

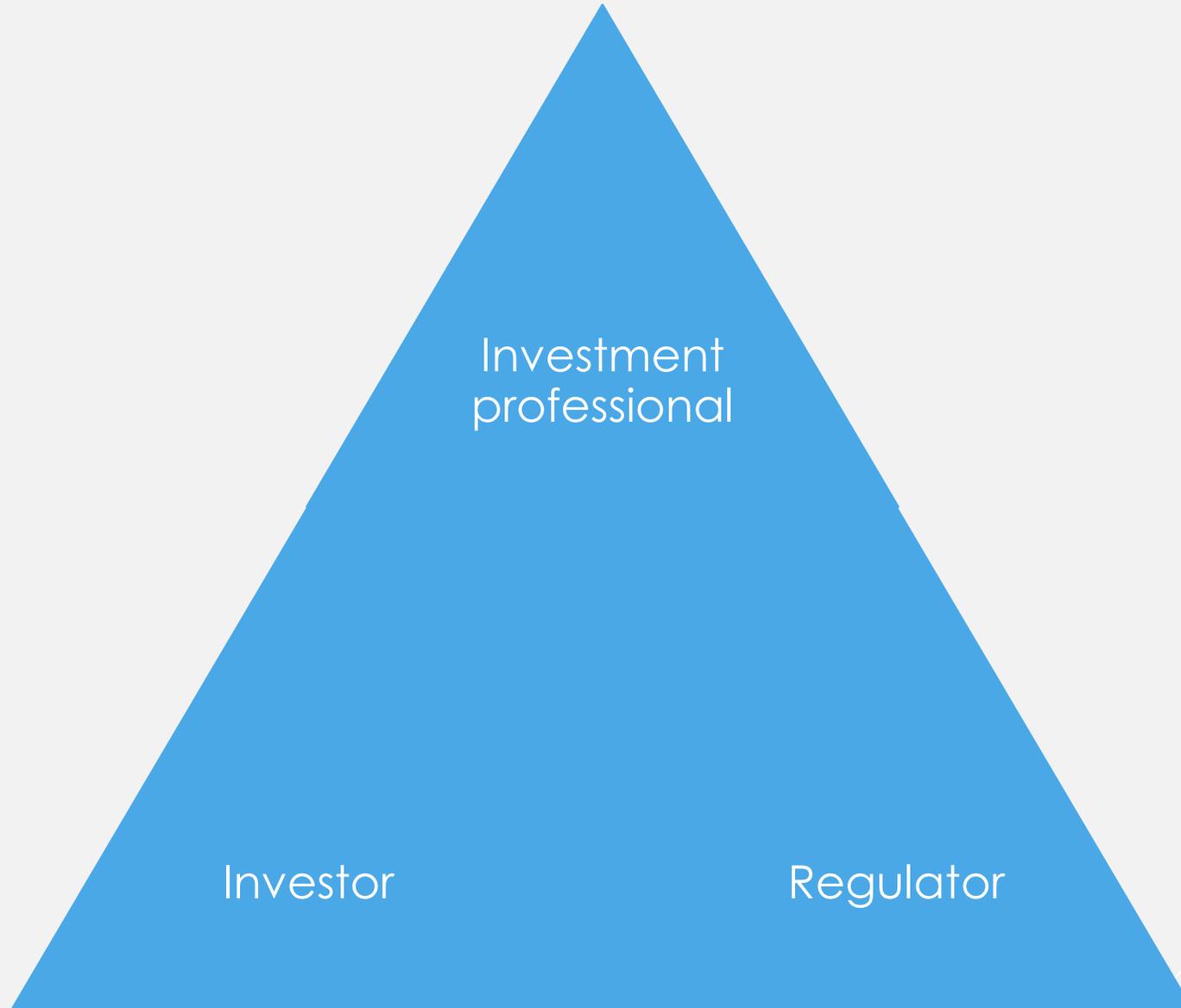
EXPLORING THE CONCEPT OF RISK IN INDEX TRACKING INVESTMENTS

ASSA Investment Seminar

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WHOSE RISK IS IT ANYWAY?



INVESTMENT RISK – DEFINITION

Investopedia:

- ▶ Different versions of risk are usually measured by calculating the **standard deviation** of the **historical returns** or average returns of a specific investment. A high standard deviation (volatility) indicates a high degree of risk (*primary concern for **investment professional***)
- ▶ Risk includes the **possibility of losing some or all** of the original investment (*primary concern for **investor***)
- ▶ The chance that an investment's **actual** return will be **different** than **expected** (*primary concern for **regulator***)

How do we reconcile these very different concepts of risk?

VOLATILITY / STANDARD DEVIATION

- ▶ A **statistical measure** of the **dispersion** of returns for a given security or market index
- ▶ Volatility can be **measured** by using the standard deviation or variance
 - ▶ Either between returns from that same security (**absolute**)
 - ▶ Or between returns **relative** to the market index (e.g. beta)

*Problem: **Historical** volatility tells us nothing about **future** volatility – or future **direction** – especially in the short term*

DOWNSIDE RISK / DEVIATION

- ▶ An estimation of a security's **potential to suffer a decline in value** if the market conditions change, or the amount of loss that could be sustained as a result of the decline
- ▶ Downside risk **explains a "worst case" scenario** for an investment, or how much the investor stands to lose

Problem: **Difficult to calculate**, especially for the non-professional investor

TRACKING ERROR

- ▶ A **divergence** between the **price behaviour** of a **portfolio** and that of a **benchmark**
- ▶ Often used in the context of an investment that **did not perform as intended**, creating an unexpected profit or loss instead
- ▶ Tracking errors are reported as a "**standard deviation percentage difference**". This measure reports the **difference** between the **return** an investor receives and that of the benchmark he or she was attempting to imitate

*Problem: Not useful on a **forward-looking basis**, unless there is an understanding of the **causes** of the tracking error*

ACTIVE RISK

- ▶ A type of risk that a fund or managed portfolio creates as it **attempts to beat the returns of the benchmark** against which it is compared
- ▶ The more a fund **diverges from a stated benchmark** (*in terms of **holdings / exposure***), the higher the chance that the returns of the fund could also diverge from that of the benchmark
- ▶ A fund that **replicates an index** as closely as possible usually provide the **lowest levels of active risk**

Solution! Minimising **active risk** is the best way to minimise **relative risk** AND **match return** (i.e. minimal tracking error)

FULL REPLICATION INDEX TRACKING

Theoretically gives you:

- ▶ Zero **active risk**
- ▶ Zero **tracking error**
- ▶ Guarantee of **relative performance**
- ▶ Certainty of **matched exposure**
- ▶ Full **asset backing**
- ▶ Full **transparency**

FULL REPLICATION INDEX TRACKING

In **practise**, discrepancies may occur due to:

- ▶ **Costs**

- ▶ **Frictional costs** associated with replicating a “costless” index
- ▶ Management, administration, regulatory – **unavoidable charges**

- ▶ **Non-replicability** in benchmark index

- ▶ **Corporate actions** (timing of cash flows, complexities e.g. mergers, unbundling, rights issues)
- ▶ Benchmark in **breech** of **mandate**

- ▶ **Rounding** differences

- ▶ the smaller the fund the bigger the problem

PRICE INDEX OR TOTAL RETURN INDEX?

▶ **Price** index

- ▶ Full replication is done at this level
- ▶ “Relatively” **easy to do** (except for the issues mentioned before)
- ▶ **Success** – as measured through relative return and relevant risk metrics – is achieved
- ▶ Risk of relative (total return) performance is carried by **investor**

▶ **Total return** index

- ▶ What is required goes beyond “full replication”
- ▶ Corporate actions are a significant **source of uncontrollable risk**
- ▶ Risk of relative performance is carried by **investment manager**

ALTERNATIVES TO FULL REPLICATION

- ▶ **Partial** replication

- ▶ Useful in case of **high number** of index **constituents**, or **difficult-to-access** markets
- ▶ Attempts to balance **implementation risk** with **operational efficiencies**
- ▶ **UCITS** allow up to 10% synthetic replication to improve efficiency

- ▶ **Synthetic** replication

- ▶ Useful in case of **difficulties with direct**, or **cost prohibitive, ownership**
- ▶ Use of **sampling** to reduce implementation cost
- ▶ In extreme cases, **performance is manufactured** using derivatives etc.

Problem: Introduction of **model risk**

ENHANCED INDEXATION

- ▶ Strategy that attempts to **exceed returns** of a reference index while also **minimising** the effects of **tracking error**
- ▶ Considered a **hybrid between active** and **passive** management
- ▶ Used to describe any strategy that is used in conjunction with index funds for the purpose of **outperforming a specific benchmark**
- ▶ Investors can outperform a benchmark by **reducing exposure** to **poor performing** stocks and **increasing exposure** to relative **outperformers**

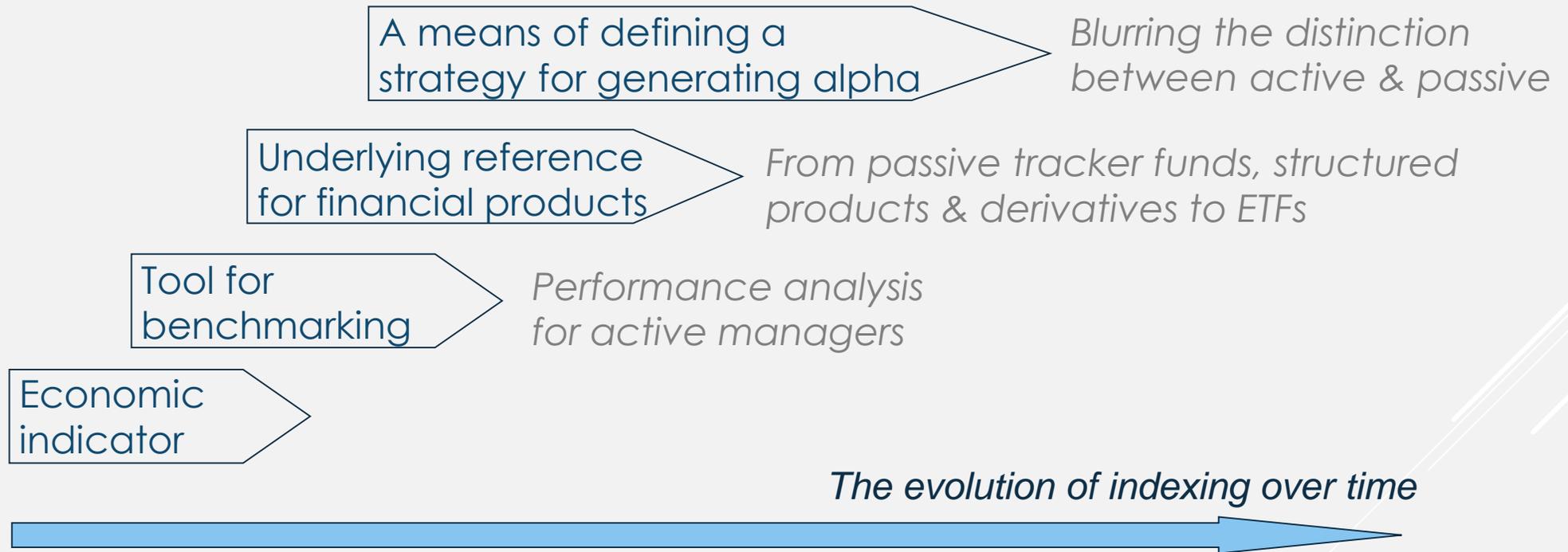
*Problem: **Success** depends on being **positioned correctly** on a **relative** basis*

EXOTICS

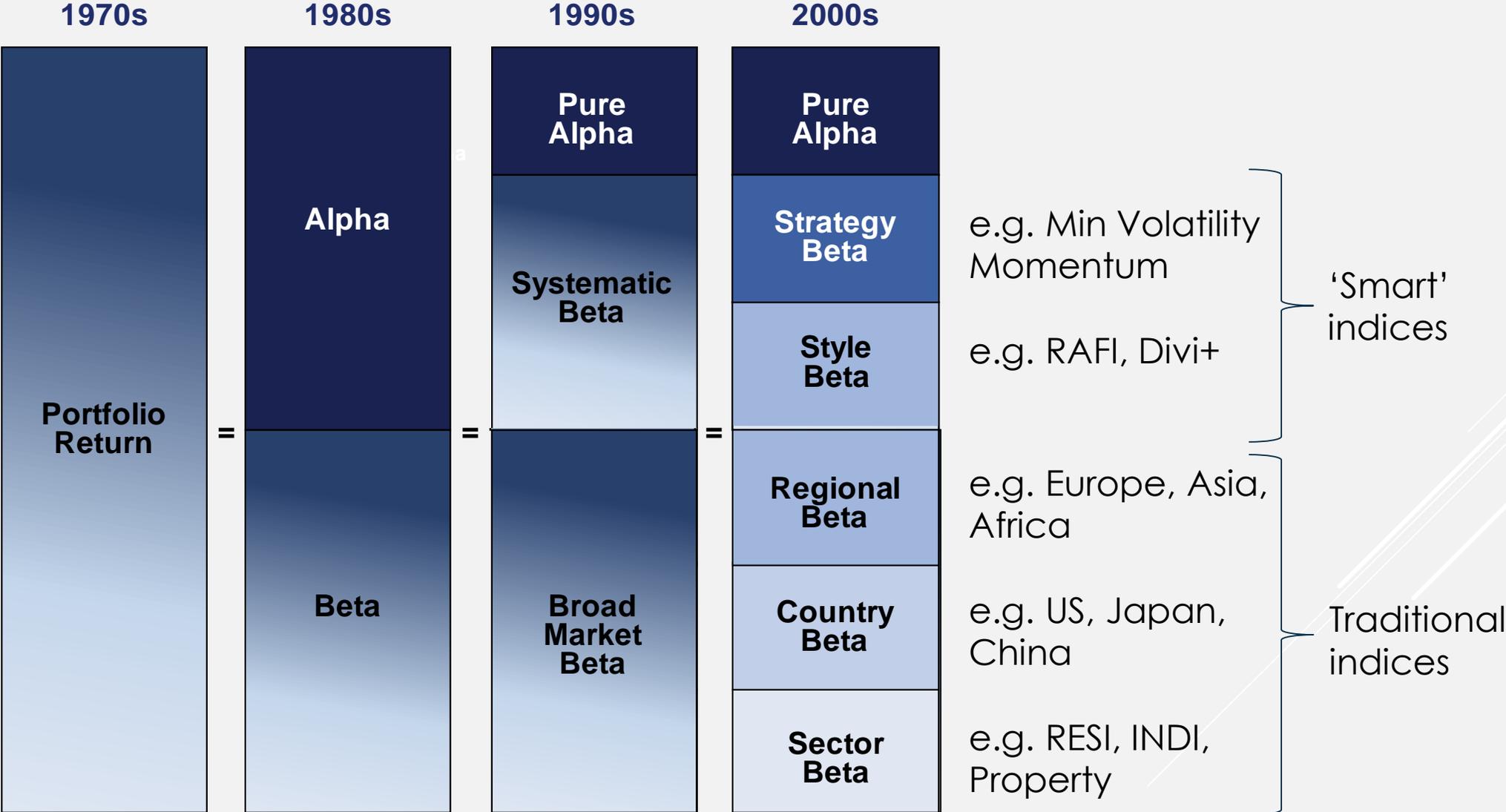
- ▶ **Purposeful deviation** from index performance, but still **referenced to the index**, e.g.
 - ▶ Geared
 - ▶ Leveraged
 - ▶ Inverse
- ▶ **Not allowed in SA** under Collective Investment Schemes (incl. ETFs)
- ▶ **Popularity** in international markets have **declined** since global financial crisis
 - ▶ Less risk appetite
 - ▶ Increased regulations

THE EVOLUTION OF INDEXING

As **design and application** of indices **evolve** with new indexation concepts, it creates **new investment opportunities and choice**



INDICES REFLECT DIFFERENT SOURCES OF RETURN



BEYOND MARKET CAP WEIGHTING

- ▶ Risks associated with **“traditional” indexation**
 - ▶ **Full participation** in price **“bubbles”** and **crashes**
 - ▶ **Behind the curve**: inclusion after price increases and exclusion after price falls
 - ▶ **Assumption** that **size** is the **only driver** of return
- ▶ **Rise of smart / factor / strategy indices**
 - ▶ Alternative **selection** criteria
 - ▶ Alternative **weighting** methodologies

Problem: Introduction of **style / factor risk**

FINAL THOUGHTS

Regulatory risk, or safety:

- ▶ **Exchange Traded Funds (ETFs)** in SA are also registered as **Collective Investment Schemes** (unit trusts) with the FSB
- ▶ Investor enjoys **protection of two regulators** – FSB and JSE

Exchange Traded Notes (ETNs) vs. ETFs:

- ▶ ETNs *sound* a lot like ETFs, but they come with a range of potential **additional risks**:
 - ▶ **Credit risk** (promissory note or debenture)
 - ▶ **Asset class specific risk** beyond what is allowed in ETFs (e.g. physical commodities, currencies, etc.)
 - ▶ **Mandate risk** – investing in a listed security or “look-through” principle?

IN CLOSING

Factors to consider in the use of risk metrics in index investments

▶ To the **investor**:

- ▶ do not confuse *relative* risk metrics with levels of *absolute* risk, i.e. do not confuse **certainty** and **predictability** with **low risk**

▶ To the **fund manager**:

- ▶ select risk **metrics** that are **fit-for-purpose**
- ▶ **investor / client risk**, rather than own business risk

▶ To the **multi-manager / asset consultant**:

- ▶ do not assign all (**measured**) risk to the fund **manager**
- ▶ select **mandate benchmark indices** on the basis of **alignment with purpose**

QUESTIONS?

Thank you!

*For ETF and index investment insights and news, follow me on Twitter: **@Nerina_Visser***

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