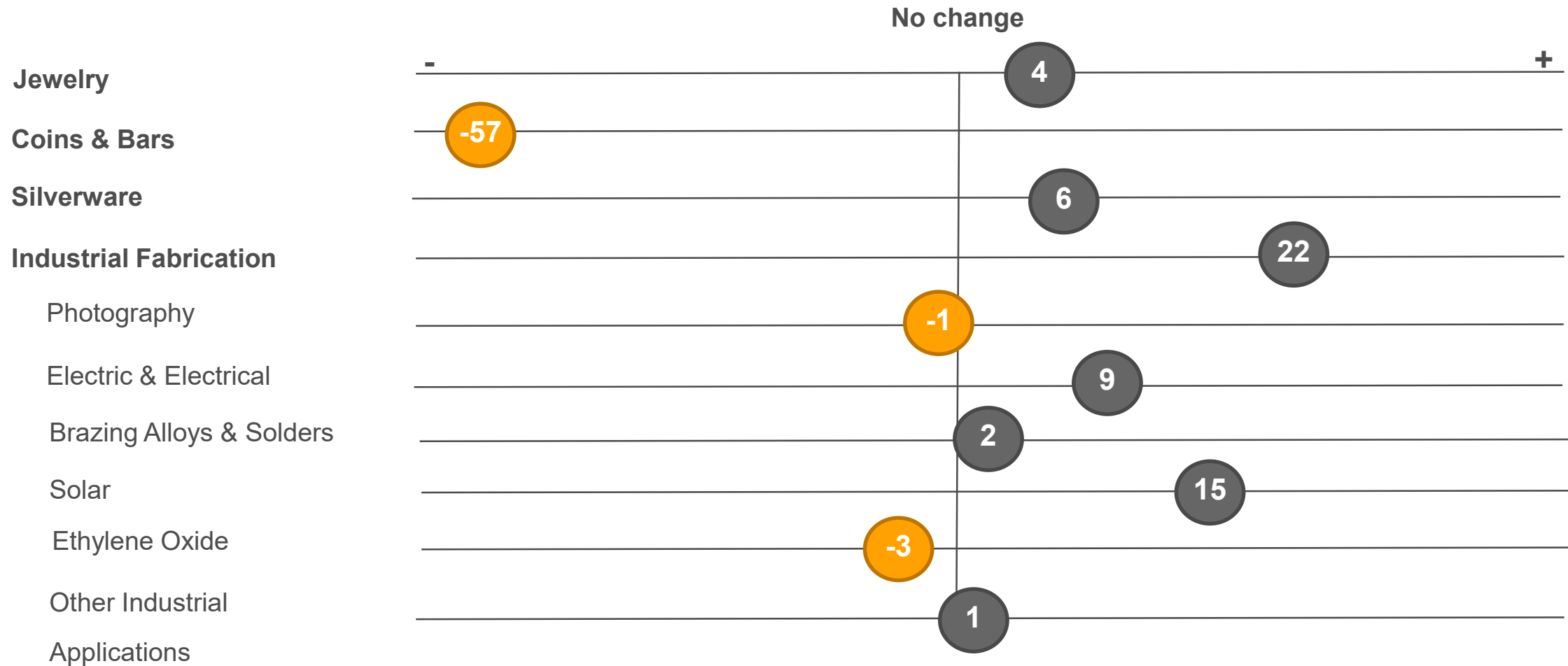
SILVER DEMAND

WORLD SILVER SUPPLY AND DEMAND

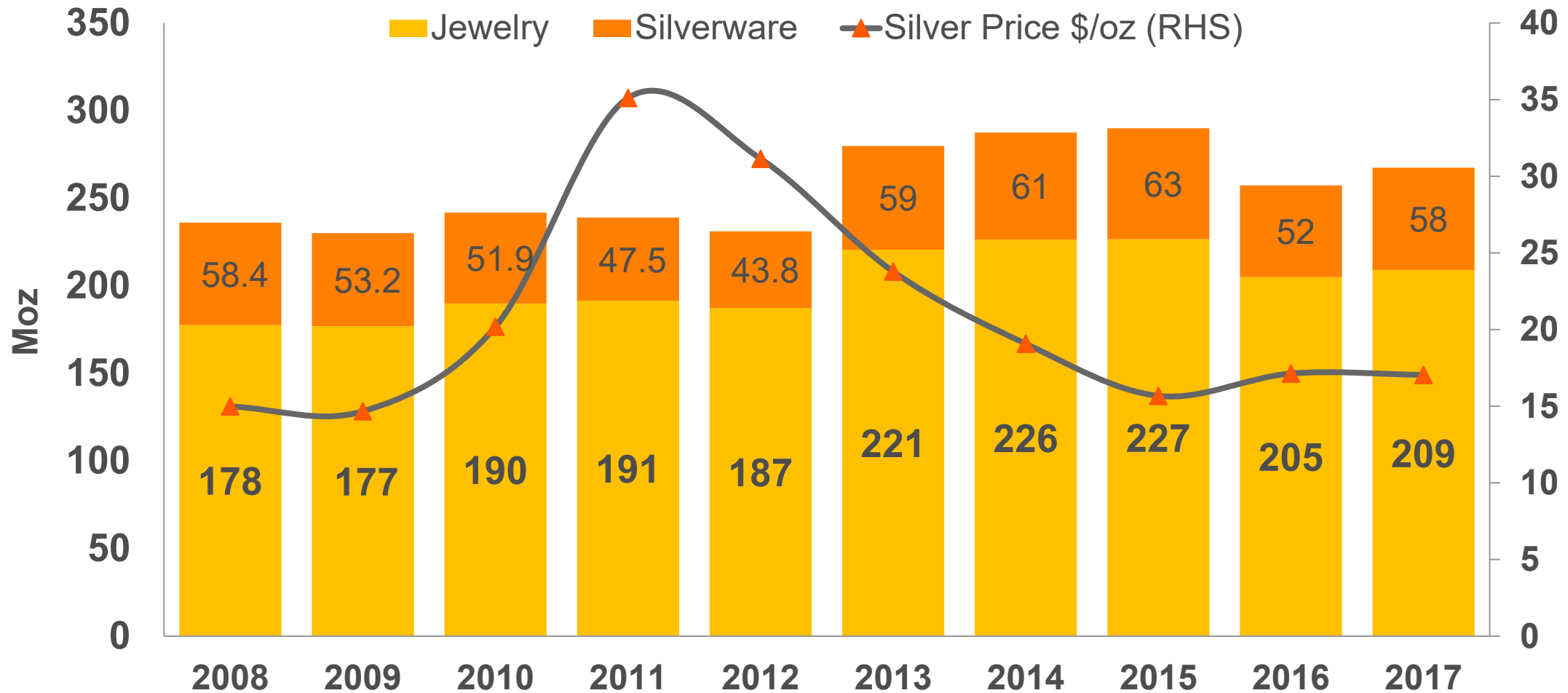
Moz	2013	2014	2015	2016	2017	Market share	% Δ - 2016	% Δ - 2013
Mine Production	823	868	895	889	852		-4%	3%
Total Supply	987	1,050	1,044	1,009	992		-2%	0%
Jewelry & Silverware	280	288	290	257	268	26%	4%	-4%
Coins & Bars	241	234	292	208	151	15%	-27%	-37%
Industrial Fabrication	605	596	583	577	599	59%	4%	-1%
Physical Demand	1,126	1,118	1,165	1,042	1,018		-2%	-10%
Physical Surplus/ Deficit	-138 (12%)	-68 (6%)	-121 (10%)	-33 (3%)	-26 (3%)			
Annual Average Silver Price US\$/oz	23.79	19.08	15.68	17.14	17.05		-1%	-28%

INDUSTRIAL FABRICATION OVERVIEW

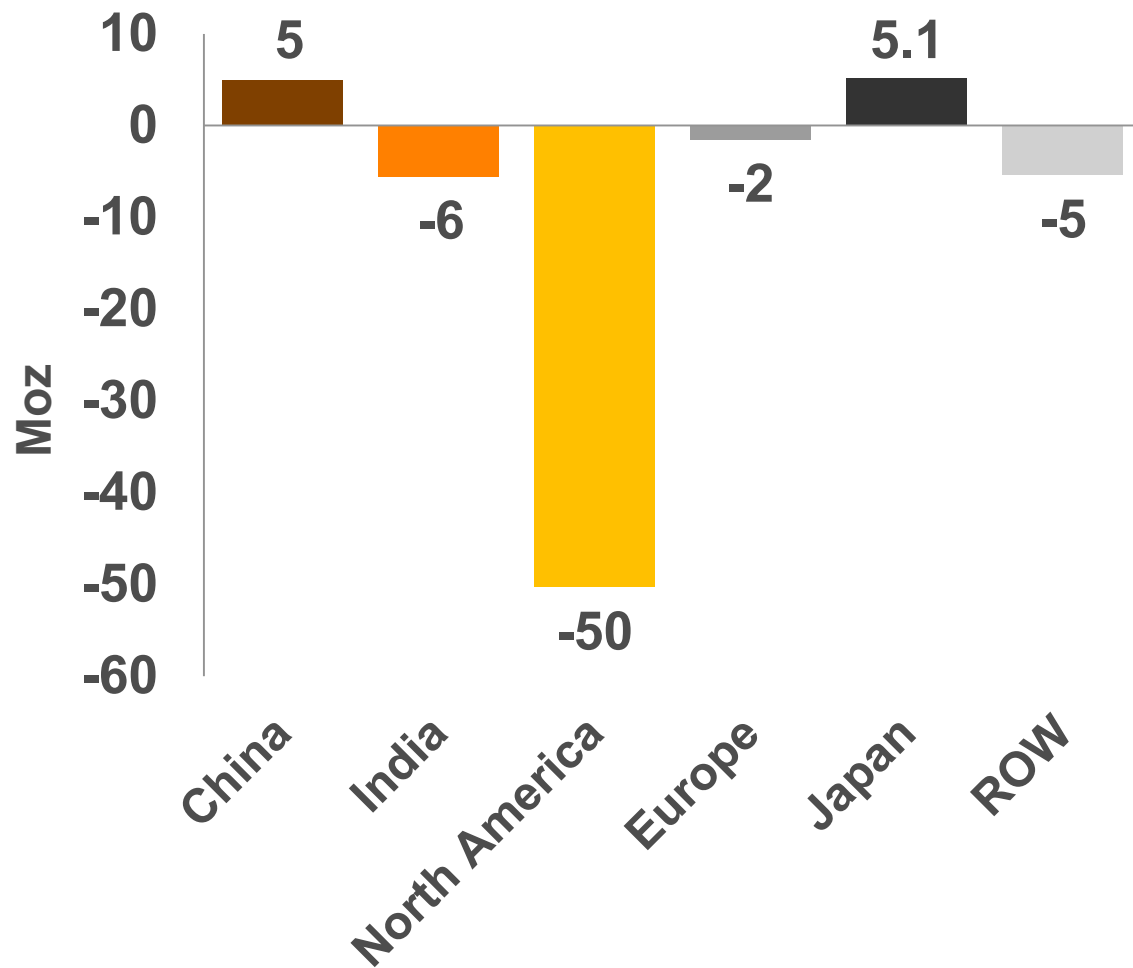
2017 less 2016, Moz



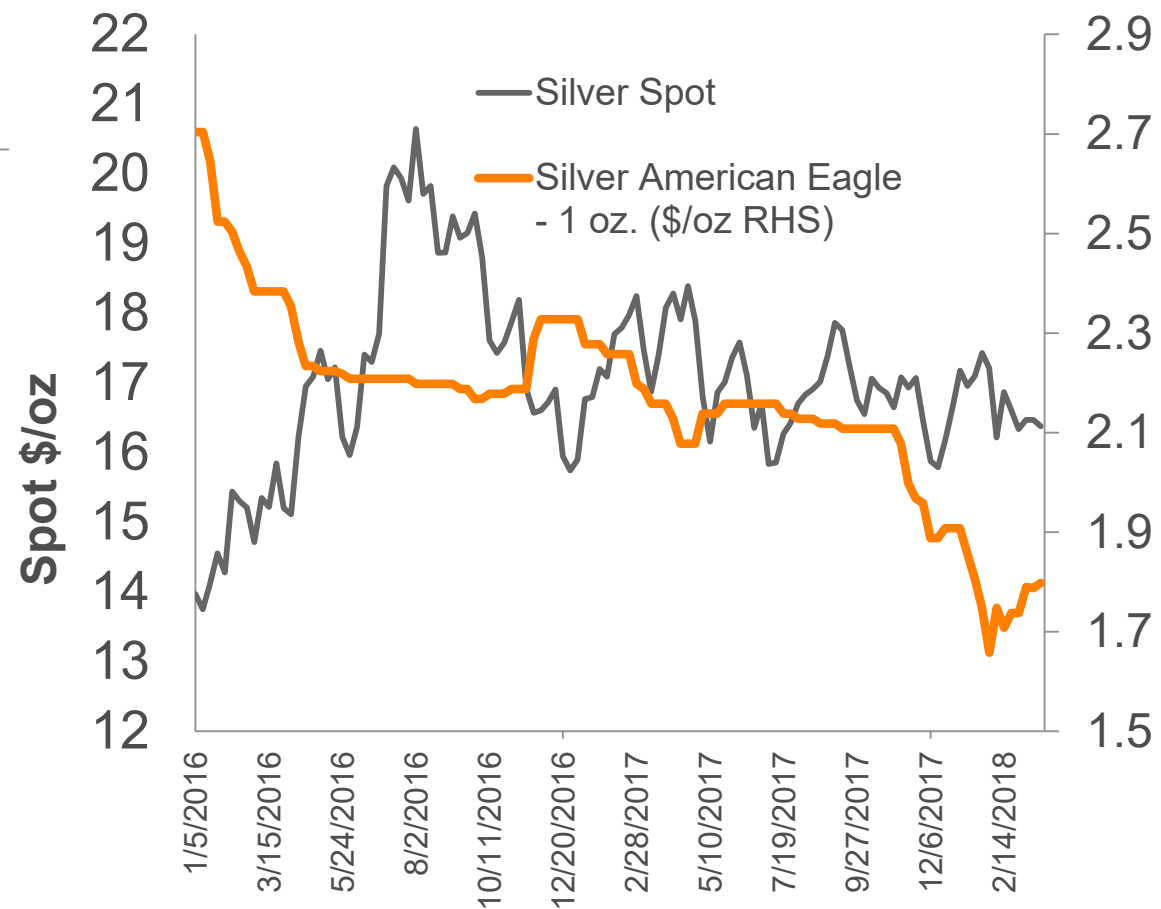
GLOBAL JEWELRY & SILVERWARE FABRICATION, 2017



WORLD RETAIL INVESTMENT SILVER DEMAND ANNUAL CHANGES: 2017 LESS 2016 (Moz)

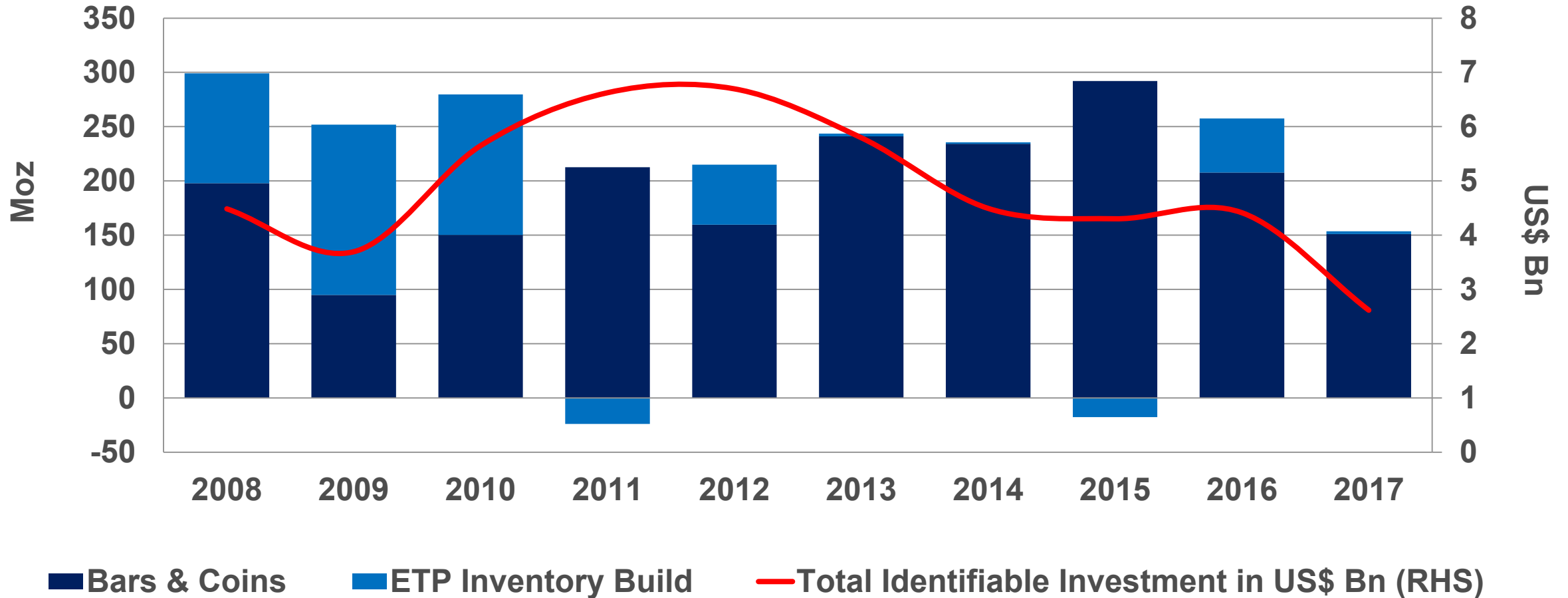


SILVER COIN PREMIA



WORLD SILVER IDENTIFIABLE INVESTMENT VOLUME AND VALUE

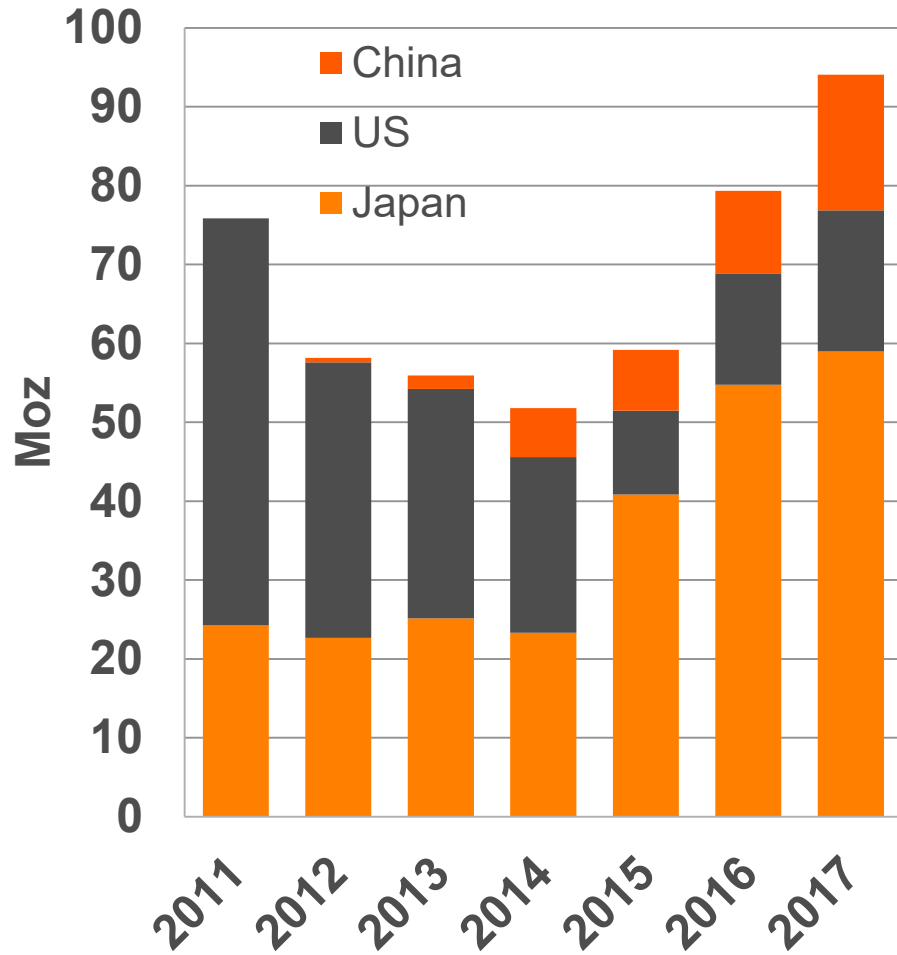
Identifiable investment fell approximately 40% y/y in 2017 in volume and value terms



Identifiable Investment is the sum of bars, coins and ETPs.

SOLAR DEMAND – SILVER POWDER PRODUCTION

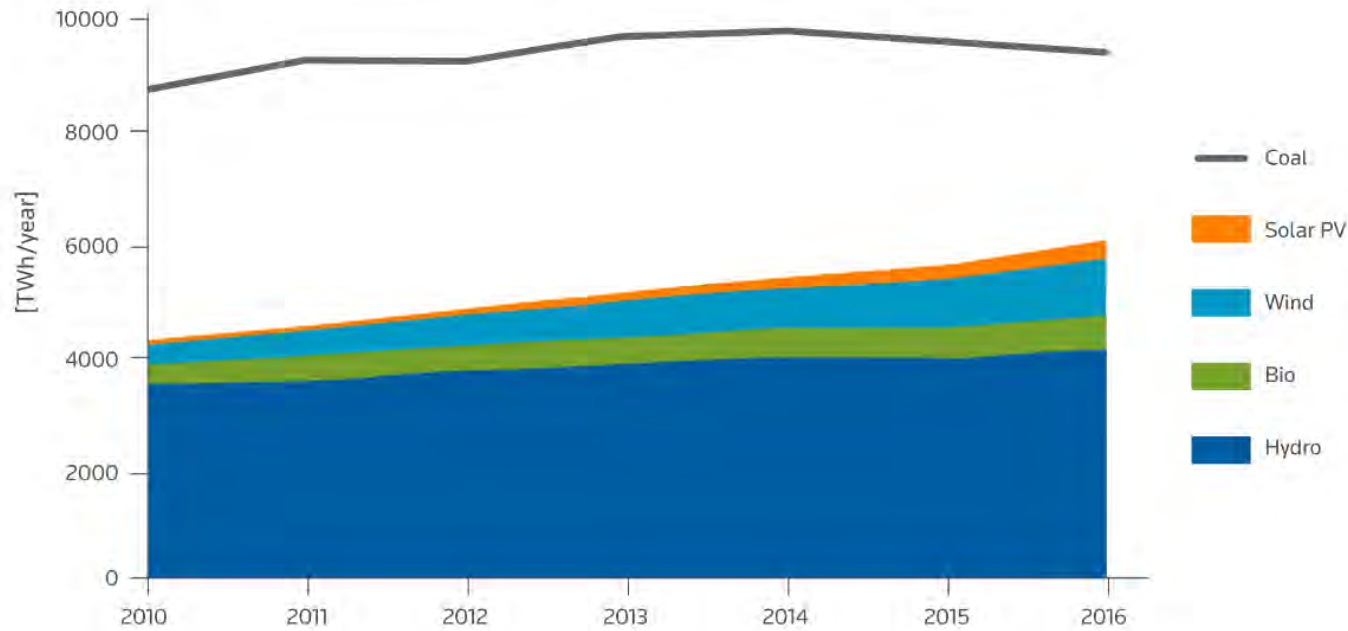
Solar Silver Powder Production



	Year 1	Year 2	Year 3	Year 4
Safeguard Tariff on Modules and Cells	30%	25%	20%	15%
Cells Exempted from Tariff	2.5 GW	2.5 GW	2.5 GW	2.5 GW

	Module	Other		Tariff			
	USD/W	USD/W	Total Cost	%	USD/W increase	Net-new cost	Price Increase
Residential	\$ 0.65	\$ 2.25	\$ 2.90	30%	\$ 0.20	\$ 3.10	6.7%
Commercial	\$ 0.50	\$ 1.05	\$ 1.55	30%	\$ 0.15	\$ 1.70	9.7%
Utility	\$ 0.45	\$ 0.57	\$ 1.02	30%	\$ 0.14	\$ 1.16	13.2%

ELECTRICITY GENERATION BY SOURCE

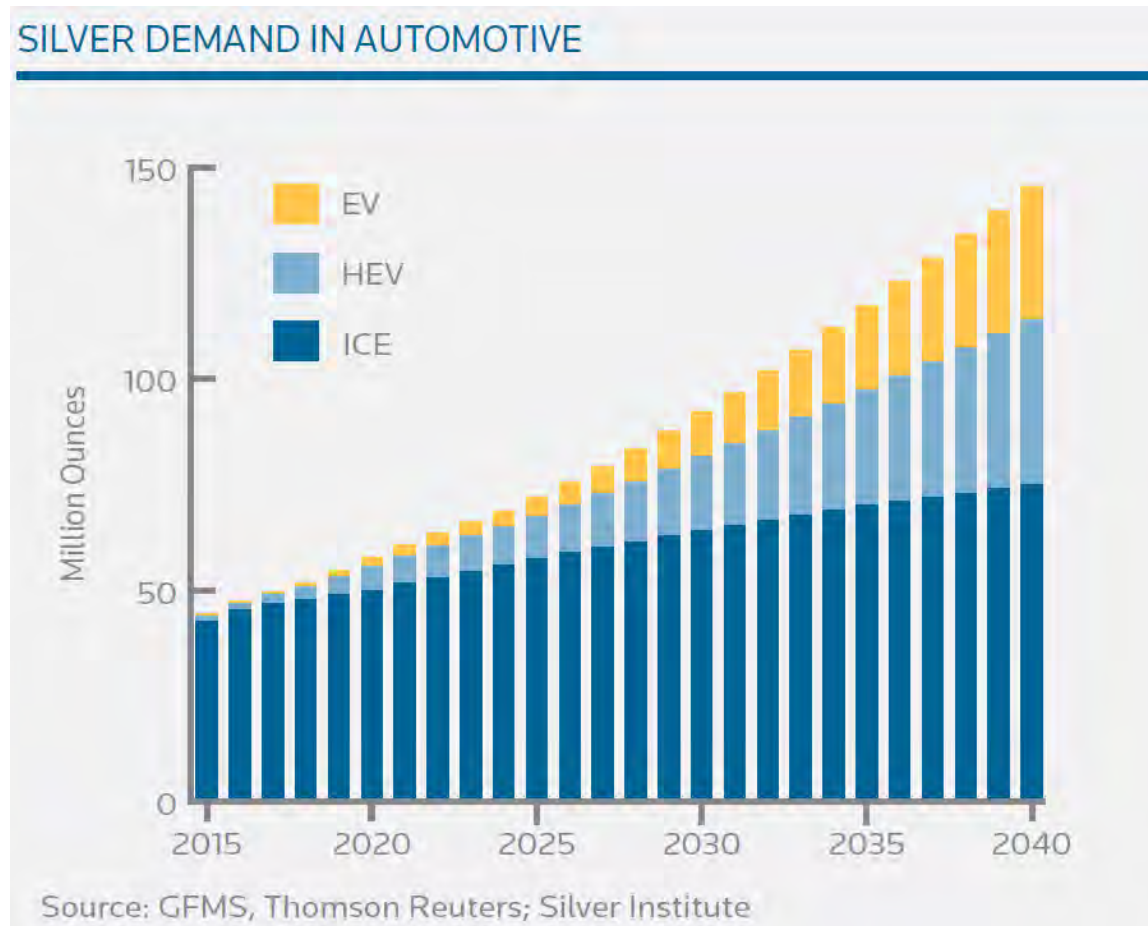


“ Almost two-thirds of new power capacity comes from renewables, roughly half of which is solar. Solar costs are rapidly falling and we’ve already seen examples of solar power being cheaper than existing coal capacity. The future fleet of EVs could be fueled by clean power.

Frank Melum
 Manager, Global Carbon Research



SILVER USE IN AUTOMOTIVE



- Silver coated contacts
- Infotainment systems
- Window defogging
- Heated seats
- Luminescent display
- 50 Moz in 2017 -> could be as much as 14% or 150 Moz by 2040

WORLD PHYSICAL SILVER DEMAND (Moz)

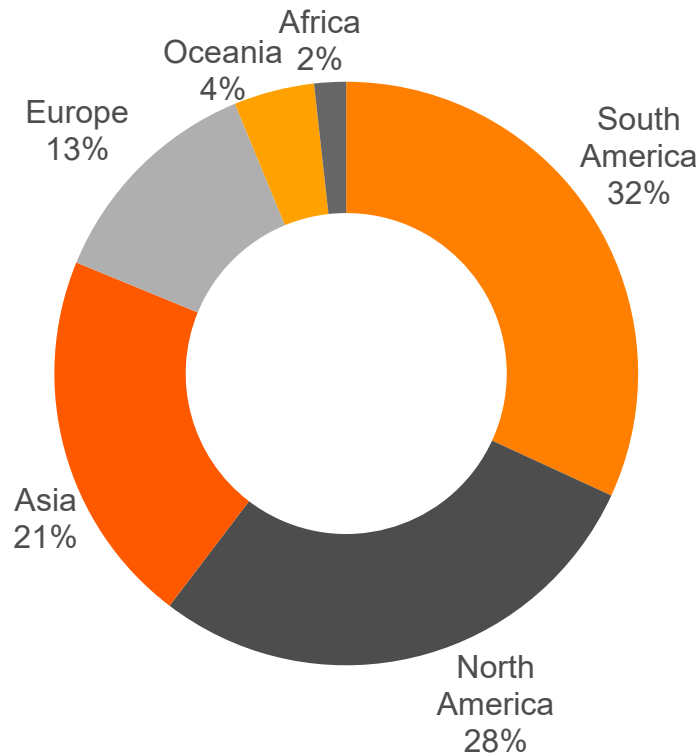


SILVER SUPPLY

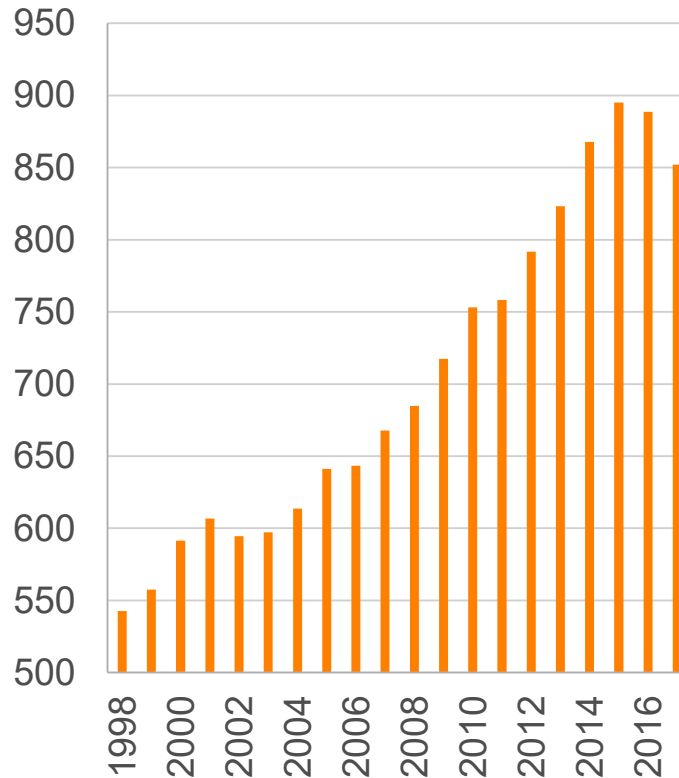
SILVER MINE PRODUCTION BY REGION AND ANNUAL CHANGE

Global mine production declined by 4.1% in 2017 to a total of 852 Moz (26,502 t), the second consecutive fall. At the regional level, losses in the Americas were partly offset by gains in India and Kazakhstan.

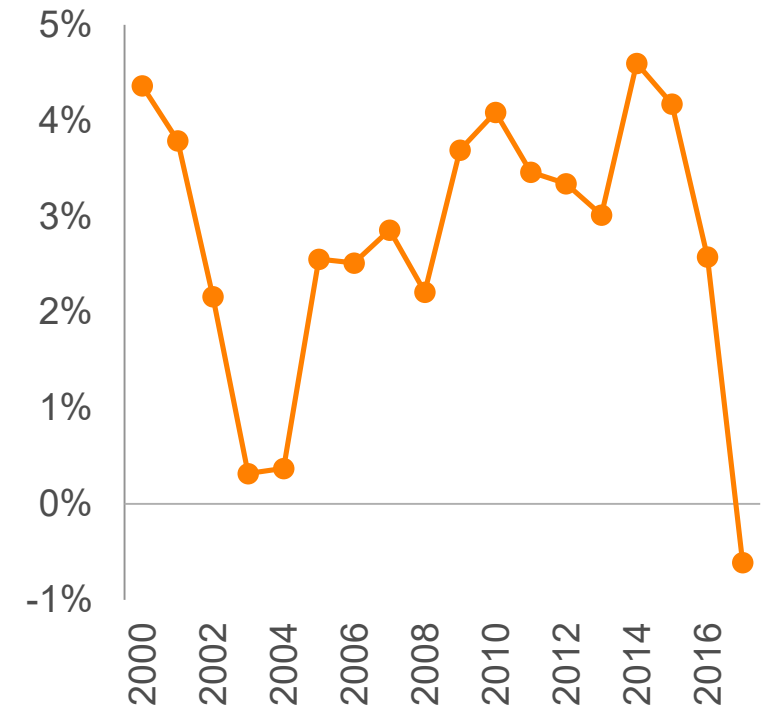
Silver Output by Region 2017



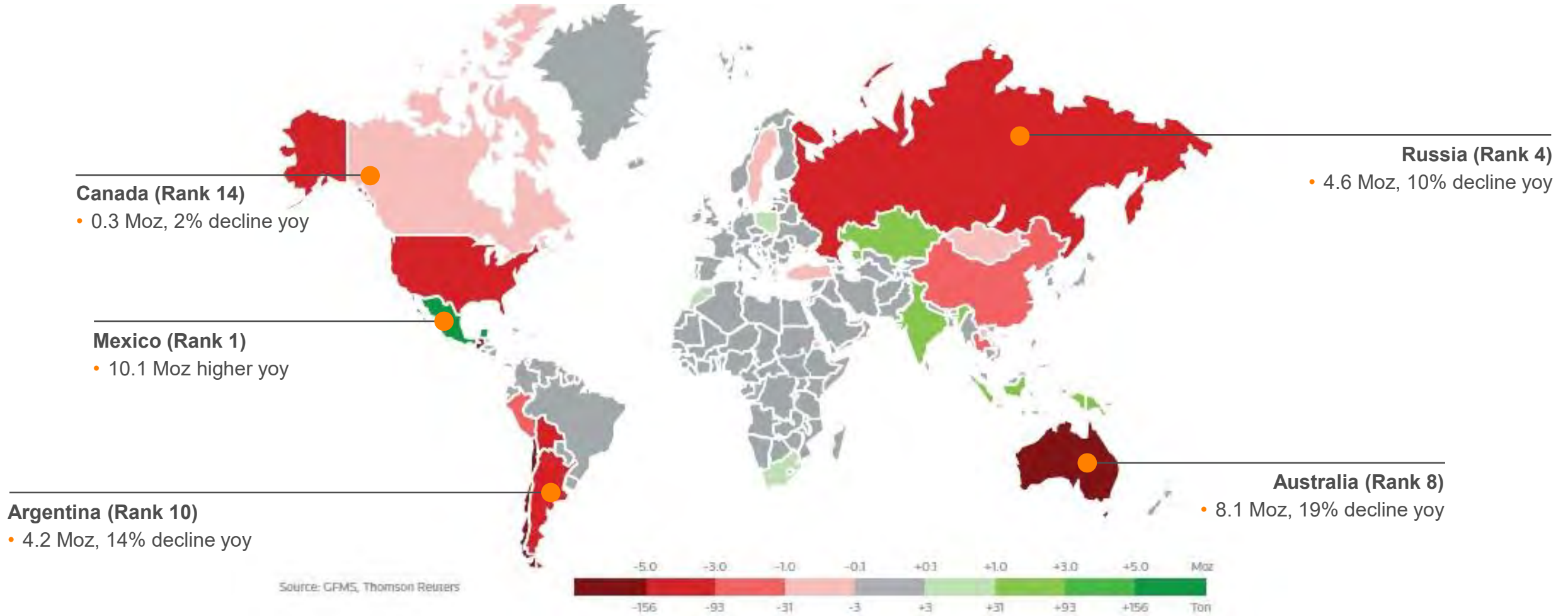
World Silver Mine Production, Moz



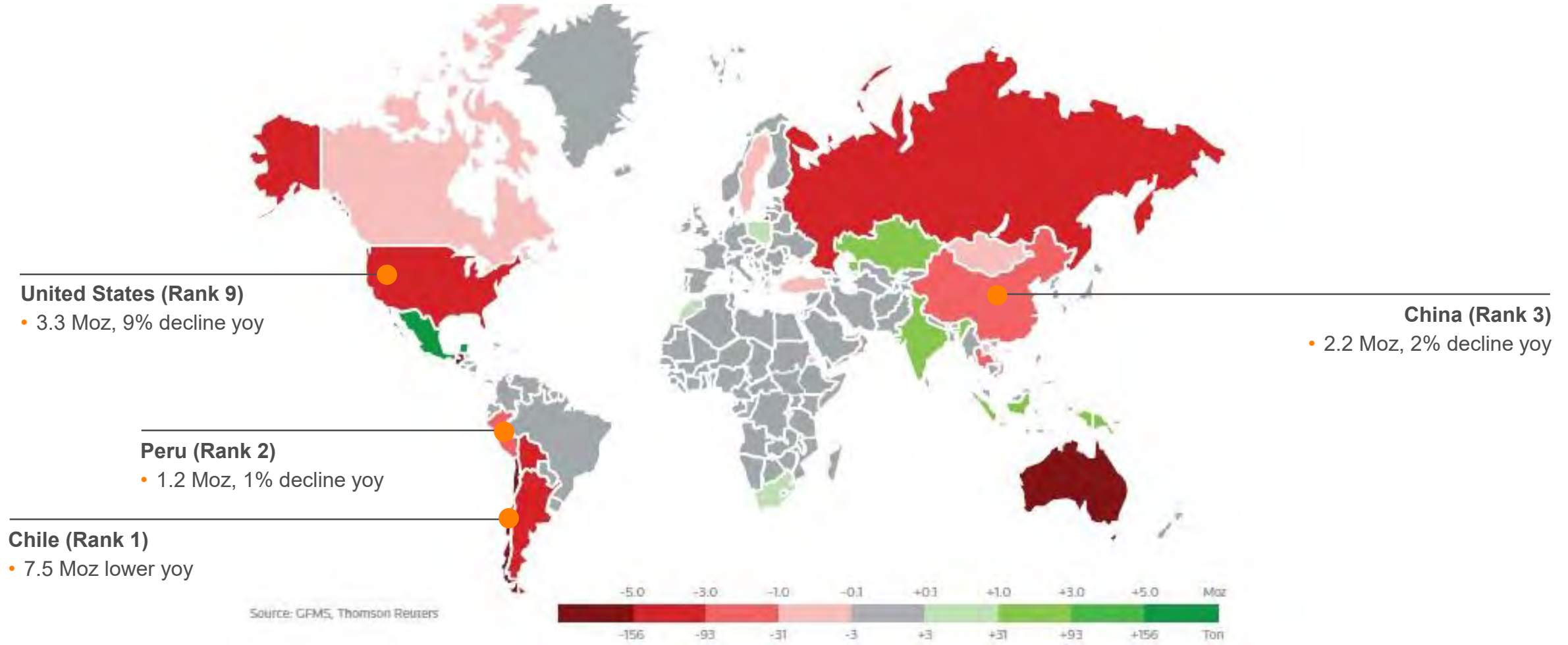
3-year CAGR in Mine Production



SILVER MINE PRODUCTION WINNERS AND LOSERS, 2017 VS 2016



SILVER MINE PRODUCTION WINNERS AND LOSERS, 2017 VS 2016



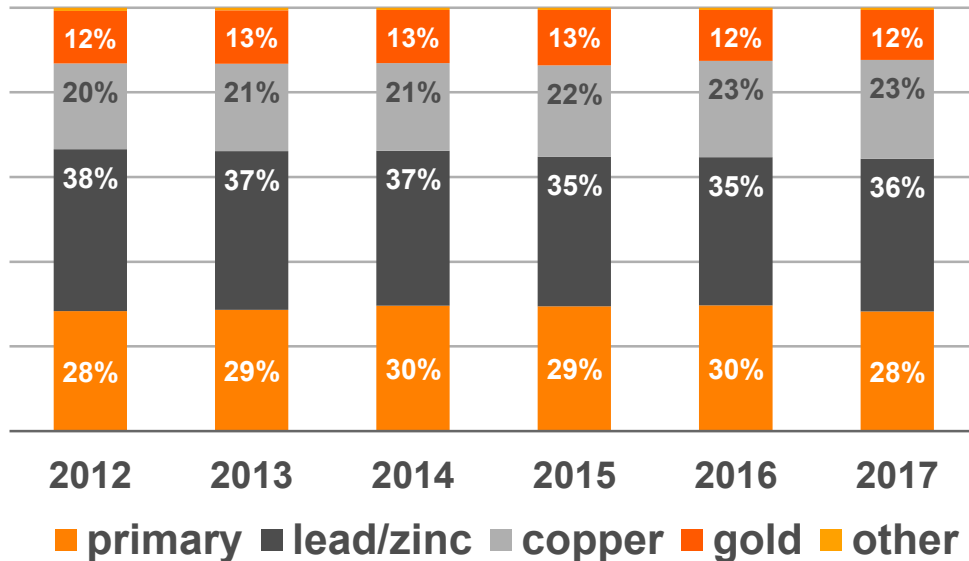
SILVER OUTPUT BY SOURCE METAL

Primary Silver Mine Supply % of World Production

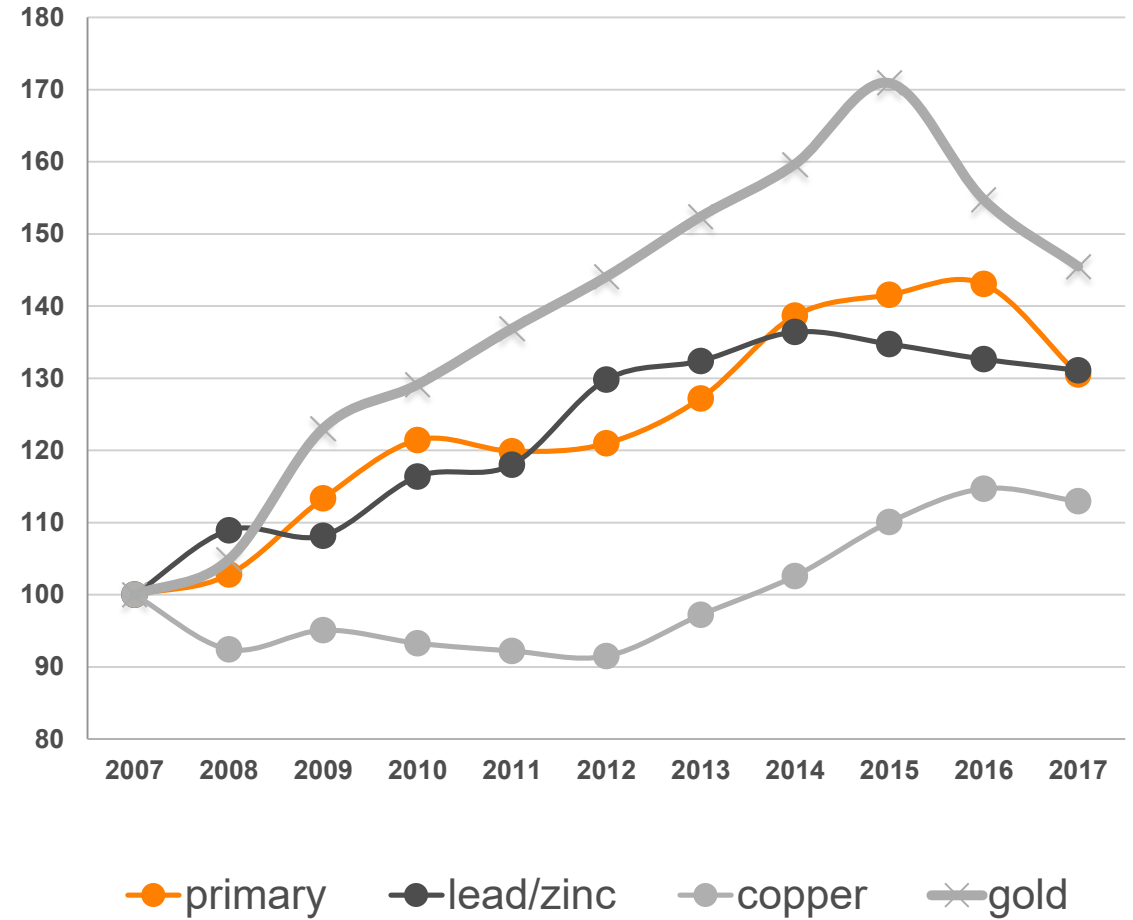
primary silver supply as % of total



World Silver Production by Source – primary, Lead/Zinc, Copper, Gold



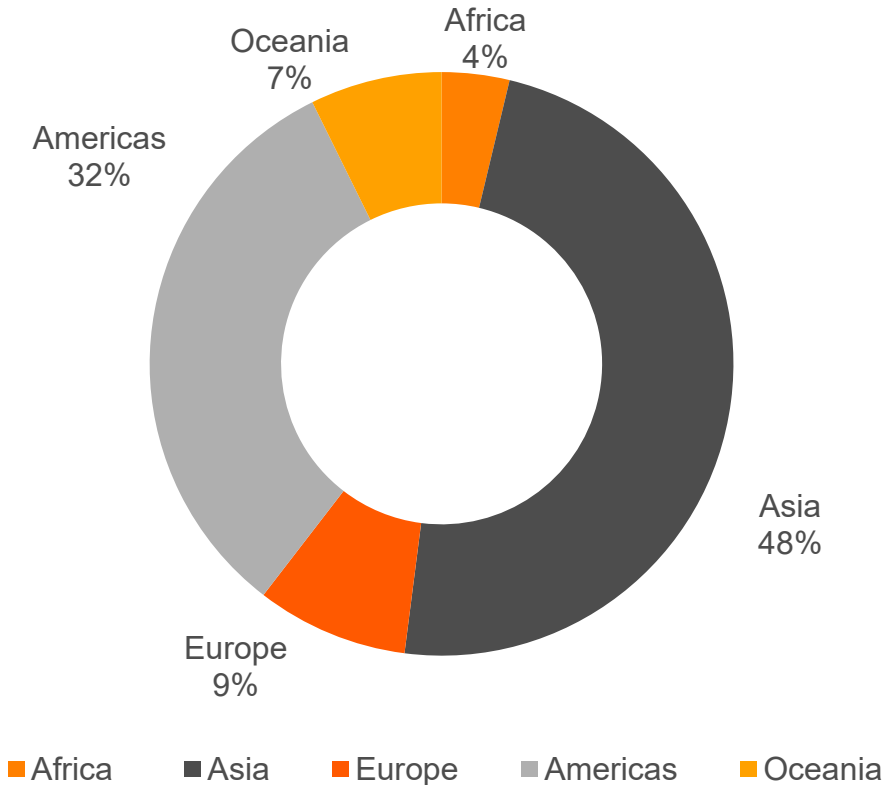
Source Metal Index, 100=2007



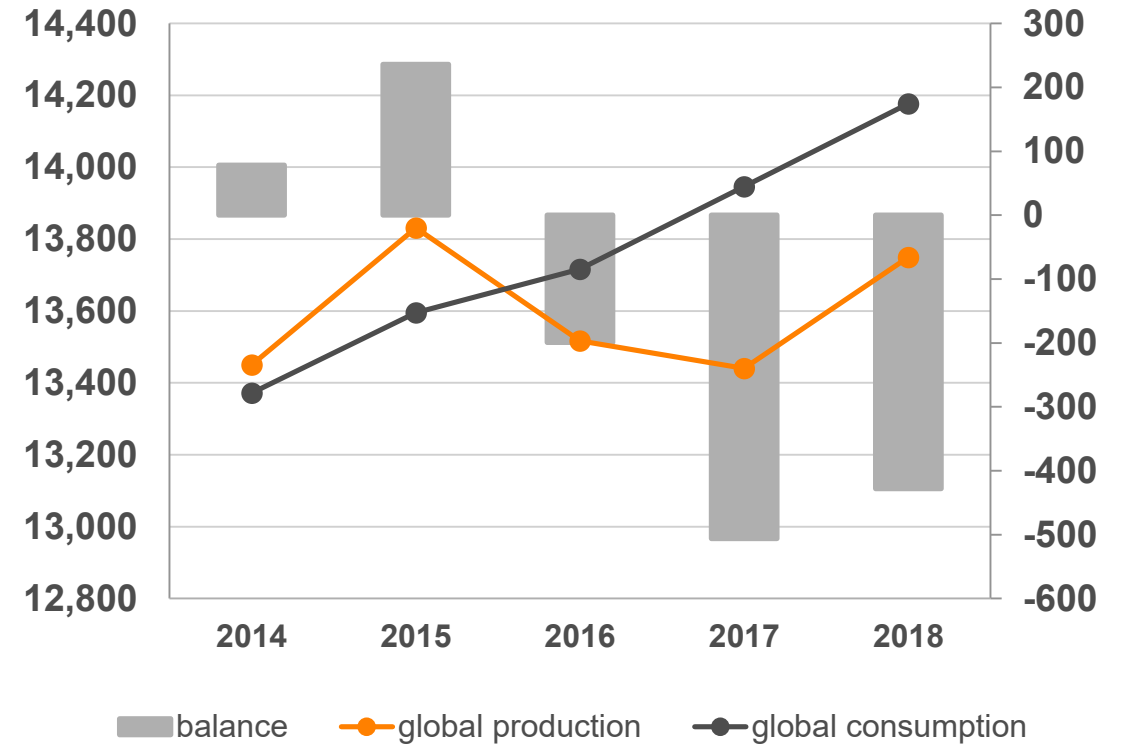
ZINC MARKET FUNDAMENTALS AND OUTLOOK

Although concentrate supplies to improve, we do not anticipate a quick return to a positive market balance. We currently estimate some 600kt of contained zinc supply coming from ramp-ups, expansions and restarts. Overall zinc supply in 2018 is expected to grow only moderately in line with a slow improvement in mine supply. Prices remain supported by low stocks and a weaker dollar.

Mine Production by region (2017)



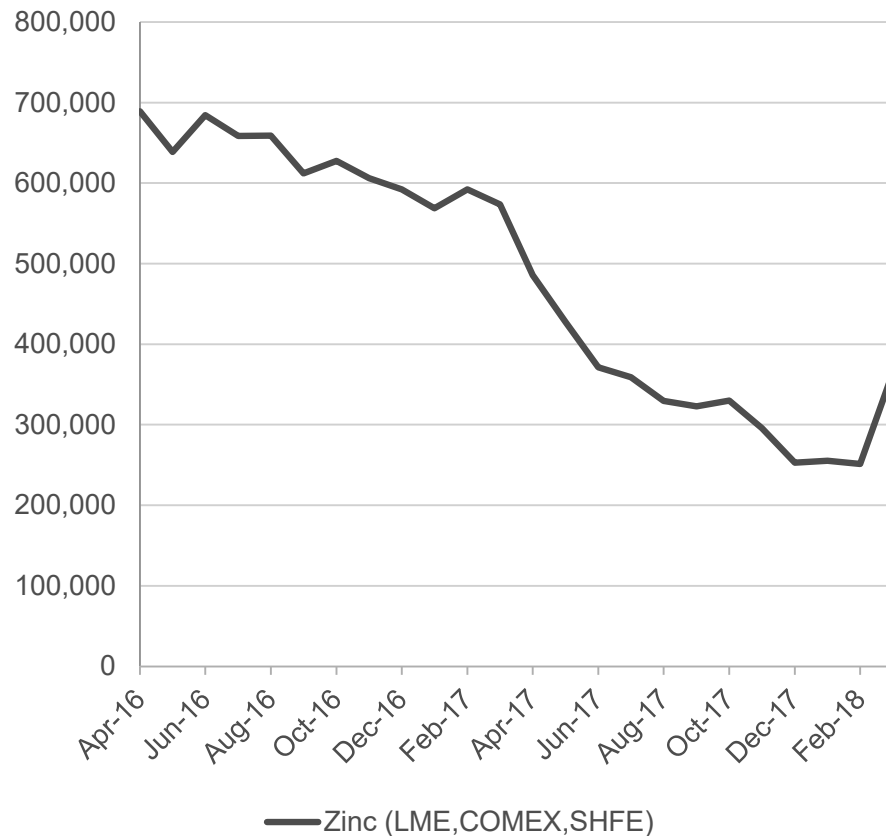
Zinc Market Balance (kt)



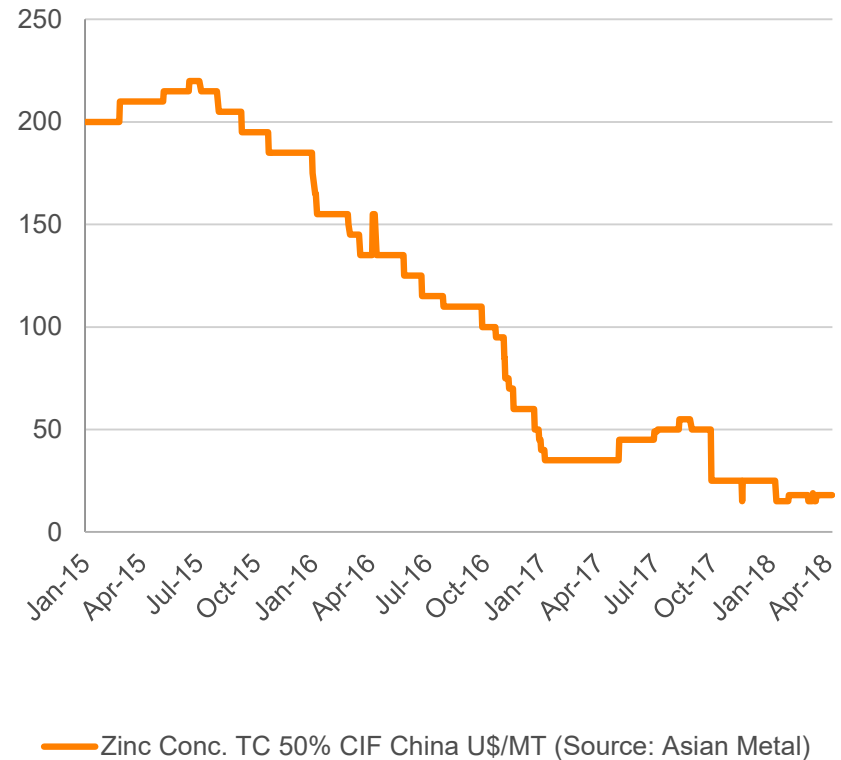
Warehouse Stocks and Treatment Charges

Zinc stocks see increases in Q1 2018 after declining throughout much of 2017. Treatment charges for zinc are trending down.

Warehouse stocks –zinc



Zinc TCs

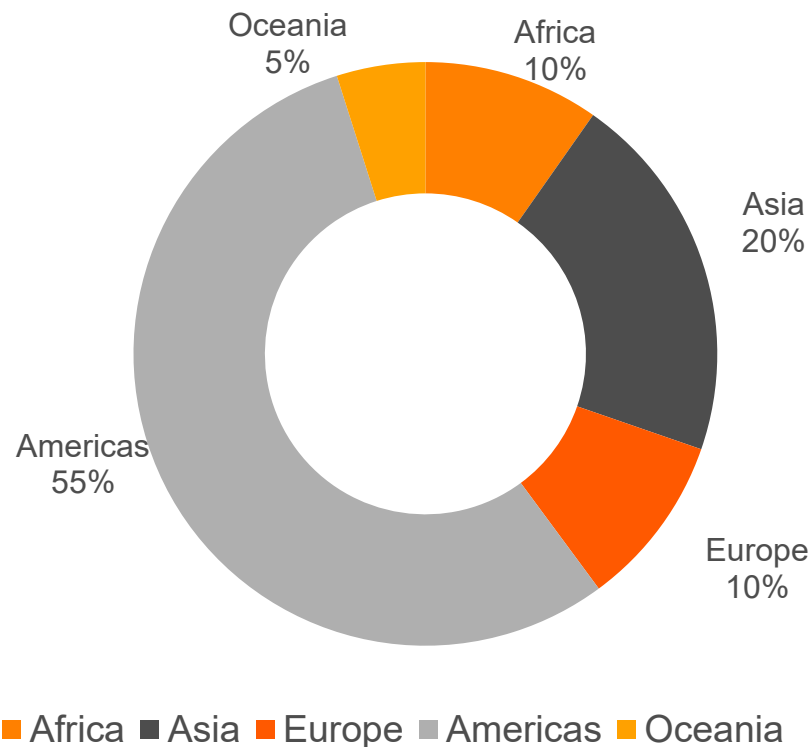


Source: Asian Metals

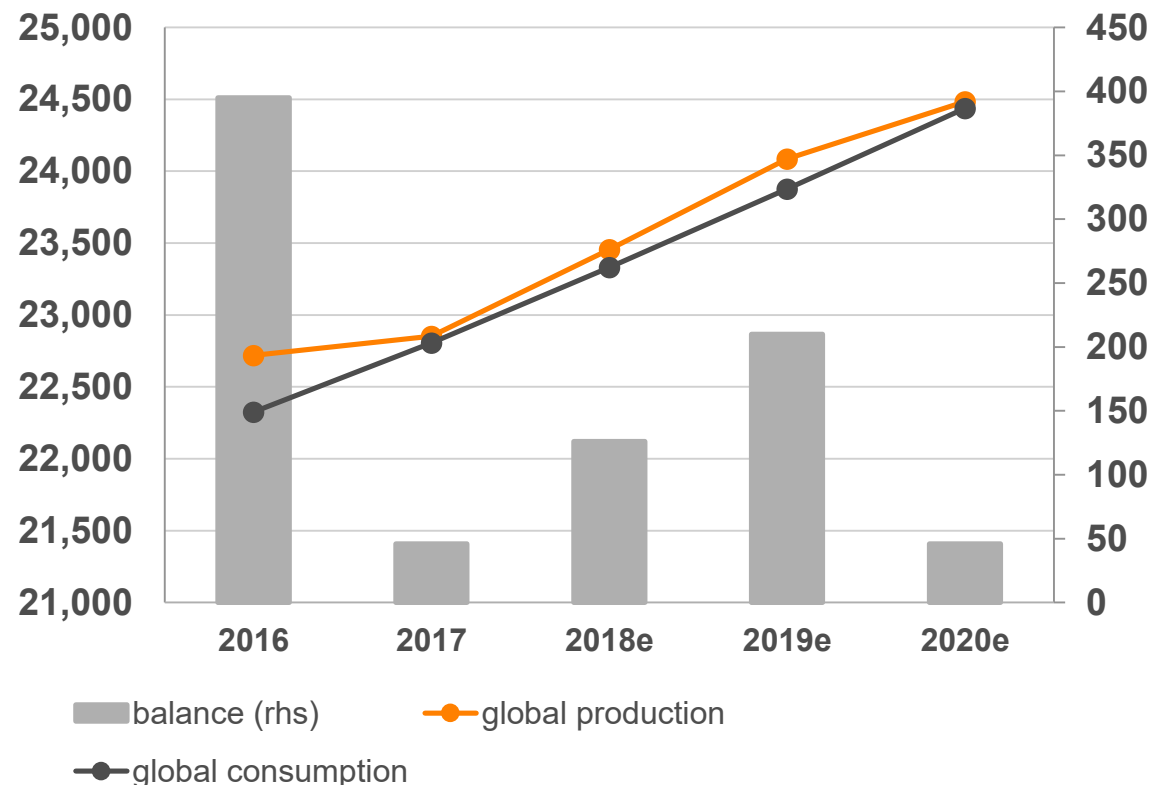
COPPER MARKET FUNDAMENTALS AND OUTLOOK

Despite the major supply disruptions that plagued copper in the early months of the 2017 and underpinned widespread talk of deficits, we estimate that the market was more or less in balance last year. A surplus is expected to develop again in 2018, albeit relatively modestly, before showing signs of contracting on a sustainable basis as the end of the decade approaches.

Mine Production by Region (2017)



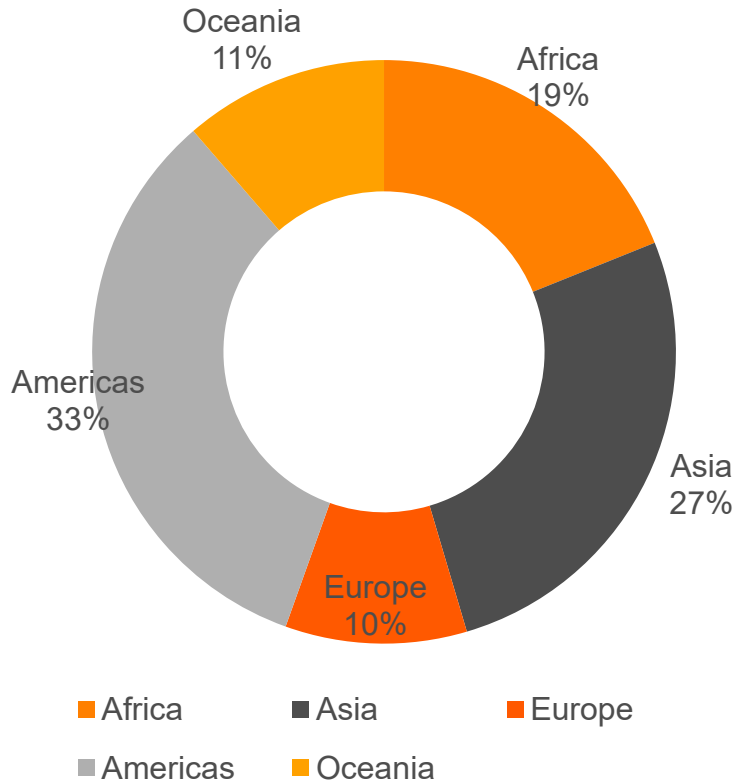
Copper Market Balance (kt)



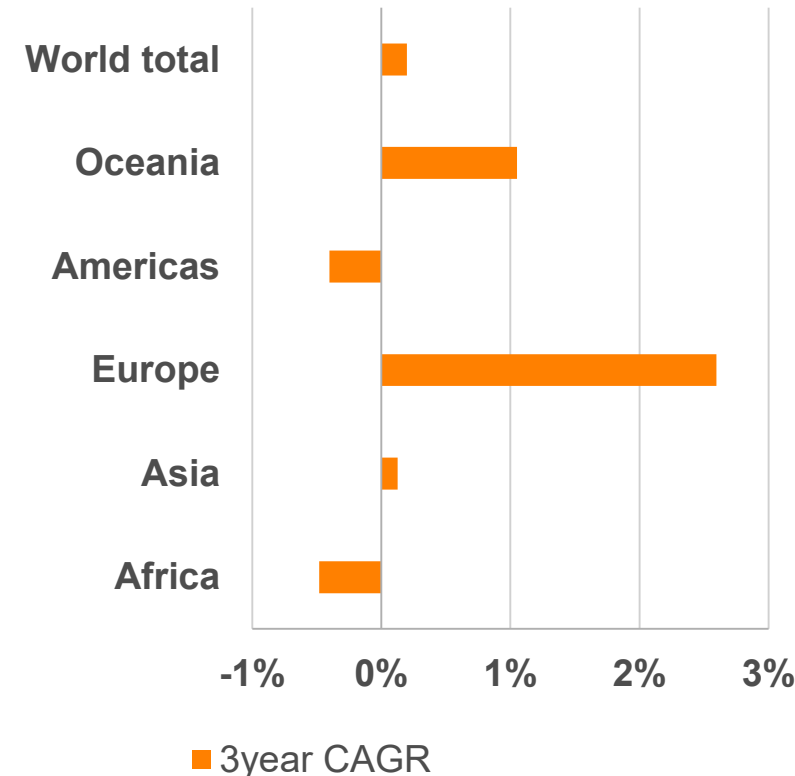
Gold Market Fundamentals and Outlook

The gold market is projected to remain in substantial surplus, although this narrows on improving demand from uptick in jewelry sector and ETF buying, the latter in part due to geopolitical tensions. Sentiment to improve, and a correction in equity markets to support rising gold prices.

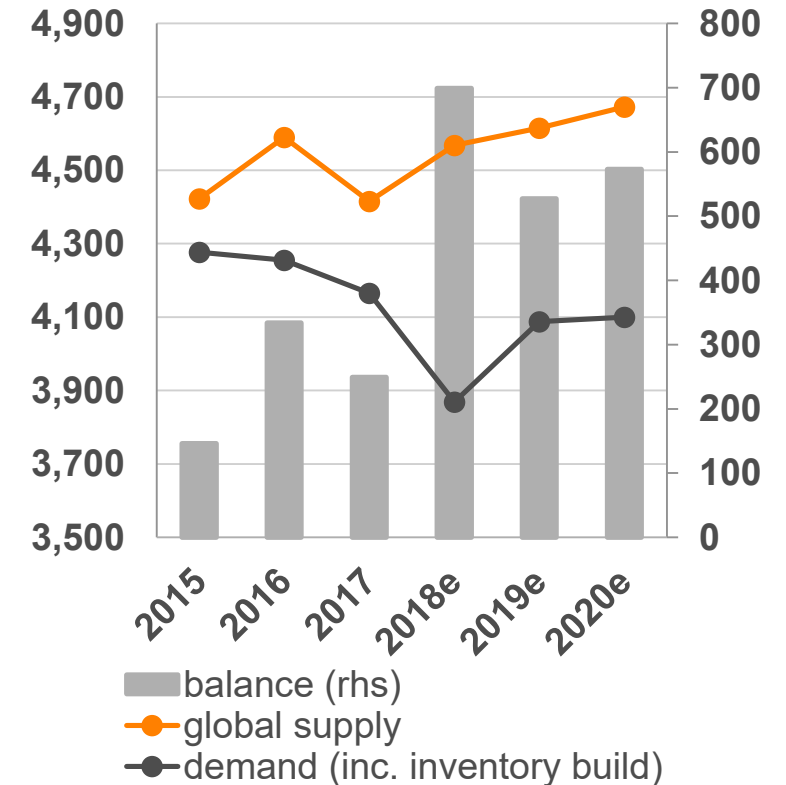
Mine Production by Region (2017)



3-year CAGR by Region (2017-2020)

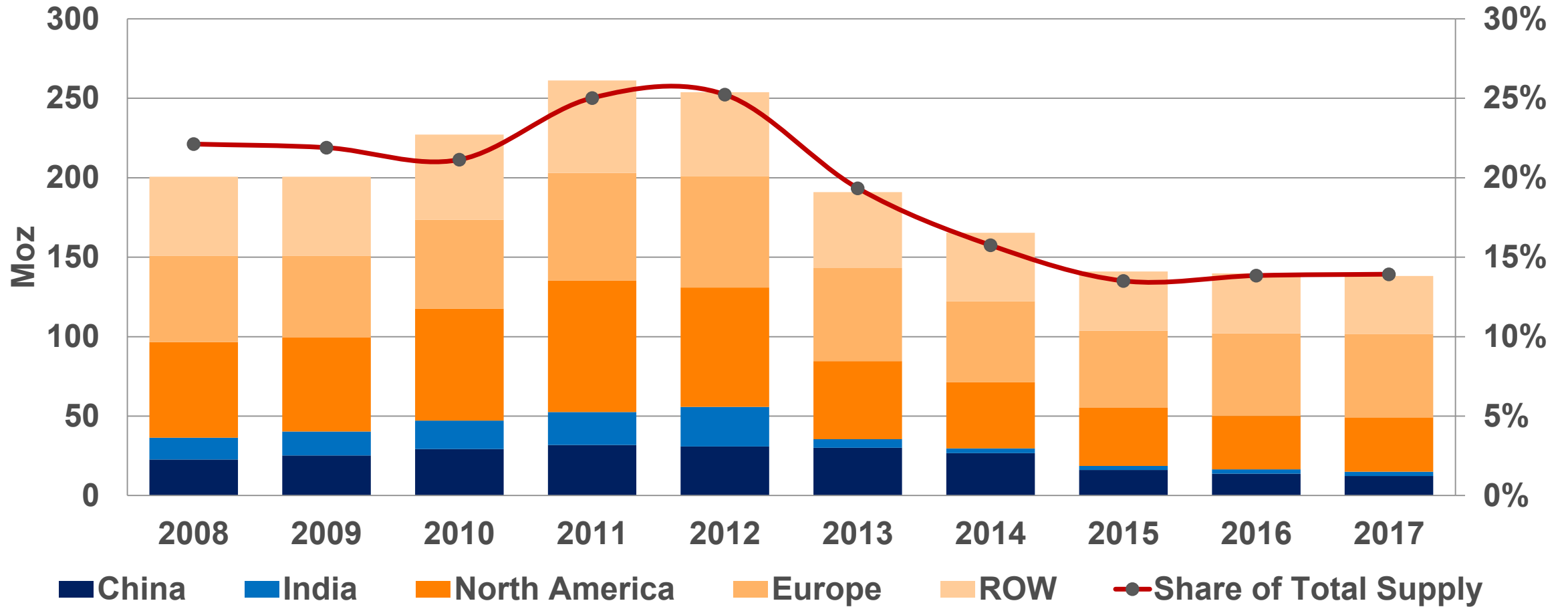


Gold Market Balance (tonnes)



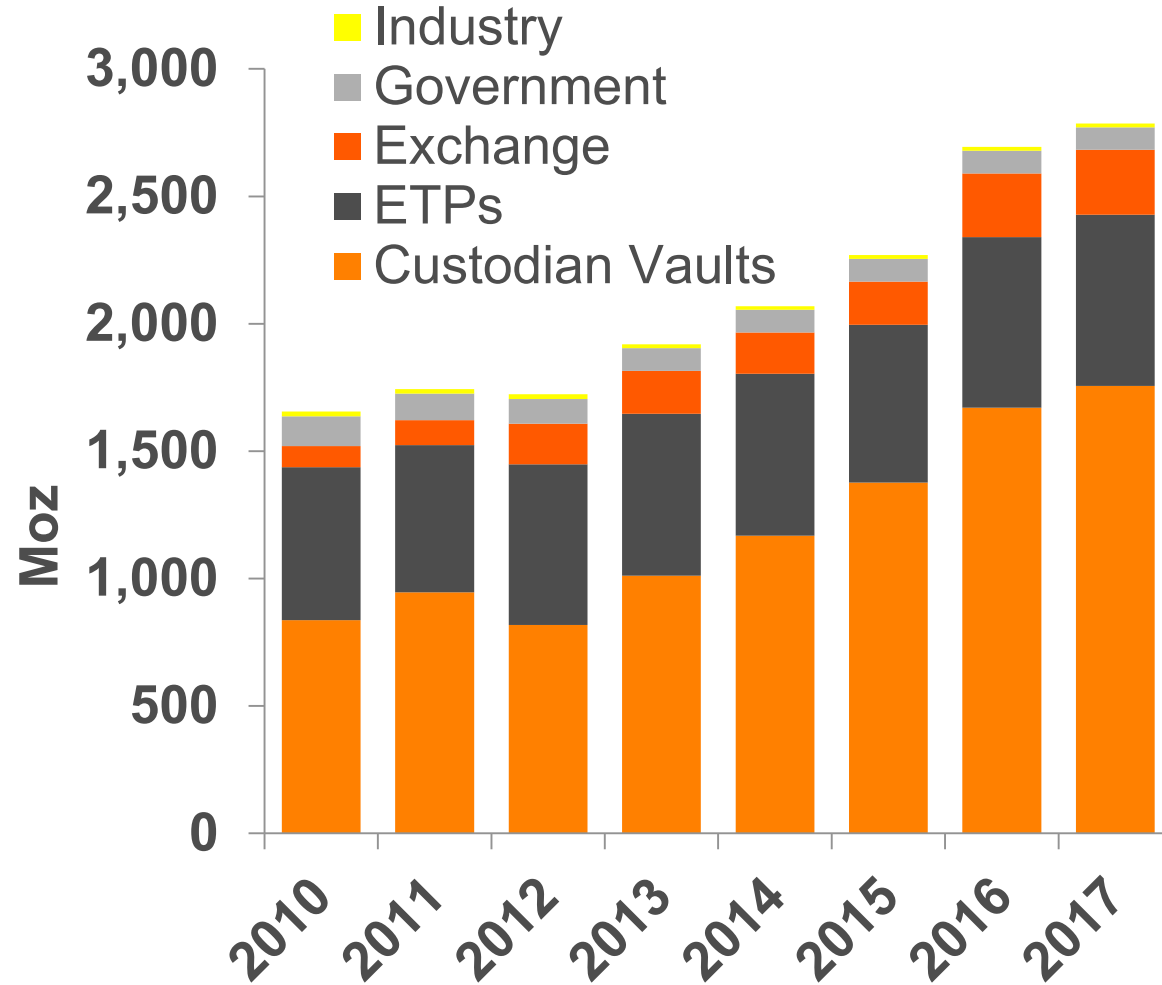
GLOBAL SILVER SCRAP SUPPLY

Scrap supply stabilized. Share of Total Supply RHS

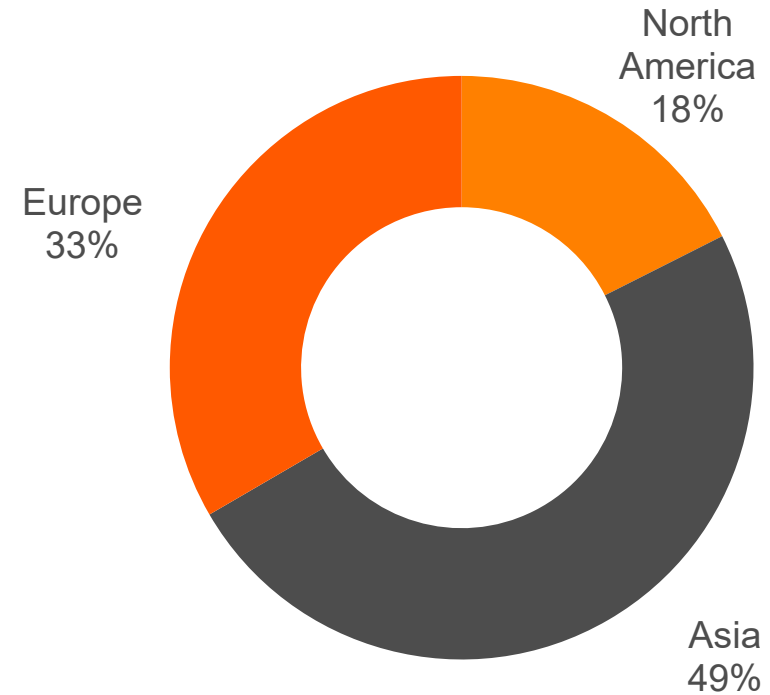


SILVER INVESTMENT

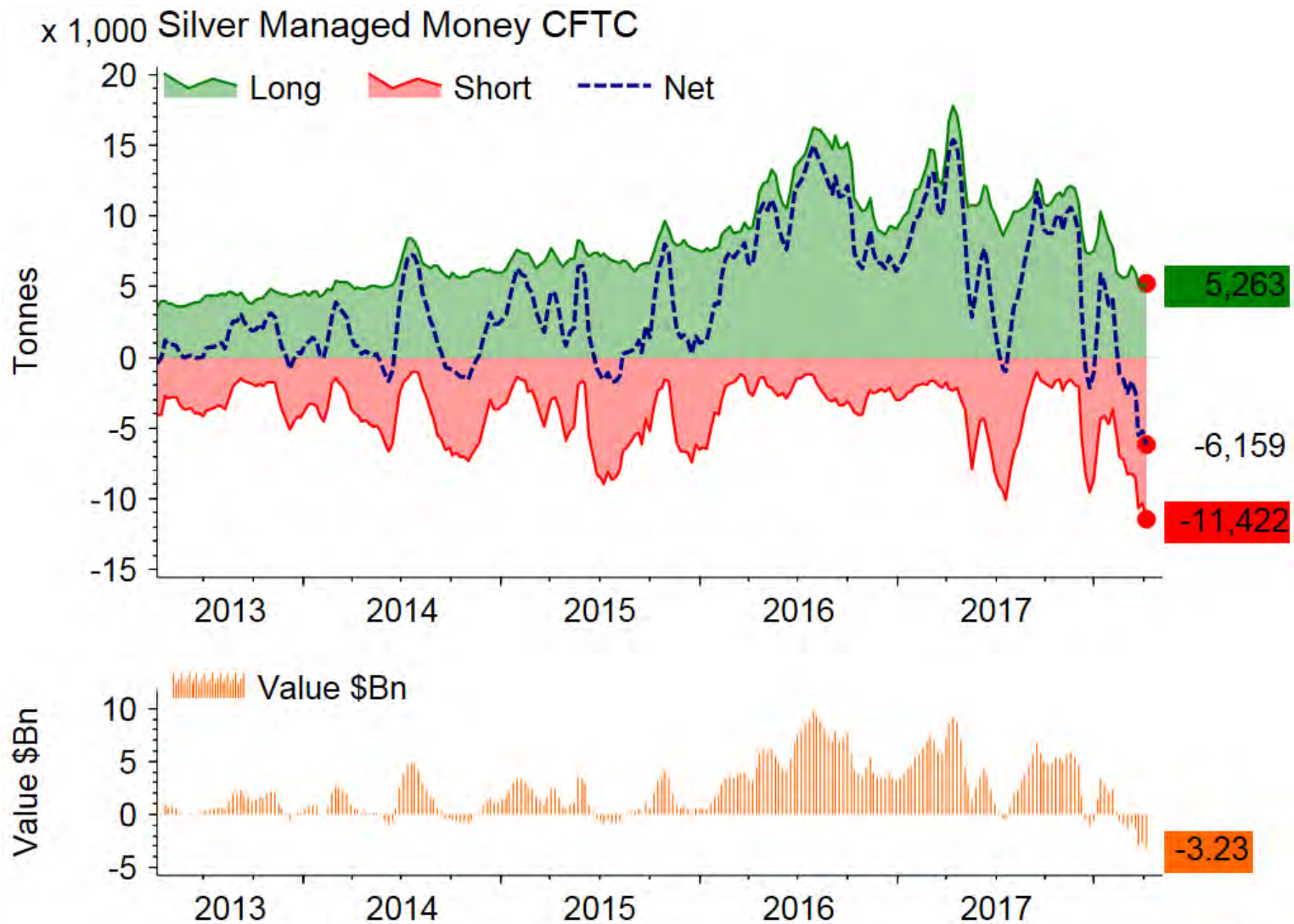
ABOVE GROUND STOCKS



Custodian Vault Stocks by Region (exc stocks allocated to ETPs)



INVESTORS' POSITIONS IN COMEX SILVER FUTURES & OPTIONS

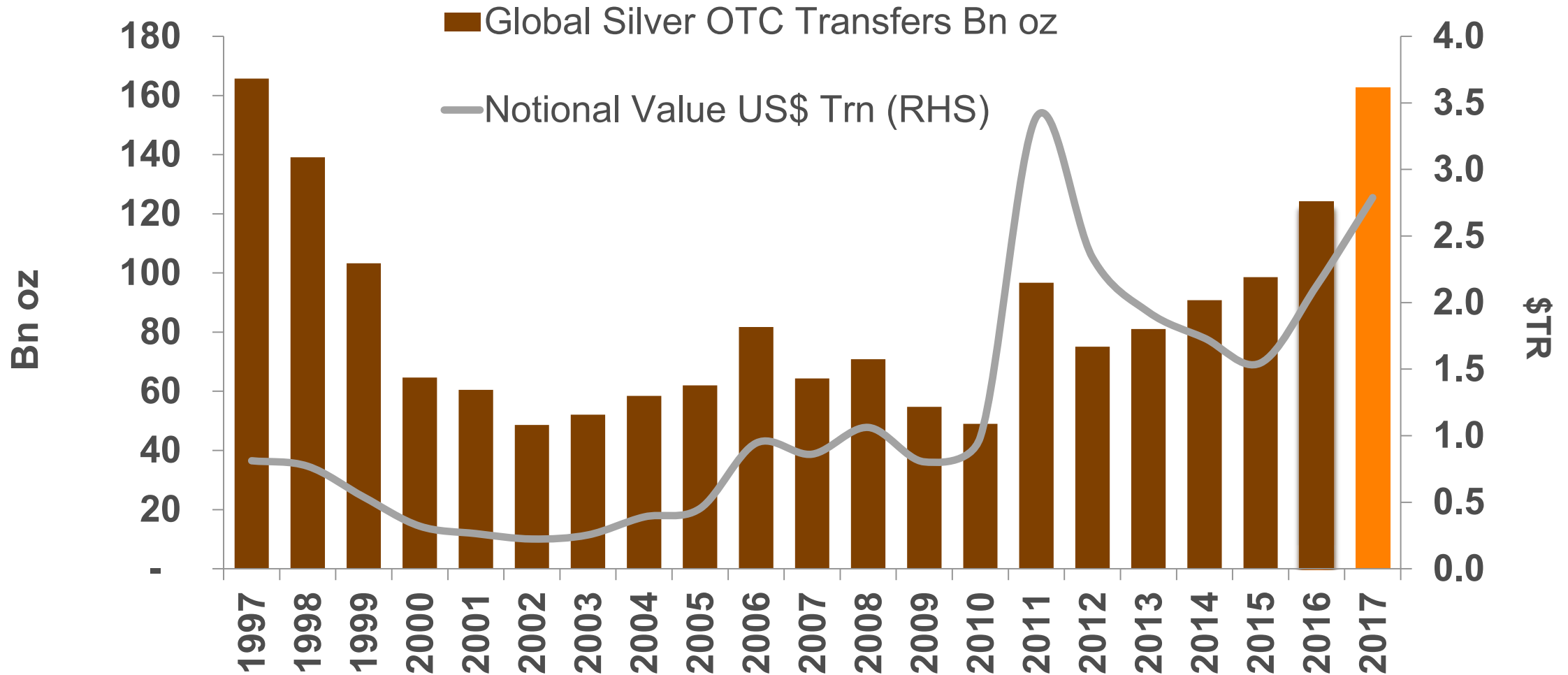


CFTC Managed Money

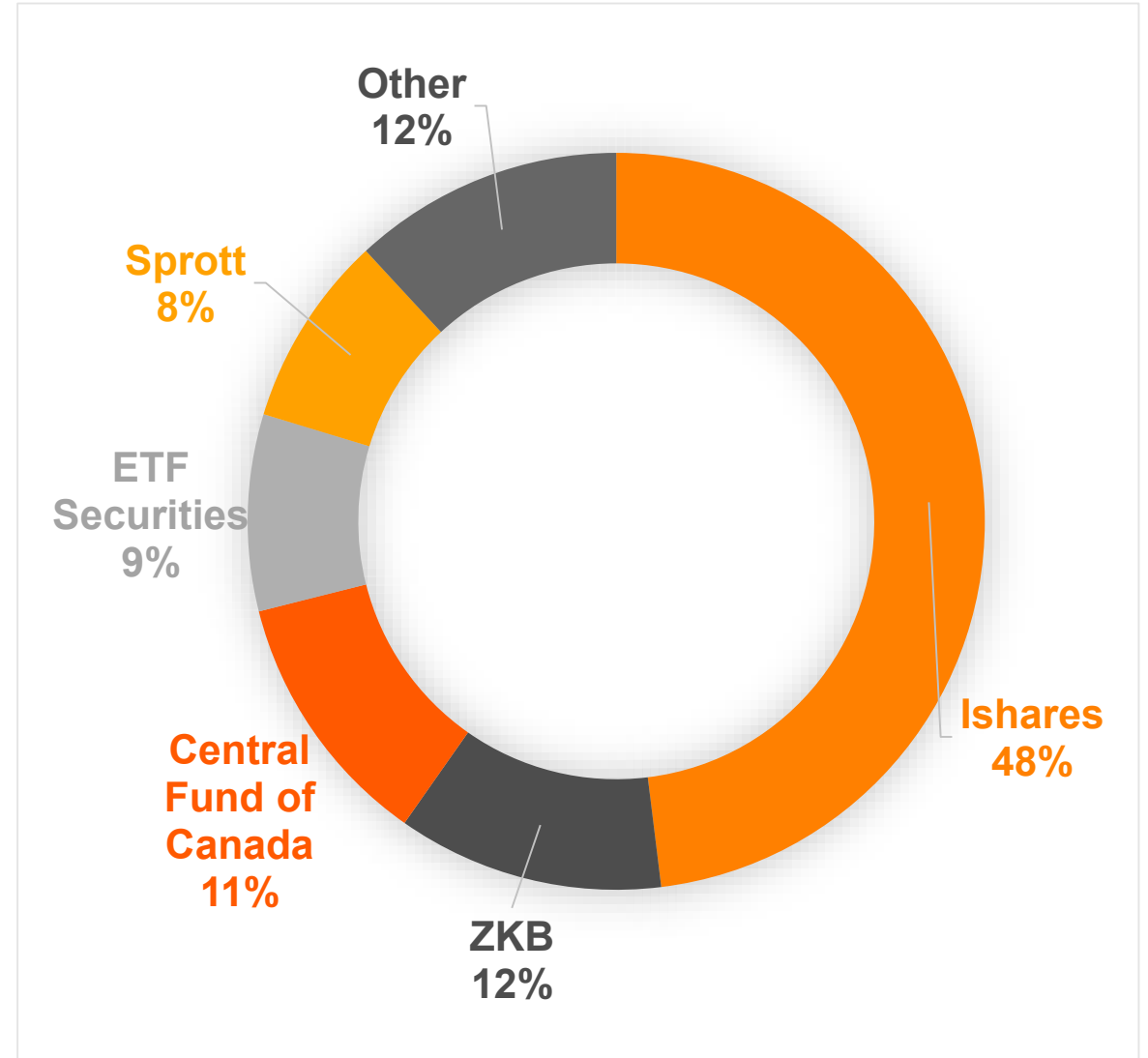
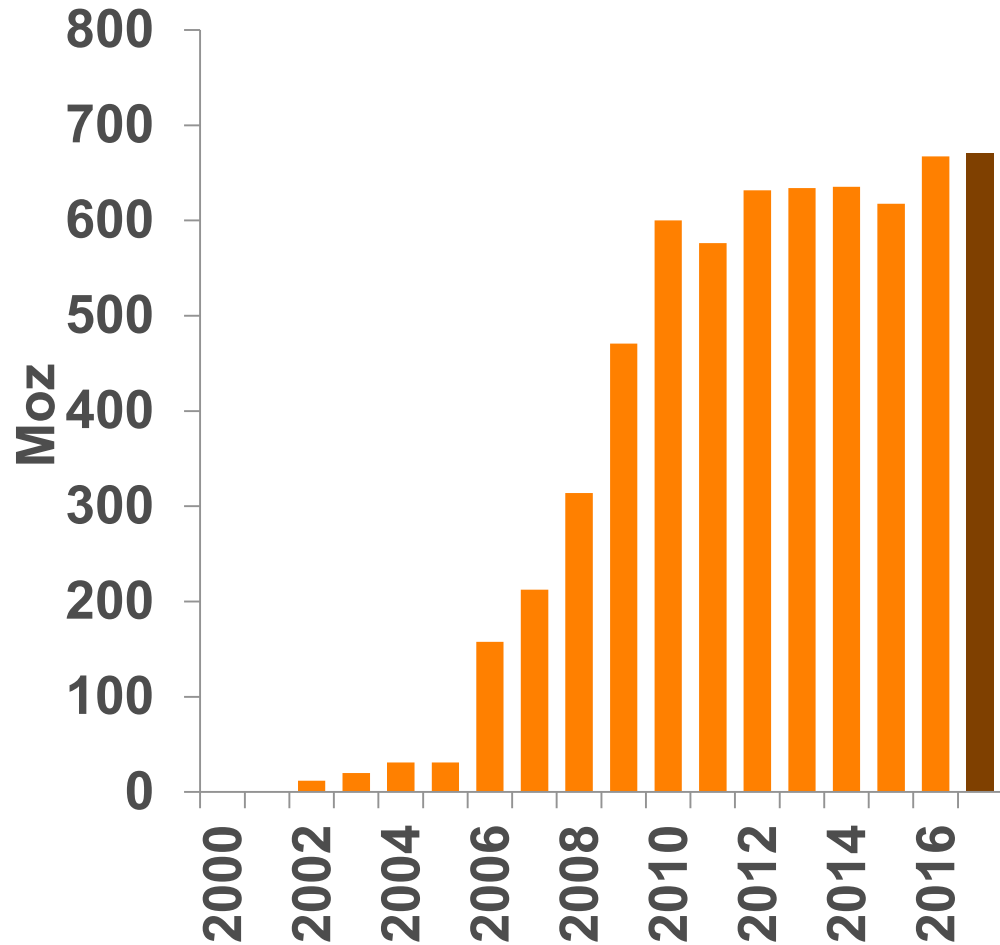
- A lot of activity on the gross shorts in 2017
- Current sentiment very bearish on Managed Money, record gross short in 2018
- Latest value US\$ -3.23 Bn

Source: Thomson Reuters Datastream, GFMS

GLOBAL OTC SILVER TRANSFERS

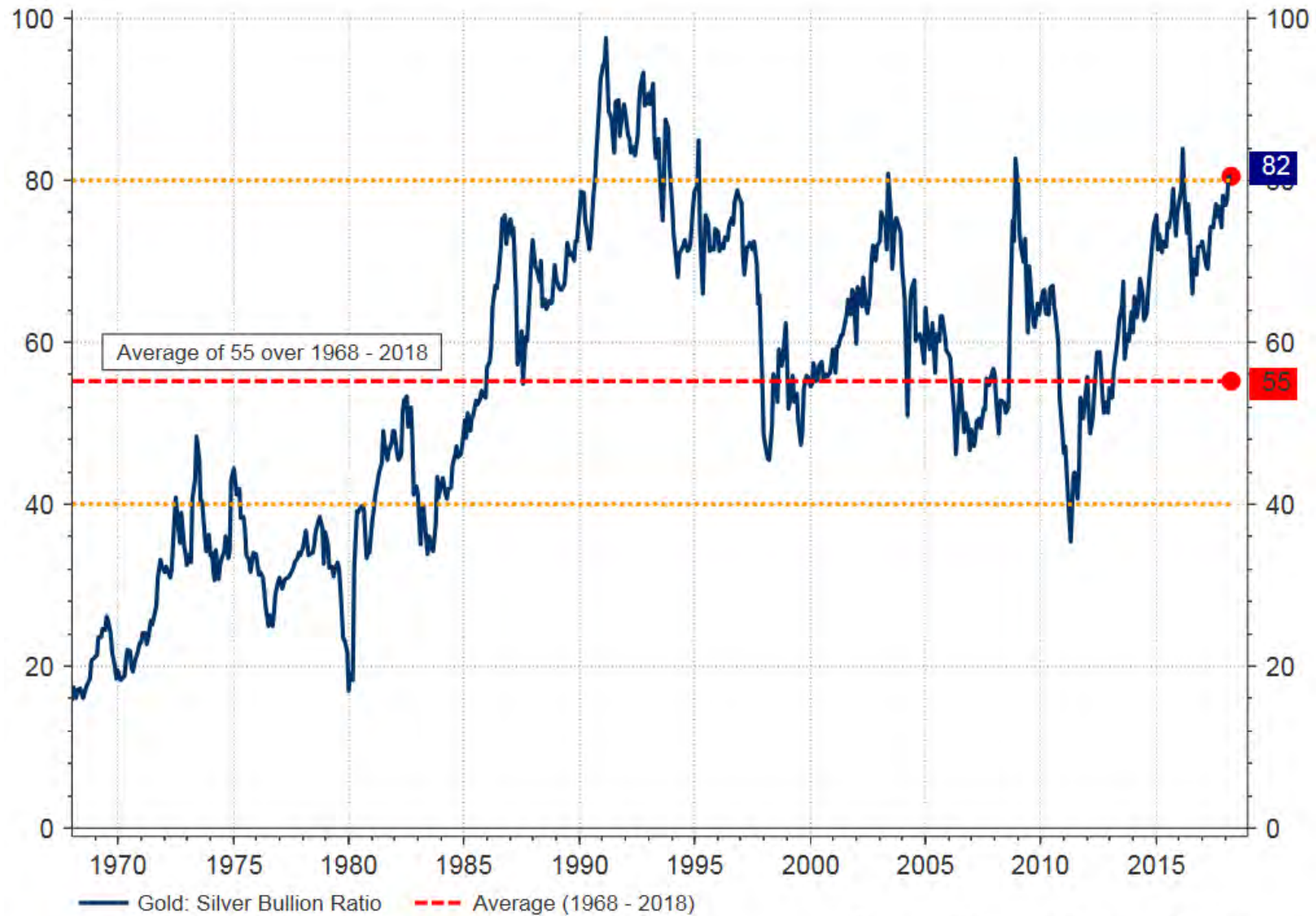


GLOBAL ETP HOLDINGS, MARKET SHARE END-2017



PRICE OUTLOOK

LONG TERM GOLD/SILVER RATIO



Source: Thomson Reuters Datastream

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