

Efficient Exposure to Emerging Markets via ETFs



Passion to Perform

Deutsche Bank db X-trackers ETFs



- More than 200 db X-trackers ETFs listed in 10 stock exchanges globally¹
- Over USD 40 billion in assets¹
- Top 2 in Europe and Top 5 Globally²
- #1 ETF provider in Singapore and Hong Kong with 47 ETFs listed on SGX and 30 on the SEHK³

Deutsche Bank ETFs - Winner of

"Exchange-traded funds, Asia Pacific" by AsianInvestor Investment Performance Awards two years in a row, 2010 and 2011

"Best ETF House" by The Asset Triple A Investment Awards 2011

"ETF Market Leader in Asia – Regional", "Best ETF Manager for Investor Education – Regional", "Best New ETF in Asia – Regional", "ETF Manager of the Year – Singapore", "Best New ETF – Singapore" and "ETF Manager of the Year – Hong Kong" by Asia Asset Management 2011

"Best-in-Class in Best in Investor Education – ETF" and "Best-in-Class Provider of the Year – ETF" by Benchmark Fund of the Year Awards 2011

"PRO Choice Award 2011 (ETF)" by Capital Weekly













Asia Coverage

Largest range of single country EM Asia





Source: db X-trackers website (<u>www.dbxtrackers.com</u>), as of 29 Feb 2012



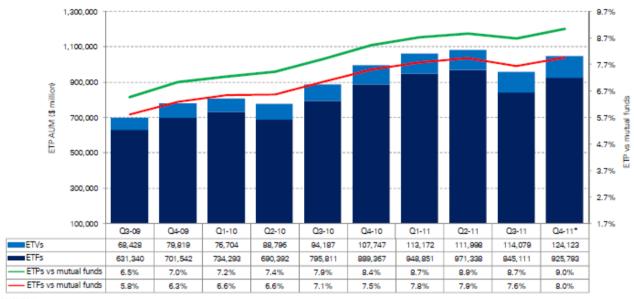
ETFs' Market Trends

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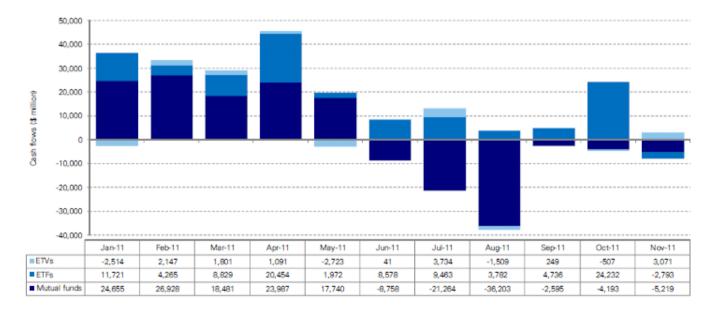


Assets: ETFs vs Mutual Funds in the US



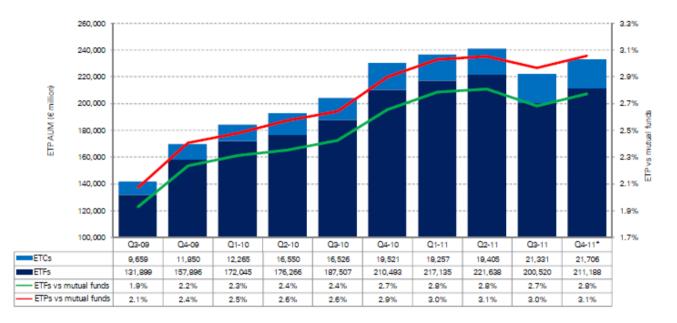


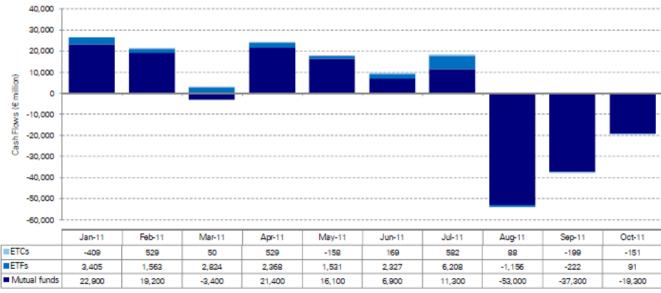
*As of 30/11/2011 Source: Deutsche Bank, Bloomberg Finance LP, ICI



Assets: ETFs vs Mutual Funds in Europe

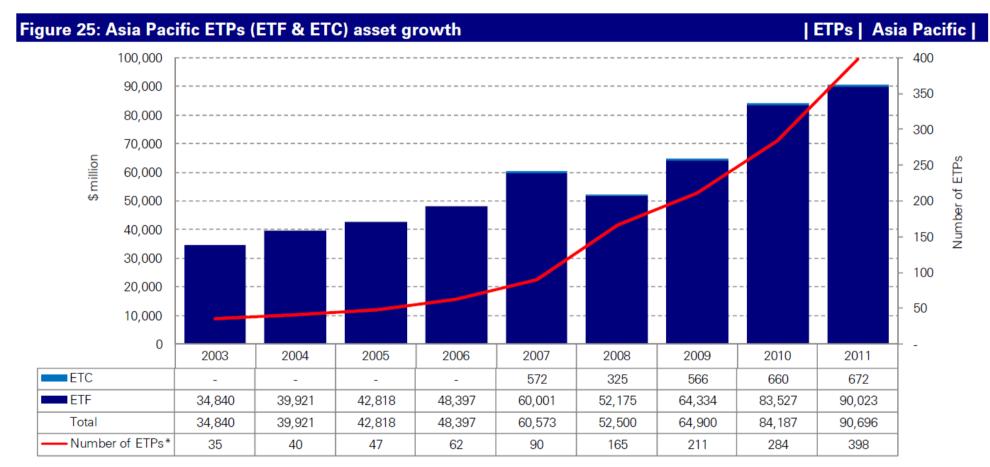






Growth of ETF market in Asia





Source: Deutsche Bank, Bloomberg Finance LP, Reuters.

Important: this graph does not include ETFs domiciled overseas listed in Asia

^{*}Number of ETPs at the end of the year is net of delistings for the period.

2011 ETF industry new entrants and leavers



Figures are in \$million	2011								
Provide	Assets	Cash flow	Turnover	Nu.	Provider	Assets	Cash flow	Turnover	Nu.
ETF - Entries	1,094.0	1,057.8	954.7	23	ETF - Entries - continued				
Asia Pacific	59.2	27.5	71.3	2	US	647.4	612.8	771.5	5
Bank of China Investment Management	34.0	NA	44.0	1	FlexShares	483.5	461.6	514.8	4
BBL Asset Management Co	25.1	27.5	27.3	1	Precidian	164.0	151.3	256.6	1
China Merchants Fund Management Co	281.9	80.9	127.1	2	Europe	328.0	361.6	73.9	7
China Universal Asset Management Co	62.5	71.2	47.1	1	Ossiam	292.2	326.0	39.2	5
CMS Asset Management HK Co Ltd	12.5	13.3	0.4	1	Raiffeisen Schweiz Genossenschaft	35.7	35.6	34.8	2
GF Fund Management Co Ltd	126.7	170.0	112.5	1	RoW	59.4	55.8	38.0	9
GTJA Allianze Fund Management Co	151.7	NA	3,763.4	1	HSBC	2.7	NA	0.3	1
Guotai Asset Management Co Ltd	120.5	NA	283.9	1	RBC Global Asset Mgmt	56.7	55.8	37.8	8
Harvest Fund Management Co	75.2	86.6	43.8	1	XTF Capital	46.0	27.0	18.9	6
IDBI Asset Management	18.9	20.9	1.5	1	ETF - Leavers				
India Infoline Asset Management Co	5.8	6.9	6.6	1	US	23.7	- 6.8	48.3	6
Kasikorn Asset Management	27.6	28.9	34.0	1	FaithShares Advisors LLC	11.7	-2.8	23.5	5
KDB Asset Management Co Ltd/Korea	4.9	4.6	0.0	1	Javelin Invesment Management LLC	12.0	-4.0	24.8	1
Kyobo AXA Investment Mg Co Ltd	412.7	489.8	513.4	1	Europe	33.7	7.6	331.5	8
Lion Fund Management Co Ltd	107.5	NA	212.6	1	HQ Fonder Sverige AB	24.5	-0.6	324.2	7
Midas Asset Management Co	26.0	27.7	10.5	1	Osmosis Funds plc	9.3	8.2	7.3	1
SinoPac Securities Investment Trust Co	26.9	NA	20.9	1	Asia Pacific	7.2	- 3.5	21.8	2
					Hyundai Investments	7.2	-3.5	21.8	2

Source: Deutsche Bank, Bloomberg



Critical assessment of index investment vehicles and replication techniques

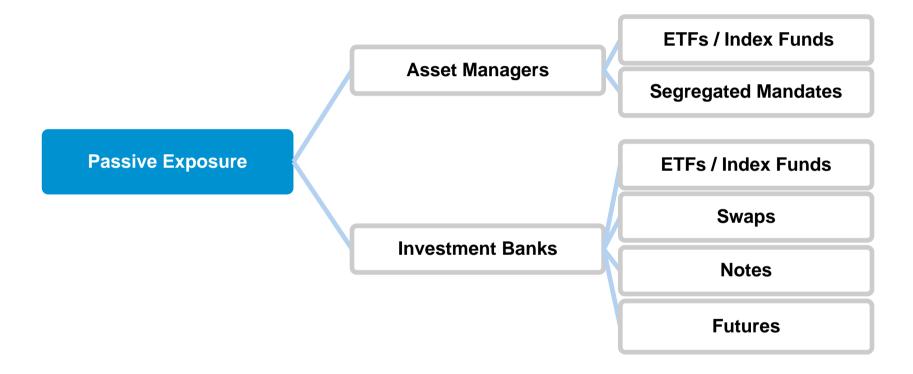
Pros and cons of different wrappers



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Who can provide passive exposure and how?





Some of the key challenges...



- Market Access
- Costs
- Tracking Error
- Flexibility (restructuring in case of market shocks)
- Derivative
- Securities lending
- Tax optimization
- Confidentiality
- Liquidity
- Operational
- Legal constraints
- ...

Some of the key questions...



— Market Access: Who has more efficient global trading platform?

— Costs: Who can create synergies by centralizing hedges?

(instead of separate accounts)

Who can provide one stop shop approach (brokerage & exposure)?

Who can limit transaction costs?

— Tracking Error: Who can commit in terms of tracking error?

(without mutualization of costs in case of subscription/redemptions)

— Flexibility: Who can provide more efficient restructuring of the exposure?

— Credit risk / sec lending: Who can limit credit risk and optimize securities lending revenues?

— Tax optimization: Who can optimize taxes on received/paid dividends?

— Disclosure: Who can optimize confidential treatment of the investment?

Analysis of the different instruments



	ETF	Swap	Note	Futures	
Documentation	Cash equity account	ISDA	Cash equity account	Clearing account	
Management Fee	Yes	No No		No	
Counterparty Risk	Collateralized	Yes	Yes	No	
Execution costs *	Yes	Yes Yes		Yes	
Tracking Error (after costs)	Swap based ETF – No Asset replication based – Yes	No No		Possible	
Tradable sizes / bid-offer	In line with the underlying market In line with the underlying market		In line with the underlying market	In line with the futures market	
Intra-day liquidity	Yes (if no lock-in)	Yes (if no lock-in)	Yes (if no lock-in)	Yes	
Minimum trading size	No Yes		Yes	Yes	
Lock-in	No (possible if requested)	Possible	Possible	No	
Listed	Yes	No	Possible	Yes	
External valuation	Yes (Independent custodian/administrator)	No	No	Yes	
Manual rebalance/rolling	No	No	No	Yes	
Leverage	No	Possible Possible		Yes	
Reinvestment risk	No	No	No	Yes	

Some of the key considerations to define costs



— Liquidity: daily liquidity is more expensive

— Credit risk: collateral is more expensive

— Funding: lock-in is less expensive

Structure costs: external custodian/administrator is more expensive

— Transaction costs: unfunded Swap is less expensive if hedged via other swaps



Considerations on legal constraints

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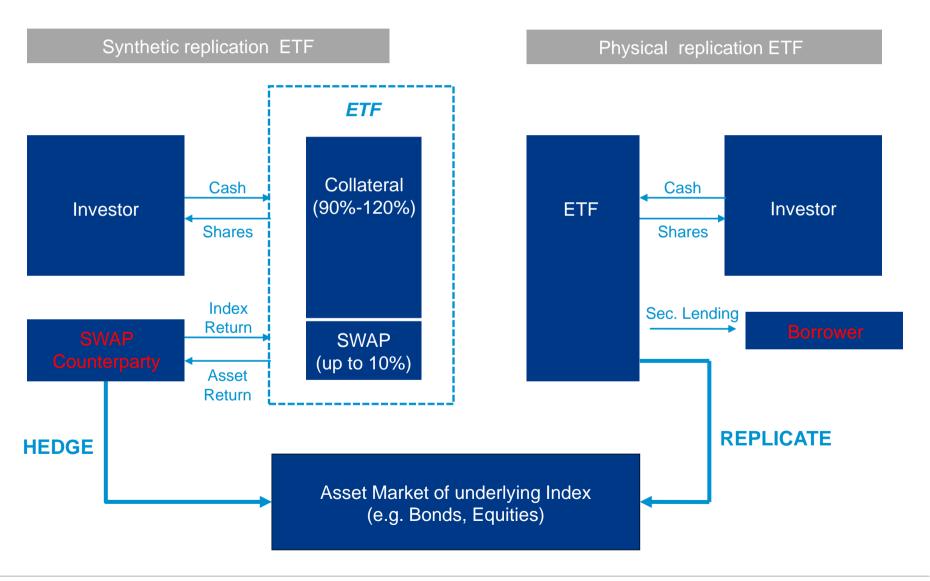
ETFs leading the way in terms of transparency



- The vast majority of the issues raised by regulators are pertinent to the general fund management industry both in the US and Europe. ETFs are today the most transparent type of fund available on the market. While the high level of transparency has facilitated a discussion which did initially focus on ETFs, attention is shifting towards the issues and how those are affecting the general fund industry.
- What started as the 'ETF debate' now revolves around preparing the asset management industry to successfully meet the challenges of the future, by increasing transparency and efficiency to follow in the footsteps of the ETF industry. We believe that ETFs are at the forefront, and while there is always room for improvement, they should be recognized and embraced as a reference point for the overall asset management industry to improve in the future.
- ETFs are not only more transparent, they are subject to lower costs and they offer more flexible trading capabilities that can help investors meet demands in an increasingly challenging market. Continuing to look at only ETFs, perhaps the biggest fund industry innovation in the past 30 years, is not only unlikely to generate any major benefits for the market and investors, it is almost certain that it will make investors worse off by pushing them to less transparent instruments.

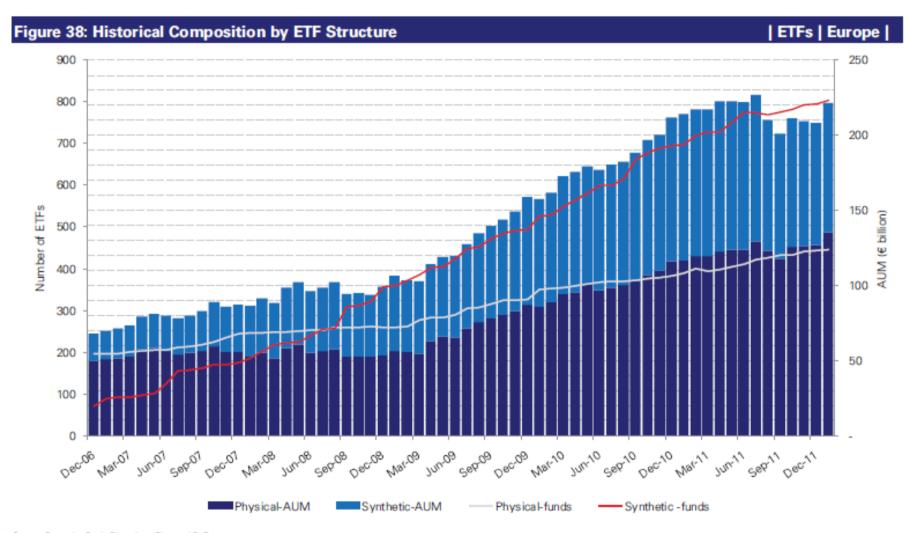
Focus on counterparty risk: Physical and Synthetic





Synthetic in Europe





Source: Deutsche Bank, Bloomberg Finance LP, Reuters.

Synthetic in Asia



- 3 among the 5 most traded ETFs in HK are synthetic (China A-Shares)
- The largest ETF in HK for volume and assets is synthetic
- 6 among the 10 most traded ETFs in Singapore are synthetic
- Most traded ETFs in Korea (representing over 30% of volumes traded in Asia) are short & leveraged
- Thu, 01 Mar 2012 News Articles: The TSE has been accepting ETF license applications for the TOPIX Leveraged (2x) and TOPIX Inverse (-1x) Indexes from February 6th to February 17th, 2012, and will continue to accept applications for those indices for an extended period.

Sources: Deutsche Bank as of 29/02/2012

Securities lending in physical ETFs



- Investors using exchange traded funds (ETFs) should be aware of securities lending and the level of counterparty risk involved, with some funds lending out as much as 90% of their securities...Securities lending is commonplace in the mutual fund industry and as ETFs have grown in size, more are adopting the practice.
- Steven Maijoor, ESMA Chair: "In outlining the draft future rules for investment funds today, ESMA is proposing to reinforce the legal framework applicable to ETFs and other types of UCITS. The aim of these guidelines is to enhance investor protection and limit the risk of certain practices by strengthening, in particular, the standards applicable to collateral received in the context of activities such as securities lending.
- The Securities and Exchange Commission, which regulates ETFs in the US, is looking at ways to increase transparency about securities lending practices to brokers and investors as part of the Dodd-Frank financial reform law, spokesman John Nester told Reuters in an e-mailed statement

Sources: http://citywire.co.uk, Reuters

Example: Rules for the selection of the Collateral Basket securities in a UCITS ETF



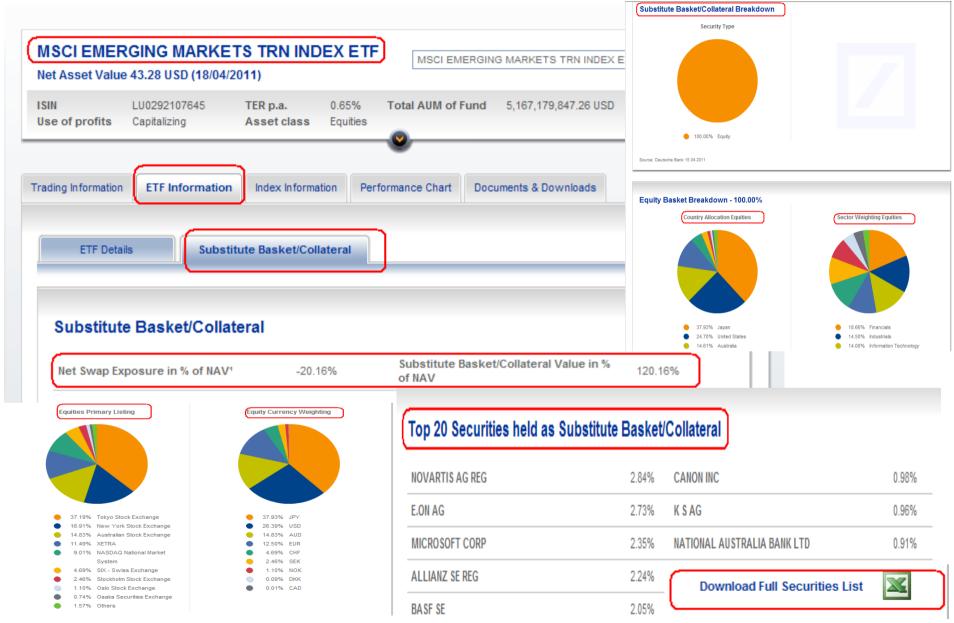
- Types of collateral used
 - OECD equities
 - Investment grade bonds (government and corporate)
- Rules for collateral inclusion:
 - Diverse min of 30 securities and max weighting of no more than 4% per issuer
 - Liquid position cannot exceed a maximum 5 days average daily traded volume
- Haircuts/margin applied:
 - Ranges from 100% for certain government bonds to 120% for certain equities
- Ongoing monitoring by investment manager, custodian and collateral manager
- Valued on each business day independently by the administrator
- Transparent publication of collateral and swap exposures on website



Rules employed on ETFs are often over and above that required under UCITS

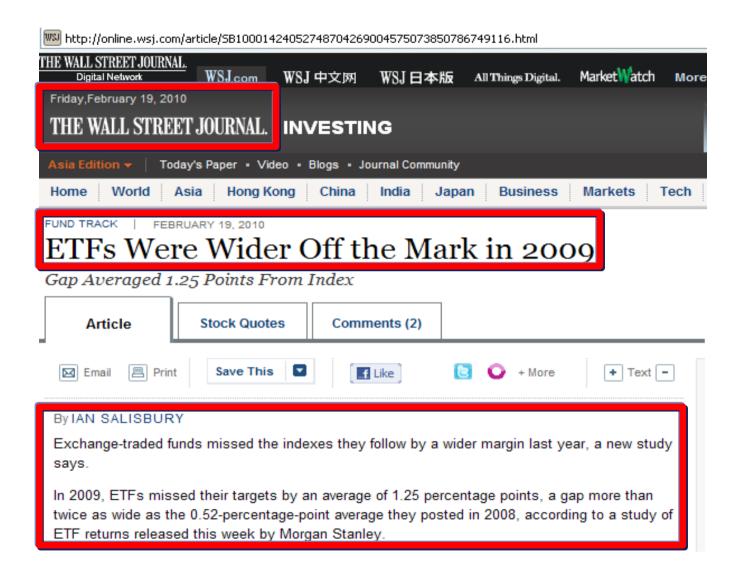
Example: daily transparency





Focus on Tracking Error Risk





Focus on Tracking Error Risk (2010 Morgan Stanley Research)



9.6% of US-listed ETFs showed tracking errors of more than 3% in 2009

37.5% of US-listed ETFs had tracking errors of larger than 100 bps in 2009

The range of tracking error of US-listed ETFs increased from 520 to 1709 bps

US-listed ETFs	International	Emerging Markets	AsiaPac ex Japan	Fixed Income	Commodity	Currency
Average TE in bps*	145	444	199	144	108	91
Average Exp. Ratio in bps	50	67	61	27	79	80

Tracking Error analysis



- Management fees represent only one of the potential sources of tracking error
- Other sources of tracking error may have a larger impact than management fees (e.g. sample replication techniques, index rebalancing, dividends reinvestment
- Cross-subsidizing of creation/redemption costs may also affect tracking error
- Conclusion:
 - Important to predefine tracking error in advance
 - Important to avoid cross-subsidizing of creation/redemption costs



Considerations on liquidity constraints

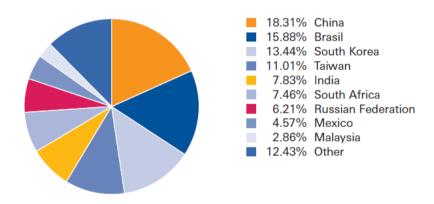
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Business case: MSCI Emerging Market



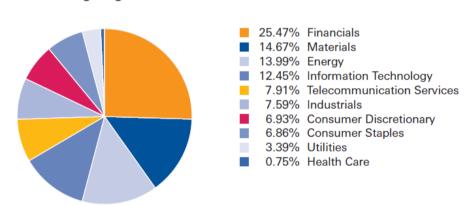
Number of Index constituents	755
Countries in Index	24
Index Reuters RIC	.dMIEF00000NUS
Index Bloomberg ticker	NDUEEGF Index

Country allocation of the index



Source: Deutsche Bank, 30 November 2010

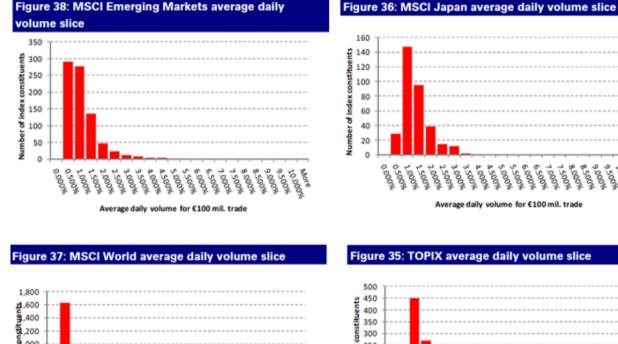
Sector weightings of the index

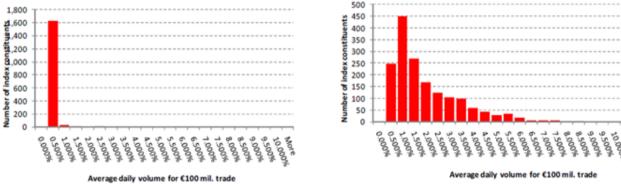


Source: Deutsche Bank, 30 November 2010

Impact of creating ETF shares for €100 million







Typically, average daily volumes [for ETF share creation] closer to 20% are more indicative of transactions which could impact the underlying benchmark's market pricing.

Source: Deutsche Bank

Focus on Market Impact



	Trading Size in USD Million	500,000,000	750,000,000	1,000,000,000	2,000,000,000	3,000,000,000	4,000,000,000	5,000,000,000
Name	% Weight in the MSCI EM	% Daily Volume (30 Day average)		% Daily Volume (30 Day average)				
INTERCONEXION ELECTRICA SA	0.06%	35%		70.7%	141.4%	212.1%	282.9%	353.6%
INVERSIONES ARGOS SA	0.07%	27%	40.7%	54.2%	108.5%	162.7%	216.9%	271.2%
BANCOLOMBIA SA	0.09%	23%	35.0%	46.7%	93.4%	140.1%	186.8%	233.5%
Grupo de Inversiones Suramericana Ord Shs	0.10%	21%	31.6%	42.2%	84.3%	126.5%	168.7%	210.9%
MAROC TELECOM	0.09%	16%	24.2%	32.3%	64.6%	97.0%	129.3%	161.6%
BRITISH AMERICAN TOBACCO BHD	0.05%	16%	23.9%	31.8%	63.6%	95.4%	127.2%	159.0%
CEMENTOS ARGOS SA	0.04%	16%	23.7%	31.6%	63.2%	94.9%	126.5%	158.1%
MISC BHD	0.07%	15%	23.2%	30.9%	61.7%	92.6%	123.5%	154.3%
Minera Frisco Ord Shs	0.06%	14%	20.8%	27.7%	55.4%	83.1%	110.9%	138.6%
Almacenes Exito Ord Shs	0.06%	14%	20.4%	27.2%	54.4%	81.7%	108.9%	136.1%
BANK CENTRAL ASIA TBK PT	0.24%	13%	18.9%	25.1%	50.3%	75.4%	100.5%	125.7%
EMPRESAS CMPC SA	0.14%	12%	18.4%	24.6%	49.1%	73.7%	98.2%	122.8%
EMBOTELLADORAS ARCA SAB-NOM	0.06%	12%	18.4%	24.5%	49.0%	73.6%	98.1%	122.6%
VINA CONCHA Y TORO SA	0.03%	12%	18.3%	24.4%	48.7%	73.1%	97.5%	121.9%
COCA-COLA FEMSA SAB-SER L	0.05%	12%		23.9%	47.9%	71.8%	95.7%	119.6%
BANK OF PHILIPPINE ISLANDS	0.05%	12%		23.7%	47.3%	71.0%	94.6%	118.3%
TATNEFT-CLS	0.24%	12%		23.6%	47.3%	70.9%	94.5%	118.1%
SAMSUNG ELECTRONICS-PFD	0.29%	12%	17.6%	23.4%	46.9%	70.3%	93.8%	117.2%
GRUPO FINANCIERO INBURSA-O	0.10%	12%	17.4%	23.2%	46.5%	69.7%	93.0%	116.2%
HONG LEONG FINANCIAL GROUP	0.02%	12%	17.3%	23.1%	46.1%	69.2%	92.3%	115.3%
BERJAYA SPORTS TOTO BHD	0.02%	11%	17.0%	22.7%	45.3%	68.0%	90.6%	113.3%
MANILA ELECTRIC COMPANY	0.04%	11%	16.6%	22.1%	44.1%	66.2%	88.3%	110.4%
CORP FINANCIERA COLOMBIANA	0.03%	11%		22.1%	44.1%	66.2%	88.3%	110.4%
LAFARGE MALAYAN CEMENT BHD	0.02%	11%		22.0%	43.9%	65.9%	87.8%	109.8%
EMPRESAS COPEC SA	0.20%	11%		21.8%	43.6%	65.4%	87.2%	109.0%
ECOPETROL SA	0.20%	11%		21.7%	43.4%	65.0%	86.7%	108.4%
FEDERAL GRID CO UNIFIED ENER	0.11%	11%		21.4%	42.9%	64.3%	85.7%	107.1%
WIMM-BILL-DANN FOODS-ADR	0.05%	10%		20.7%	41.4%	62.0%	82.7%	103.4%
ING BANK SLASKI SA	0.03%	10%		20.1%	40.1%	60.2%		100.3%
AYALA LAND INC	0.05%	10%		20.0%	40.0%	60.0%	80.1%	100.1%
SIAM CEMENT PUB CO-FOR REG	0.09%	10%		19.7%	39.3%	59.0%		98.3%
ALLIANCE FINANCIAL GROUP BHD	0.02%	10%	14.3%	19.1%	38.2%	57.2%	76.3%	95.4%
Sum	2.76%							

Source: Deutsche Bank trading desk as of 7 April 2011

Some of the cost to trade the underlying (without consider FX, agency, etc)



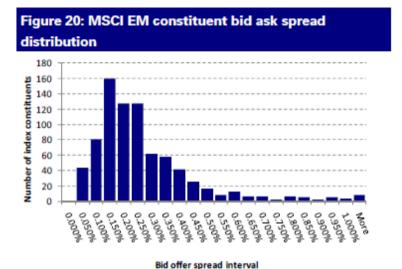
Country	Country Weights	Regional Weights	Settlement Fees	Stamp Tax	Sales Tax	FX Tax
BRAZIL	15.99%	67.69%	1.25	0.00	0.00	200.00**
CHILE	1.52%	7.23%	1.50	0.00	0.00	0.00
COLOMBIA	0.66%	3.54%	2.50	0.00	0.00	0.00
MEXICO	4.36%	19.11%	1.00	0.00	0.00	0.00
CHINA (B shares)	0.20%	0.36%	8.41	10.00	0.00	0.00
HONG KONG	17.37%	29.00%	1.00	10.90	0.00	0.00
INDIA	7.43%	11.76%	0.00	12.50	0.00	0.00
INDONESIA	2.35%	4.28%	0.00	5.30	10.00	0.00
KOREA	14.15%	25.82%	2.00	0.00	30.00	0.00
MALAYSIA	2.83%	4.93%	3.00	10.00	0.00	0.00
PHILIPPINES	0.55%	0.96%	3.60	9.00	50.00	0.00
TAIWAN	11.04%	19.89%	1.40	0.00	30.00	0.00
THAILAND	1.76%	3.00%	1.75	0.00	0.00	0.00
CZECH REPUBLIC	0.36%	2.12%	1.00	0.00	0.00	0.00
EGYPT	0.34%	1.69%	2.50	0.00	0.00	0.00
HUNGARY	0.44%	2.40%	1.00	0.00	0.00	0.00
MOROCCO	0.16%	0.86%	2.50	0.00	0.00	0.00
POLAND	1.70%	9.42%	1.00	0.00	0.00	0.00
RUSSIA	6.18%	36.14%	2.50	0.00	0.00	0.00
SOUTH AFRICA	7.48%	39.40%	1.00	25.00	0.00	0.00
TURKEY	1.48%	7.96%	1.00	0.00	0.00	0.00
UK	0.66%	0.00%	1.00	0.00	0.00	0.00
US	0.99%	0.00%	1.00	0.00	0.00	0.00

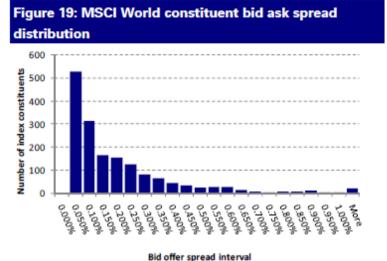
Source: Deutsche Bank trading desk as of 7 April 2011

Underlying stocks' bid-ask spreads justify ETFs bid-ask spreads

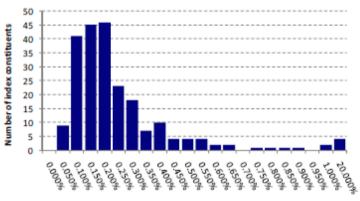
distribution











Bid offer spread interval

Figure 22: MSCI Taiwan constituent bid ask spread

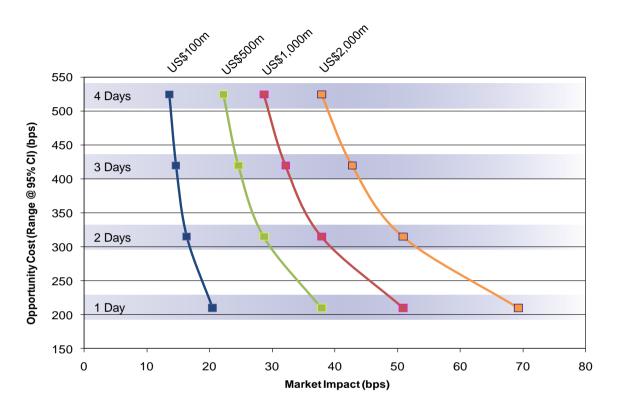
Bid offer spread interval

Source: Deutsche Bank Source: Deutsche Bank

Deutsche Bank ETFs

Implicit costs

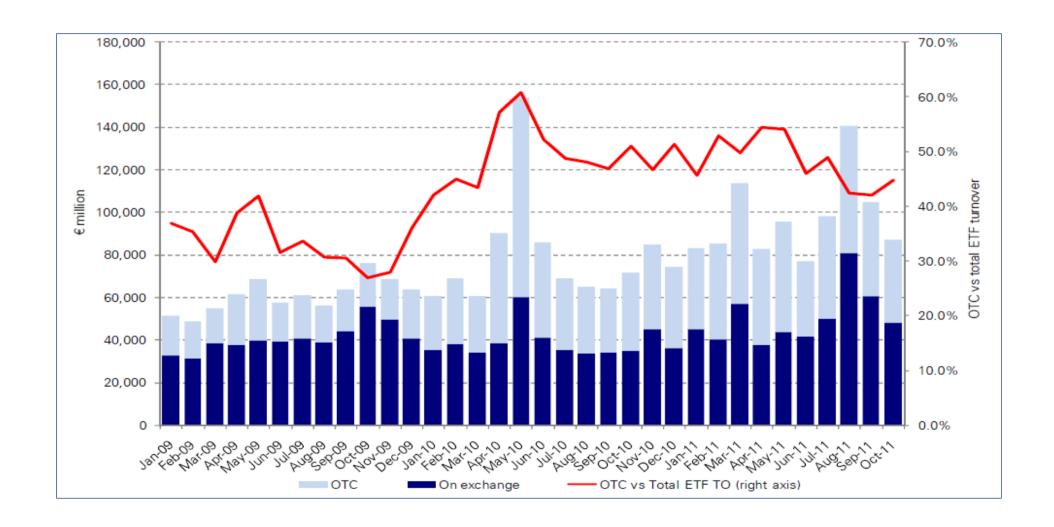




- Market Impact is calculated using a liquidity-adjusted price elasticity function
- Opportunity Cost is calculated as a range using a 95% confidence interval

On-screen turnover is an incomplete indicator e.g. the European ETF market case

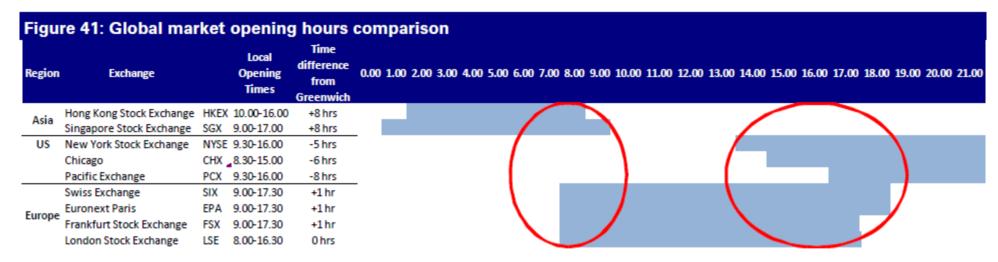




Market hours matter



ETFs have afforded investors in one region/country, the ability to trade, even intra-day, products which are benchmarked to another region country. While that has significant convenience implications, it also means that the ETF share market maker will need to underwrite the risk between the time of share creation or dissolution, until the benchmark market is open in order to hedge the risk. Instruments for several benchmarks exist, which offer around the clock market making in different regions, but that is not always the case. Therefore, incompatibility of an ETF's trading hours to those of its respective benchmark's market can lead to elevated bid ask spreads.



Source: Deutsche Bank

What about funds NAV trading with no additional costs?



An ETF investor does not bear the creation and redemption trading costs that an unlisted fund investor would need to bear daily when new investors come into the fund or existing investors decide to leave the fund. For unlisted funds, trading costs are charged to the fund each day as part of the NAV creation process.



Considerations on tax constraints



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Focus on Taxation



- Asia based investors buying a US-listed ETF may subject to a dividend withholding tax of up to 30%
- Non-US citizens holding US assets, including listed securities, may also be subject to estate tax of up to 35 percent on valuations (to be paid within 9 months of the date of death, otherwise a 50% late penalty is imposed.)

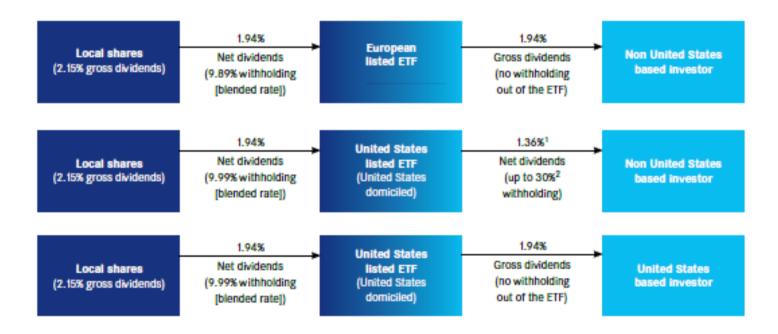
		Dividend Yield
Country	Asian indices	(Bloomberg 25/1/2012)
Pakistan	Karachi	6.13%
Vietnam	Ho Chi Minh	5.33%
Australia	S&P/ASX200	4.76%
Taiwan	Taiwan Taiex	4.61%
Thailand	SET	3.97%
Singapore	FTSE Straits Times Index	3.81%
Hong Kong	Hang Seng	3.40%
Malaysia	FTSE Bursa Malaysia	3.40%
Philippines	PSEi	3.02%
Indonesia	Jakarta CI	2%

The above is a general description. Investors are invited to consult their own independent tax advisors if they are in doubt about their tax situation.

Focus on Taxation



- Majority of European providers have set-up platforms in Luxembourg and Ireland
- Luxembourg and Ireland do not tax dividends paid by the ETF



The above is a general description. Investors are invited to consult their own independent tax advisors if they are in doubt about their tax situation.

Reporting obligations to US authorities



 US authorities oblige investors with more than USD 100 million US listed ETFs to file a public reporting

 This obligation does not exist for ETFs that are legally based in Luxembourg or in Ireland

The above is a general description. Investors are invited to consult their own independent legal advisors.

Sources



- Deutsche Bank Research: 2011 Expansion past market turbulence
 & regulatory challenges (11 January 2012)
- Deutsche Bank Research: ETFs & unlisted funds: How different are they? (18 October 2011)
- Deutsche Bank Research: Part fund, part stock: ETFs in a path to unlocking global asset liquidity (13 January 2011)
- Bloomberg / Reuters

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