TOBAM PRESENTATION

November 27, 2024 - NJV Athens Plaza

Our mission: "Provide rational and professional solutions to long term investors in the context of efficient markets"

tobam*
unbiased.

LUNCH SPEAKER

tobam*
unbiased.

Yves Choueifaty

President and Founder,
TOBAM

AGENDA:
12:00 pm – 12:20 pm: welcoming participants
12:30 pm -1:45 pm: lunch-presentation
1:45 pm -2 pm: Q&A

tobam*
unbiased.

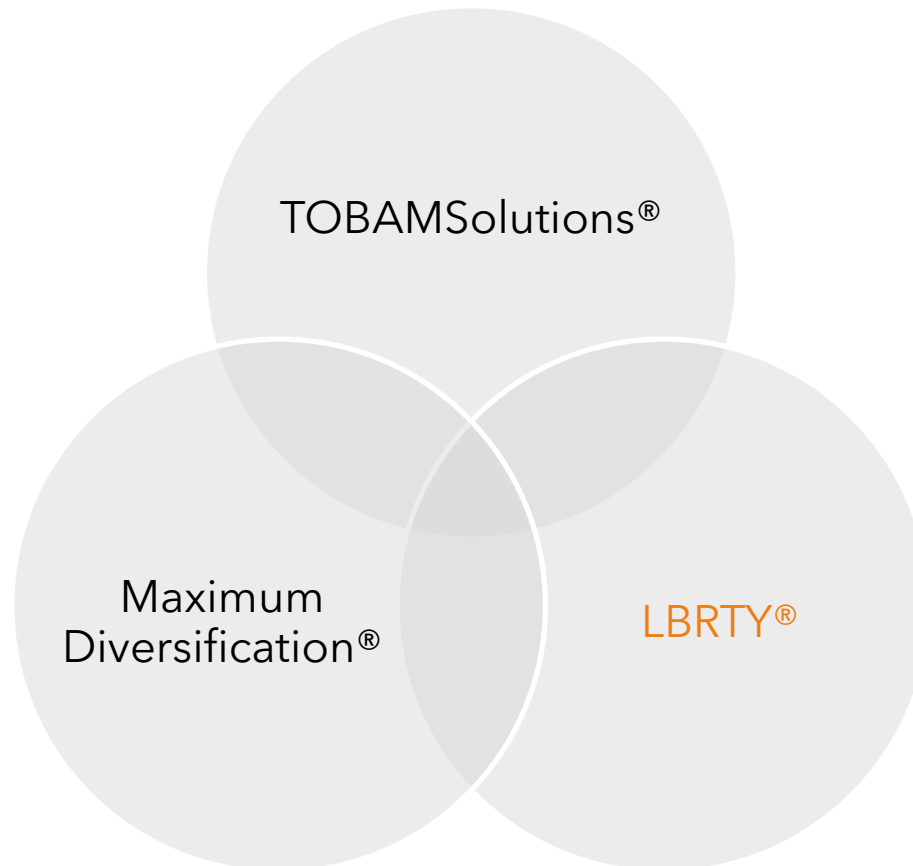# MIGRATING TOBAM FROM A MONO-CORE …

TOBAM*
CORE INVESTMENTS

→

tobam*
unbiased.

…. To Multi-Core

CrypTOBAM®

TOBAMSolutions®

Maximum Diversification®

LBRTY®

tobam*
unbiased.
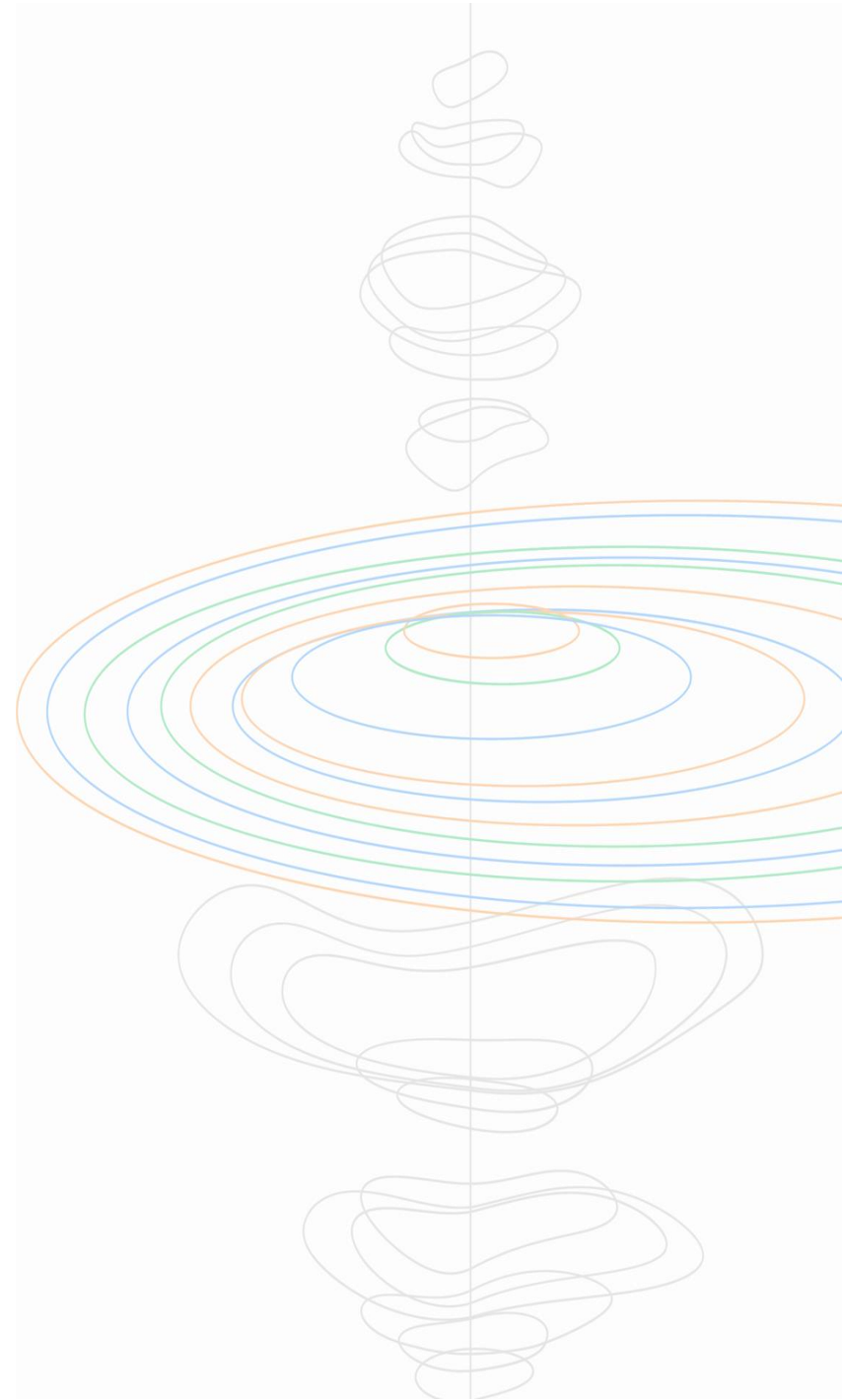
THE COMPANY

Independent and employee-owned

- Created in 2005
- Part of CalPERS' EMD program (2011 – 2021)
- Approx. USD$ 4 billion under management
- 39 financial professionals, 13 nationalities
- Regulated in France and SEC-registered

The Maximum Diversification® approach, supported by original research and a mathematical definition of diversification, provides investors with diversified core exposure, both in equity and fixed income markets.

THE FOUNDER

Yves Choueifaty, President & CIO
(30 years investment experience), previously:

- CEO of Credit Lyonnais Asset Management (AuM €70bn)
- Graduated in 1992 from ENSAE in Statistics, Actuarial Studies Finance and Artificial Intelligence

SHAREHOLDER STRUCTURE

TOBAM'S EMPLOYEES 92%

AMUNDI 8%
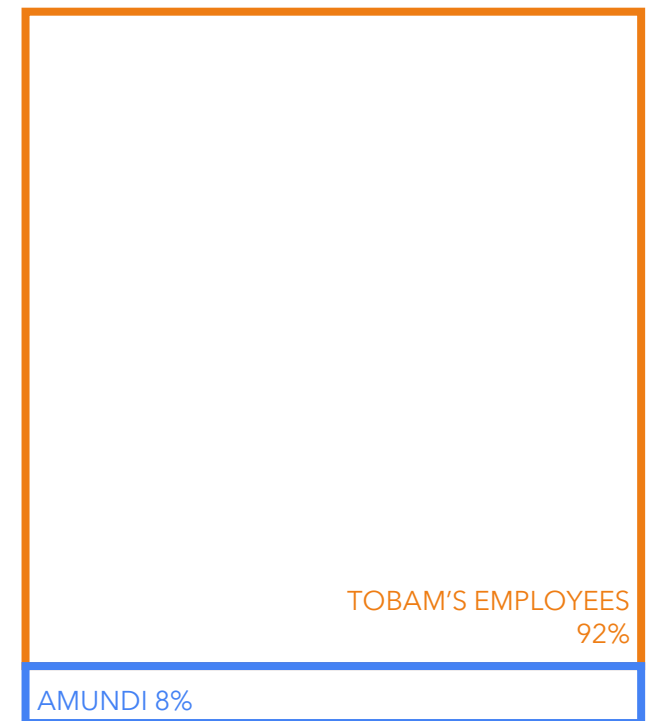
Source: TOBAM. Figures as of June 28, 2024.

tobam*
unbiased.

RESEARCH DRIVEN ASSET MANAGEMENT

41% of the team involved in portfolio management & research (16 people)

- Identify issues, create solutions, and guarantee the rationality of solutions
- Product research & development
- Implementation innovation

"

The team is encouraged to think out of the box in its approach to 'conventional wisdom' to the greatest extent possible. As such, the team's diversity is a critical part of how well it functions.
We have a large range of expertise, from mathematicians to engineers, economists and traders, all of which feeds in to the team's ability to look at problems or assumptions from a very broad spectrum of viewpoints.

"

Tristan Froidure, Head of Research
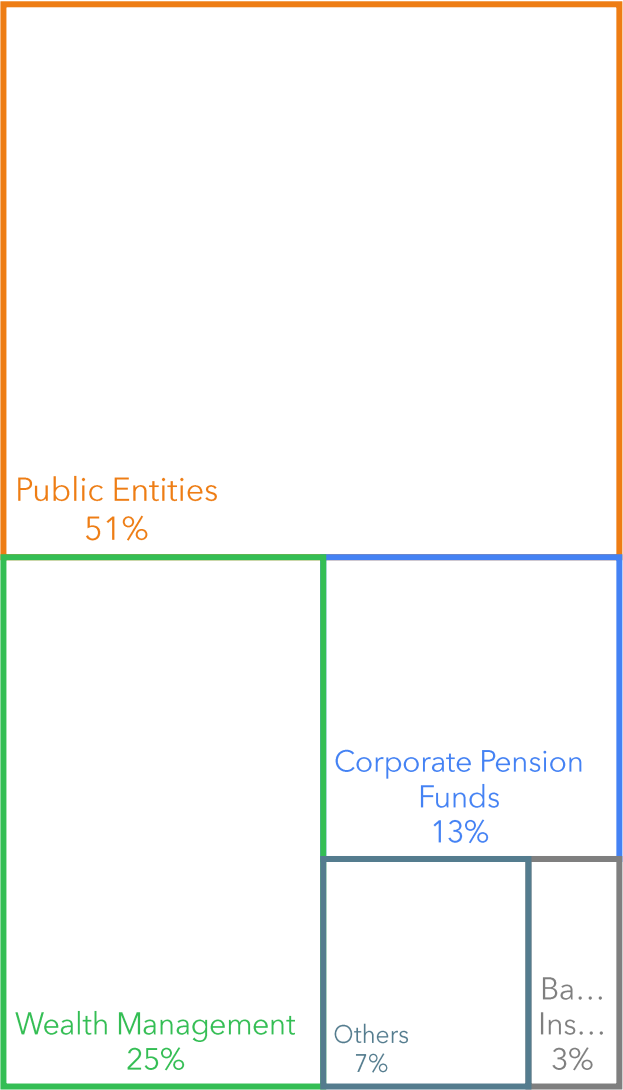
39 employees
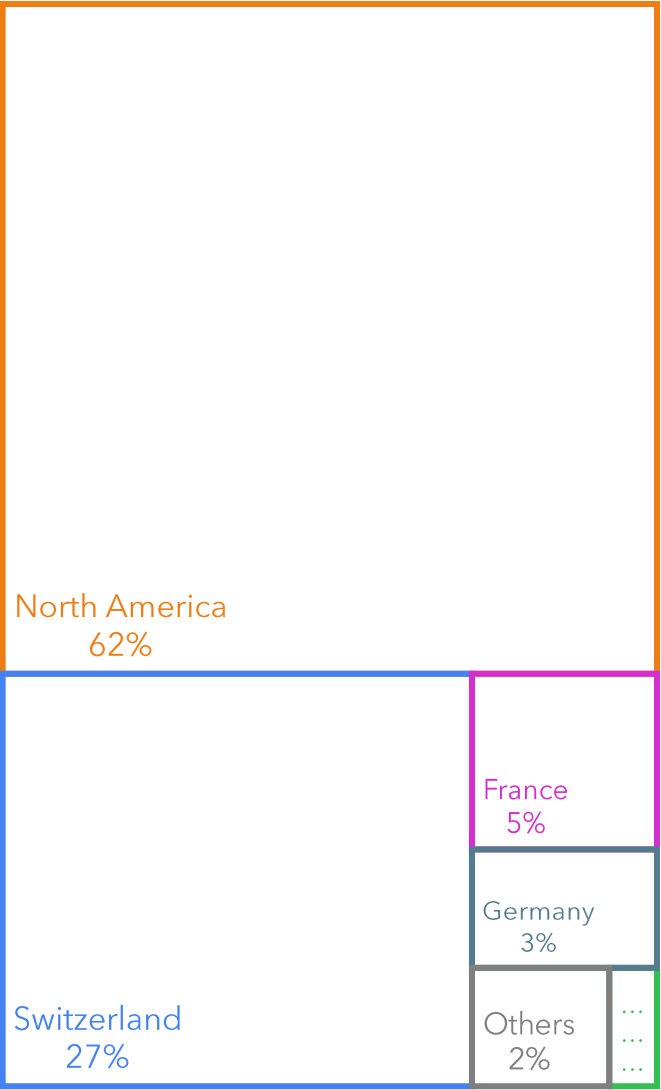
13 nationalities

03 locations

- Paris
- Dublin
- New York

ASSETS UNDER MANAGEMENT

AuM by **Clients Type**

- Public Entities **51%**
- Wealth Management **25%**
- Corporate Pension Funds **13%**
- Others **7%**
- Ba… Ins… **3%**

AuM By **Clients Geography**

- North America **62%**
- Switzerland **27%**
- France **5%**
- Germany **3%**
- Others **2%**

Strategies	AUM in $ million
US Equities	**965**
of which open-ended funds	*261*
Global Developed Equities	**860**
of which open-ended funds	*258*
Global EM Equities	**434**
of which open-ended funds	*387*
Canada Equities	**322**
of which open-ended funds	*10*
ACWI Equities	**292**
of which open-ended funds	*27.3*
Global Developed ex US Equities	**214**
of which open-ended funds	*-*
Swiss Equities	**70**
of which open-ended funds	*70*
World ex Swiss Equities	**67**
of which open-ended funds	*67*
Euro Equities	**34**
of which open-ended funds	*29*
Japan Equities	**23**
of which open-ended funds	*23*
EAFE Equities	**16**
of which open-ended funds	*-*
Other Equities	**15**
of which open-ended funds	*15*
Total Equities	**3,313**
Global IG Credit	**202**
of which open-ended funds	*202*
Global HY Credit	**88**
of which open-ended funds	*88*
Total Fixed Income	**291**
Multi-Asset	**88**
of which open-ended funds	*88*
Total Multi Asset	**88**
Crypto Assets	**43**
of which open-ended funds	*29*
Total Crypto Assets	**43**
Total AUM	**$4B**
of which open-ended funds	1,555

Key Risks: The value of your investment and the income from it will vary and your initial investment amount is not guaranteed. Allocations are subject to change.
Data as of June 28, 2024

GRANTED PATENTS

US PATENT

AUSTRALIAN PATENT

JAPANESE PATENT

CANADIAN PATENT

AWARDS

tobam*
unbiased.

2023 - 2024

- "Equities Manager of the year"
  Wealth & AM Awards, May 2024, London

- Multi Asset Portfolio Awards
  CIO Industry Innovation Awards, Dec 2023, NYC

- " Grand Prix de la Philanthropie "
  "Justice and Peace" category, Ficade
  Group, Nov 2023, Paris

2022

- Multi Strategy investing Awards
  CIO Industry Innovation Awards, Dec 2022, NYC

- "Grand Prix de la Finance" US Equity
  "Best funds to choose in the next 12 months"
  H24 Finance, July 2022, Paris

- "Sustainability Provider of the Year"
  Asset Management Awards 2022
  MoneyAge, May 2022, London

2021

- "Multi Asset Manager of the Year"
  European Pensions Awards 2021
  October 2021, London

- "Smart Beta Manager of the year"
  Pension and Investment provider Awards 2021
  June 2021, London

- "Multi Asset Manager of the Year"
  Asset Management Awards 2021
  MoneyAge, May 2021, London

2020

- European Asset Management Firm of the Year"
  (assets under €20bn)
  Funds Europe Awards 2020, London

- TOBAM's Anti-Benchmark® Multi Asset:
  "Best Flexible Fund"
  Grands Prix de la Gestion d'Actifs 2020, Paris

Other Awards

- "Most Sustainable Company in the Investment Industry"
  World Finance Sustainability Awards, 2019

- "Emerging Equity Manager of the Year"
  UK Pensions Awards 2019, London

- "European Smart Beta Manager of the Year"
  Funds Europe Awards 2018, London

- "European Asset Management Firm of the Year"
  Funds Europe Awards 2017, London

- "AM Leader of the Year"
  Grands Prix de la Gestion d'Actifs 2016, Paris

- "European Asset Manager of the Year"
  Funds Europe Awards 2016, London

- "Equities Manager of the Year"
  CIO Industry Innovation Awards 2015
  New York

- "CIO of the Year"
  Funds Europe Awards 2015

- "Profit for Non Profit Special Award, TOBAM
  Anti-Benchmark Emerging Markets Equity Fund"
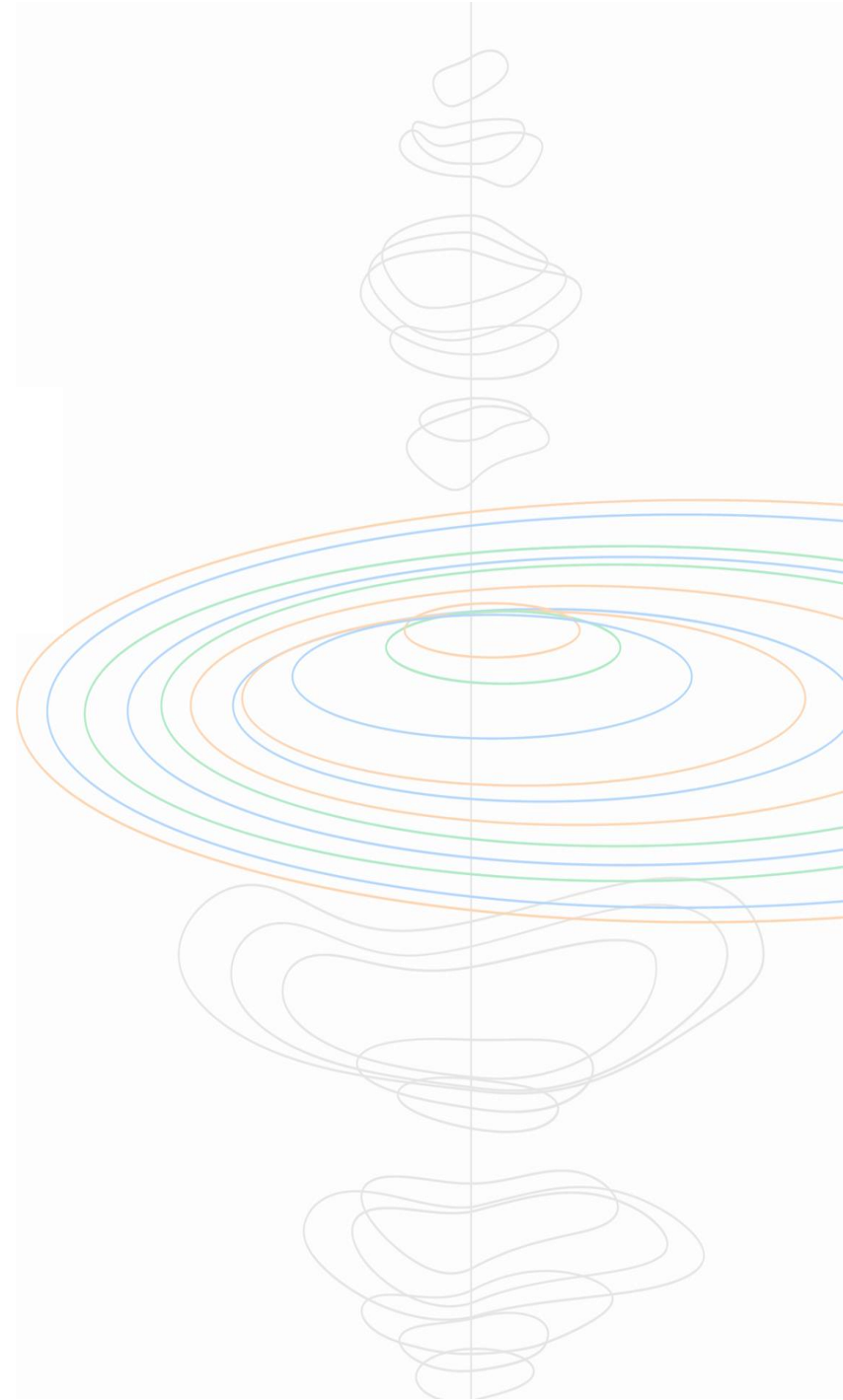 Profit for Non Profit Awards 2014, Paris

- "Emerging Equity Manager of the Year"
  Pension Age Awards 2020, London

- TOBAM's Deputy CIO elected in the Top
  25 Rising Stars of Asset Management
  Financial News, September 2020

9

tobam*
unbiased.

THE "MAXIMUM DIVERSIFICATION®" APPROACH

Maximum Diversification®: a quantitative investment approach based on a unique principle – building the Most Diversified Portfolio®

The MDP® portfolio objective: outperform the market cap index with less risk, by increasing diversification

- • Definition of a mathematical measure of a portfolio's diversification: the Diversification Ratio® (patented),
- • Set up of an investment process that increases this Diversification Ratio®,
- • Long-only, non leveraged and fully invested

The MDP®:

- • neutrally allocates risk to the effective independent sources of risk,

- • Attempts to be the undiversifiable portfolio,

- • provides a theoretical definition of the market risk premium

TOBAM Founder Yves Choueifaty meeting with Dr. Harry Markowitz, Nobel Prize winner (San Diego - June 2019)

CAP-WEIGHTED INDICES TAKE ON HEAVY STRUCTURAL BIASES…

- As stocks appreciate, the greater their index representation, and conversely so
- The greater the imbalance, the greater the impact of changes in price (volatility)
- Using a biased benchmark as a reference carries heavy (and costly) implicit bets
- These implicit bets evolve dynamically over time
  - US Equity Market - Sector Weights

VALUE PROPOSAL

- Case of US strategy

+76% excess return

Concentration –
Deconcentration
Cycle 1
12/31/96 – 6/30/04

+5% excess return

Concentration –
Deconcentration
Cycle 2
6/30/04 -6/30/08

+67% excess return

Concentration –
Deconcentration
Cycle 3
6/30/08 -3/31/15

Concentration only
Cycle
12/31/15 to date

Significant prolonged increase in concentration

Excess Return performance DD

Constant Matrix DR² DD
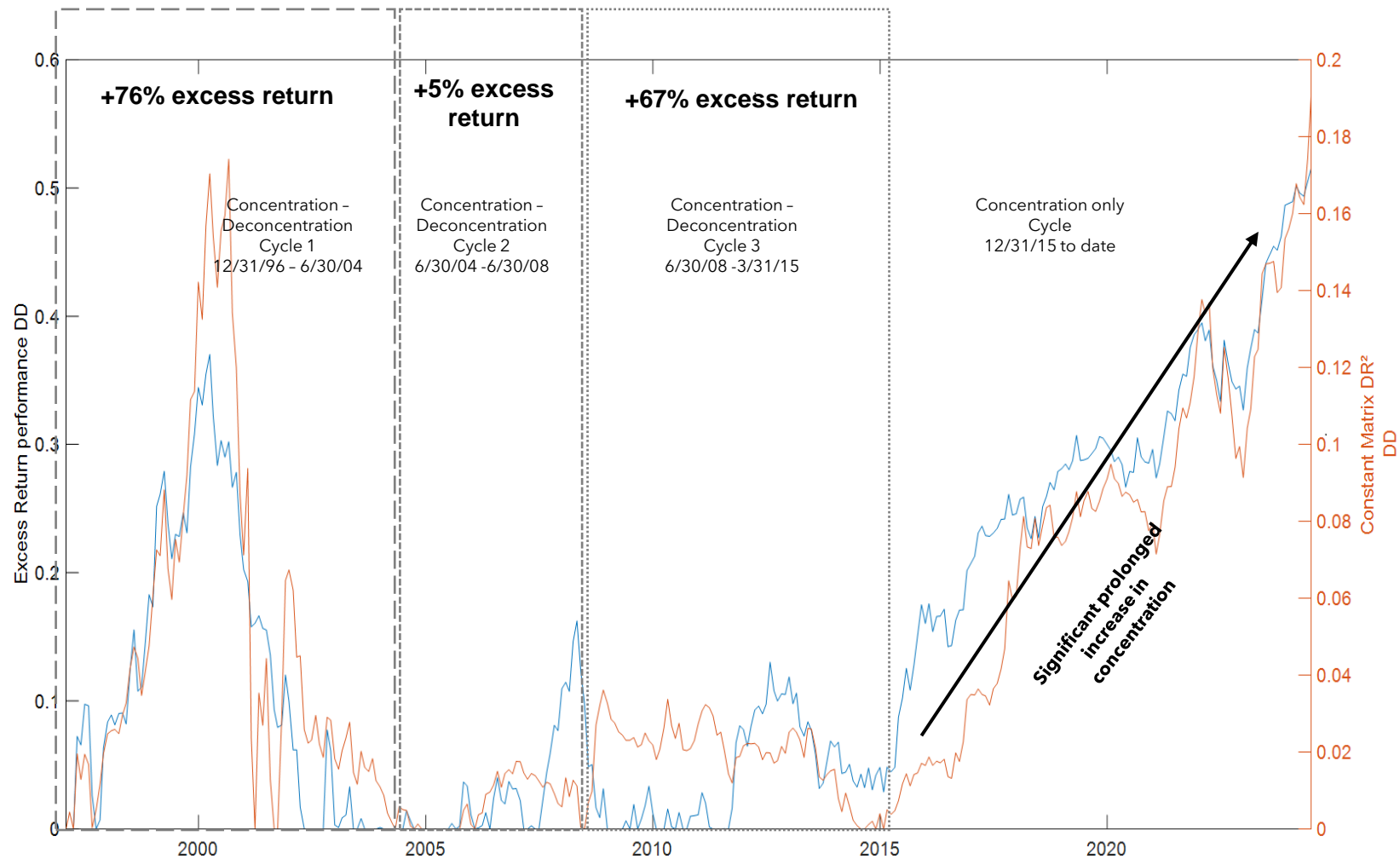
Source: TOBAM, BBG, December 31, 1996 to June 28, 2024.

Constant Matrix DR² Drawdown

Excess Return Drawdown

13

MAXDIV PERFORMANCE COMPARISON

tobam*
unbiased.

• USA Investment Universe

• Gross Cumulative Performance since October 2002

Statistics Summary

	MSCI	Max Div	RAFI	MV	ERW	EW
Total return	849.7%	955.1%	884.0%	719.1%	838.0%	874.6%
Annualised return	10.95%	11.49%	11.13%	10.19%	10.89%	11.08%
Volatility	14.88%	14.16%	16.31%	11.69%	14.24%	17.07%
Return Per Unit Risk	0.74	0.81	0.68	0.87	0.76	0.65
Tracking error	0.00%	5.08%	4.88%	6.19%	3.69%	4.61%
Information Ratio	0.00	0.11	0.04	-0.12	-0.02	0.03

Source: TOBAM and Bloomberg. Returns are gross of fees and stated in USD, net returns are not available for indices. One cannot invest directly in an index. An investment in a vehicle tracking an index would include amongst other things, advisory fees and expenses. Performance information for TOBAM Maximum Diversification® indices are based on back tested returns from October 2002 to November 2011, live data has been used from launch in November 2011 to June 2024.
Performance information for TOBAM Diversified Benchmark indices are based on back tested returns for the entire period presented.
Back tested results are for information purposes only. They are intended to illustrate how the strategy may have behaved over the period prior to it being launched. Past performance is not indicative of future results. Please see the disclaimer page located at the end of this note for important additional disclosures.

MAXDIV PERFORMANCE COMPARISON

tobam*
unbiased.

• World Developed Investment Universe

   • Gross Cumulative Performance since October 2002
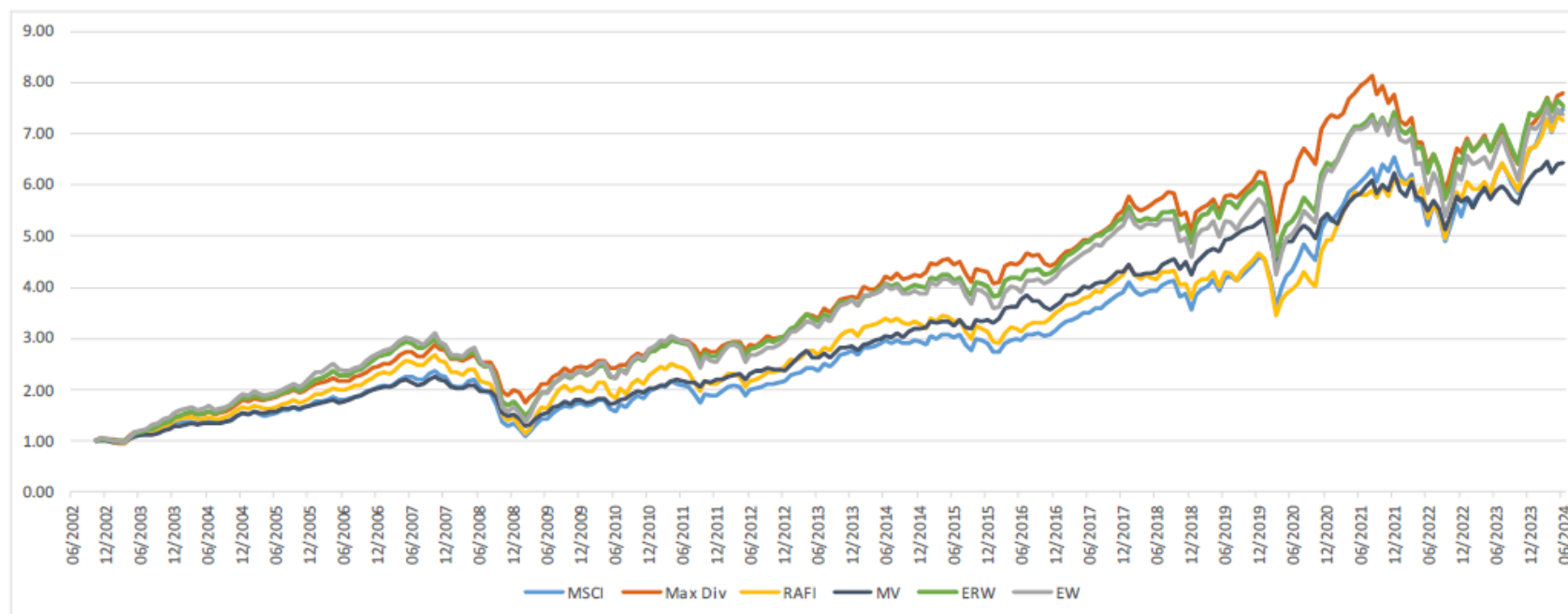
Statistics Summary

	MSCI	Max Div	RAFI	MV	ERW	EW
Total return	649.7%	680.6%	626.9%	542.7%	654.9%	635.8%
Annualised return	9.74%	9.95%	9.59%	8.97%	9.78%	9.65%
Volatility	15.28%	12.58%	16.75%	11.09%	14.34%	16.59%
Return Per Unit Risk	0.64	0.79	0.57	0.81	0.68	0.58
Tracking error	0.00%	5.73%	4.38%	7.16%	3.68%	3.75%
Information Ratio	0.00	0.04	-0.04	-0.11	0.01	-0.03

Source: TOBAM and Bloomberg. Returns are gross of fees and stated in USD, net returns are not available for indices. One cannot invest directly in an index. An investment in a vehicle tracking an index would include amongst other things, advisory fees and expenses. Performance information for TOBAM Maximum Diversification® indices are based on back tested returns from October 2002 to November 2011, live data has been used from launch in November 2011 to June 2024.
Performance information for TOBAM Diversified Benchmark indices are based on back tested returns for the entire period presented. Back tested results are for information purposes only. They are intended to illustrate how the strategy may have behaved over the period prior to it being launched. Past performance is not indicative of future results. Please see the disclaimer page located at the end of this note for important additional disclosures.

MAXDIV PERFORMANCE COMPARISON

tobam*
unbiased.

- **Eurozone Investment Universe**
  - Gross Cumulative Performance since October 2002

Statistics Summary

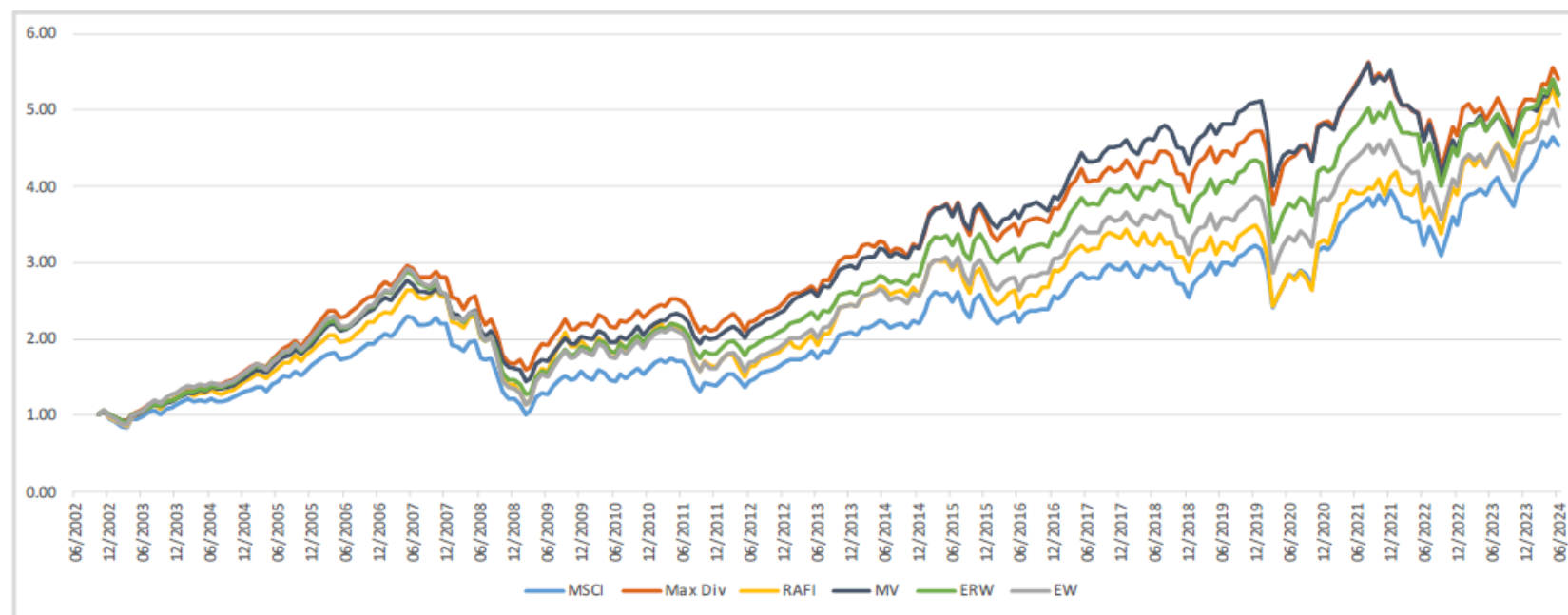|	MSCI	Max Div	RAFI	MV	ERW	EW
Total return	354.0%	439.7%	404.7%	419.4%	419.5%	378.1%
Annualised return	7.23%	8.09%	7.76%	7.90%	7.90%	7.49%
Volatility	16.60%	13.56%	18.94%	13.04%	15.01%	17.25%
Return Per Unit Risk	0.44	0.60	0.41	0.61	0.53	0.43
Tracking error	0.00%	6.34%	4.87%	5.91%	3.72%	3.47%
Information Ratio	0.00	0.14	0.11	0.11	0.18	0.07

Source: TOBAM and Bloomberg. Returns are gross of fees and stated in EUR, net returns are not available for indices. One cannot invest directly in an index. An investment in a vehicle tracking an index would include amongst other things, advisory fees and expenses. Performance information for TOBAM Maximum Diversification® indices are based on back tested returns from October 2002 to November 2011, live data has been used from launch in November 2011 to June 2024.
Performance information for TOBAM Diversified Benchmark indices are based on back tested returns for the entire period presented. Back tested results are for information purposes only. They are intended to illustrate how the strategy may have behaved over the period prior to it being launched. Past performance is not indicative of future results. Please see the disclaimer page located at the end of this note for important additional disclosures.

MAXDIV PERFORMANCE COMPARISON

Emerging Market Investment Universe

- Gross Cumulative Performance since October 2002
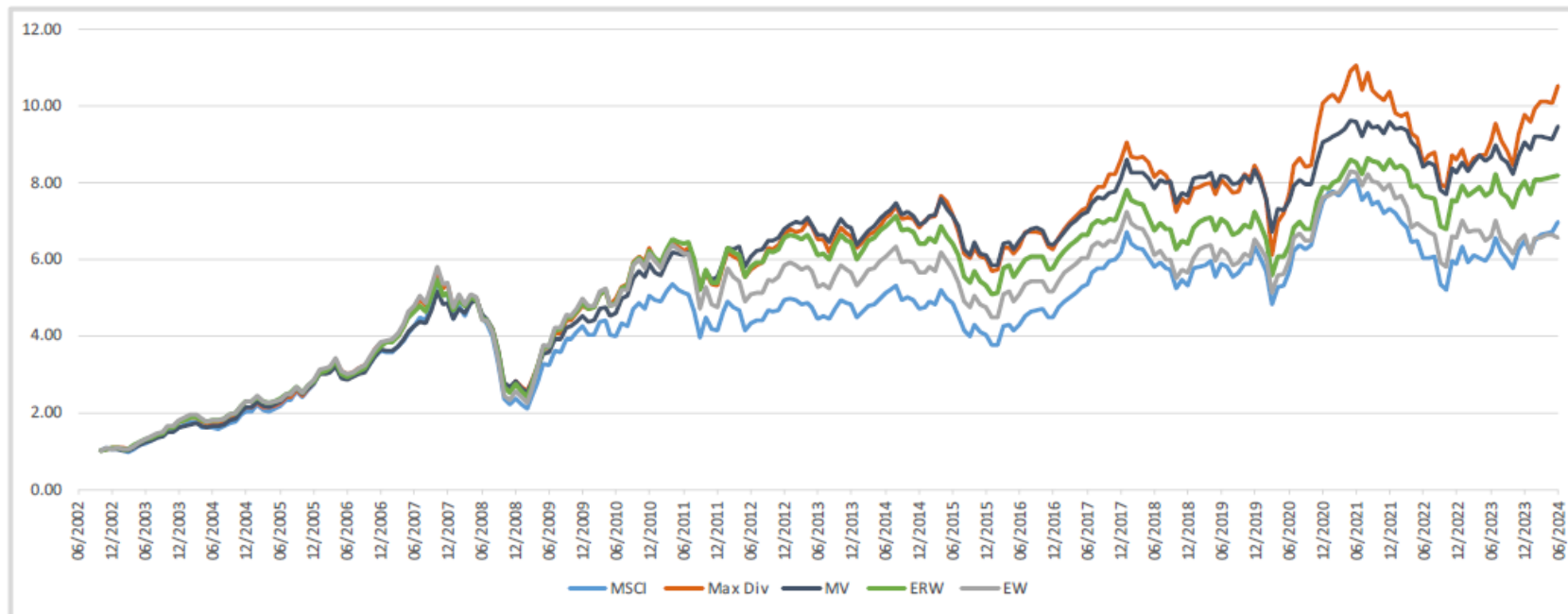
Statistics Summary

	MSCI	Max Div	MV	ERW	EW
Total return	598.7%	952.0%	846.3%	717.2%	558.1%
Annualised return	9.39%	11.47%	10.93%	10.18%	9.09%
Volatility	20.48%	18.23%	16.01%	17.96%	20.60%
Return Per Unit Risk	0.46	0.63	0.68	0.57	0.44
Tracking error	0.00%	6.01%	6.29%	5.24%	4.66%
Information Ratio	0.00	0.35	0.25	0.15	-0.06

tobam*
unbiased.
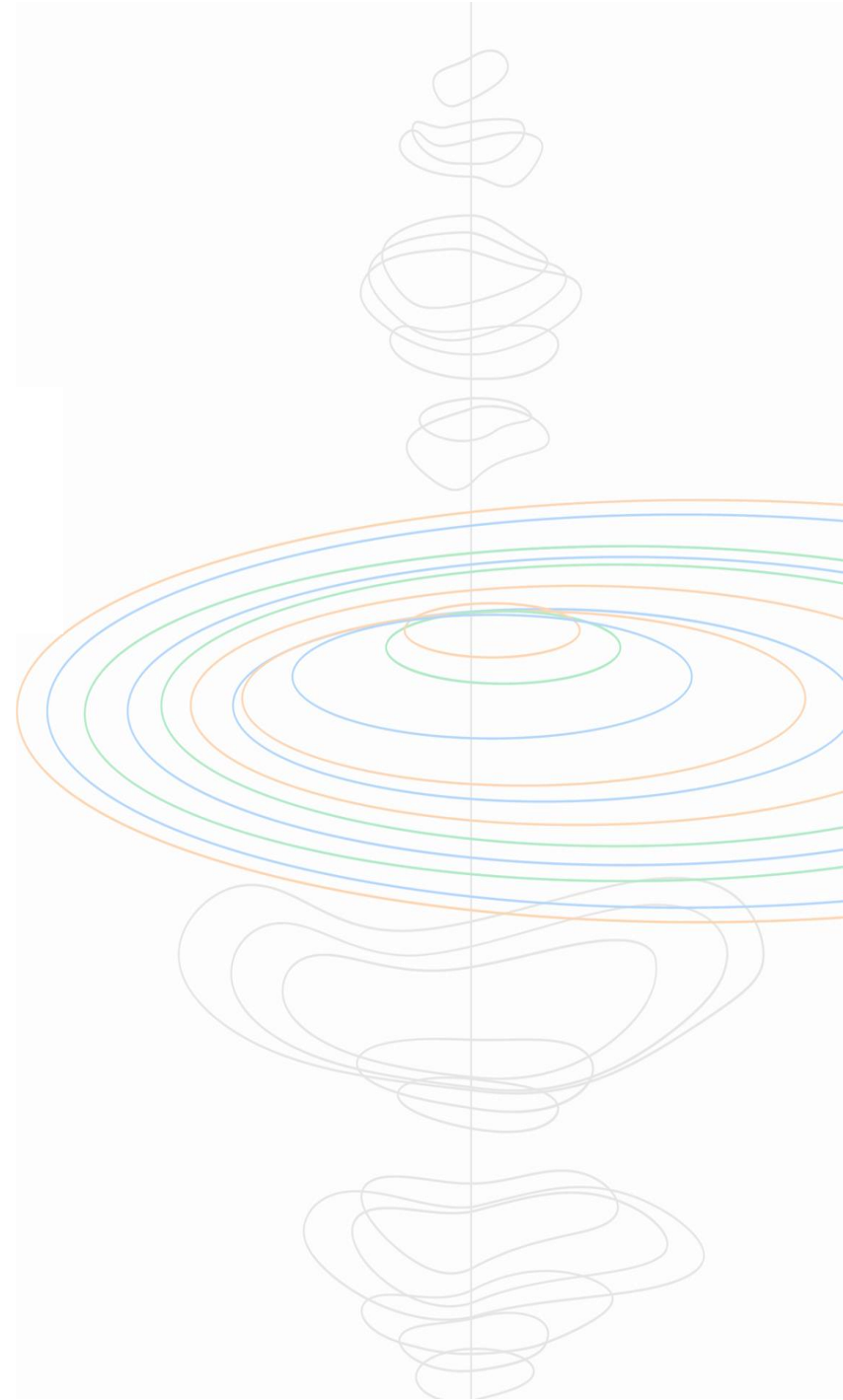
tobam*
unbiased.

TOBAM'S JOURNEY INTO CRYPTO

First BTC Investment by a TOBAM Employee

Launch of the "Crypto Research Project"

Team hiring finalized

First BTC **Mandate**

Launch of the **first Bitcoin open-ended Fund in the world**

Zero Carbon Mine Inaugurated

First DeFi Mandate + Bitcoin-related Equity bucket in AB Multi-Asset

Launch of a next generation BTC Fund eligible to FR Unit-Linked

Launch of the first white-labelled fund with direct multi-crypto exposure

Launch of TOBAM Global Blockchain equity

| 2013 | 2016 | Mar. 2017 | Sep. 2017 | Nov. 2017 | Sep. 2018 | April 2021 | Sept. 2021 | Nov. 2021 | Sept 2023 |

- Research projects

Market impact   Forks   CO2   Time Diversification   Crypto Anti-Benchmarks   …

tobam*
unbiased.

WHY TOBAM BITCOIN CO2 OFFSET FUND?
THE GOOD NEWS: ACCURATE TRACKER OF BTC

- ### Gross Performance in USD and Tracking Error
  since inception (20/11/2017 – 28/06/2024)
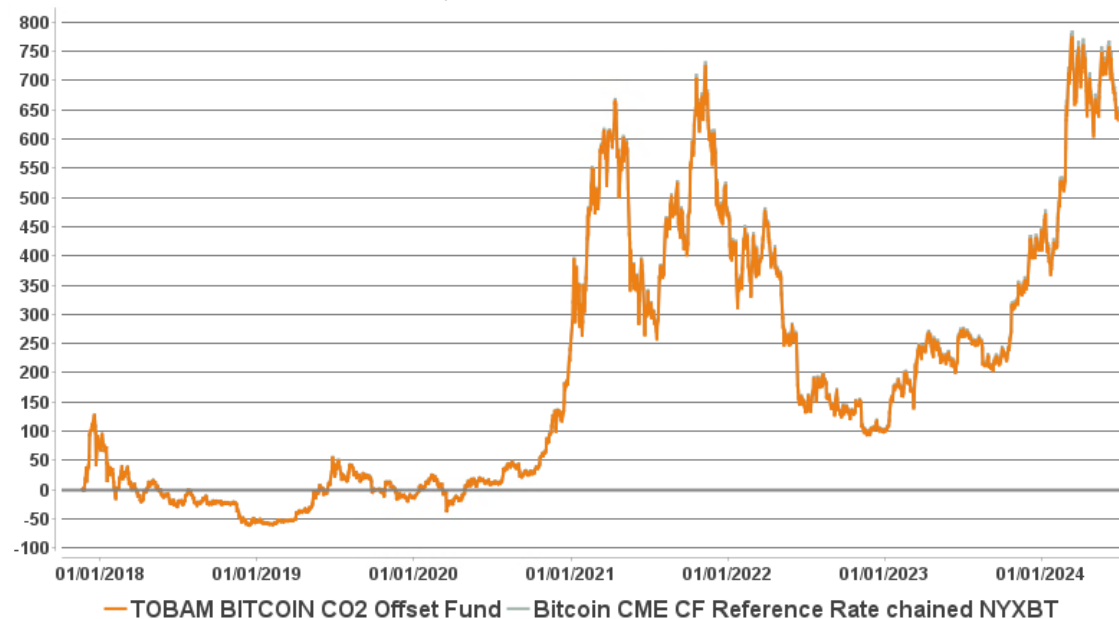
TOBAM BITCOIN CO2 Offset Fund

Return:	632.24%
Annualized return:	35.18%
Hist vol:	72.53%
Sharpe ratio:	0.46
Sortino ratio:	0.77
Downside volatility:	43.19%

Bitcoin CME CF Reference Rate chained NYXBT

Return:	640.75%
Annualized return:	35.42%
Hist vol:	72.54%
Sharpe ratio:	0.46
Sortino ratio:	0.77
Downside volatility:	43.18%

	00.00%
Correlation:	100.00%

— TOBAM BITCOIN CO2 Offset Fund — Bitcoin CME CF Reference Rate chained NYXBT

| 06/28/2022 - 06/28/2024 | Daily | Calculation Correlation | USD |

Correlation Matrix (5 Rows x 5 Columns)

| Security	21SHARES BITCOIN SINGLE	CME CF Bitcoin Ref. Rate	TOBAM BITCOIN-A2	GRAYSCALE BITCOIN TRUST	BTC BITCOIN TRACKER ONE EUR
11) 21SHARES BI...	1.000	0.943	0.945	0.621	0.971
12) CME CF Bitcoi...	0.943	1.000	0.990	0.549	0.932
13) TOBAM BITCO...	0.945	0.990	1.000	0.568	0.934
14) GRAYSCALE B...	0.621	0.549	0.568	1.000	0.644
15) BITCOIN TRA...	0.971	0.932	0.934	0.644	1.000

Sources: TOBAM, Bloomberg. Returns reflect live data from November 20, 2017 to Jun 28, 2024.

Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in USD. Performance returns and/or charts illustrating performance provided on this page are gross of management fees, sales charges and other commissions, other taxes and relevant costs to be paid by an investor are not included in the calculations. The risk free rate of return is calculated using the one month USD LIBOR rate. TOBAM Bitcoin Fund gross annualized performance between November 20, 2017 to Mar 28, 2024 is 40.2%, while the performance net of fees and transaction costs is +36.7%.

tobam*
unbiased.

BLOCKCHAIN AND BITCOIN:
RIDING THE WAVE POST US ELECTIONS

- **Bitcoin** reached a record high above **$90,000** on **Wednesday, November 13**, as the **world's biggest cryptocurrency benefits** from president-elect **Donald Trump's** pledge to ease regulation around digital tokens.

- The Republican said during the campaign that he planned to make the United States the **"bitcoin and cryptocurrency capital of the world"** by:

  - Creating a **National Bitcoin Reserve and Recognition**: Trump has discussed the idea of a national Bitcoin reserve, which would treat Bitcoin as a **strategic asset.**
  - Bolstering Domestic Mining Activities: By incentivizing **crypto mining within U.S. borders**, Trump hopes to increase domestic control over the Bitcoin network, addressing concerns about reliance on foreign mining hubs. This would also align with his vision of making crypto **"made in America"**
  - Opposing to **CBDCs:** Trump has voiced **strong opposition** to the development of a U.S. central bank digital currency (CBDC), viewing it as **government overreach**. He intends to halt federal work on a CBDC, instead directing attention to private digital assets like Bitcoin, which align better with his administration's views on financial autonomy and decentralized finance.

- The positive newsflow strongly impacted:
  - **TOBAM Bitcoin CO2 Offset Fund**: This fund, launched in 2017, possesses the longest track record in the world of an open-ended fund invested in bitcoin (TE ex-post 0.41%).
  - **TOBAM Global Blockchain Equity Fund**: This UCITS fund invested in blockchain-related stocks, managed to capture a large part of the upside of the Bitcoin surge.

Performance

	Value
US 10y yield	-4.2%
Money market instrument yield	-1.3%
BBG Dev Mkt Large and Mid cap Index	18.7%
S&P 500 Index	24.1%
Gold	30.1%
TOBAM Global Blockchain Equity Fund	54.9%
TOBAM Bitcoin CO2 Offset Fund	102.6%
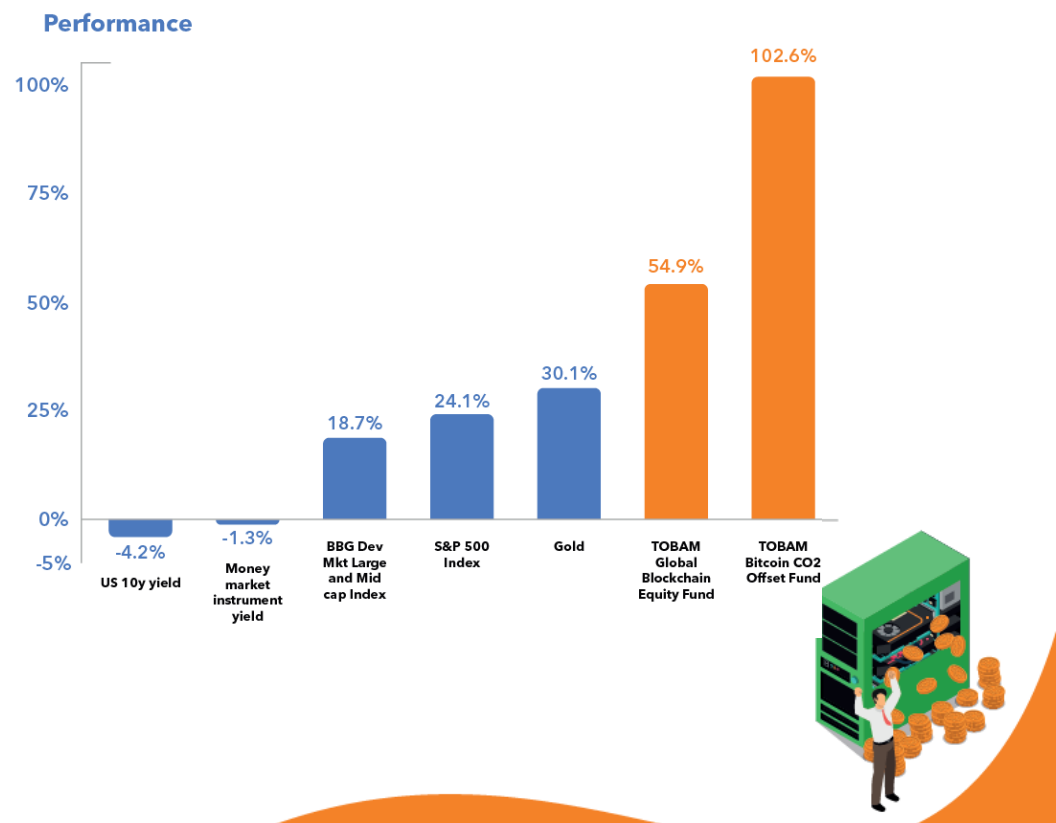
BLOCKCHAIN AND BITCOIN:
RIDING THE WAVE POST US ELECTIONS
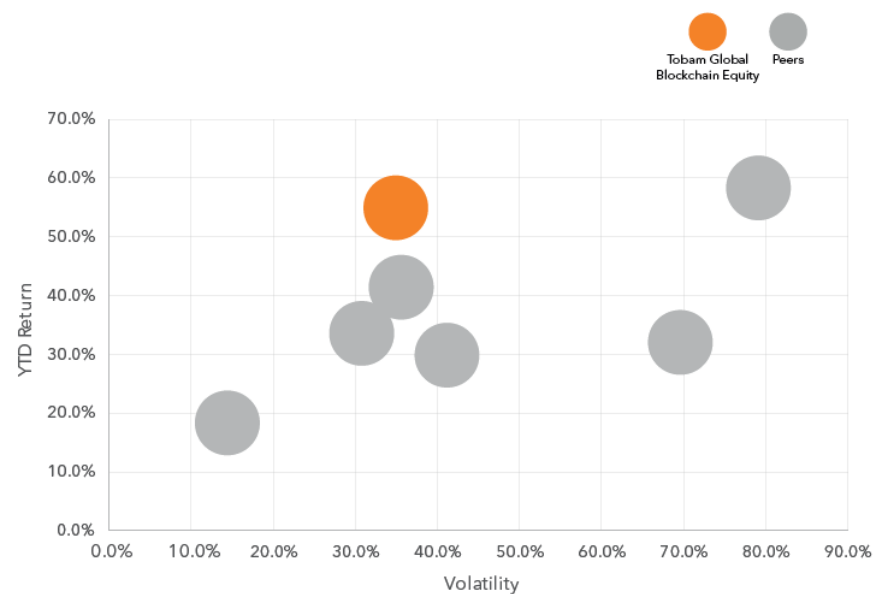
- The **TOBAM Global Blockchain Equity Fund** achieved a **one-year return of 54.9%**, outperforming all its main competitors. With a **volatility of 34.9%**, the fund offers a **Sharpe ratio of 1.7** which also surpasses that of the other presented funds.

- In summary, **2024** was a real test for bitcoin and blockchain players. Despite the challenges, the resilience of TOBAM's strategy, and ability to adapt to changing conditions helped limit losses and seize growth opportunities.
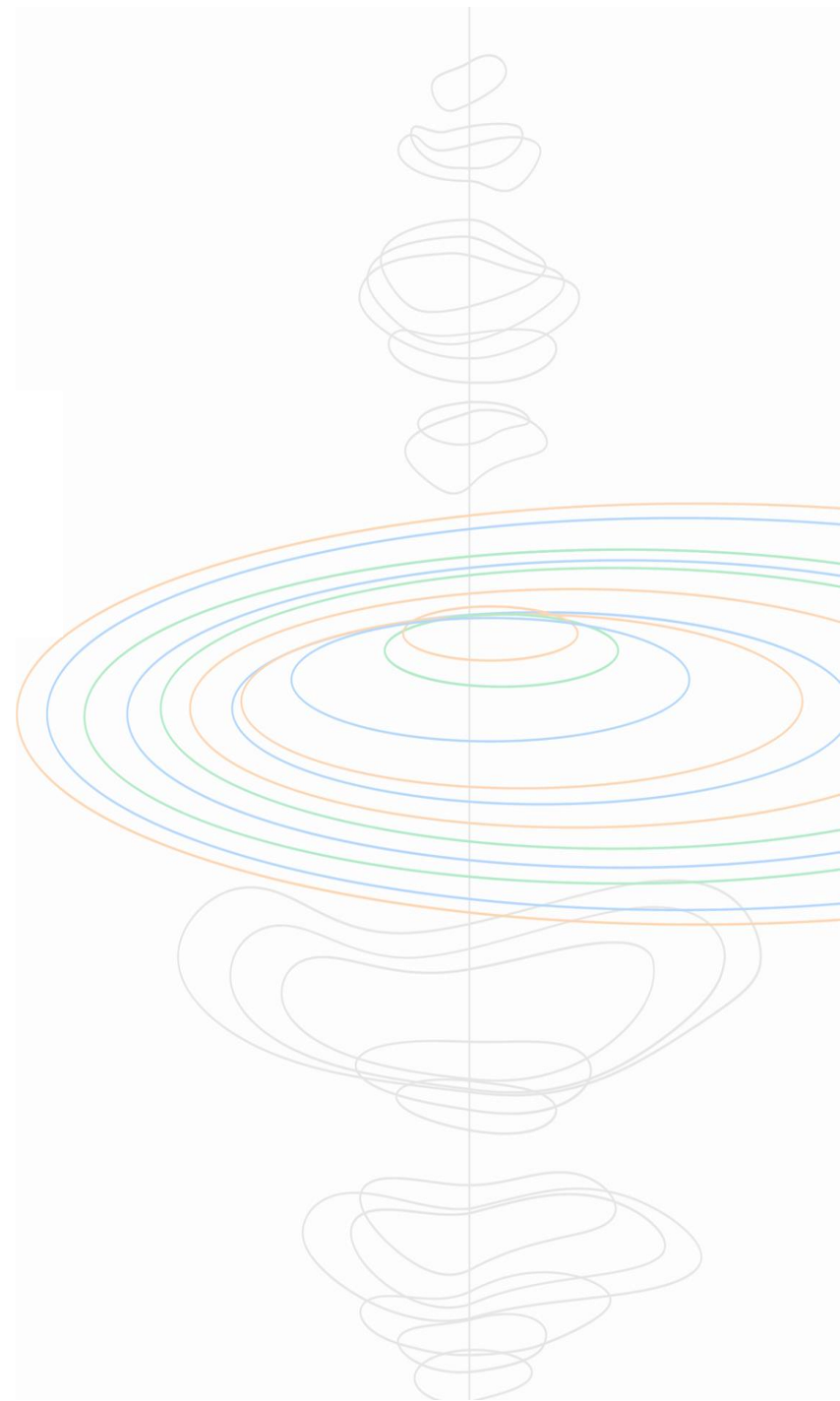
tobam*
unbiased.

TOBAM'S COMMITMENT TO HUMAN RIGHTS
ADDRESSING THE AUTOCRACY RISK

TOBAM's Journey into Human Rights

2009	TOBAM chooses Human Rights as its philanthropy field. First donation to **Amnesty International**
2010	TOBAM becomes signatory of the **United Nations Global Compact**
2011	Set up Systematic Revenue-Linked Donation Program (AB EM)
2015	Onboarding of **Human Rights Watch** In TOBAM's Donation Process Ukraine project
2016	Promotion and Education around Human Rights Key Challenges
2018	
2019	*Conferences, Interviews, Webinar, Internal presentation*
2020	Onboarding of **Reporters without Borders** Fundraising Campaign after the Blast in Beirut
2021	Fundraising Campaign for Ukraine in coordination with HRW
2023	**Launching LBRTY®, first fund focused on Civil Rights & Democracy**
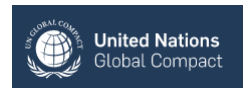
tobam*
unbiased.

TOBAM'S COMMITMENT TO CIVIL RIGHTS & DEMOCRACY
ADDRESSING THE AUTOCRACY RISK DRIVER …BECAUSE IT WORKS

Our convictions:

Not "Good" "vs "evil"
But "what works" vs "what doesn't work"

- It is about creating value in the long run

- It is not about being philanthropic with investors' money

- It is about integrating what contributes to value creation and removing what contributes to value destruction

- It is not about discriminating between evil and good; it is about promoting what works, what lasts and will survive on the long run and what will create value

Democracy, Respect of Human Rights, Freedom of Speech, Promotion of Diversity and Pluralism are key to innovation, creativity and economic growth

tobam*
unbiased.

INVESTMENT PHILOSOPHY

Numerous research have demonstrated the cost of dictatorship and lack of civil liberties

- In the long-run investors in countries with oppressive regimes and arbitrary rules are exposed to unrewarded risks.

- **Notably due to arbitrary state behaviour, uncompensated expropriations, social unrest, corruption, war**…. In the long run they will underperform others.

2 The Economic Effects of Dictatorships
JOSE MARIA MARAVALL

JOURNAL ARTICLE
Dictatorial Institutions and their Impact on Economic Growth

JENNIFER GANDHI

The Dictator Effect: How Long Years in Office Affects Economic Development in Africa and the Near East

May 2012 · Journal of Institutional Economics

Authors:

Kostadis Papaioannou
The London School of Economics and Political Science

Jan Luiten van Zanden
Utrecht University

The Economic Effects of Human Rights

Kyklos, Vol. 60, No. 4,

30 Pages
Posted: 26 Oct 2007

Lorenz Blume
Phillips University Marbu

Stefan Voigt
University of Hamburg - Institute of Law & Economics; CESifo (Center for Economic Studies and Ifo Institute)

The economic costs of a discriminatory ideology

Kilian Huber, Volker Lindenthal, Fabian Waldinger / 8 Oct 2018

DEMOCRACY DOES CAUSE GROWTH (ACEMOGLU, ROBINSON & AL. 2019)…

Acemoglu & al (2019) identify 122 democratizations and 71 reversals from democracy based on data from 1960 until 2010 and show that:

➢ There is a positive causal effect of democracy on economic growth.

➢ A country that transitions from nondemocracy to democracy achieves about 20 percent higher GDP growth per capita in the next 25 years than a country that remains a nondemocracy.

➢ It drives greater investments in capital, schooling, and health.

➢ The effect of democracy does not depend on the initial level of economic development/level of income.

NOBEL PRIZE IN ECONOMIC SCIENCES
October 2024 update
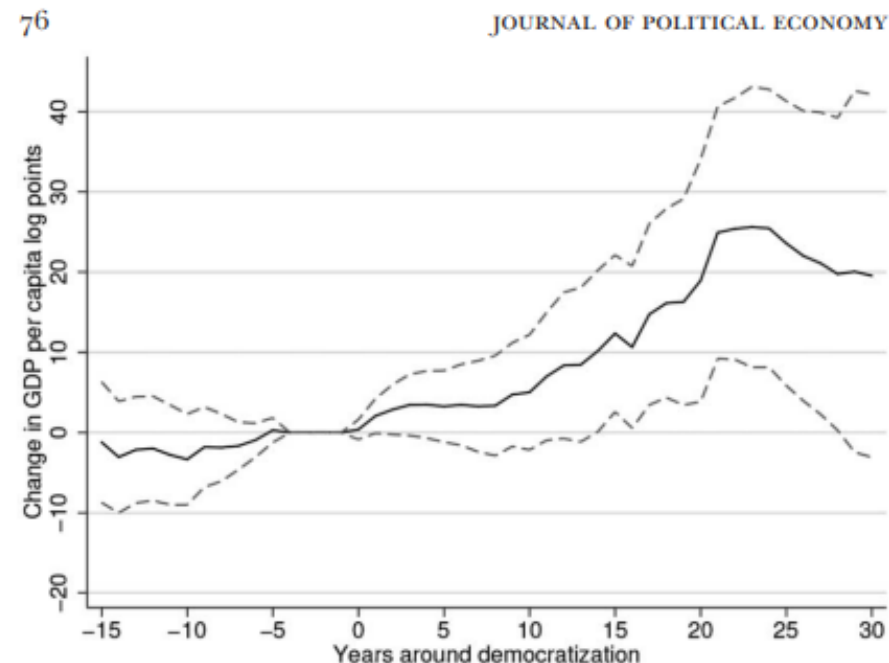
The solid line plots the estimated average effect on GDP per capita on countries that democratized (in log points), with a 95 percent confidence interval in dashed lines

Source: TOBAM, Acemoglu et al 2019

28

LAUNCHING FIRST FUND FOCUSED ON CIVIL RIGHTS & DEMOCRACY
ADDRESSING THE AUTOCRACY RISK

- Identifying the "autocracy risk driver"
- Building a portfolio under exposed to the autocracy risk

1. There is an autocracy risk driver

2. This risk driver is negatively rewarded

3. Most of the exposure to the autocracy risk driver is indirect

4. The autocracy risk driver is independent from other risk drivers

Yves Choueifaty: "BEING EXPOSED TO AUTOCRACY, CONSIST INTO BEING EXPOSED TO A REVERSE J-CURVE."

tobam*
unbiased.

Example of Reverse J-Curve: Germany 1933-1943

- Germany's stock market experienced a sharp rise from 1939 to 1943.

- This rise was not present in the US market.

- From 1944, prices were frozen, and it was impossible to get out from the German stock market.

- The German stock market re-opened in mid-1948 with a fall of ~80% (+inflation).

US Stock market: 1930-1950

WWII starts

Stalingrad

Germany CDAX Index: 1930-1950

Prices frozen

Barbarossa

Stalingrad

Market closed August 1944

Battle of Britain

Blitzkrieg euphoria

Worries that Hitler has gone too far

Hitler comes to power

Impossible to exit

Market closed Credit crisis
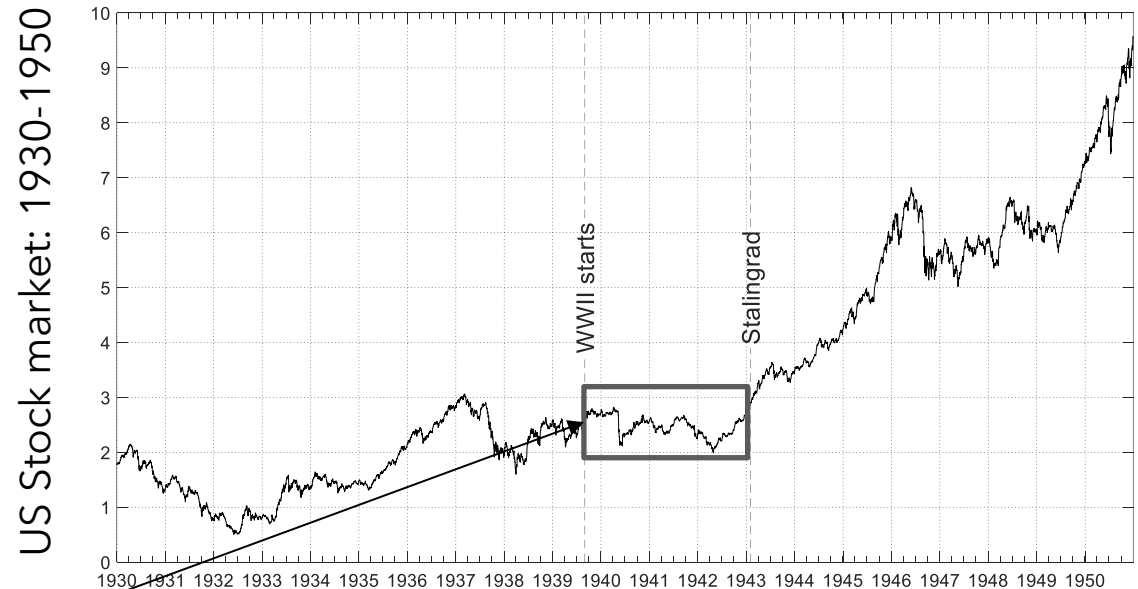
Source: Wealth, war and wisdom, by Biggs, Barton, John Wiley & Sons, 2009.

tobam*
unbiased.

Reverse J-Curve: THE CASE OF RUSSIA

- The potential instability of non-democratic countries makes them more susceptible to black swan events.

- One of the most recent example being Russia where direct investments in stocks/bonds of companies in Russia or in companies located elsewhere but with significant economic ties to Russia have been a very painful experience for investors.

- Russia is a country classified as authoritarian since 2011.

CUMULATIVE INDEX PERFORMANCE — NET RETURNS (USD)
(SEP 2007 – SEP 2022)
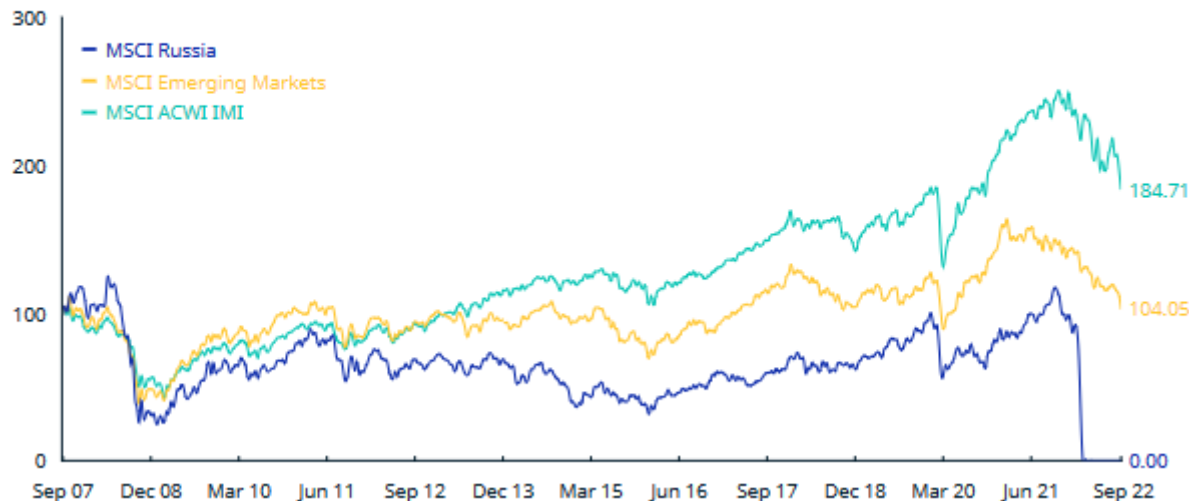
Source: TOBAM, MSCI

DEMOCRACIES AND WARS IN THE 20TH CENTURY ACCORDING TO… CHATGPT

tobam*
unbiased.

YV   number of wars in the 20th century

It is difficult to give an exact number of wars that occurred in the 20th century, as there is some debate over what constitutes a "war." However, some estimates suggest that there were around 180 armed conflicts that took place during the 20th century. This includes both major international wars and smaller, less well-known conflicts.

The number of wars also depend on how they are defined or categorized. Some sources might include civil war and other internal conflicts, while others might only consider conflicts between nation-states to be "wars."

However, it is important to highlight again that the number may vary depending on how conflicts are defined and categorized, giving a exact number is hard.

YV   how many wars opposed 2 independant democratic countries during the 20th century?

There were very few instances of two independent, democratic countries engaging in war with each other during the 20th century.

One notable example is the War of the Pacific (1879-1883) fought between Chile, Bolivia and Peru. Chile was considered a democratic country during this time and all the three countries were independent

Another notable example was the the Football War (1969) between Honduras and El Salvador, which was a 100 hour-long conflict, the cause of the war were not just the Football but also caused by disputes over land, economic issues and immigration. Both countries were democratic but not fully consolidated democracies.

Those are the main examples that comes to mind when it comes to fully independent democratic countries fighting each other, however this is a very rare ocurrence in history.

tobam*
unbiased.

WEAR YOUR CORRELATION GLASSES ! ! !

Source: Yale University, as of Nov 28th, 2022

Source: https://tfiglobalnews.com/

tobam*
unbiased.

We should not trust the dictators' GDP growth estimates (L.R. Martinez, 2022)

- GDP growth reported by autocracies are **inflated by up to 35%** per annum on average.
- In the long run, the **reported GDP growth** numbers nearly **doubled** the autocracies' **actual** economic **growth**.

Change in GDP, 2002–2021
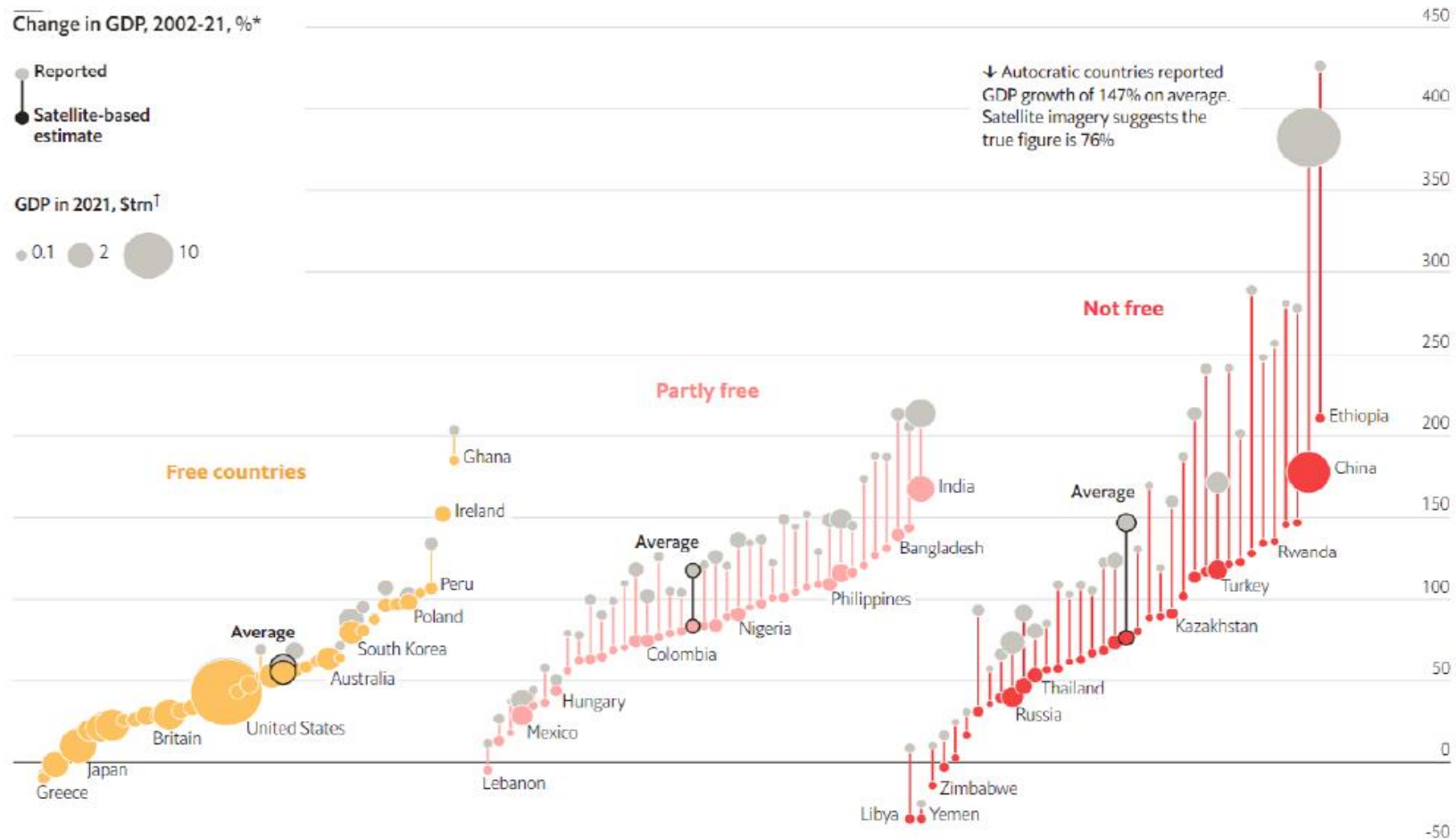
Source: The Economist, 1-7 October 2022, p.77; "How much should we trust the dictators' GDP growth estimates?", L.R. Martinez, 2022; Freedom House; World Bank.
*In 2021 USD at market exchange rates, assuming reported 1992 GDP figures are accurate.
+Countries with over 5 million people, freedom status in 2021.

tobam*
unbiased.

TOBAM USES 7 DIFFERENT DATASETS.
EXAMPLE OF DATASET: THE V-DEM PROJECT

- Founded in 2011, Varieties of Democracy (V-Dem) is a unique approach to conceptualizing and measuring democracy. It provides a multidimensional and disaggregated dataset **dating back to before 1789** that reflects the complexity of the concept of democracy as a system of rule that goes beyond the simple presence of elections.

- The V-Dem project distinguishes between five high-level principles of democracy: electoral, liberal, participatory, deliberative, and egalitarian, and collects data to measure these principles.

- The dataset is governed by Principal Investigators (the highest decision making body), a Steering Committee (body for the overall guidance and decision making connected to the various V-Dem programs and projects) and a large number of Project Managers (they identify reliable and relevant data sources, develop surveys and assure cross-country equivalence for the indicators) that are all Professors from institutions with an excellent academic reputation mainly in the Nordics, USA, and some also from other European Countries. Moreover, the V-Dem institute relies on a wide set of Regional Managers who are Professors at Universities in the respective geographic regions for which data is collected (e.g., Africa, Asia etc.). Overall, the headcounts are 5 Principal Investigators, 18 Personnel at V-Dem Institute, 22 Project Managers, 33 Regional Managers, 134 Country Coordinators and 3700 Country Experts.

- The Host Institution is the University of Gothenburg. The University of Notre Dame played an instrumental part in building and establishing V-Dem

- Funders of the data collection and research infrastructure are:

- We deem the V-Dem institute as a high-quality academic source.

- More information can be found here:
   https://www.v-dem.net/about/v-dem-project/

Kellogg Institute, University of Notre Dame

Swedish Research Council

Research Council of Norway

European Commission

Ministry for Foreign Affairs, Sweden

Riksbankens Jubileumsfond

Marcus and Marianne Wallenberg Foundation

Mo Ibrahim Foundation

The World Bank

International IDEA

European Research Council via University of Glasgow

Independent Research Fund Denmark

Ministry of Foreign Affairs, Denmark

Aarhus University

Canadian International Development Agency (CIDA)

Fundação Francisco Manuel dos Santos

Open Society Foundation

Peace Research Institute Oslo (PRIO)

Quality of Government Institute

36

tobam*
unbiased.

INVESTMENT PROCESS: LBRTY PORTFOLIO CONSTRUCTION

Measuring Countries Civil Liberty and The State of Democracy

There are plenty of data sources, reliable, independent, neutral.
A good example of that is VDEM (see illustration previous slide).

Datasets include typical pillars:

Functioning of the government	Civil Liberty pillar	Rule of Law & Corruption pillar	Political participation	Inclusiveness pillar	Political culture
Freedom of expression	Pluralism	Electoral process	[...]		

Data processing
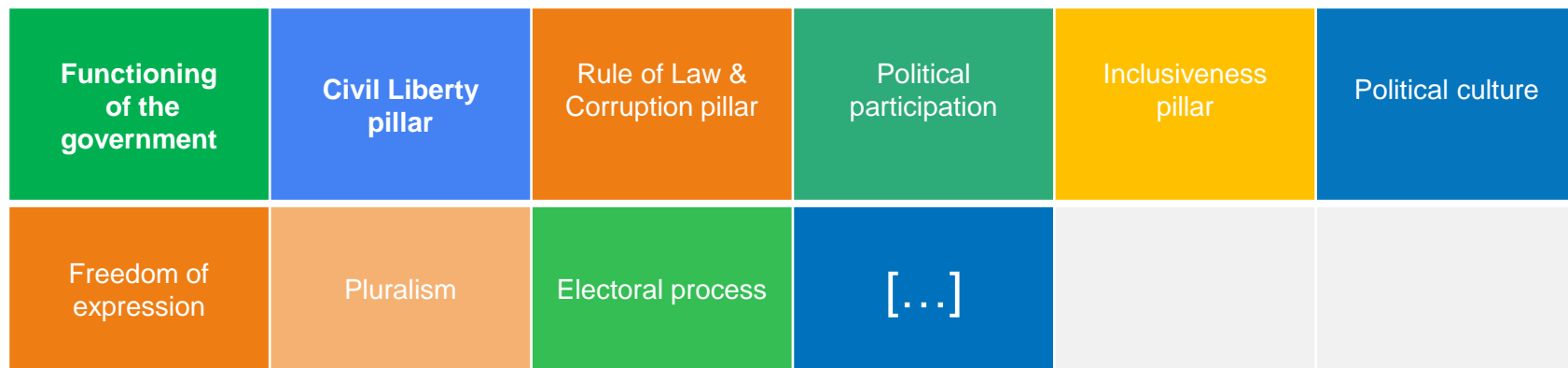
Step 1. The TOBAM "Country CD rating" synthetizes the information. Country CD ratings are between 0 and 10. The threshold is set at 6.

0   6   10
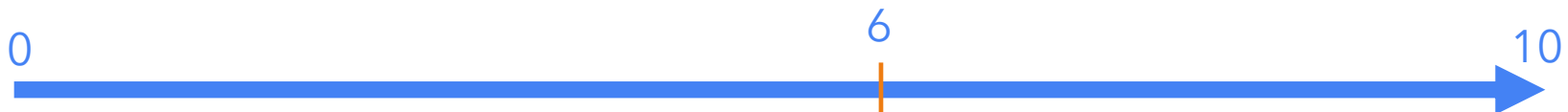
tobam*
unbiased.

INVESTMENT PROCESS: LBRTY PORTFOLIO CONSTRUCTION

Step 2. **Define Eligible countries:**

Excluded countries | **Eligible countries**

0 ━━➤ **10**

TOBAM "Country CD rating"

5.5   6.5
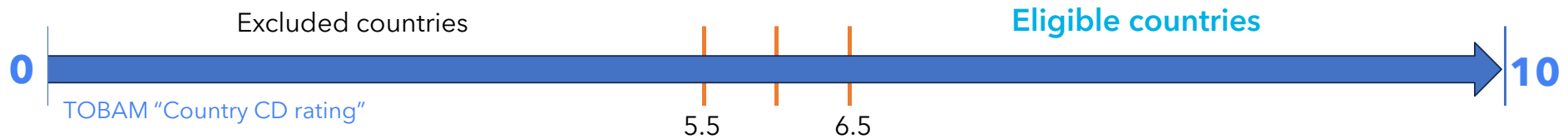
The CD Governance Committee comprising external experts decides, based on granular information, whether countries are improving or not.

Country CD Rating evolution

Hong-Kong

Mexico

Turkey

Thailand

Democracy threshold

Legend:
- Thailand
- Hong Kong
- Mexico
- Kuwait
- Turkey
- Qatar
- Pakistan
- United Arab Emirates
- Egypt
- Russian Federation
- Saudi Arabia
- China

12 countries, classified as nondemocratic, are part of the benchmark as of Jun-24.

Country CD ratings are relatively stable over time.
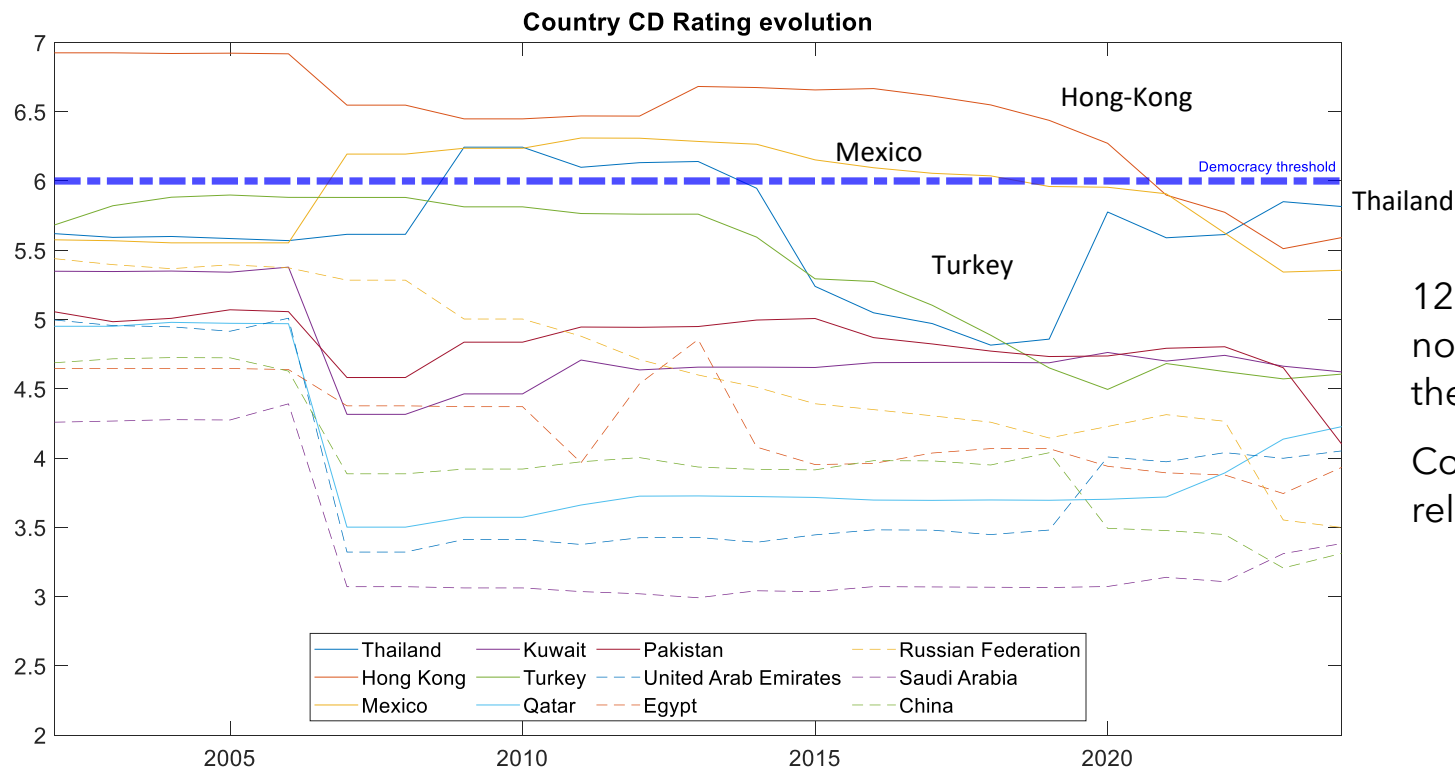
Source: TOBAM.

INVESTMENT PROCESS: LBRTY PORTFOLIO CONSTRUCTION

tobam*
unbiased.

Step 3. **Additional exclusion lists (tobacco,…). The stocks of this Benchmark constitute the Investment Universe**

Compute Whitelisted Benchmark: Mkt-Cap weighted portfolio of Investment Universe

Step 4. **Wearing the "correlation glasses": Estimate the Authoritarian Exposure of each stock of the investment universe, homogeneous to a (partial) volatility**

- Capture each company's overall economic exposure to authoritarian countries de-biased for market and sectors effects.

- Define the authoritarian exposure (AE) of a company as the sum of its exposure to each authoritarian country.

GERMANY

DEUTSCHE BANK AG-REGISTERED 5.6%
BAYERISCHE MOTOREN WERKE AG 6.7%
FRESENIUS SE & CO KGAA 8.4%
MTU AERO ENGINES HOLDING AG 4.8%   COMMERZBANK AG 9%   HENKEL KGAA-VORZUG 3.7%
HEIDELBERGCEMENT AG 3.9%   INFINEON TECHNOLOGIES AG 9.6%
BRENNTAG AG 6.1%   SIEMENS ENERGY AG 10%   TALANX AG 4.2%
FRESENIUS MEDICAL CARE AG 10%   MERCK KGAA 5.7%
SIEMENS AG-REG 5.1%   VOLKSWAGEN AG PFD 11%   DEUTSCHE BOERSE AG 1.9%   HANNOVER RUECKVERSICHERU-REG 2.9%
RHEINMETALL AG 6.9%   ADIDAS AG 14%   TRATON SE 8.1%
COVESTRO AG 6.1%   KNORR-BREMSE AG 5.6%
DAIMLER TRUCK HOLDING AG 4%   VOLKSWAGEN AG 11%   HAPAG-LLOYD AG 5.9%
HENKEL KGAA 3.4%   DEUTSCHE GROUP AG 3.1%
VONOVIA SE 7.5%   CONTINENTAL AG 11%   DR ING HC F PORSCHE AG 4.3%
SIEMENS HEALTHINEERS AG 3.7%   MUENCHENER RUECKVER AG-REG 3.4%   BEIERSDORF AG 2.6%
ALLIANZ SE-REG 3.4%   PORSCHE AUTOMOBIL HLDG-PFD 10%   RWE AG 5%
E.ON AG 4.2%   SAP AG 3.3%   BASF AG 5.5%
SARTORIUS AG-VORZUG 6.5%   BAYER AG 9.3%
DEUTSCHE LUFTHANSA-REG 8.7%
MERCEDES-BENZ GROUP AG 8%
DEUTSCHE TELEKOM AG-REG 2.3%
BAYERISCHE MOTOREN WERKE-PFD 6.4%

Illustration as of June 24

Step 5. **Construct LBRTY Portfolio : Minimization of overall authoritarian exposure subject to a defined long term tracking error**

THE AUTOCRACY RISK CAN BE EFFECTIVELY MITIGATED

TOBAM LBRTY EM PERFORMANCE IN Q1 2022:
IMPACT OF THE RUSSIAN CRISIS

24/02
Russia invades Ukraine

—TOBAM LBRTY EM $ GTR — BBG Emg Mkt L/M TR
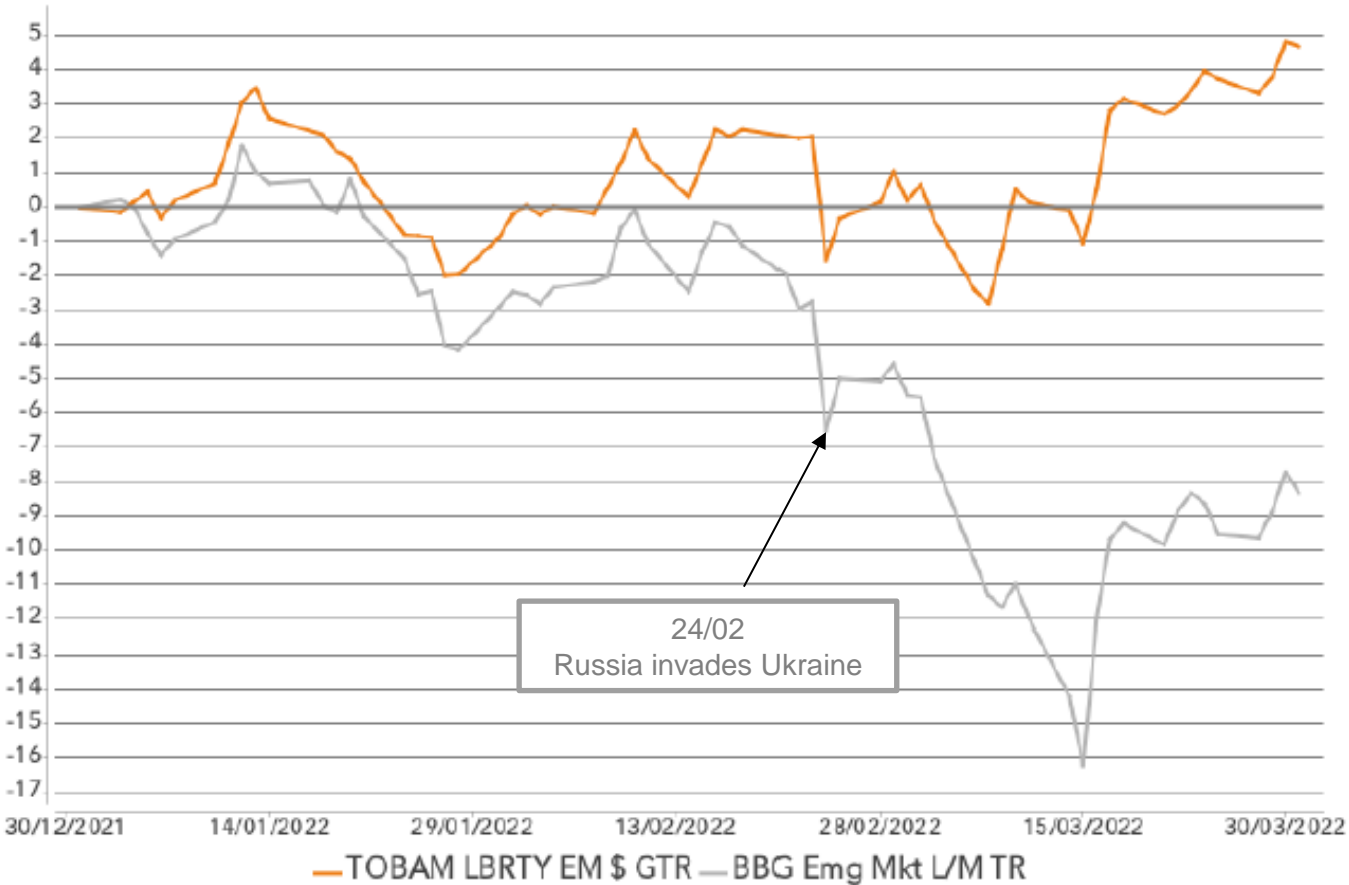
TOBAM LBRTY EM $ GTR

Return:	4.70%
Hist volatility:	15.37%

BBG Emg Mkt L/M TR

Return:	-8.32%
Hist volatility:	21.92%
Excess Return:	13.02%

AUTHORITARIAN EXPOSURE BY **REGION**

Regional authoritarian exposure evolution
Market cap-weighted benchmarks

Source: TOBAM. August 2008 to June 2024

Emerging markets have recently been three to seven times more exposed to authoritarian countries compared to their North-American / European counterparts

ELIGIBLE **COUNTRY** AVERAGE AUTHORITARIAN EXPOSURE
AVERAGE H1-24

Countries market cap. weighted indices
Authoritarian exposure
2024

Source: TOBAM, Average AE per country over H1 2024.
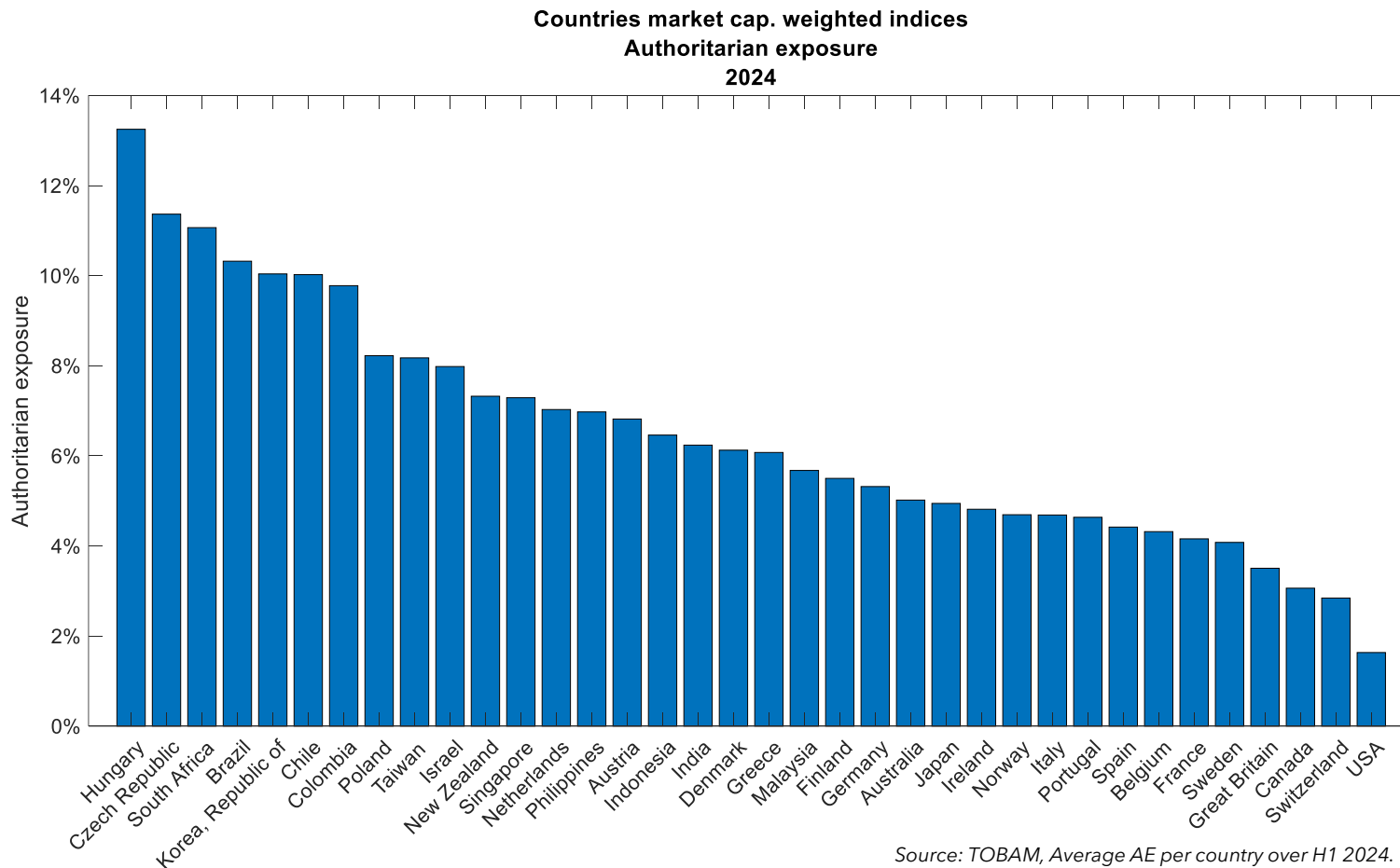
At the country level, democratic benchmarks exhibit a large spectrum of exposures to authoritarian countries, with the Hungarian and Brazilian benchmarks for example being <u>3 to 5 times more exposed</u> to authoritarian countries compared to benchmarks of USA, Canada and Switzerland.

ELIGIBLE **COMPANIES**' AUTHORITARIAN EXPOSURES BY COUNTRY

Within a given country, companies exhibit a large spectrum of authoritarian exposures.

Stocks' Authoritarian Exposure

Source: TOBAM. Average over Q2 2023 – Q2 2024
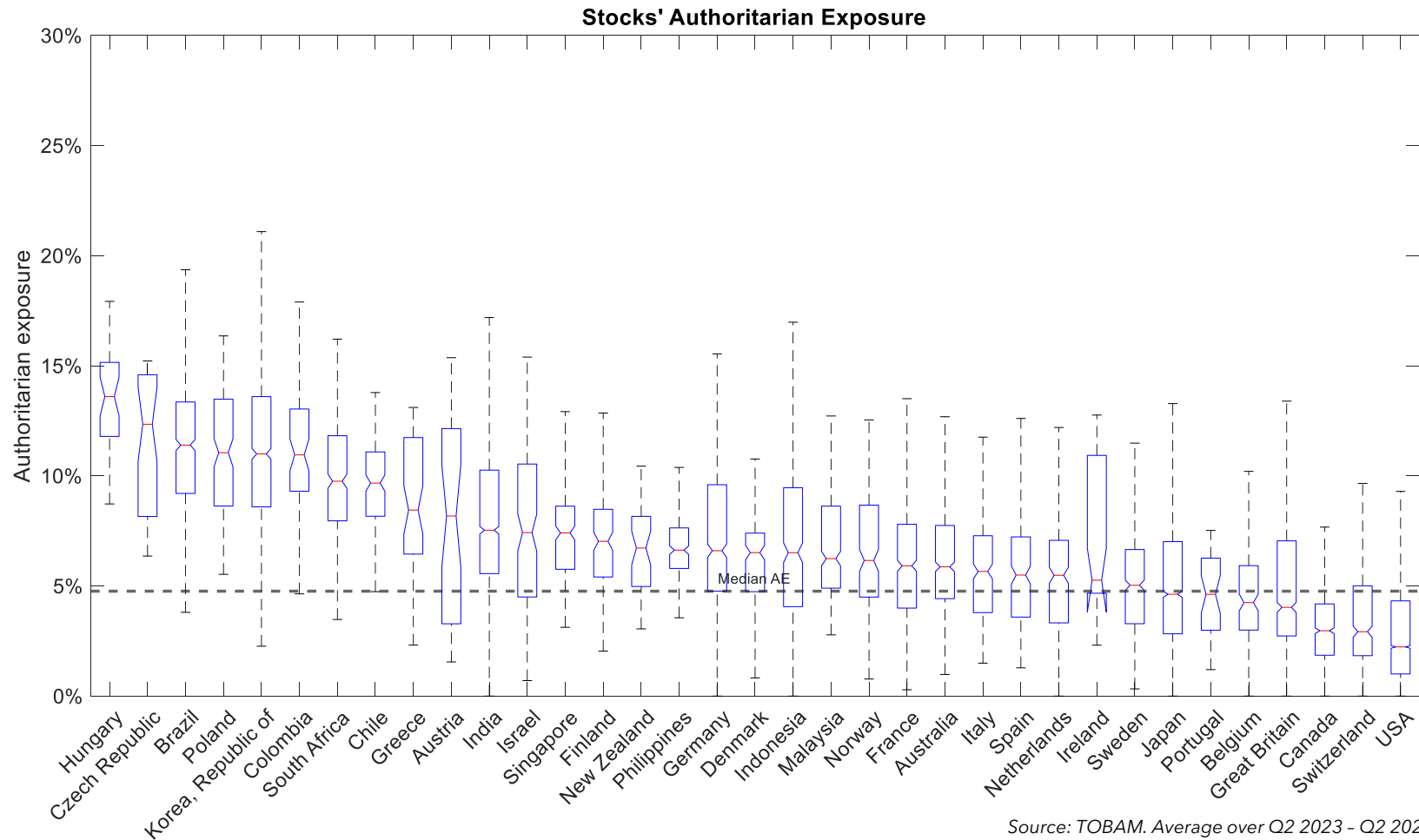
tobam*
unbiased.

AUTHORITARIAN EXPOSURE BY STOCKS
USA, GERMANY, NORDIC COUNTRIES AND SWITZERLAND

USA

LIBERTY MEDIA CORP-CL A NEW 5.2%

TRADEWEB MARKETS INC-CLASS A 6.4%   EQUITABLE RESOURCES INC 6.1%
LIBERTY BROADBAND C-W/I 6.7%   ERIE INDEMNITY COMPANY-CL A 4.9%
ELECTRONIC ARTS INC 5%
WARNER BROS DISCOVERY INC_1 5.4%   GS ACQUISITION HOLDINGS- A 8.1%
FIRST CITIZENS BCSHS -CL A 7.5%   CHARTER COMMUNICATIONS INC 5.8%
INTERACTIVE BROKERS GRO-CL A 5.4%   BRUKER CORP 5%
GARTNER INC 5.6%   INTEL CORP 6.6%   CARNIVAL CORP 10%   HYATT HOTELS CORP - CL A 5.1%
CHESAPEAKE ENERGY CORP A 5.4%   MERCADOLIBRE INC 9%   ROKU INC 11%   MONGODB INC 7.1%   LIBERTY MEDIA CORP-LIBER-NEW 5.4%
CARMAX INC 5.6%   RIVIAN AUTOMOTIVE INC-A 6.8%   XP INC - CLASS A 13%   SUPER MICRO COMPUTER INC 7%   PALANTIR TECHNOLOGIES INC-A 5%
SNOWFLAKE INC-CLASS A 8.3%   ALBEMARLE CORP 8.7%   EPAM SYSTEMS INC 5.4%
MARKETAXESS HOLDINGS INC 8.5%   ZEBRA TECHNOLOGIES CORP-CL A 6.7%   BIO-TECHNE CORP 6%   CAESARS ENTERTAINMENT INC 6.8%
DOORDASH INC - A 5.5%   EXPEDIA GROUP INC 7.1%
ENDEAVOR GROUP HOLD-CLASS A 5.7%   RESMED INC 5.8%
ZSCALER INC 5.5%   BUNGE GLOBAL SA 5.3%   LAS VEGAS SANDS CORP 13%   FIRST SOLAR INC 8.2%
MODERNA INC 5.6%   LITHIA MOTORS INC-CL A 6.3%   SAREPTA THERAPEUTICS INC 6.5%
VISTRA ENERGY CORP 6.9%   REPLIGEN CORP 7.6%   WYNN RESORTS LTD 16%   COUPANG INC 7.4%
DELPHI AUTOMOTIVE PLC 7.8%
BILL.COM HOLDINGS INC 5.5%   AES CORP 6.4%   YUM CHINA HOLDINGS INC 23%   FORD MOTOR CO 5.7%
BOOKING HOLDINGS INC 5.3%
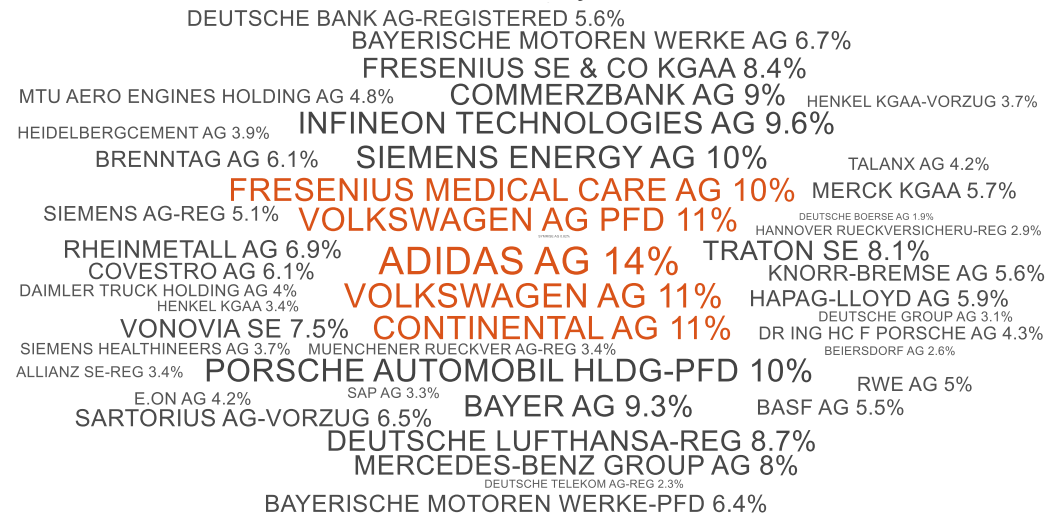CATERPILLAR INC 5.3%   CHARLES RIVER LABORATORIES 5.8%   TERADYNE INC 6%   AUTOLIV INC 5.4%   TPG INC 6.1%   NUTANIX INC - A 5.8%   MATCH GROUP INC_1 5.5%
ROYAL CARIBBEAN CRUISES LTD 19%   RALPH LAUREN CORP 5.1%   QUALCOMM INC 5.7%
OKTA INC 5.8%
TRADE DESK INC/THE -CLASS A 7.8%   UNITY SOFTWARE INC 14%   HUBSPOT INC 7.7%
NXG ENERGY INC 4.8%   WESTERN DIGITAL CORP 7.7%
VIATRIS INC 6.7%   SAMSARA INC-CL A 7%
LAM RESEARCH CORP 6%   ALNYLAM PHARMACEUTICALS INC 13%   UIPATH INC - CLASS A 6.5%
EXACT SCIENCES CORP 9.4%   INSULET CORP 7.5%   GITLAB INC-CL A 9.4%   CLOUDFLARE INC - CLASS A 6.3%
PARAMOUNT GLOBAL-CLASS B 5.3%   BALL CORP 5.8%   DRAFTKINGS INC 11%   APPLOVIN CORP-CLASS A 6.6%   BIO-RAD LABORATORIES-A 5.6%
SALESFORCE.COM INC 6.8%   UBER TECHNOLOGIES INC 10%
CROWN HOLDINGS INC 6%   DELL TECHNOLOGIES -C 5.3%
SQUARE INC - A 5.6%   LATTICE SEMICONDUCTOR CORP 7.1%   GENERAL MOTORS CO 6.4%
GLOBALFOUNDRIES INC 6.5%   LIBERTY BROADBAND-A 6.5%
INTL FLAVORS & FRAGRANCES 5.5%   WESTROCK CO-WHEN ISSUED 6.6%
SERVICE CORP INTERNATIONAL 6.2%

Germany

DEUTSCHE BANK AG-REGISTERED 5.6%
BAYERISCHE MOTOREN WERKE AG 6.7%
FRESENIUS SE & CO KGAA 8.4%
MTU AERO ENGINES HOLDING AG 4.8%   COMMERZBANK AG 9%   HENKEL KGAA-VORZUG 3.7%
HEIDELBERGCEMENT AG 3.9%   INFINEON TECHNOLOGIES AG 9.6%
BRENNTAG AG 6.1%   SIEMENS ENERGY AG 10%   TALANX AG 4.2%
FRESENIUS MEDICAL CARE AG 10%   MERCK KGAA 5.7%
SIEMENS AG-REG 5.1%   VOLKSWAGEN AG PFD 11%   DEUTSCHE BOERSE AG 1.9%
TRATON SE 8.1%   HANNOVER RUECKVERSICHERU-REG 2.9%
RHEINMETALL AG 6.9%   ADIDAS AG 14%   SYMRISE AG 2.6%
COVESTRO AG 6.1%   KNORR-BREMSE AG 5.6%
DAIMLER TRUCK HOLDING AG 4%   VOLKSWAGEN AG 11%   HAPAG-LLOYD AG 5.9%
HENKEL KGAA 3.4%   DEUTSCHE GROUP AG 3.1%
VONOVIA SE 7.5%   CONTINENTAL AG 11%   DR ING HC F PORSCHE AG 4.3%
SIEMENS HEALTHINEERS AG 3.7%   MUENCHENER RUECKVER AG-REG 3.4%   BEIERSDORF AG 2.6%
ALLIANZ SE-REG 3.4%   PORSCHE AUTOMOBIL HLDG-PFD 10%
E.ON AG 4.2%   SAP AG 3.3%   RWE AG 5%
SARTORIUS AG-VORZUG 6.5%   BAYER AG 9.3%   BASF AG 5.5%
DEUTSCHE LUFTHANSA-REG 8.7%
MERCEDES-BENZ GROUP AG 8%
DEUTSCHE TELEKOM AG-REG 2.3%
BAYERISCHE MOTOREN WERKE-PFD 6.4%

Nordic countries

ORKLA ASA 3.2%   INVESTMENT AB LATOUR-B SHS 3%
SKANDINAVISKA ENSKILDA BAN-C 4.3%
A P MOLLER - MAERSK A/S - A 4.6%   INDUSTRIVARDEN AB-A SHS 3%
SVENSKA CELLULOSA AB-B SHS 5.8%   SAGAX AB-D 1.6%
SWEDISH ORPHAN BIOVITRUM AB 3.5%   NORDEA BANK ABP_1 2.4%
INVESTOR AB-B SHS 1.4%   TRELLEBORG AB-B SHS 6.1%
KONGSBERG GRUPPEN ASA 5.3%   SKF AB-B SHARES 6.4%   SKANDINAVISKA ENSKILDA BAN-A 3.4%
INDUSTRIVARDEN AB-C SHS 3%
ALFA LAVAL AB 5.5%   NOKIA OYJ 7.1%   VOLVO AB-B SHS 3.7%
ORSTED A/S 2.3%   HOLMEN AB-B SHARES 7.2%
NESTE OIL OYJ 4.8%   DANSKE BANK A/S 3.6%
DSV PANALPINA A/S 4%   STORA ENSO OYJ-R SHS 8.4%   VOLVO AB-A SHS 4.1%
HEXAGON AB-B SHS 2%   EPIROC AB-B 5%   INVESTOR AB-A SHS 1.8%
TELIA CO AB 4.7%   SALMAR ASA 8.8%   EPIROC AB-A 5.8%
EVOLUTION GAMING GROUP 1.1%   BEIJER REF AB 1.1%   NOVONESIS (NOVOZYMES) B 4.1%
ERICSSON LM-B SHS 5.8%   METSO CORPORATION 11%   ASSA ABLOY AB-B 1.3%
SAGAX AB-B 4.5%   FORTUM OYJ 13%   COLOPLAST-B 5.8%   TRYGVESTA AS 2.8%
SKANSKA AB-B SHS 1.1%
INDUTRADE AB 2.5%   BOLIDEN AB 9.3%   GENMAB A/S 6%   ELISA OYJ 3.8%   VAR ENERGI ASA 3.7%
TELENOR ASA 6.2%   SWEDBANK AB - A SHARES 2.2%   EQT AB 6.4%
LUNDBERGS AB-B SHS 3%   SANDVIK AB 5.6%   KONE OYJ-B 8.5%   NOVO NORDISK A/S-B 3%
AKER BP ASA 4.1%   KESKO OYJ-B SHS 8.2%   NORSK HYDRO ASA 5.3%
ESSITY AKTIEBOLAG-B 3.2%   VOLVO CAR AB-B 7.1%   SVENSKA HANDELSBANKEN-B SHS 4%
A P MOLLER - MAERSK A/S - B 5%   DNB BANK ASA 3.7%
ATLAS COPCO AB-B SHS 3.7%   MOWI ASA 7.1%   YARA INTERNATIONAL ASA 5.2%
CARLSBERG AS-B 3.4%   SAMPO OYJ-A SHS 2.8%   UPM-KYMMENE OYJ 4%
NIBE INDUSTRIER AB-B SHS 3.1%   VESTAS WIND SYSTEMS A/S 6.3%   LIFCO AB-B SHS 3.6%
ATLAS COPCO AB-A SHS 3.9%
HENNES & MAURITZ AB-B SHS 6.1%
GJENSIDIGE FORSIKRING ASA 4.9%
SVENSKA HANDELSBANKEN-A SHS 4.1%

Switzerland

SCHINDLER HOLDING AG-REG 2.4%
LONZA GROUP AG-REG 2.9%
CHOCOLADEFABRIKEN LINDT-PC 1.4%   SIKA AG-REG 2.6%   SWISS RE AG 3.8%
SWISSCOM AG-REG 2.6%   VAT GROUP AG 4.7%   NOVARTIS AG-REG 1.3%
ABB LTD-REG 2.3%   GEBERIT AG-REG 4.9%   HOLCIM LTD 2.4%
ALCON INC_1 2.8%   JULIUS BAER GROUP LTD 5.7%
CIE FINANCIERE RICHEMO-A REG 7.6%
SWATCH GROUP AG/THE-BR 10%
NESTLE SA-REG 0.88%   KUEHNE + NAGEL INTL AG-REG 1.3%
SWATCH GROUP AG/THE-REG 9.6%
GIVAUDAN-REG 0.9%   ROCHE HOLDING AG-BR 0.94%
LOGITECH INTERNATIONAL-REG 5.4%
EMS-CHEMIE HOLDING AG-REG 0.72%
SONOVA HOLDING AG-REG 5.2%
SGS SA-REG 2.8%   STRAUMANN HOLDING AG-REG 3%
ZURICH INSURANCE GROUP AG 1.7%   SWISS LIFE HOLDING AG-REG 4.3%
ROCHE HOLDING AG-GENUSSSCHEIN 1.3%   UBS GROUP AG-REG 3%
PARTNERS GROUP HOLDING AG 2.5%
SCHINDLER HOLDING-PART CERT 2.3%

Source: TOBAM. June 24

PORTFOLIOS RELATIVE AUTHORITARIAN EXPOSURE
WORLD INCL. EM

Relative Authoritarian Exposure wrt. Parent Index

Legend:
- BBG World (Including EM)
- Whitelisted Benchmark
- TOBAM LBRTY

Y-axis: $\dfrac{PortfolioAE}{ParentIndex AE}$

Source: TOBAM. August 2008 to June 2024

Within a given country companies exhibit a large spectrum of authoritarian exposures allowing TOBAM LBRTY to exhibit an authoritarian exposure 70 to 90% lower compared to their parent index.

46

BACKTEST SUMMARY
WORLD INCLUDING EM

Statistics	BBG World (Including EM)	*Whitelisted Benchmark*	TOBAM LBRTY
Annualized Gross return	8.2%	9.3%	**9.6%**
Annualized Net return	8.2%	8.8%	**9.1%**
Vol	17.5%	17.8%	**19.0%**
Sharpe Ratio	0.41	0.44	**0.43**
Beta to Mkt	1.0	1.0	**1.0**
Average Number of stocks	2739	1685	**260**
Average Eff. Number of stocks	377.9	268.0	**143.6**
Authoritarian Exposure (H1 2024)	4.0%	2.7%	**0.6%**
Relative Authoritarian Exposure (H1 2024)	100%	68%	**15%**
TE(Parent index)	0.0%	2.0%	**5.4%**
TE(Whitelisted index)	2.0%	0.0%	**4.6%**

tobam*
unbiased.

5-YEAR ROLLING EXCESS RETURNS
WORLD INCLUDING EM

5-year rolling excess return wrt. Parent Index

Source: TOBAM

5 Years Statistics	BBG World (Including EM)	Whitelisted Benchmark	TOBAM LBRTY
Annualized Gross return	11.1%	13.3%	12.9%
Annualized Net return	11.1%	12.9%	12.4%
Vol	17.4%	18.4%	20.3%
Sharpe ratio	0.53	0.60	0.52
Beta to Mkt	1.0	1.1	1.1

The period covered in the table is from March 2019 to June 2024. The graph shrinks the 5-year window near the start of the period to include only existing elements. Returns reflect back tested data for the entire time provided. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched. Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in reference index specific local currency

AQR AND FAMA-FRENCH FACTOR EXPOSURE
WORLD INCL. EM

- Traditional AQR and Fama French factors explain poorly TOBAM LBRTY's excess returns

AQR XR regression	Whitelisted Benchmark	TOBAM LBRTY
Market	1.7%***	2.5%***
SMB	-0.7%	-2.8%
HML	-7.5%***	-1.9%*
UMD	-0.7%	-1.1%
QMJ	6.2%***	10.9%***
BAB	-1%	-1.6%
Alpha	0.6%	0.7%
R^2	21%	7%

Factors are on AQR Global universe. Size (SMB), Value (HML), Momentum (UMD), Quality (QMJ) and Betting against Beta (BAB). *indicates that the estimated coefficient is different from zero with a probability of 90%, ** with a probability of 95% and *** with a probability of 99%.

Fama-French XR regression	Whitelisted Benchmark	TOBAM LBRTY
Market	0.2%	0.1%
SMB	-7.8%***	-14.0%***
HML	-6.9%***	-2.1%
RMW	4.7%***	8.2%***
CMA	3.1%**	5.5%**
WML	-0.9%**	-0.7%
Alpha	0.6%	0.7%
R^2	26%	14%

Factors are on Developed universe. Size (SMB), Value (HML), Quality(RMW&CMA), Momentum (WML) *indicates that the estimated coefficient is different from zero with a probability of 90%, ** with a probability of 95% and *** with a probability of 99%.

TOBAM LBRTY TRACKING ERROR DECOMPOSITION
WORLD INCLUDING EM

Majority of the TE vs. parent index and 44% of the TE vs. Whitelisted Benchmark is due to the reduction of exposure to authoritarian countries

World (Including EM) Nov 2009 - Jun 2024	Tracking error attribution vs. **Parent Index**		Tracking error attribution vs. **Whitelisted Benchmark**	
Risk factor	TCR	PCR	TCR	PCR
Market	0.4%	6.6%	0.3%	6.4%
Authoritarian countries	0.4%	**6.8%**	0.0%	0.0%
Indirect exposure	2.9%	**55.0%**	2.0%	**43.9%**
Sector	0.5%	9.0%	0.7%	14.5%
Residuals	1.2%	22.5%	1.6%	35.2%
Total	5.4%	100.0%	4.6%	100.0%

TCR = Total contribution to tracking error

PCR = Percentage contributions to tracking error

Source: TOBAM

PORTFOLIOS RELATIVE AUTHORITARIAN EXPOSURE
EM

Relative Authoritarian Exposure wrt. Parent Index

Source: TOBAM. August 2008 to June 2024

Within a given country companies exhibit a large spectrum of authoritarian exposures allowing TOBAM LBRTY portfolio to exhibit an authoritarian exposure 50 to 70% lower compared to its parent index.

BACKTEST SUMMARY
EM

Statistics	BBG EM	BBG EM ex China	*Whitelisted Benchmark*	TOBAM LBRTY
Annualized Gross return	4.1%	4.8%	5.2%	**6.9%**
Annualized Net return	4.1%	4.8%	4.8%	**6.5%**
Vol	19.7%	19.7%	19.0%	**18.2%**
Sharpe Ratio	0.16	0.19	0.20	**0.30**
Beta to Mkt	1.0	1.0	0.9	**0.9**
Average Number of stocks	1109	831	450	**132**
Average Eff. Number of stocks	157.4	132.9	111.3	**60.9**
Authoritarian Exposure (H1 2024)	15.1%	9.8%	7.4%	**4.5%**
Relative Authoritarian Exposure (H1 2024)	100%	65%	49%	**30%**
TE(Parent index)	0.0%	5.3%	6.7%	**8.7%**
TE(Whitelisted index)	6.7%	4.5%	0.0%	**6.2%**
TE(BBG EM ex China index)	5.3%	0.0%	4.5%	**7.0%**

The period covered is from August 2008 to June 2024. Returns reflect back tested data for the entire time provided. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched. Back tested performance returns and/or charts illustrating performance provided on this page are gross of management fees, sales charges and other commissions, other taxes and relevant costs to be paid by an investor are not included in the calculations. The net performance, are computed assuming a hypothetical fee of 45bps . Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in reference index specific local currency.
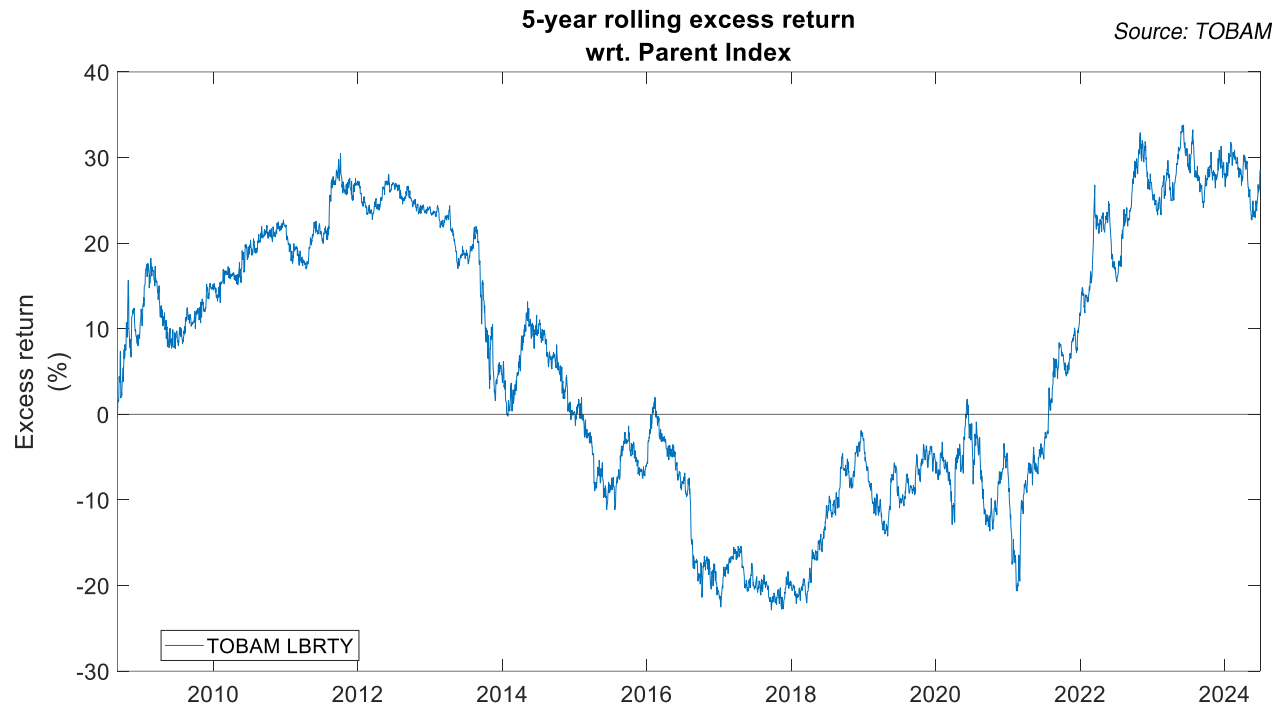
5-YEAR ROLLING EXCESS RETURNS
VS BBG EM EX CHINA - EM

5-year rolling excess return wrt. BBG EM ex China

Source: TOBAM

5 Years Statistics	BBG EM	BBG EM ex China	*Whitelisted Benchmark*	TOBAM LBRTY
Annualized Gross return	3.8%	7.4%	7.5%	10.1%
Annualized Net return	3.8%	7.4%	7.0%	9.6%
Vol	16.6%	16.6%	17.1%	15.9%
Sharpe ratio	0.11	0.33	0.30	0.49
Beta to Mkt	1.0	0.9	0.9	0.8

The period covered in the table is from March 2019 to June 2024. The graph shrinks the 5-year window near the start of the period to include only existing elements. Returns reflect back tested data for the entire time provided. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched. Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in reference index specific local currency

tobam*
unbiased.

5-YEAR ROLLING EXCESS RETURNS
VS PARENT INDEX -EM

5-year rolling excess return wrt. Parent Index

Source: TOBAM

5 Years Statistics	BBG EM	BBG EM ex China	*Whitelisted Benchmark*	TOBAM LBRTY
Annualized Gross return	3.8%	7.4%	7.5%	10.1%
Annualized Net return	3.8%	7.4%	7.0%	9.6%
Vol	16.6%	16.6%	17.1%	15.9%
Sharpe ratio	0.11	0.33	0.30	0.49
Beta to Mkt	1.0	0.9	0.9	0.8

The period covered in the table is from March 2019 to June 2024. The graph shrinks the 5-year window near the start of the period to include only existing elements. Returns reflect back tested data for the entire time provided. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched. Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in reference index specific local currency

55

AQR AND FAMA-FRENCH FACTOR EXPOSURE
EM

- Traditional AQR and Fama French factors explain poorly TOBAM LBRTY's excess returns

AQR XR regression	Whitelisted Benchmark	TOBAM LBRTY
Market	-2.2%*	-9.9%***
SMB	5.9%	9.9%**
HML	16.6%***	17.8%***
UMD	-3.4%	-3.9%
QMJ	11.9%**	15.5%***
BAB	7%**	5.5%
Alpha	-0.7%	1.3%
R²	8%	19%

Factors are on AQR Pacific universe. Size (SMB), Value (HML), Momentum (UMD), Quality (QMJ) and Betting against Beta (BAB). *indicates that the estimated coefficient is different from zero with a probability of 90%, ** with a probability of 95% and *** with a probability of 99%.

Fama-French XR regression	Whitelisted Benchmark	TOBAM LBRTY
Market	3.6%	-9.9%***
SMB	21.8%**	19.5%*
HML	28.4%***	24.3%**
RMW	25.3%**	17.6%
CMA	26.8%**	28.7%**
WML	6.5%	6.6%
Alpha	-3%*	-0.4%
R²	21%	30%

Factors are on Emerging market universe. Size (SMB), Value (HML), Quality(RMW&CMA), Momentum (WML) *indicates that the estimated coefficient is different from zero with a probability of 90%, ** with a probability of 95% and *** with a probability of 99%.

TOBAM LBRTY TRACKING ERROR DECOMPOSITION
EM

The majority of the TE vs. parent index and about 25% of the TE vs. Whitelisted Benchmark is due to the reduction of exposure to authoritarian countries

Emerging markets Nov 2009 - Jun 2024	Tracking error attribution vs. **Parent Index**		Tracking error attribution vs. **Whitelisted Benchmark**	
Risk factor	**TCR**	**PCR**	**TCR**	**PCR**
Market	1.6%	17.9%	0.7%	10.8%
Authoritarian countries	1.3%	**14.8%**	0.0%	0.0%
Indirect exposure	3.6%	**40.7%**	1.5%	**23.8%**
Sector	0.3%	3.5%	0.6%	9.6%
Residuals	2.0%	23.2%	3.5%	55.8%
Total	8.7%	100.0%	6.2%	100.0%

TCR = Total contribution to tracking error

PCR = Percentage contributions to tracking error

Source: TOBAM

PORTFOLIOS RELATIVE AUTHORITARIAN EXPOSURE
USA

Relative Authoritarian Exposure
wrt. Parent Index
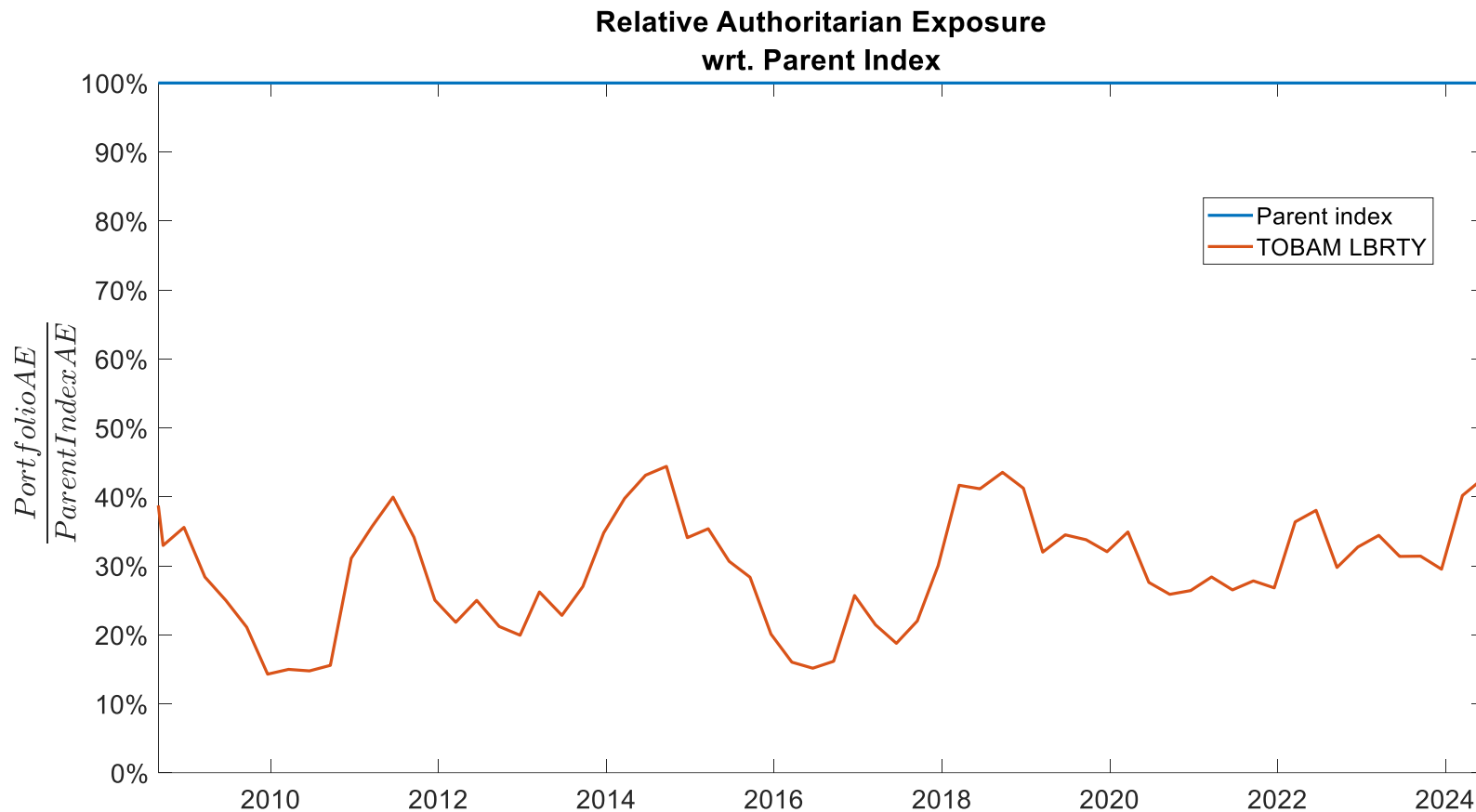
Source: TOBAM. August 2008 to August 2024

Within a given country companies exhibit a large spectrum of authoritarian exposures allowing TOBAM LBRTY portfolio to exhibit an authoritarian exposure 60 to 80% lower compared to its parent index.

LBRTY® USA PORTFOLIO PERFORMANCE

LBRTY® USA strategy vs BBG USA
Aug 2008 to Aug 2024

	LBRTY US	BBG US L/MC TR
Gross Return (Aug '08 - Aug '24)	639.67 %	489.04 %
Annualized Gross Return	13.32 %	11.72 %
Volatility	19.54 %	20.61 %
Sharpe ratio	0.63	0.52
Tracking error	3.46 %	
Downside deviation	12.56 %	13.44 %
Information ratio	0.46	
Correlation to index	0.99	
Beta to index	0.94	

One-year weekly rolling historical tracking error vs. BBG USA index

Source: TOBAM, Bloomberg LP, Aug 2008 to Aug 2024

The LBRTY® USA strategy:

- outperformed the BBG USA index by 1.6% annualized
- reduced volatility vs the index by app. 5%

The period covered is from August 2008 to August 2024. Source Bloomberg and TOBAM. Returns reflect back tested data from Aug 29, 2008, to date. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched. The back tests are gross of tax and exclude costs of transaction and fee assumptions. Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in USD and include reinvested dividends. Performance returns illustrating performance provided on this page are gross of management fees, sales charges and other commissions.

AQR FACTOR EXPOSURE

- All LBRTY strategies shared similar factor exposures profiles across universes

AQR Style analysis	TOBAM LBRTY ACWI	TOBAM LBRTY EM	TOBAM LBRTY USA
Market	2.5%***	-10.2%***	-1.5%***
SMB	-2.8%	10.5%**	5%***
HML	-1.9%*	17.9%***	-9.2%***
UMD	-1.1%	-4.3%	-1.2%**
QMJ	10.9%***	15.4%***	18.8%***
BAB	-1.6%	4.7%	0.6%
Alpha	0.7%	1.4%	0.4%
R²	7%	19%	52%

Factors are on AQR World, Pacific and USA universe from left to right.
*Size (SMB), Value (HML), Momentum (UMD), Quality (QMJ) and Betting against Beta (BAB). *indicates that the estimated coefficient is different from zero with a probability of 90%, ** with a probability of 95% and *** with a probability of 99%*

LBRTY® USA PORTFOLIO SECTOR ALLOCATION

- Sector allocation does not explain well TOBAM LBRTY's tracking error
- Almost 50% of the Tracking error vs Parent Index is due to the reduction of exposure to authoritarian countries

- **Allocation by Sector – LBRTY® USA strategy vs parent index** August 2024
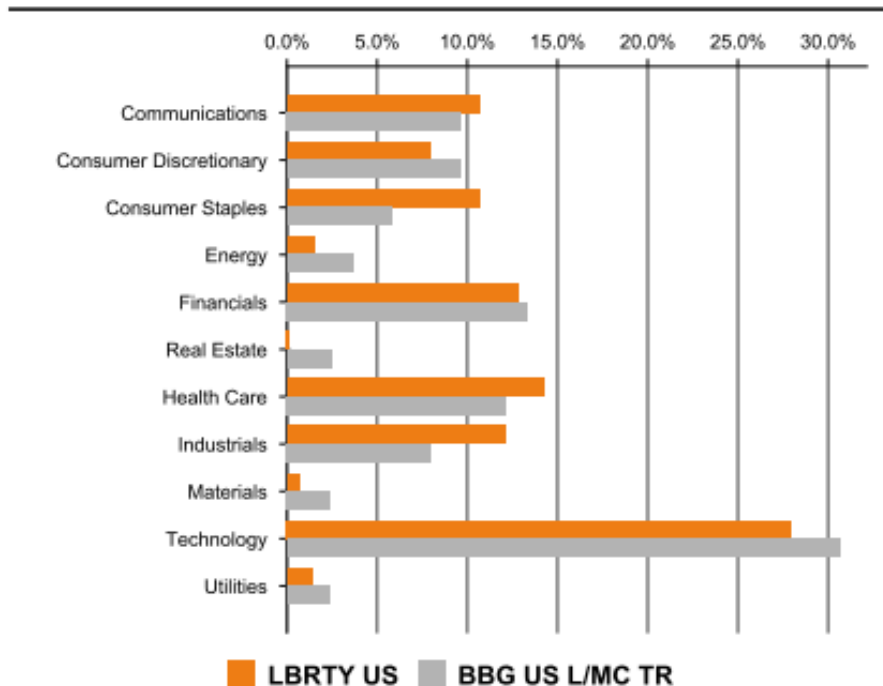
- **LBRTY® USA: TE attribution vs. index**

Emerging markets Nov 2009 - Aug 2024	Tracking error attribution vs. **Parent Index**	
Risk factor	**TCR**	**PCR**
Market	0.5%	14.1%
Indirect exposure	**1.6%**	**46.2%**
Sector	0.4%	12.4%
Residuals	0.9%	27.3%
Total	3.5%	100.0%

Source: TOBAM, Bloomberg LP

PRODUCTS

On 03 July 2023, the TOBAM LBRTY **indices** were launched:

- All World (Bloomberg ticker: LBRTYT)
- All World ex USA (Bloomberg ticker: LBRTYXUT)
- Emerging Markets (Bloomberg ticker: LBRTEMT)

On 31 July 2024, the TOBAM LBRTY US index was launched (Bloomberg ticker: LBRTYUST)

The tracking error constraint defined vs. whitelisted index is set at:

- 10% of the parent index volatility for the **index** TOBAM LBRTY US, All World and All World ex USA
- 20% of the parent index volatility for the **fund** TOBAM LBRTY All World and All World ex USA
- 30% of the parent index volatility for TOBAM LBRTY EM

The capacity* of the TOBAM LBRTY as of 28 February 2023 is at:

- 17.2%/17.3% for the TOBAM LBRTY All World index/fund respectively
- 16.1%/15.6% for the TOBAM LBRTY All World ex USA index/fund respectively
- 7.3% for the TOBAM LBRTY EM

*Following the 40-act SEC guidance , the capacity of a portfolio is defined as the maximum size such that a proportion 85% of it can be purchased – or sold- in less than 5 days, at a maximum 20% participation rate. The capacity is expressed as a percentage of the Parent index capacity

tobam*
unbiased.

LBRTY EQUITY - PERFORMANCE SUMMARY
EM, ACWI, ACWI EX US, US

As of August 30th, 2024

	Performance USD				Average TE vs. Benchmark
	Live Data		Annualized		
	YTD	1yr	3yr	5yr	
TOBAM LBRTY EM Equity	12.6%	23.9%	7.4%	13.5%	**7% - 9%**
Benchmark	8.2%	13.0%	-3.3%	5.3%	
Delta	**4.4%**	**10.9%**	**10.6%**	**8.1%**	
TOBAM LBRTY ACWI Equity	19.3%	27.5%	9.7%	15.3%	**3% - 4%**
Benchmark	16.1%	23.6%	5.9%	12.4%	
Delta	**3.2%**	**3.9%**	**3.9%**	**2.9%**	
TOBAM LBRTY ACWI ex-US Equity	12.3%	21.7%	5.6%	10.4%	**3% - 5%**
Benchmark	11.2%	17.9%	2.2%	8.0%	
Delta	**1.1%**	**3.8%**	**3.4%**	**2.4%**	
TOBAM LBRTY US Equity	20.3%	28.3%	11.1%	17.2%	**1% - 3%**
Benchmark	19.5%	27.1%	9.4%	15.9%	
Delta	**0.8%**	**1.1%**	**1.8%**	**1.3%**	

The period covered is from August 2019 to August 2024. Returns reflect back tested data from August 2019 to Jul 03, 2023, plus live data from Jul 03, 2023 to date (except for TOBAM LBRTY US Equity which shows only back tested data). Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched prior to Jul 03, 2023. The back tests are gross of tax and exclude costs of transaction and fee assumptions. Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in USD and include reinvested dividends.

TOBAM LBRTY ALL WORLD EQUITY PERFORMANCE

Sources: TOBAM, Bloomberg. Indexes are unmanaged and do not incur management fees, costs and expenses. One cannot invest directly in an index.

Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested.

Performance details provided are in USD and include reinvested dividends.
Returns reflect back tested data from Aug 29, 2008 to Jul 03, 2023, plus live data for the TOBAM LBRTY All World Equity Index from Jul 03, 2023 to date.

Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched prior to Jul 03, 2023. The back tests are gross of tax and exclude costs of transaction and fee assumptions.

● Monthly Returns(%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Index	YTD Bench
2024	1.27	3.71	3.85	-3.13	4.97	2.86	1.62	2.92					19.30	16.06
2023	6.43	-3.09	3.47	2.56	-0.11	5.42	3.99	-2.41	-4.73	-3.07	9.71	5.46	24.98	22.24
2022	-4.83	-2.49	2.12	-7.90	0.55	-7.95	7.57	-4.37	-8.82	7.75	8.02	-3.80	-15.16	-18.24
2021	-1.69	2.29	3.88	5.49	1.75	1.52	3.13	2.85	-4.37	6.06	-1.48	4.53	26.12	18.50
2020	-0.19	-8.41	-13.17	10.74	4.93	3.10	4.83	6.34	-4.06	-2.91	11.56	3.81	14.36	17.10
2019	8.10	3.49	1.71	3.53	-5.24	6.57	0.81	-2.09	2.41	2.12	3.32	3.34	31.14	27.10
2018	4.18	-4.11	-0.94	0.54	0.41	-0.07	3.23	1.87	0.08	-7.39	1.80	-8.18	-9.05	-8.76
2017	1.84	3.16	0.94	1.66	2.83	0.13	2.58	-0.51	1.63	1.85	2.70	1.22	21.90	24.54
2016	-5.47	-0.28	7.11	0.90	0.94	-1.33	4.11	-0.04	0.58	-1.95	1.79	2.77	8.93	8.54
2015	-2.07	6.06	-1.27	1.67	0.39	-2.12	2.20	-6.31	-2.96	8.11	-0.08	-2.53	0.24	-1.67
2014	-3.09	4.77	0.32	1.41	1.66	2.16	-1.68	2.77	-2.56	0.90	1.86	-1.38	7.05	4.89
2013	5.32	0.31	2.41	2.58	0.10	-2.21	5.21	-2.66	4.39	4.33	1.52	2.34	25.89	23.16
2012	4.92	4.10	0.79	-1.24	-8.32	4.09	1.03	3.07	2.74	-0.65	1.53	1.87	14.05	17.16
2011	2.22	3.49	-0.48	3.60	-1.92	-1.06	-2.71	-5.93	-8.18	9.98	-2.26	-0.09	-4.47	-7.21
2010	-4.16	2.93	6.49	0.74	-8.56	-3.47	8.19	-2.79	8.62	3.92	-1.70	6.92	16.55	13.30

● Statistics

	TOBAM LBRTY All World Equity Index	BBG World Lrg/Mid Cap TR
Return (Aug '08 - Aug '24)	350.30 %	263.70 %
Annualized return	9.86 %	8.40 %
Volatility	18.49 %	17.43 %
Sharpe ratio	0.47	0.42
Tracking error	3.56 %	
Downside deviation	12.05 %	11.44 %
Sortino ratio	0.73	0.64
Information ratio	0.41	
Correlation to index	0.98	
Beta to index	1.04	

TOBAM LBRTY ALL WORLD EX USA EQUITY PERFORMANCE

tobam*
unbiased.

Sources: TOBAM, Bloomberg. Indexes are unmanaged and do not incur management fees, costs and expenses. One cannot invest directly in an index.

Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested.

Performance details provided are in USD and include reinvested dividends. Returns reflect back tested data from Aug 29, 2008 to Jul 03, 2023, plus live data for the TOBAM LBRTY All World ex USA Equity Index from Jul 03, 2023 to date. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched prior to Jul 03, 2023. The back tests are gross of tax and exclude costs of transaction and fee assumptions.

Performance returns and/or charts illustrating performance provided on this page are gross of management fees, sales charges and other commissions,

● Monthly Returns(%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Index	YTD Bench
2024	-0.40	0.63	4.15	-3.12	3.63	-0.04	3.76	3.30					12.30	11.19
2023	8.52	-2.02	2.13	3.17	-2.54	4.57	4.07	-4.60	-3.22	-4.71	10.29	6.54	22.86	15.22
2022	-4.47	-2.15	0.65	-6.72	0.85	-10.05	5.71	-5.16	-8.21	4.19	10.63	-0.59	-16.06	-15.97
2021	-1.55	2.11	2.84	4.18	3.93	-0.71	1.34	1.49	-3.70	3.34	-3.19	5.50	16.17	8.45
2020	-2.23	-8.62	-15.31	6.68	4.28	4.21	4.23	4.75	-2.66	-2.48	13.87	4.84	8.52	12.45
2019	6.80	3.01	0.81	3.05	-4.04	5.29	-1.48	-2.59	3.31	3.35	1.58	3.65	24.59	21.95
2018	4.15	-4.90	-0.93	2.00	-1.89	-1.13	2.61	-1.82	-0.04	-8.00	0.55	-5.06	-14.14	-13.20
2017	2.60	0.94	2.37	2.29	4.09	0.08	3.29	-0.67	1.89	0.88	1.41	2.29	23.58	27.51
2016	-6.50	-0.23	6.96	3.00	-0.57	-3.18	4.63	0.04	1.37	-1.74	-1.55	3.33	4.93	5.12
2015	-0.21	5.82	-1.68	3.81	-1.16	-2.14	1.10	-6.87	-3.60	7.28	-1.48	-2.30	-2.29	-4.71
2014	-3.78	5.10	-0.27	1.91	1.57	1.63	-1.33	0.74	-4.05	-1.54	1.38	-3.38	-2.42	-3.03
2013	4.24	-1.29	0.86	3.91	-1.68	-3.74	5.60	-1.61	6.54	3.85	0.23	2.25	20.26	15.54
2012	5.35	5.17	-0.91	-1.64	-11.04	5.61	0.71	3.63	3.66	0.44	2.16	3.31	16.35	18.11
2011	2.17	3.53	-1.39	4.53	-2.40	-0.97	-1.79	-6.89	-9.89	9.41	-4.82	-0.87	-10.36	-13.63
2010	-4.77	0.47	6.98	-0.97	-10.85	-1.94	10.29	-2.77	9.30	3.79	-5.06	7.98	10.48	12.05

● Statistics

	TOBAM LBRTY All World ex USA Equity Index	BBG World Ex-US L/M TR
Return (Aug '08 - Aug '24)	155.53 %	113.81 %
Annualized return	6.04 %	4.86 %
Volatility	18.63 %	18.02 %
Sharpe ratio	0.26	0.21
Tracking error	4.31 %	
Downside deviation	11.93 %	11.66 %
Sortino ratio	0.41	0.32
Information ratio	0.27	
Correlation to index	0.97	
Beta to index	1.01	

TOBAM LBRTY EMERGING MARKETS EQUITY PERFORMANCE

tobam*
unbiased.

Sources: TOBAM, Bloomberg. Indexes are unmanaged and do not incur management fees, costs and expenses. One cannot invest directly in an index.

Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested.

Performance details provided are in USD and include reinvested dividends Returns reflect back tested data from Aug 29, 2008 to Jul 03, 2023, plus live data for the TOBAM LBRTY Emerging Markets Equity Index from Jul 03, 2023 to date

Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched prior to Jul 03, 2023. The back tests are gross of tax and exclude costs of transaction and fee assumptions.

● Monthly Returns(%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Index	YTD Bench
2024	-1.35	0.82	2.55	-2.44	1.08	5.83	3.20	2.51					12.59	8.21
2023	2.82	-2.68	2.66	2.12	2.27	3.20	5.58	-4.49	-2.39	-3.65	8.72	7.60	22.85	8.47
2022	-0.87	1.04	4.54	-7.20	0.70	-11.06	4.18	1.23	-6.81	0.52	9.11	-3.32	-9.32	-20.54
2021	-3.41	-1.46	4.15	3.11	4.72	-0.70	-0.20	4.40	-2.27	-1.61	0.07	2.58	9.31	0.21
2020	-3.04	-6.11	-20.99	12.34	4.52	6.97	9.76	0.96	-2.90	2.83	12.05	8.46	21.47	22.03
2019	4.16	-0.66	2.74	0.78	-3.57	3.61	-1.32	-3.31	4.28	3.73	-0.91	5.35	15.34	18.81
2018	4.93	-3.52	-1.26	1.24	-4.02	0.32	3.92	0.12	-1.59	-8.22	4.51	-0.15	-4.45	-12.01
2017	5.10	4.33	3.96	0.93	2.51	0.83	4.38	1.65	-2.05	2.59	0.55	5.03	33.90	35.95
2016	-4.27	-0.10	8.06	0.13	-0.99	0.85	4.44	-0.25	0.87	-0.54	-5.49	-0.75	1.30	11.61
2015	0.47	2.24	-3.07	3.80	-1.80	-2.16	-5.03	-3.86	-0.48	4.69	-4.29	-1.62	-11.06	-11.75
2014	-4.91	4.37	4.47	1.83	1.18	3.75	0.45	2.69	-7.34	-1.06	-0.68	-4.82	-0.93	-0.94
2013	0.81	-2.38	-0.70	-1.55	-4.86	-5.59	1.81	-1.35	4.19	5.03	-4.91	0.20	-9.50	-1.20
2012	9.48	4.69	-2.16	-1.01	-9.24	3.81	0.52	0.23	5.32	-1.07	0.91	5.53	16.94	20.36
2011	-5.88	0.68	4.29	4.20	-0.82	-1.66	-0.31	-3.26	-14.29	11.02	-5.15	-1.92	-14.26	-18.97
2010	-5.34	2.55	8.00	1.00	-7.52	0.52	9.21	-0.14	10.70	3.91	-2.59	7.22	28.95	19.91

● Statistics

	TOBAM LBRTY Emerging Markets Equity Index	BBG Emg Mkt L/M TR
Return (Aug '08 - Aug '24)	218.84 %	91.29 %
Annualized return	7.51 %	4.14 %
Volatility	18.10 %	19.64 %
Sharpe ratio	0.35	0.15
Tracking error	8.70 %	
Downside deviation	11.63 %	12.56 %
Sortino ratio	0.55	0.24
Information ratio	0.39	
Correlation to index	0.90	
Beta to index	0.83	

tobam*
unbiased.

TOBAM LBRTY USA EQUITY PERFORMANCE

Sources: TOBAM, Bloomberg. Indexes are unmanaged and do not incur management fees, costs and expenses. One cannot invest directly in an index.

Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested.

Performance details provided are in USD and include reinvested dividends Returns reflect back tested data from Aug 29, 2008 to Jul 31, 2024, plus live data for the LBRTY US from Jul 31, 2024 to date.

Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched prior to Jul 31, 2024. The back tests are gross of tax and exclude costs of transaction and fee assumptions.

● Simulated Monthly Gross Returns (%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD LBRTY	YTD Index
2024	2.38	5.55	3.40	-4.49	4.49	4.27	0.64	2.82					20.31	18.99
2023	5.15	-2.85	5.12	2.08	1.05	6.12	3.92	-1.28	-4.94	-2.43	8.86	5.58	28.53	26.91
2022	-5.89	-4.15	2.84	-8.11	0.21	-6.82	8.86	-4.17	-8.25	9.06	6.94	-5.44	-15.98	-19.70
2021	-2.27	2.66	4.69	5.27	1.08	3.29	4.29	3.28	-5.87	7.24	-0.13	4.80	31.35	26.49
2020	-0.09	-8.50	-11.37	10.51	6.47	1.96	3.86	7.55	-2.64	-3.11	9.90	3.65	16.66	21.01
2019	7.78	4.49	1.68	3.42	-6.16	6.29	2.21	-1.26	1.74	2.14	4.31	2.63	32.61	31.67
2018	4.52	-3.15	-2.09	0.25	3.41	0.67	3.86	3.85	0.19	-6.51	2.12	-8.74	-2.61	-4.65
2017	1.56	4.54	-0.06	1.16	2.33	-0.01	1.62	0.53	2.75	2.01	3.56	0.92	22.91	22.00
2016	-3.23	-0.01	6.99	-0.50	1.95	0.35	3.57	-0.19	-0.15	-2.67	4.17	1.80	12.27	11.58
2015	-1.87	5.75	-1.19	-0.40	1.93	-1.94	1.60	-6.13	-1.27	7.82	0.39	-2.35	1.61	1.23
2014	-3.96	5.12	0.97	0.60	1.57	1.32	-1.48	4.49	-1.00	3.42	2.83	-0.21	14.14	13.53
2013	5.34	2.08	3.70	1.63	1.65	-1.21	5.09	-2.60	3.50	3.75	2.83	2.28	31.56	32.55
2012	5.24	4.19	2.91	-0.49	-4.84	3.24	0.82	2.26	1.92	-2.43	1.74	-0.23	14.80	16.03
2011	1.65	3.17	1.80	4.13	0.17	-1.35	-2.66	-4.64	-5.28	9.75	0.01	0.99	7.07	1.92
2010	-2.36	2.61	4.71	1.40	-6.76	-3.92	5.66	-3.85	9.57	3.57	0.38	4.91	15.71	15.23
2009	-6.21	-7.87	8.00	7.81	4.88	0.90	7.04	2.33	3.84	-0.56	5.81	2.23	30.26	26.13
2008									-8.47	-15.18	-6.51	1.60	-26.25	-29.07

● Simulated Summary Statistics

	LBRTY US	BBG US L/MC TR
Gross Return (Aug '08 - Aug '24)	639.67 %	489.04 %
Annualized Gross Return	13.32 %	11.72 %
Volatility	19.54 %	20.61 %
Sharpe ratio	0.63	0.52
Tracking error	3.46 %	
Downside deviation	12.56 %	13.44 %
Information ratio	0.46	
Correlation to index	0.99	
Beta to index	0.94	

CONCLUSION

Since its beginning:

- TOBAM's ONLY focus is the long-term risk reward of its clients

- We believe that side by side with diversification, Democracy, Respect of Human Rights and Civil Rights are key to innovations and economic growth

- Human Rights have always been at the core of TOBAM's values.

LBRTY®

Reducing both direct and indirect Authoritarian Exposure
- enhances long term expected returns
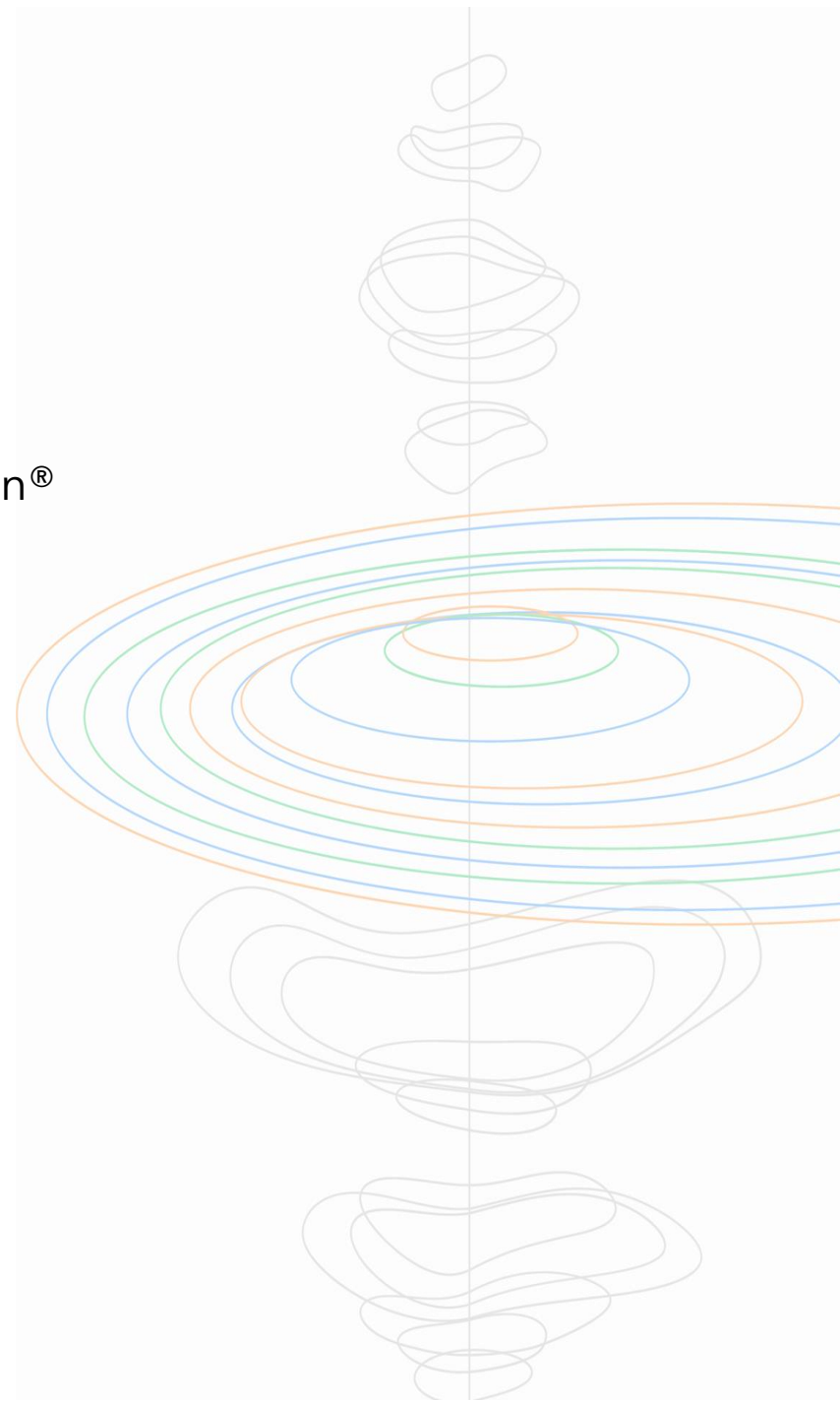- reduces market risk induced by geopolitical instability

EM PERFORMANCE CASE STUDY:
PORTFOLIO PERFORMANCE VS PARENT INDEX DURING GEOPOLITICAL EARTHQUAKES

- LBRTY is less exposed to autocratic regimes geopolitical crises .

- Relative performance of TOBAM LBRTY EM vs parent index around 4 material events involving the two biggest autocratic countries over the last few years:

Major events
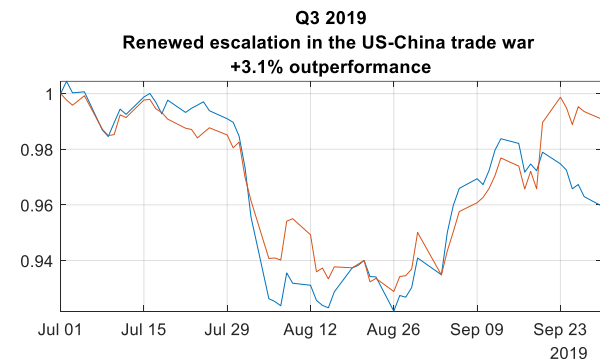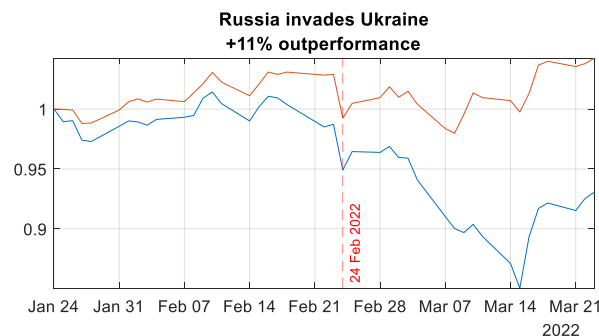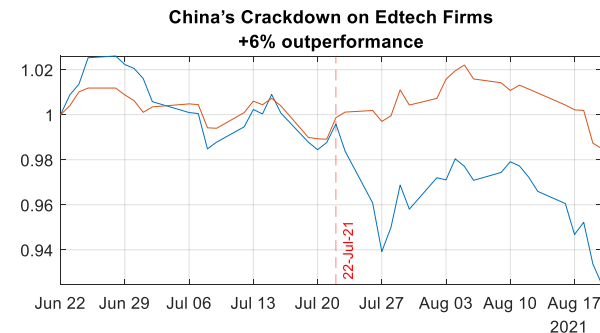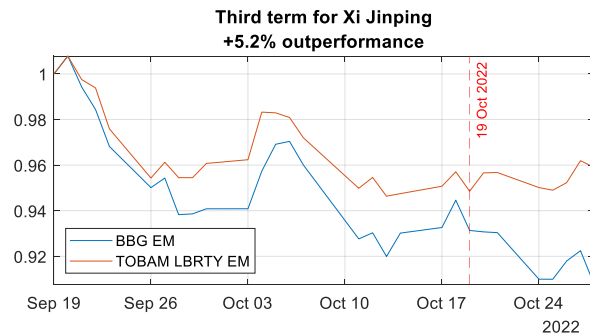
Sources: TOBAM, Bloomberg

Despite a beta ~ 1, LBRTY portfolio delivered a relative outperformance of ~ 6% around the event.

EM PERFORMANCE CASE STUDY:
HOW INCORPORATING CD IMPACTED PORTFOLIO PERFORMANCE

We look at the ten best months of TOBAM LBRTY EM's excess return versus BBG EM over the last 5 years:

8 of these 10 months have seen a geopolitical event or an increase in geopolitical risk.

Dates	BBG EM	TOBAM LBRTY	TOBAM LBRTY excess return	Events	Geopolitical event
Jun-18	-3.8%	0.3%	4.2%	China-US trade tensions ratcheted up	x
May-19	-6.6%	-3.6%	3.0%	The US raised tariffs on US$200 billion worth of Chinese imports to 25%, from 10%	x
Mar-21	-2.2%	4.2%	6.4%	China underperformed	
Jul-21	-6.1%	-0.2%	5.9%	Crackdown by Chinese authorities on education technology companies	x
Nov-21	-3.1%	0.1%	3.2%	fears over the new "Omicron" variant of Covid-19 weighing on sentiment	x
Mar-22	-3.4%	4.5%	8.0%	Russia invades Ukraine	x
Jul-22	-0.2%	4.2%	4.4%	China was the worst index performer (bad economic release)	x
Sep-22	-10.6%	-6.8%	3.8%	China underperformed	
Oct-22	-3.4%	0.5%	3.9%	The election of Xi Jinping for his third term	x
Feb-23	-5.9%	-2.7%	3.2%	A re-escalation in US-China tensions weighed on sentiment	x

TOBAM's strategy has mitigated the risk of drawdown vs the benchmark.

TOBAM'S COMMITMENT TO HUMAN RIGHTS

Achievements

Since starting this initiative over 10 years ago, TOBAM has donated over 2 million EUR to NGOs and about 3.5 million EUR to sustainability and non-profits' expenses.

First project funded was with Amnesty International.

TOBAM has sponsored "Human Rights Watch" since 2014 and is one of the largest corporate donator in France. TOBAM's initiative with Human Rights Watch has helped finance a mission in Ukraine, covering a wide range of issues: use of explosive weapons, landmines, monitoring of the humanitarian situation, illegal detentions and torture, freedom of speech, disappearances in Crimea.

Also, TOBAM believes in the freedom of expression & information as a fundamental right and takes pride in associating itself with Reporters without Borders (RSF). Based in Paris, Reporters Without Borders (RSF) is a leading international non-profit and non-governmental organization that safeguards the right to freedom of information. To fight the issues of impunity related to press reporters, RSF set up a Justice for Journalists Task Force through which it will implement a strategic litigation strategy. TOBAM supported the launch of the project in 2020 with initial funding round.

This solidarity-based mechanism – that directly connects investment and philanthropy – was rewarded in 2014 by Axylia, which awarded the "Profit for Non-Profit Special Award" to TOBAM's Anti-Benchmark Emerging Markets Equity Fund.

TOBAM LBRTY BLACKLISTED COUNTRIES
2024

Blacklisted Countries	TOBAM CD Country Rating
China	3.31
Saudi Arabia	3.38
Russian Federation	3.50
Egypt	3.93
United Arab Emirates	4.05
Pakistan	4.10
Qatar	4.23
Turkey	4.61
Kuwait	4.62
Mexico	5.36

Source: TOBAM

In 2024, 10 Countries would not be eligible in our investible universe for a total of 51 covered countries.

COUNTRIES UNDER THE GOVERNANCE COMMITTEE WATCHLIST
2024

Whitelisted Countries but subject to governance committee	TOBAM CD Country Rating
Hungary	6.47
Singapore	6.45
India	6.29
Colombia	6.28
Philippines	6.09
Indonesia	6.01
Peru	5.92

In 2024, 10 countries have been studied by our governance committee:

- Peru has been whitelisted

- Sri Lanka has been blacklisted.

Blacklisted Countries but subject to governance committee	TOBAM CD Country Rating
Sri Lanka	6.04
Thailand	5.82
Hong Kong	5.59

Source: TOBAM

tobam*
unbiased.

ILLUSTRATION ON FINANCIAL MARKETS: CHINA Oct. 2022

- The Chinese Tech crack down had already highlighted, how risky it can be for entrepreneurs and investors to be exposed to authoritarian regimes.

- With the confirmation of the third term for Xi, his "common prosperity" rhetoric and zero Covid policy, represent clearly a major risk to investors, which is also visible in direct market reaction, wiping out significant amounts of market values in just a few hours.

- To a lesser extent, on opening of the 24th November ,the US-listed Chinese stocks dropped by almost 13%to a new 13-year low.

- During the Chinese Communist Party, reporters captured video of former Chinese President Hu Jintao getting escorted out of the closing ceremony.

Capitulation
Xi's power play stuns investors, sending US-listed Chinese stocks tumbling

Nasdaq Golden Dragon China Index ▪ Close on 10/14 ---- 5317.89

-1111.35
-20.90%

Source: TOBAM, Bloomberg

tobam*
unbiased.
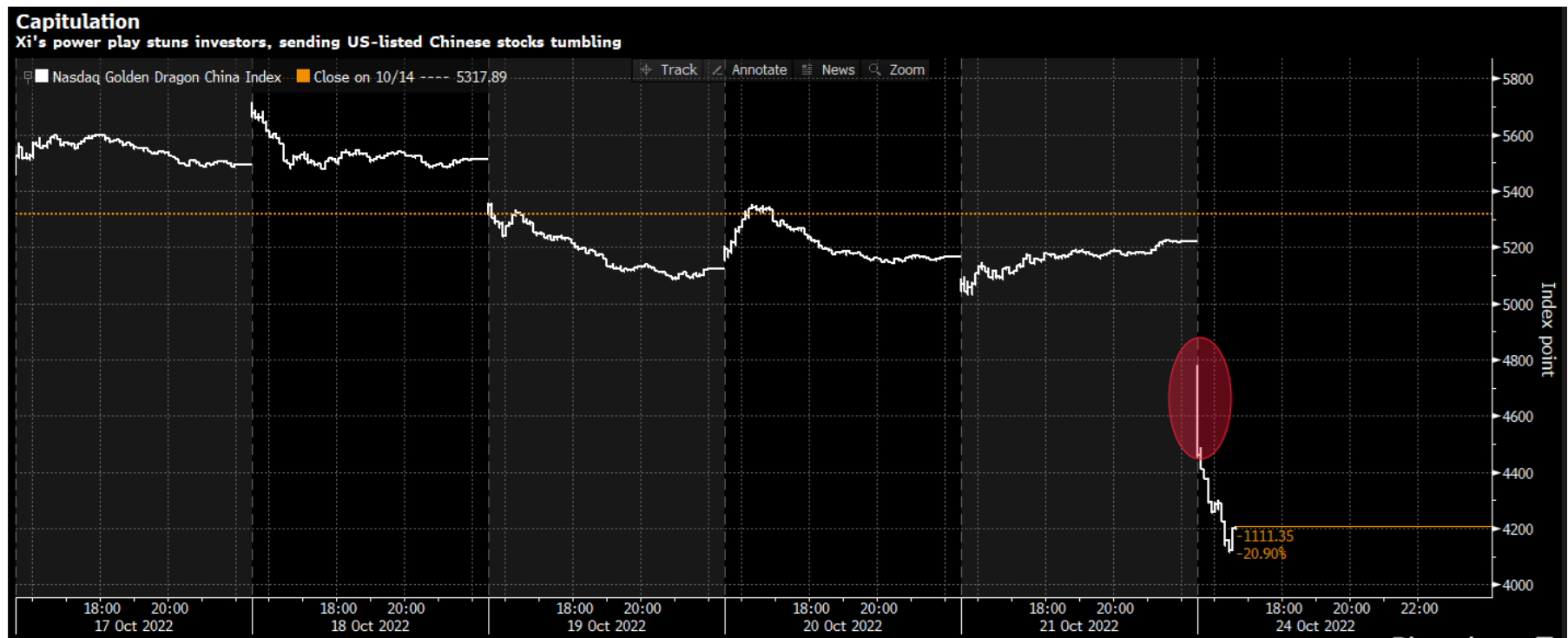
# ILLUSTRATION ON FINANCIAL MARKETS: THE CASE OF CHINA (2)

- According to WIND and JP Morgan QDS data, foreign investors held $530bn of Chinese onshore equities in mid-2022, and around $540bn of Chinese onshore bonds as of Q2.

- Adjusted for market effects and outflows since the end of June, these holdings fall to $370bn, if one takes into account the price changes since the end of June. This corresponds to roughly 11% of the free-float market cap of the Chinese stock market.

- These stock estimates can serve as proxy of the potential selling that could happen in the extreme scenario where, similar to the Russian case, foreign investors decide or are forced to exit their Chinese portfolio investments.

Figure 2: Foreign holdings of Chinese domestic equities
In $bn and as % of total market cap and free float market cap.

Foreign holding of China domestic equities ($bn, LHS)
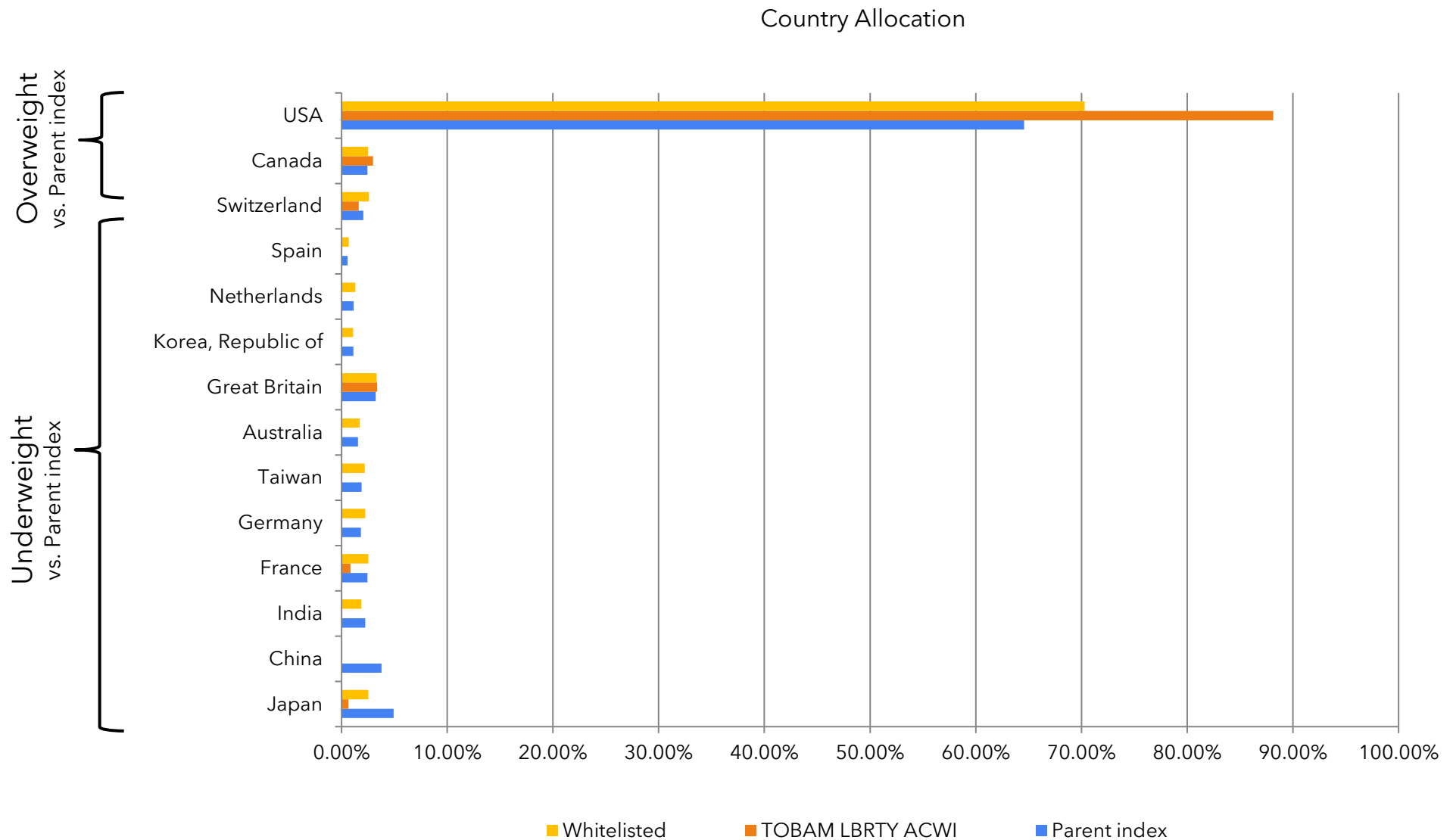% of total market cap
% of free float market cap
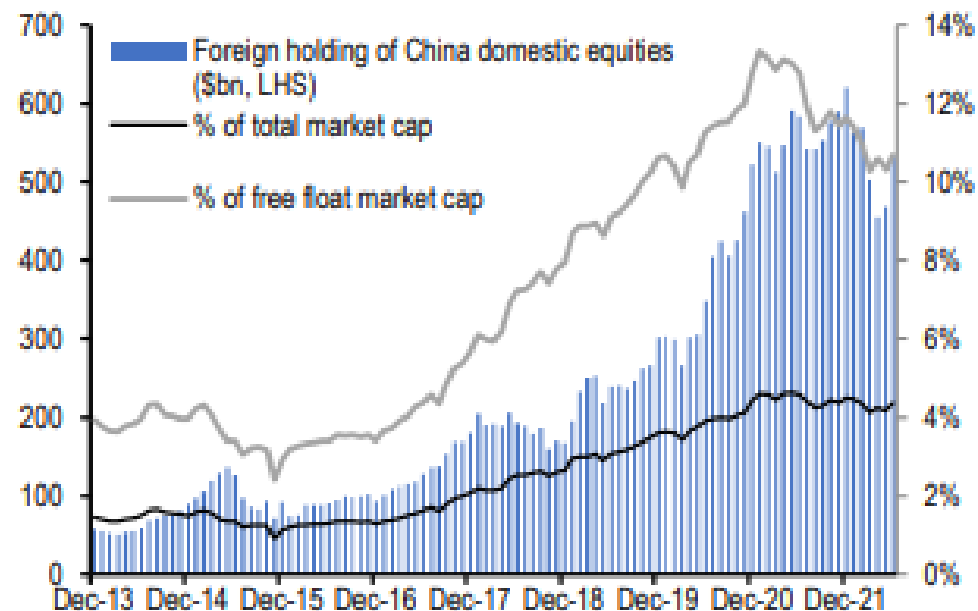
Source: WIND, J.P. Morgan QDS

Source: TOBAM, JP Morgan

ELIGIBLE COUNTRY AVERAGE AUTHORITARIAN EXPOSURE
WORLD (INCLUDING EM)

**Portfolio Authoritarian Exposure
H1 2024**
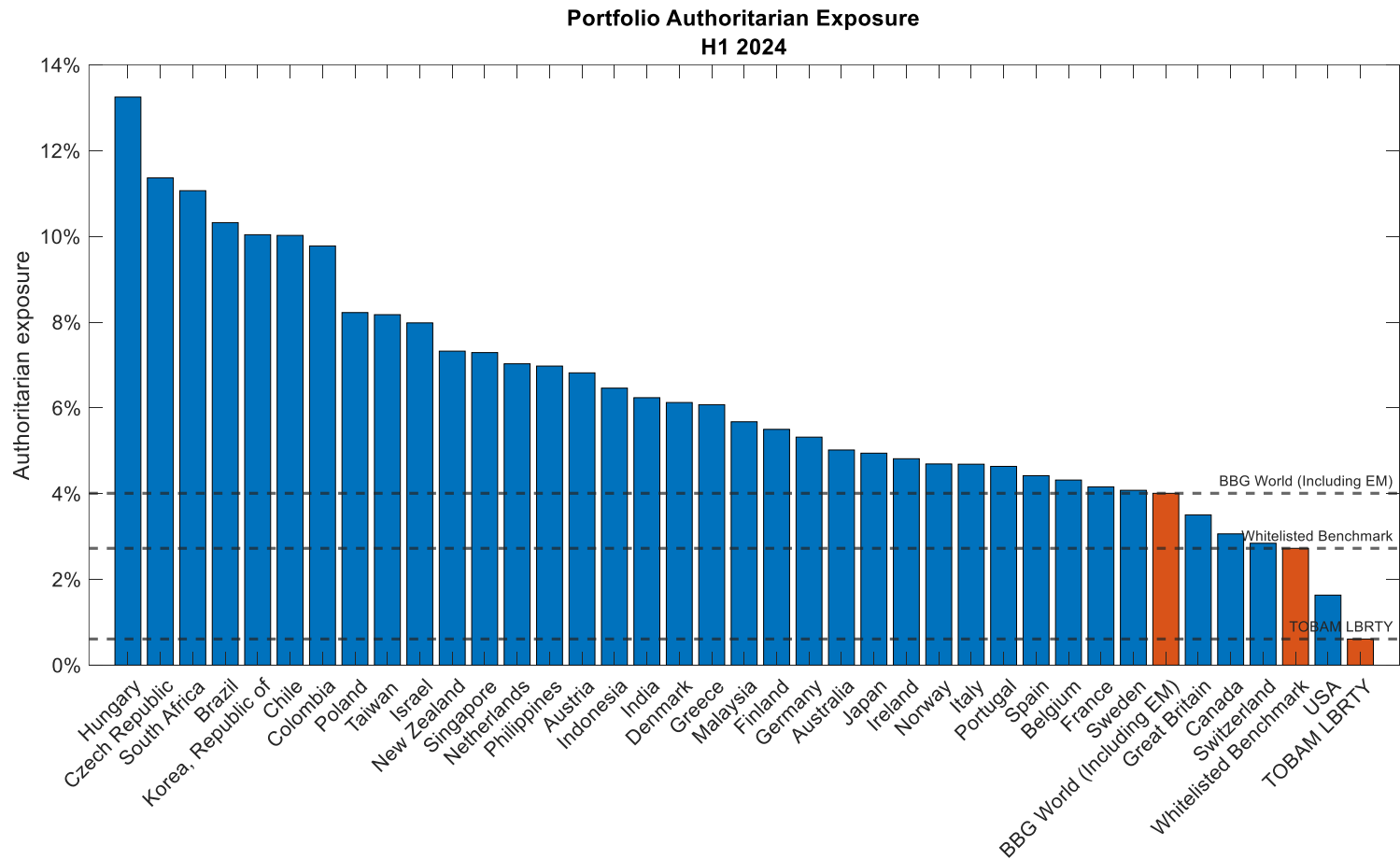
Source: TOBAM

TOBAM WORLD LBRTY portfolios has an authoritarian exposure in H1 2024 lower than the Market Cap Weighted Benchmark of any eligible country.

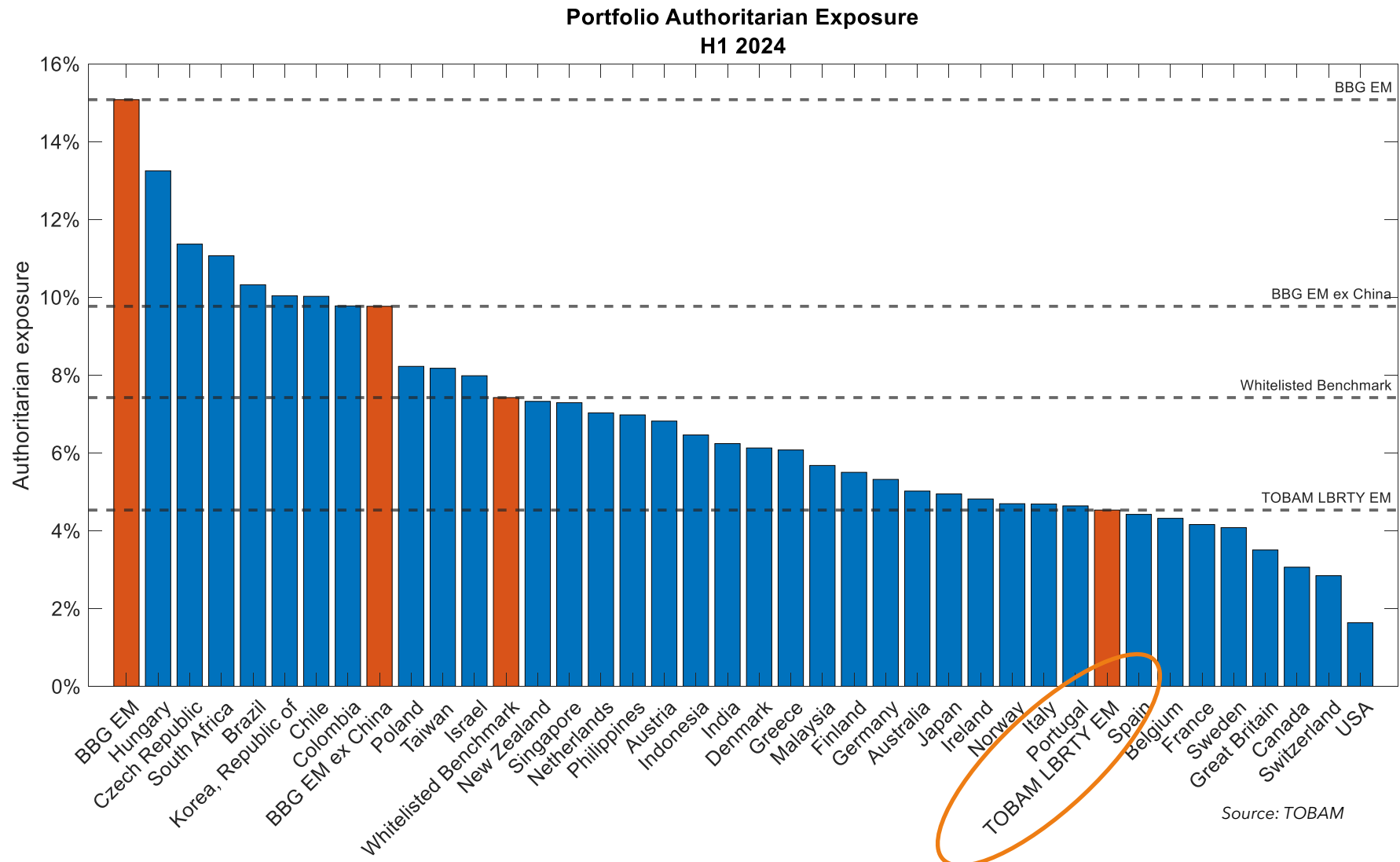# WORLD (INCLUDING EM) PORTFOLIOS COUNTRY WEIGHTS

tobam*
unbiased.

Country Allocation

Overweight vs. Parent index

Underweight vs. Parent index

■ Whitelisted   ■ TOBAM LBRTY ACWI   ■ Parent index

Source: TOBAM, Bloomberg
Data as of 28th June 24

ELIGIBLE COUNTRY AVERAGE AUTHORITARIAN EXPOSURE
EM - AVERAGE H1 2024

TOBAM EM LBRTY® portfolio has an authoritarian exposure in H1 2024 comparable to the Spanish Market Cap Weighted Benchmark.
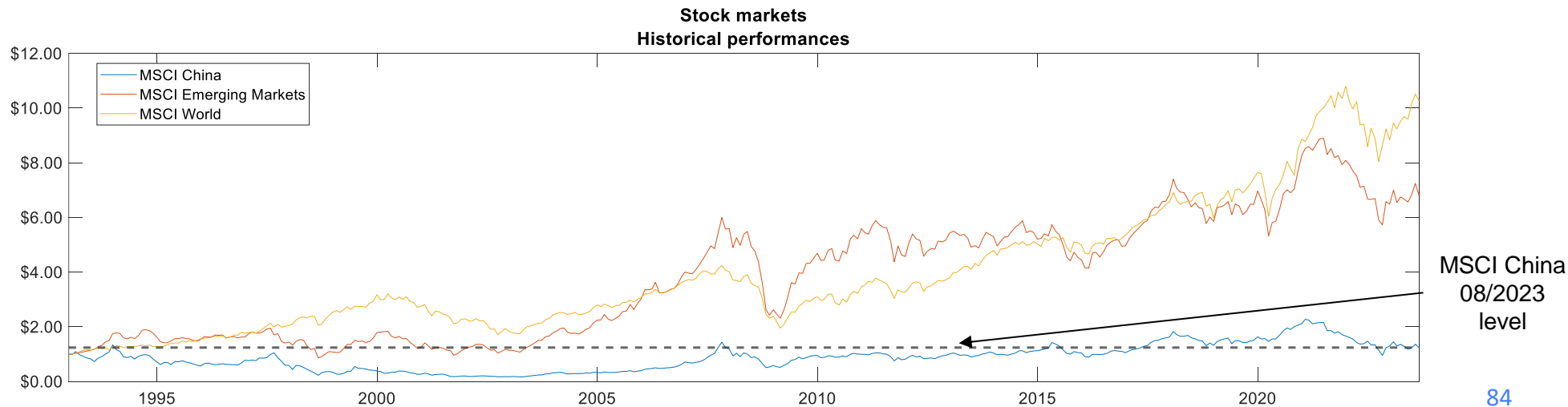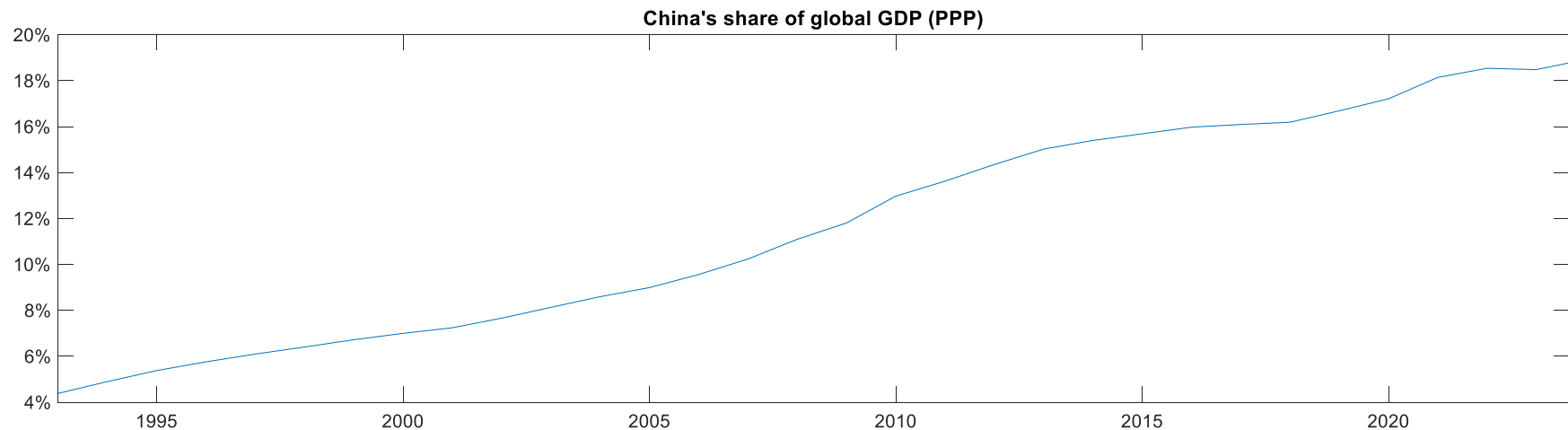

**Portfolio Authoritarian Exposure
H1 2024**

Source: TOBAM

EM PORTFOLIOS COUNTRY WEIGHTS

tobam*
unbiased.

Country Allocation

Overweight vs. Parent index: India, Taiwan, Malaysia, Indonesia, South Africa, Peru, Chile, Poland

Underweight vs. Parent index: Egypt, Colombia, Kuwait, Philippines, Qatar, Korea, Republic of, United Arab…, Thailand, Brazil, Mexico, Saudi Arabia, China

Legend: Whitelisted (yellow), TOBAM LBRTY EM (orange), Parent Index (blue)
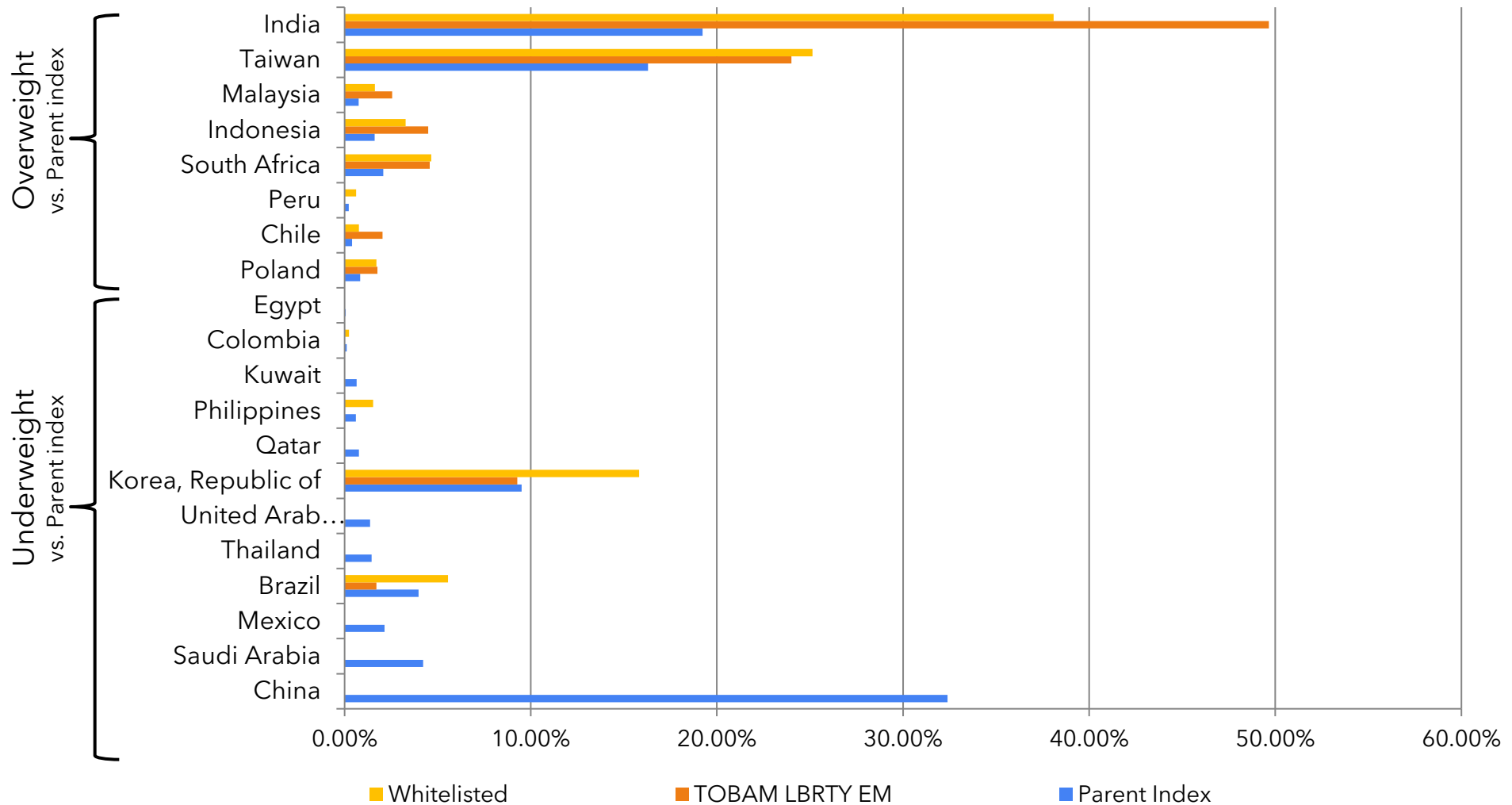
Source: TOBAM, Bloomberg
Data as of 28th June 24

Excluding Hong-Kong, China, other autocracies, taking authoritarian exposures into account, leads TOBAM LBRTY® portfolio to overweight Taiwan and India.

83

tobam*
unbiased.

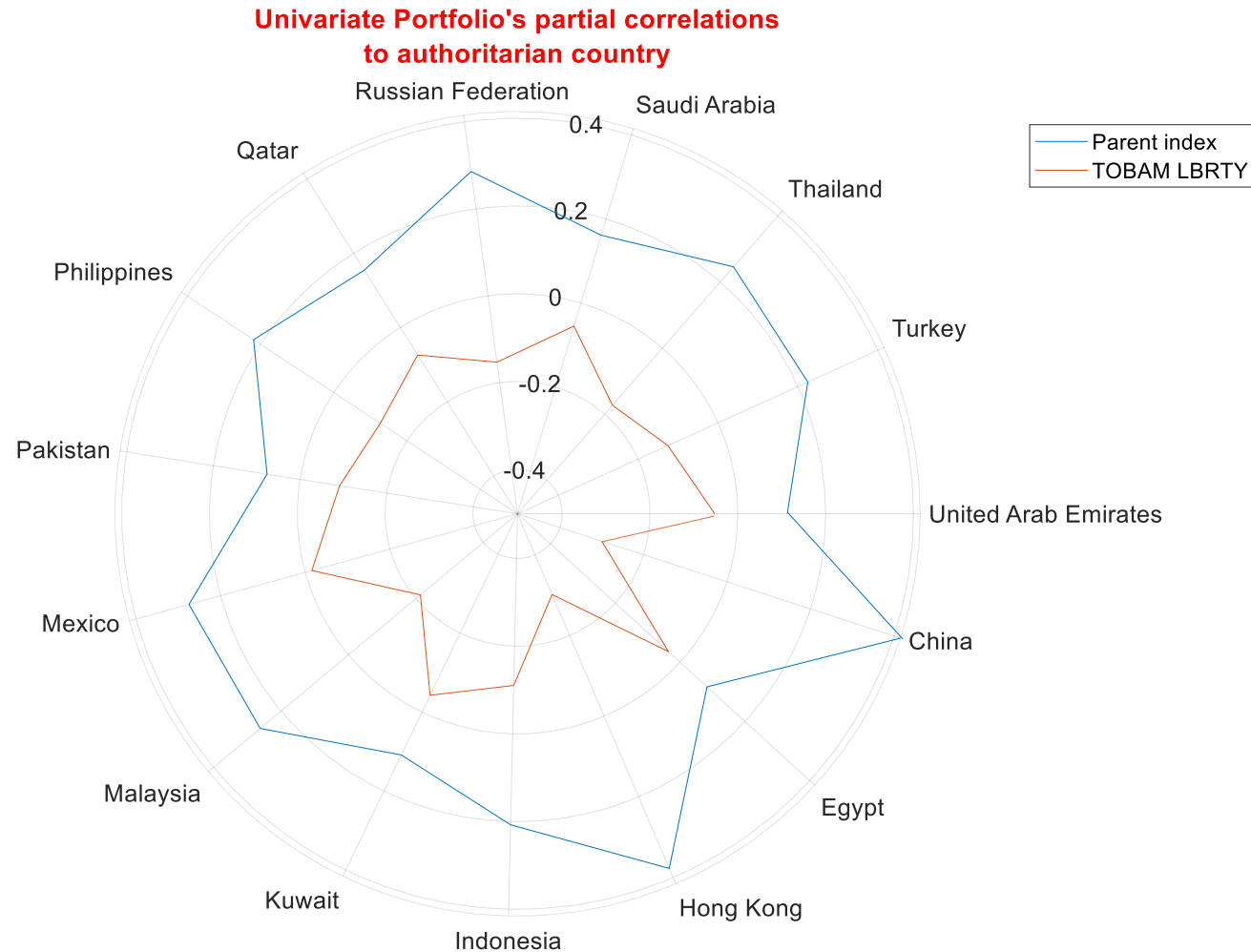# CHINESE STOCK MARKET VS. CHINA WEALTH GROWTH

- Share of China in the economy grew fivefold, over 1993–2022 and equity index investors still lost money.

- Since 1993, compared to a global investor, the wealth of the representative Chinese investor decreased by more than 80%.

China's share of global GDP (PPP)

Stock markets
Historical performances

Legend: MSCI China, MSCI Emerging Markets, MSCI World

MSCI China 08/2023 level

84

Source: IMF, TOBAM, MSCI, The period covered is from August 1993 to September 2023

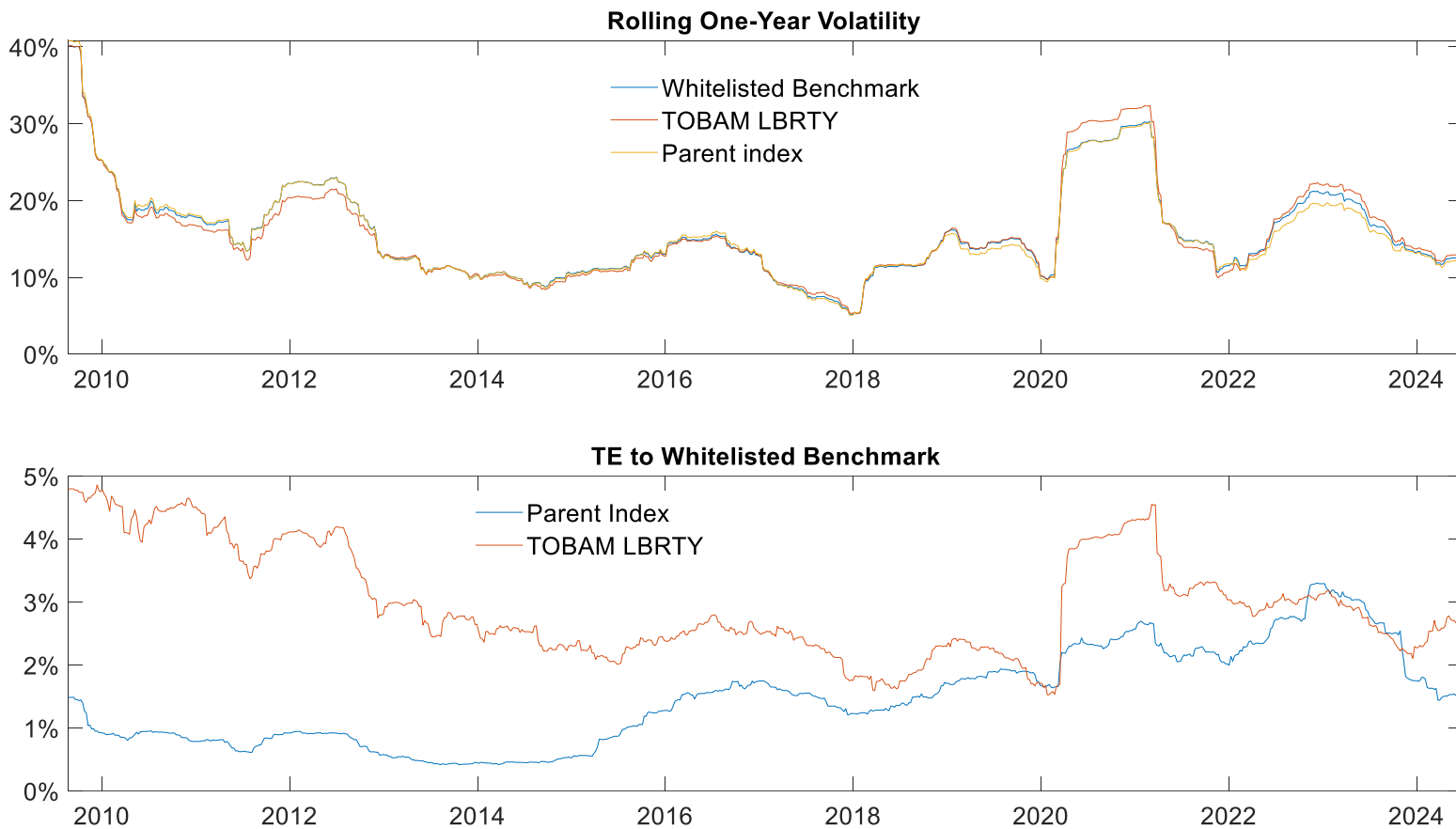# PORTFOLIOS UNIVARIATE CORRELATIONS (DEMOCRATIC WORLD BETA ADJUSTED 2008-2023)

Beyond weights, TOBAM LBRTY portfolio exhibits negative univariate exposures to all autocratic countries, when considering their existing democratic exposures.

Univariate Portfolio's partial correlations to authoritarian country

Legend:
- Parent index
- TOBAM LBRTY

Axes: Russian Federation, Saudi Arabia, Thailand, Turkey, United Arab Emirates, China, Egypt, Hong Kong, Indonesia, Kuwait, Malaysia, Mexico, Pakistan, Philippines, Qatar

Scale: 0.4, 0.2, 0, -0.2, -0.4

Source: TOBAM

85

PORTFOLIOS UNIVARIATE CORRELATIONS (DEMOCRATIC EM BETA ADJUSTED 2008-2023)

Univariate Portfolio's partial correlations to authoritarian country
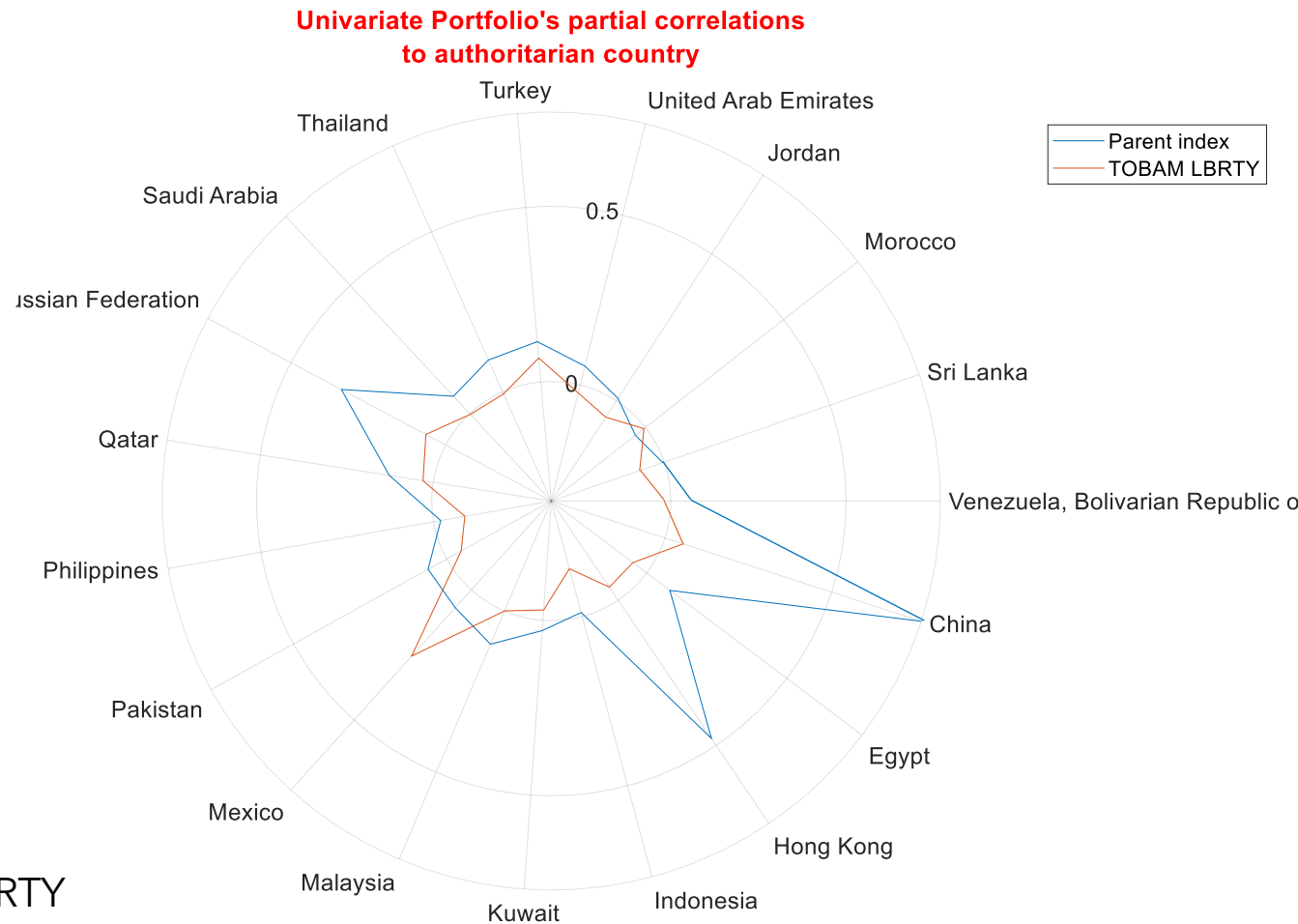
Source: TOBAM

Beyond weights, TOBAM LBRTY portfolio exhibits close to zero univariate exposures to autocratic countries, when considering their existing democratic exposures.
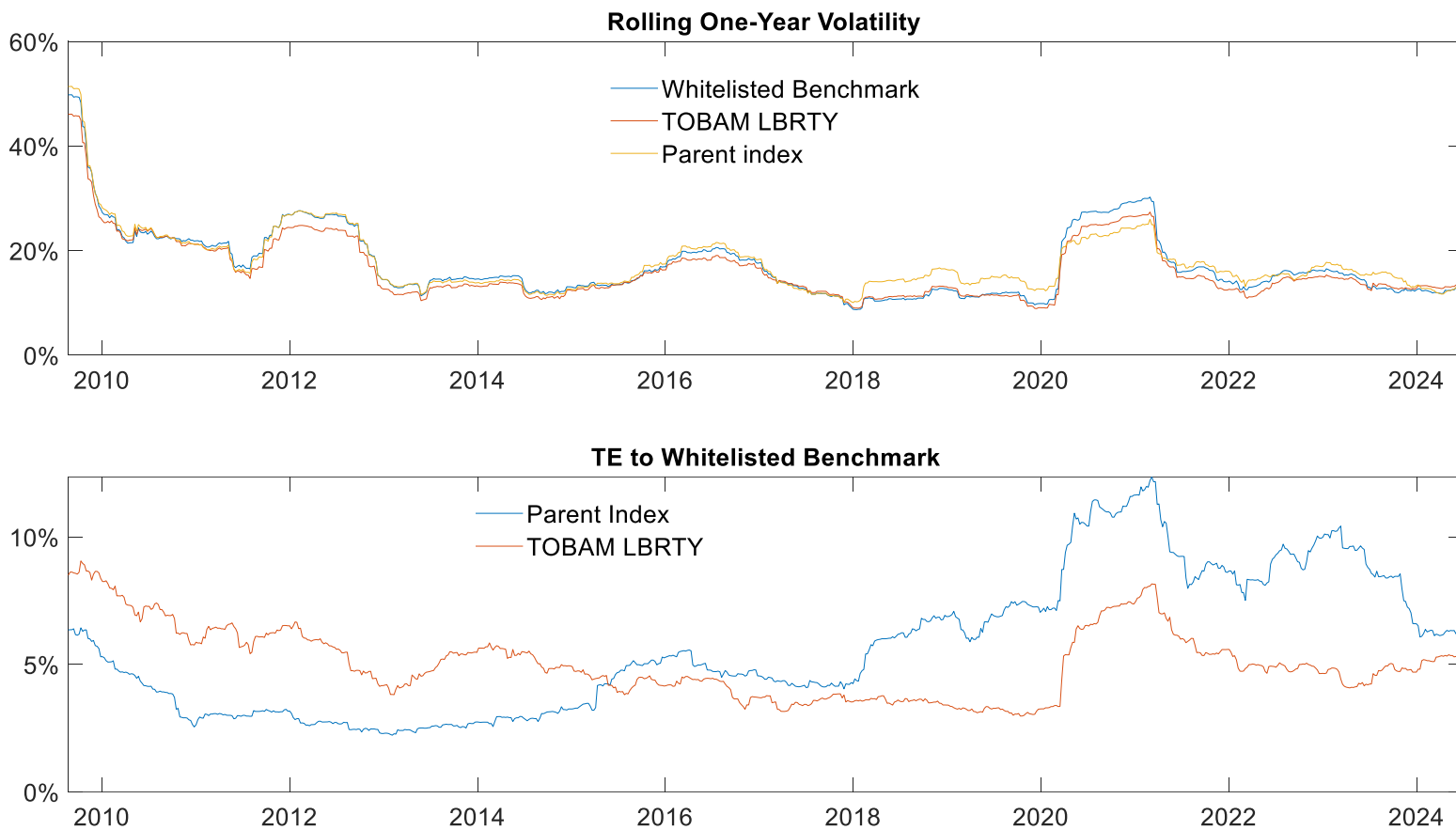
VOLATILITIES AND TRACKING ERRORS
WORLD INCLUDING EM

Rolling One-Year Volatility

- Whitelisted Benchmark
- TOBAM LBRTY
- Parent index

TE to Whitelisted Benchmark

- Parent Index
- TOBAM LBRTY

Source: TOBAM

VOLATILITIES AND TRACKING ERRORS
EM

Source: TOBAM

ABOUT TOBAM

tobam*
unbiased.

TOBAM is an asset management company offering innovative investment capabilities designed to increase diversification. Its mission is to provide rational and professional solutions to long term investors in the context of efficient markets.

The Maximum Diversification® approach, TOBAM's flagship investment process founded in 2006, is supported by original, patented research and a mathematical definition of diversification and provides clients with diversified core exposure, in both the equity and fixed income markets.

In line with its mission statement and commitment to diversification, TOBAM also launched a separate activity on cryptocurrencies in 2017.

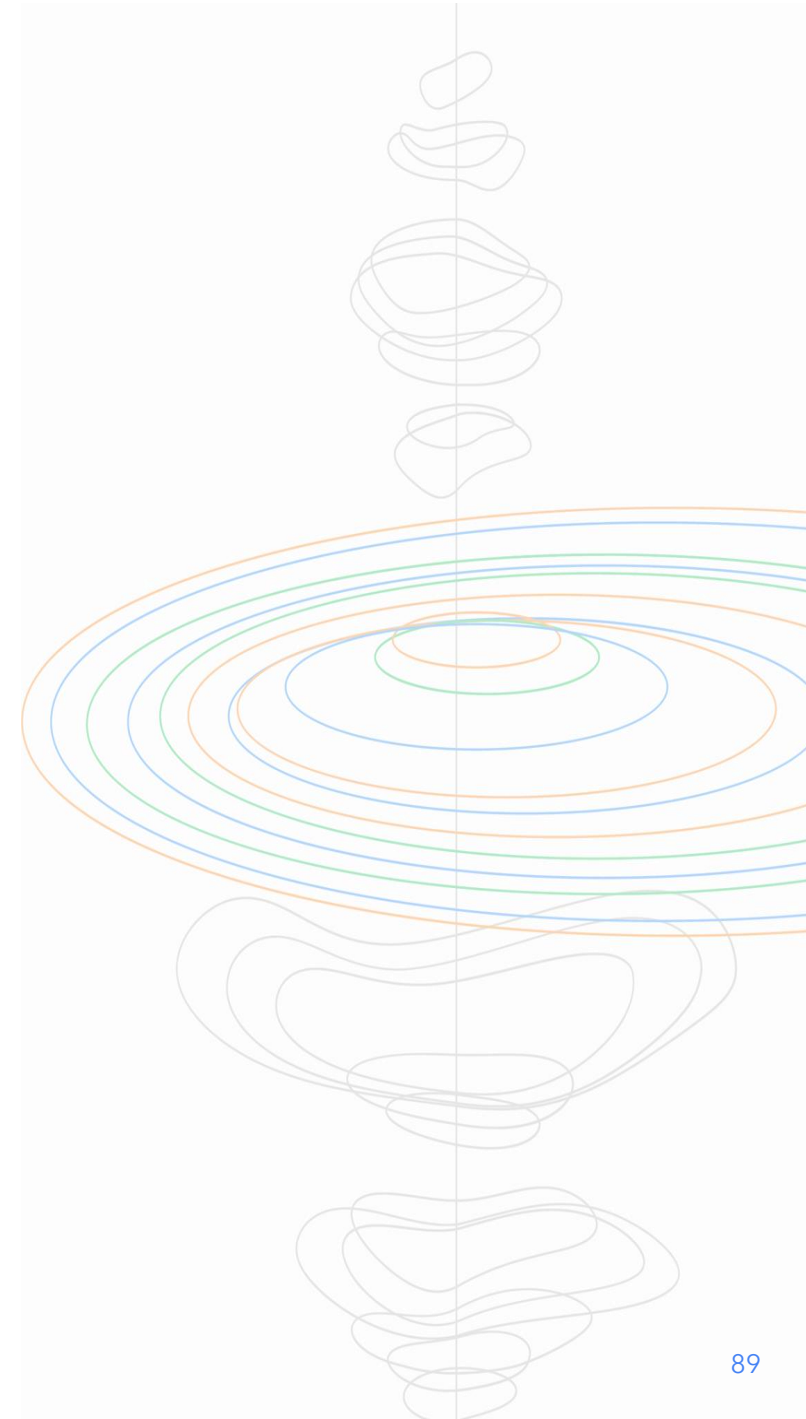TOBAM manages approx. US$5 billion (at December 30, 2023). TOBAM's team is composed of 40 professionals.

For more information, visit www.tobam.fr

CONTACTS

PARIS
24-26, Avenue des
Champs Élysées,
75008 Paris
France

NEW YORK
DUBLIN

CLIENT SERVICE
clientservice@tobam.fr

DISCLAIMER

This material is solely for the attention of institutional, professional, qualified or sophisticated investors and distributors. It is not to be distributed to the general public, private customers or retail investors in any jurisdiction whatsoever. This document is intended only for the person to whom it has been delivered.

Funds and/or SICAV specific information may have been provided for information solely to illustrate TOBAM's expertise in the strategy. Funds or the SICAV that might be mentioned in this document may not be eligible for sale in some states or countries and they may not be suitable for all types of investors. In particular, TOBAM funds are not registered for sale in the US, and this document is not an offer for sale of funds to US persons (as such term is used in Regulation S promulgated under the 1933 Act). This material is provided for information purposes only and does not constitute a recommendation, solicitation, offer, advice or invitation to purchase or sell any fund, SICAV or sub-fund or to enter in any transaction and should in no case be interpreted as such, nor shall it or the fact of its distribution form the basis of, or be relied on in connection with, any contract for the same.

The information provided in this presentation relates to strategies managed by TOBAM, a French investment adviser registered with the U.S. Securities and Exchange Commission (SEC) under the U.S. Investment Advisers Act of 1940 and the Autorité des Marchés Financiers (AMF) and having its head office located at 24-26 avenue des Champs Elysées, 75008 Paris, France. TOBAM's Form ADV is available free of charge upon request. In Canada, TOBAM is acting under the assumed name "TOBAM SAS Inc." in Alberta and "TOBAM Société par Actions Simplifiée" in Québec.

All rights in the TOBAM Maximum Diversification Index Series vest in TOBAM. The use of TOBAM Maximum Diversification Index Series to create financial products requires a license granted by TOBAM. The information shall not be used to verify or correct other data, to create indices, risk models, or analytics, or in connection with issuing, offering, sponsoring, managing or marketing any securities, portfolios, financial products or other investment vehicles without TOBAM's prior consent.

Investment involves risk. All investors should seek the advice of their legal and/or tax counsel or their financial advisor prior to any investment decision in order to determine its suitability. The value and income produced by a strategy may be adversely affected by exchange rates, interest rates, or other factors so that an investor may get back less than he or she invested.

Past performance and simulations based on thereon are not indicative of future results nor are they reliable indicators of future performance. Any performance objective is solely intended to express an objective or target for a return on your investment and represents a forward-looking statement. It does not represent and should not be construed as a guarantee, promise or assurance of a specific return on your investment. Actual returns may differ materially from the performance objective, and there are no guarantees that you will achieve such returns. Back tests do not represent the results of an actual portfolio, and TOBAM does not guarantee the accuracy of supporting data. The constraints and fees applicable to an actual portfolio would affect results achieved.

This material, including back tests, is based on sources that TOBAM considers to be reliable as of the date shown, but TOBAM does not warrant the completeness or accuracy of any data, information, opinions or results. TOBAM has continued and will continue its research efforts amending the investment process from time to time accordingly. TOBAM reserves the right of revision or change without notice, of the universe, data, models, strategy and opinions. TOBAM accepts no liability whatsoever, whether direct or indirect, that may arise from the use of information contained in this material. TOBAM can in no way be held responsible for any decision or investment made on the basis of information contained in this material. The allocations and weightings, as well as the views, strategies, universes, data, models and opinions of the investment team, are as of the date shown and are subject to change.

This document and the information herein is disclosed to you on a confidential basis and shall not be reproduced, modified, translated or distributed without the express written permission of TOBAM or TOBAM NORTH AMERICA and to the extent that it is passed on, care must be taken to ensure that any reproduction is in a form which accurately reflects the information presented here. This information could be presented by TOBAM NORTH AMERICA, a wholly-owned subsidiary of the TOBAM group of companies that is authorized to present the investment strategies of TOBAM, subject to TOBAM's supervision, but is not authorized to provide investment advice.

Copyrights: All text, graphics, interfaces, logos and artwork, including but not limited to the design, structure, selection, coordination, expression, "look and feel" and arrangement contained in this presentation, are owned by TOBAM and are protected by copyright and various other intellectual property rights and unfair competition laws. Trademarks: "TOBAM," "MaxDiv," "Maximum Diversification," "Diversification Ratio," "Most Diversified Portfolio," "Most Diversified Portfolios," "MDP" and "Anti-Benchmark" are registered trademarks. The absence of a product or service name from this list does not constitute a waiver of TOBAM trademark or other intellectual property rights concerning that name. Patents: The Anti-Benchmark, MaxDiv and Maximum Diversification strategies, methods and systems for selecting and managing a portfolio of securities, processes and products are patented or patent pending. Knowledge, processes and strategies: The Anti-Benchmark, MaxDiv and Maximum Diversification strategies, methods and systems for selecting and managing a portfolio of securities, processes and products are protected under unfair competition, passing-off and misappropriation laws. Terms of use: TOBAM owns all rights to, title to and interest in TOBAM products and services, marketing and promotional materials, trademarks and Patents, including without limitation all associated Intellectual Property Rights. Any use of the intellectual property, knowledge, processes and strategies of TOBAM for any purpose and under any form (known and/or unknown) in direct or indirect relation with financial products including but not limited to certificates, indices, notes, bonds, OTC options, warrants, mutual funds, ETFs and insurance policies (i) is strictly prohibited without TOBAM's prior written consent and (ii) requires a license. AF,JD, YC (VL) – 29/03/24