Previously Investec Asset Management

Emerging Markets Local Currency Dynamic Debt

Quarter ending March 2020

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At Ninety One we believe in investing for a better tomorrow. We want to assist people around the globe to retire with dignity and meet their financial objectives by offering specialist, active investment expertise. We are a patient, long-term business offering organically-developed investment capabilities through active segregated mandates and mutual funds. Our clients include some of the world's largest private and public sector pension funds, financial institutions, corporates, foundations, central banks and intermediaries serving individual investors.

It all began in South Africa in 1991. Since then we have grown to become an established global investment management firm. We continue to develop our owner culture and are committed to building a long-term inter-generational business. The founding leadership is still in place, offering stability and a long-term investment outlook for clients.

We are deeply committed to creating a better, sustainable future. We are conscious of our responsibility, both as investors of other people's money and of our broader responsibility to society. Through our core investing activities, our leadership in the industry, our environmental initiatives and our commitment to our local communities, we seek to make a positive impact in all that we do.

Our overriding aim is to manage our investments to the highest standard possible and thereby exceed our clients' investment and service expectations.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

Executive summary

Ninety One has a long history of investing in emerging market hard currency and emerging market local currency debt as well as in emerging market currencies. Our business started in South Africa in 1991. Fixed income and cash management in the diverse markets of Africa has been a core part of this business since the beginning. At the same time, our London-based investment team has been investing in emerging market debt for many years.

In our **Emerging Markets Local Currency Dynamic Debt Strategy**, we focus on local bond and currency markets. We believe local bond markets offer excellent opportunities and will see significant developments in years to come:

The local currency debt market is much bigger than the market for emerging dollar debt

Yields are attractive and additional returns can be expected through currency appreciation

An active management strategy offers great opportunities for alpha thanks to the great disparity of returns among countries.

The key differentiators of our **Emerging Markets Local Currency Dynamic Debt Strategy** are:

Experience	Designed for EMD	Systematic Process	Risk Managed	Expertise
Over 20 years experience in emerging market debt investing	A robust approach designed for the asset class	A structured, disciplined & repeatable investment process	Integrated risk management	A passionate and highly motivated team
Pioneers in EMD local debt and established track records in external, corporate and blended **Exceptionally low turnover**, with team and strategy leaders in place since inception	**Tried and tested** processes tailored to the different EMD categories Combines a **strong bottom-up process** within a rigorous top-down framework	**Detailed scorecards** help us focus on the big picture and provide objective & measureable input **Formal asset allocation process** with dedicated team, scorecard and quant toolkit	**Proprietary 'risk unit' approach** to portfolio construction helps avoid risk concentration Risk controls & **oversight throughout**	Analysts dedicated to EMD, with regional and sector responsibilities Apply **an industry leading toolkit** of econometric and valuation tools
	Core Philosophy	Core Philosophy	Core Philosophy	

There is no guarantee that investment will be profitable; losses may be made. Emerging Market countries may have less developed legal, political, economic and/or other systems. These markets carry a higher risk of financial loss than those in countries generally regarded as being more developed.

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Our investment expertise

The Fixed Income team is organised into specialist groups across Global Emerging Market Debt, Developed Market Credit, Developed Market Rates and South African Fixed Income. Each group applies their expertise to focused areas in which they have proven their ability to perform. This facilitates effective decision-making and ensures accountability.

Within Global Emerging Market Debt, we have two sub-teams; Emerging Market Sovereign & FX and Emerging Market Corporate Debt. The Sovereign & FX team is organised by region, typically working in pairs to cover the regions across three asset classes: sovereign local debt, hard currency debt, and currencies. The Corporate Debt team is organised by sector. The teams work closely together, bisecting countries and sectors to support broader investment views and themes. Investment ideas are generated by the analysts before being debated by the broader team. Once a suggested trade has been approved by the PMs it will filter into relevant strategies via the team's disciplined portfolio construction process.

We regard the strengths of the team as follows:

– Stable team with a strong shared culture
– As one of the pioneers in EMD, we have extensive experience in local, hard and corporate EMD
– Semi-annual team off-sites facilitate development and innovation.
– The team leverages Ninety One's wider multi-specialist investment framework
– Dedicated portfolio management team focused on finding best ideas across asset categories

Werner Gey van Pittius and **Antoon de Klerk** are the co-portfolio managers for the Strategy and take full responsibility for positioning and performance. The team chart is provided below:


Werner Gey van Pittius
Strategy Leader
EEMEA


Antoon de Klerk
Strategy Leader
Africa

Investment Specialists – Sovereign & Currency

Vivienne Taberer LatAm	André Roux Asia
Michail Diamantopoulos CE	Thys Louw Africa
Wilfred Wee Asia	Mike Hugman LatAm & Top-Down
Grant Webster EEMEA & Top-Down	Peter Eerdmans Top-Down
Mark Evans Asia	Roger Mark Middle East

Investment Specialists – Corporate

Victoria Harling Corporate Strategist	Stacy Xie Financials
Juliet Lim Oil & Gas, Infrastructure	Esther Chan Industrials, Metals & Mining
Leah Parento Transport & Consumer	Alan Siow Real Estate
Tammy Lloyd Telecom & Utilities	

Internal Support

Julia Poszmik Business Manager	Tom Peberdy Product Specialist

Quantitative Support

Nicholas Marshall Quantitative Analyst*	Nico Smuts Investment Data Scientist	Jonathan George Analyst*

Global Investment Infrastructure Support

Trading | Environmental, Social and Governance (ESG) | Risk & Performance | Implementation

Subject to change not necessarily with prior notification. As at 1 April 2020.

* Shared resource with South Africa Rates

Detailed biographies of the Strategy Leaders can be found in the Appendix.

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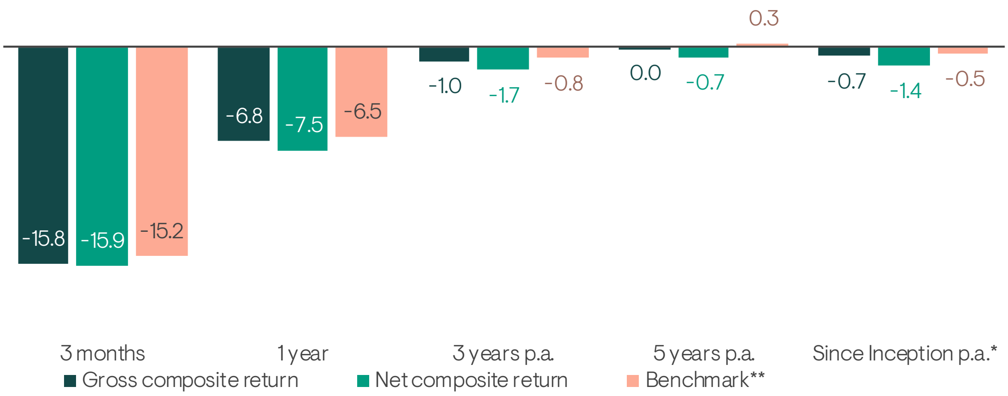
For further information on the investment team, investment process, performance target and indices, please see the Important information section.

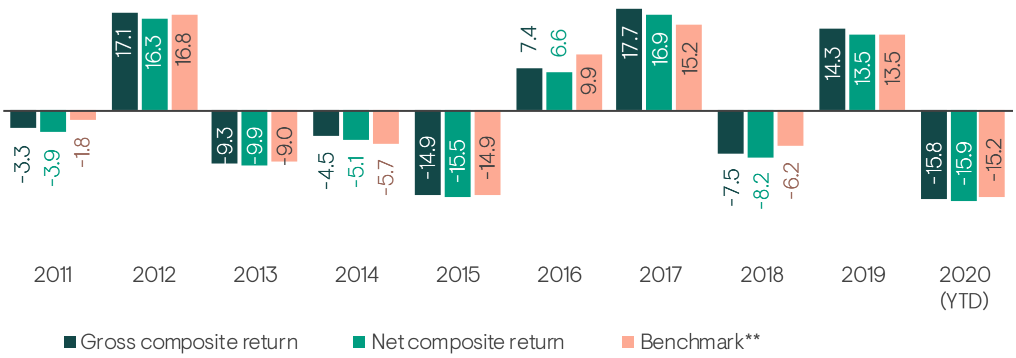
Performance

The performance of our Emerging Markets Local Currency Dynamic Debt composite is represented in the table and chart below.

Annualised performance (USD)



Annual performance (USD)



Past performance is not a reliable indicator of future results, losses may be made.

Source: Ninety One as at 31 March 2020. Gross performance (returns will be reduced by management fees and other expenses incurred). Net performance (net of highest institutional segregated portfolio management fee), income is reinvested in USD

*Composite inception date: 01 January 2011 returns of less than one year are not annualised.

** Benchmark: JPMorgan GBI-EM Global Diversified.

For further information on indices please see the Important Information section.

Potential outperformance

Our investment process is specifically designed with the aim of doing well in all market environments. Our 'Compelling Forces' approach ensures that we focus on those countries and currencies where fundamentals, valuation and market behaviour all line up in the same direction. Our process incorporates a wide range of active positions across countries, currencies, yield curve plays and issue selection. We believe that this helps to ensure that we are not reliant on one investment theme, dampens volatility and provides the potential for outperformance in a wide variety of market conditions. We believe that opportunities present themselves in both bear and bull markets.

Having said this, being a fundamentals-based investment process, we find that the Strategy has tended to perform best in environments where returns are being driven by economic fundamentals. Our process relies on the experience of our team, our detailed bottom-up research and the output from our models. All of these are based on fundamentals and, as such, the Strategy has tended to perform best when bonds and currencies are responding to changing underlying country dynamics.

Potential underperformance

We believe our Strategy may perform less well in the following environments:

- A period when markets reverse very sharply, particularly when markets are moving from a general bull market to a general bear market or vice versa.
- We firmly believe that fundamentals drive markets over the medium and long term. Our process is therefore likely to suffer on occasions where markets behave less rationally, are driven by event risk or appear to ignore fundamentals.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

Investment philosophy

The breadth of the emerging debt and currency universe provides a unique investment landscape for alpha opportunities. A systematic approach covering a set of consistent factors should provide a framework for effective decision making in the pursuit of investment opportunities.

Our approach to managing emerging markets debt mandates aims to capture these opportunities through a systematic, rigorous and disciplined process which utilises both qualitative and quantitative factors with a strong influence on risk management.

Our investment process considers factors within three sets of broad classifications: economic fundamentals; valuations; and market price behaviour. We call these the three Compelling Forces and they provide an effective bottom-up framework to identify attractive and unattractive investment alternatives within the emerging market debt universe.

Opportunities presented within local currency bonds, corporate bonds, currency markets and hard currency bonds are different. Our investment approach exploits this, by analysing each of these markets separately in a structured and consistent manner using detailed scorecards to help us view the big picture and not get caught up in a single theme.

We believe that diversifying exposure among a range of opportunities allows us to create optimal portfolios for our clients that can benefit from multiple sources of added value with the potential for consistent excess returns. At the same time, our portfolio implementation process aims to reduce the costs of shifting allocations between the various asset classes.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

Investment process

Our process combines top-down and bottom-up factors. The bottom-up process is the key driver of relative performance. A thorough analysis creates a ranking of a wide range of countries and currencies. We treat country and currency decisions separately as the drivers of currency and bond performance are quite distinct. Hence we will hedge any unwanted currency exposure, and use forwards to increase FX exposure in line with our investment views. The top-down process not only determines the general outlook for emerging markets, but importantly aims to identify different themes in the market.

Top-down
Dedicated process for overall risk exposure and asset allocation

Bottom-up
Rigorous approach to bottom-up selection driven by views of regional and sector specialists

Final portfolio
Structured approach seeks to capture **analyst views** and **manage risk**

Portfolio built from bottom-up, with top-down risk allocation

We adopt a scorecard approach. The scorecards reflect our Compelling Forces™ philosophy tailored to reflect the key drivers of emerging markets.

We maintain scorecards separately for each local bond market, hard currency bond market and currency market. The scorecards are a mix of quantitative and qualitative factors, but ultimately, we apply judgement to determine the final position.

Designed for EMD: bottom-up process

Sovereign Team: Currency | Local Currency Bonds | Hard Currency Sovereign Bonds

Corporate Team: Hard Currency Corporate Bonds

Qualitative Scoring of fundamentals, valuations and market behaviour by dedicated regional & sectoral analysts + Quantitative inputs delivering objective analysis of risks and opportunities = Weekly Asset Class scorecards used to assess favoured countries and monitor existing exposures

Scorecards instil discipline, manage risk, and help to avoid behavioural pitfalls

Proprietary toolkit aids decision making

- GDP nowcasts
- Inflation nowcasts
- Current Account nowcasts
- Daily Food Price trackers
- Financial Cycle models
- Financial Condition indices
- Credit Impulse models
- Economic Uncertainty indices
- Debt Sustainability Models
- 8-factor qualitative **ESG framework**

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Rigorous debate on desk and at formal weekly meetings

Nowcasting models are used to predict short-term economic dynamics. Nowcasting estimates are based on our propriety dynamic factor models using third party data. These models are only utilised as part of the team's wider investment analysis.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

Top-down process

Our top-down analysis helps to decide our overall duration and EM currency exposure targets as well as any off-benchmark allocation to EM hard currency and EM corporate debt.

The overall top-down portfolio process includes a general assessment of the outlook for emerging markets debt as well as the main themes in this asset category. The wider Ninety One investment team holds a monthly 'Global Macro Forum'. At this meeting the investment teams debate the global economic environment with contributions made by the Natural Resources, Multi-Asset and the Emerging Market Fixed Income teams. Following this the Emerging Market Fixed Income team holds its own asset allocation meeting which focuses on a range of emerging markets specifics, such as growth fundamentals, inflation forecasts, the outlook for risk appetite, trade dynamics, geo-politics, valuations and surveys of market positioning and flows. All these factors are captured within the Compelling Forces framework and are reflected in our asset allocation scorecard.

Designed for EMD: Top-Down Process

Nowcasting models are used to predict short-term economic dynamics. Nowcasting estimates are based on our propriety dynamic factor models using third party data. These models are only utilised as part of the team's wider investment analysis.

Our asset allocation scorecard ranks the relative attractiveness of the four components, local currency debt, EM currencies, hard currency debt and corporate debt, and helps determine whether we will add to or reduce risk in the portfolio through that area. This enables us to assign specific targets to each. These targets act as broad targets around which we have some flexibility, with bottom-up ideas a key determinant of what our ultimate duration and EMFX exposure is.

Our top-down process will also include a view as to what themes are likely to dominate emerging markets in the months to come. Is it for instance the search for yield, diminishing liquidity, a commodity rally, current account problems or an overall deviation in valuations relative to other global assets? These themes will influence our bottom-up decision-making and country and currency selection in each of the sub-components.

Bottom-up process

Bottom-up process – local currency bond markets

The goal of the local currency bond process is to come to a preferred country allocation as well as a duration and yield curve position per country

The goal of the local currency bond process is to come to a preferred country allocation as well as a duration and yield curve position per country. We analyse a wide range of indicators, which are summarised in the following sample scorecard.

	Quantitative Model Scoring: 37.5%						Qualitative Analyst Scores: 62.5%													
							Fundamentals							Valuation		Market behaviour				
Country	RV model	Vulnerability model	Dynamic Yield Curve	Curve	Trend	Quant Total	Growth	External	Inflation	Monetary Policy	Fiscal & Issuance	ESG	Political Risk	Nominal	Real	Technicals	Positioning	Qual Total	Total
Russia	-	-0.98	2.15	-0.10	3.00	**0.31**	1	0	1	1	2	0	0	0	1	0	-1	**0.33**	**0.63**
Ukraine	-	-		0.00		**0.00**	0	1	1	2	1	0	0	1	3	0	-1	**0.58**	**0.58**
South Africa	-	1.33	1.00	2.58	0.00	**0.37**	1	-1	1	0	-1	-1	0	0	2	0	0	**0.13**	**0.49**
Thailand	-1.00	0.08	3.00	-0.78	3.00	**0.32**	1	1	1	0	-1	1	0	-1	0	0	0	**0.10**	**0.42**
Ghana	-	-		0.00		**0.00**	1	0	1	0	1	1	0	0	2	0	0	**0.38**	**0.38**
Serbia	-	-2.72		1.76	2.09	**0.09**	0	1	1	0	2	0	-2	0	1	1	-1	**0.25**	**0.34**
Peru	-1.00	-1.32	3.00	-0.17	1.71	**0.17**	1	1	1	0	1	1	-1	-1	1	0	-2	**0.15**	**0.32**
South Korea	-	0.97	1.00	0.08	0.55	**0.19**	2	0	2	0	0	0	1	-1	0	0	-2	**0.10**	**0.29**
Egypt	-	-		0.00	0.00	**0.00**	1	1	1	1	-1	1	-1	1	1	0	-2	**0.28**	**0.28**
Indonesia	-1.00	-1.04	1.00	-0.78	0.45	**-0.10**	1	0	0	1	0	1	1	2	1	0	-1	**0.38**	**0.27**
Nigeria	-	3.00		3.00	-1.25	**0.36**	1	-1	0	0	-1	-2	0	0	1	0	-1	**-0.13**	**0.23**
Taiwan	-3.00	0.99			2.14	**0.01**	0	1	1	0	0	1	0	0	0	0	0	**0.18**	**0.19**
Singapore	1.00	-0.37		-0.11	1.03	**0.12**	1	0	-1	0	0	1	0	-1	1	0	0	**0.03**	**0.14**
Uruguay	1.00	-		2.41	-2.65	**0.06**	0	1	-1	0	0	0	1	0	1	0	0	**0.08**	**0.13**
Philippines	-1.00	-0.68		-0.04	3.00	**0.10**	0	-1	1	1	0	1	0	-1	-1	0	0	**0.00**	**0.10**
Colombia	-3.00	-1.70	-	1.30	3.00	**-0.03**	0	0	-1	0	1	1	0	0	1	0	0	**0.10**	**0.07**
Romania	-	-2.12		0.89	1.49	**0.02**	0	0	-1	0	-1	-1	1	2	0	0	1	**0.05**	**0.07**
Mexico	-	-2.33	1.00	-1.09	2.95	**0.04**	1	0	0	-1	-1	-1	0	0	2	-1	1	**0.03**	**0.06**
Israel	-1.00	-0.50	-1.00	1.18	2.52	**0.09**	-1	1	1	0	0	-1	0	0	-1	0	0	**-0.05**	**0.04**
Chile	-3.00	-2.08	-	0.25	3.00	**-0.14**	0	0	1	0	1	2	0	-1	-1	1	1	**0.18**	**0.04**
Argentina	2.00	-		0.00	0.00	**0.15**	0	0	-1	-1	1	2	-2	0	-1	0	0	**-0.13**	**0.03**
China	-	-2.16	-2.36	-0.40	1.64	**-0.25**	1	1	0	0	-1	1	1	1	1	0	-1	**0.23**	**-0.02**
Hungary	-2.00	-1.00	1.00	0.91	1.44	**0.03**	0	0	0	0	1	0	0	0	-2	0	1	**-0.05**	**-0.02**
Brazil	-1.00	-0.24	-1.00	2.03	0.64	**0.03**	1	0	0	0	-1	-1	1	-1	1	0	-1	**-0.08**	**-0.04**
Malaysia	-2.00	-2.32		0.38	2.79	**-0.09**	0	0	0	0	-1	1	-1	0	1	-1	0	**0.00**	**-0.09**
Czech	-	-2.32		-0.75	3.00	**-0.01**	0	0	0	-1	1	1	-1	-1	-1	0	1	**-0.10**	**-0.11**
India	-1.00	-0.62	3.00	-1.63	1.03	**0.06**	2	0	-1	0	0	-1	-1	-1	0	0	-1	**-0.18**	**-0.12**
Poland	-2.00	-3.00	-1.00	0.14	2.26	**-0.27**	0	0	0	1	1	0	0	0	-1	0	2	**0.15**	**-0.12**
Kenya	-	-		0.00		**0.00**	0	1	-1	0	0	1	-1	0	-1	0	-2	**-0.18**	**-0.18**
Turkey	-	-1.33	1.00	-0.30	0.27	**-0.03**	1	0	1	0	-1	-2	-1	-2	0	0	-1	**-0.25**	**-0.28**

Buy candidates

Sell candidates

Source: Ninety One. August 2019.

Scorecards are updated weekly. The quantitative models are maintained centrally by the team. The analysts are responsible for checking the data and running the models. We run four quant models for local bonds; a fair-value ("RV") model, a vulnerability model, a curve model and a trend model. The scores are captured in the first few columns of the scorecard, summing to Sub-total 1.

The judgmental scores, which range from -3 to +3, are the responsibility of the regional specialists. The regional specialists will cover their countries in great detail and decide on the scores for each of the factors, based on their analysis and experience.

We start with a detailed analysis of the economic fundamentals of the country. A thorough assessment of the inflation risks is crucial at this stage. We also analyse how we expect the country to fare in the current environment. How supportive is global growth? What are the drivers of economic growth: exports, investments, domestic consumption, fiscal expansion? Is there a positive current account balance?

We then focus on the specific country risk factors. Is there a risk of policy mistake by either the central bank or the government? What is the credit quality? Is there a lot of debt? What is the debt profile? What is the event risk in terms of domestic politics or the international situation?

Valuation is another key driver of our decision. We have developed several proprietary models where we analyse real and nominal rates and calculate how these compensate for country, inflation and currency risks.

Finally, we look at market behaviour. In particular, investor positioning, supply/demand and technicals are all important. Crowded trades can pose significant risks in environments where investors are becoming more negative on emerging markets. We tend to be contrarian and look for value when other investors are getting overly concerned and selling in a panic.

The final scorecard is debated in the weekly team meeting. Changes in scores are highlighted and changes in the ranking will trigger trade reviews. Importantly, we do not adopt a rigid approach where the top scoring country will have to have the largest weight in the portfolio. Instead we use the scorecard as a guide to potential overweight and underweight trades with the top-third countries being long candidates and the bottom-third being sell candidates.

The key advantages of the scorecard approach are:

- It gives us a common language, making comparison across regions easy
- It provides a strong sell discipline
- It keeps us honest and allows for continuous evolution of our process as all historic scorecards are saved and attributed.

Bottom-up process – EM currency markets

We analyse and rank a wide range of emerging market currencies in detail

We analyse and rank a wide range of emerging market currencies in detail. An important part of our process is our proprietary tool, the Fundamental RISK Indicator (FRISKI). The main risk of investing in emerging markets currencies is the risk of a major currency crisis. We can substantially reduce the impact of currency crises through diversification, but it would of course be better to be able to avoid them altogether. FRISKI is a risk model designed with the aim of achieving this.

There is ample academic evidence that most currency crises can be anticipated if you know what to look for. FRISKI monitors the behaviour of five fundamental variables and forecasts the probability of a crisis within the next twelve months. The factors: BIS debt; the real exchange rate; exports; the “fundamental” balance of payments and reserve cover have all proved effective in anticipating the emerging currency crises of the past. This ‘probability of crisis’ is then compared with the ‘reward’ in each currency based on carry, volatility and trend. In short, the model identifies markets that have low crisis risk, high carry, low volatility and a positive trend. The model has a 50% weight in the scorecard.

	FRISKI						Carry			
Currency	Res/M2	Ext debt	CA+FDI	Real FX	Exports	Crisis prob	Carry	Trend	Vol	Carry + Trend vs vol
ARS	-0.5	0.7	0.0	0.1	-1.6	27%	24%	1%	4%	6.08332
KZT	0.1	0.5	0.5	1.3	-2.1	20%	44%	0%	4%	10.1686
EGP	-1.5	0.8	-0.5	0.0	-0.9	32%	12%	3%	5%	2.89403
UYU	1.9	-1.1	-0.0	-0.3	-0.9	23%	14%	-1%	7%	1.89285
IDR	0.2	-0.2	-0.4	0.1	-1.2	29%	10%	-1%	7%	1.17241
UGX	1.8	0.6	-0.7	-0.1	-0.2	16%	12%	-1%	8%	1.41457
CNY	-0.7	-0.2	1.0	-0.6	0.1	23%	3%	2%	4%	1.16595
NGN	0.6	0.5	-0.3	0.4	-1.2	21%	48%	1%	10%	4.82353
PEN	2.7	-0.2	-0.1	-0.1	-1.1	17%	6%	1%	5%	1.37765
MXN	1.6	0.2	-0.3	0.1	-0.0	15%	2%	0%	9%	0.24758
CLP	-0.2	0.4	0.4	0.7	0.4	15%	3%	2%	8%	0.56579

Source: Ninety One. For illustrative purposes only.

The second pillar of our bottom-up process is a judgemental analysis of the ‘Compelling Forces’ driving currency markets

The second pillar of our bottom-up process is a judgemental analysis of the Compelling Forces driving currency markets; simply put we endeavour to find currencies with sound fundamentals, that are undervalued and lastly, in terms of market behaviour, we look for currencies where the market is starting to price this in.

Fundamentals						Valuation	Market behaviour		Sub total 2	Total
Growth	Extern CA	Extern FA	Mon Policy	Debt	Socio	REER	Techn	Positioning	Qual total	
5.0%	5.0%	5.0%	5.0%	2.5%	5.0%	7.5%	7.5%	7.5%	50.0%	**100.0%**
-1	-1	0	1	-1	1	-3	-1.0	0.0	**-0.7**	**1.18**
-1	-1	-1	-2	0	1	-3	0.0	0.0	**-0.9**	**1.08**
1	-1	1	0	0	0	0	0.0	1.0	**0.3**	**0.86**
0	1	0	1	0	0	-1	0.0	0.0	**0.1**	**0.48**
0	-1	1	0	1	1	2	2.0	-1.0	**0.6**	**0.39**
1	-1	1	0	0	0	1	-1.0	0.0	**0.1**	**0.39**
-1	2	-2	2	0	0	0	2.0	0.0	**0.4**	**0.36**
0	-1	-1	1	0	-1	-1	0.0	0.0	**-0.4**	**0.34**
0	-1	0	-1	0	0	-2	1.0	2.0	**-0.1**	**0.30**
1	0	0	1	0	0	1	1.0	2.0	**0.8**	**0.29**
1	1	0	0	0	0	1	1.0	0.0	**0.5**	**0.27**

Source: Ninety One. For illustrative purposes only. Internal parameters are subject to change without prior notification. Current as at date of publication.

Portfolio construction and implementation

Our risk budgeting approach to portfolio construction ensures a stable and consistent framework for allocating exposure and results in well-diversified portfolios that can benefit from multiple sources of return suited to our clients' needs.

Typically, we will have 15-25 active long and short positions based on country and currency rankings. We will not let one or two positions dominate. Active positions will be taken in terms of risk units, where the risk units are set based on the riskiness of a country. Importantly, we use forward looking risk measures (such as ratings, CDS spreads, our assessment of geo-politics) to classify countries in addition to backward looking risk (volatility). We will not allocate more than two risk units to each active position. The size of the risk unit illustrated below is relative and represents deviations from the performance comparison index.

Size of one risk unit	EMD Local Currency (Broad)	FX examples	Bond examples
Low risk	6.0% in FX; 0.50 dur. contr.	Taiwan dollar, Chinese renminbi	Taiwan, Israel
Medium risk	5.0% in FX; 0.40 dur. contr.	Peruvian sol, Czech koruna	Thailand, Chile
High risk	4.0% in FX; 0.30 dur. contr.	Brazilian real, Turkish lira	Hungary, Indonesia

These are internal parameters and subject to change not necessarily with shareholder notification. Comparison index: JP Morgan GBI EM Global Diversified.

Issue selection is based on our curve outlook, liquidity and relative valuation. In addition, we analyse tax, legal and administrative issues in great detail. In cooperation with our legal and admin departments, we determine the best way to access the local markets (e.g. onshore, offshore, credit-linked notes, etc.).

Implementation is assisted by state-of-the-art portfolio management and risk systems. thinkFolio, our main portfolio management system, allows straight-through processing, what-if analysis and ensures that all transactions are within individual portfolio guidelines. The MSCI BarraOne risk model is used for real-time ex-ante risk analysis and to calibrate risk budgeting. Our independent Investment Risk team also uses Excerpt to calculate and monitor tracking error and Value-at-Risk on a daily basis. When certain levels are reached, specific action is required from the portfolio manager. In addition, a monthly risk report and a detailed quarterly report back are conducted by the risk manager and senior management.

Investment risk management and key characteristics

We have a comprehensive Governance and Oversight structure in place at Ninety One to manage risk throughout the business and this includes our approach to investment risk.

Managing risks across our investment strategies is an integral part of the portfolio management process and consists of both explicit limits as well as additional measures to ensure that the appropriate level of risk is employed to meet the risk and return objectives of our investors.

The four main areas that are of primary focus to Ninety One from an investment risk perspective are:

1. **Philosophy and Process:** Ensuring that investment capabilities adhere to investment style and mandate.
2. **Research and Analysis:** Confirming that suitable research and analysis underpins the investment decision-making process.
3. **Concentration and Liquidity:** Cognisance of the strategy's concentration and liquidity characteristics.
4. **Risk Measurement:** Making sure appropriate risk measurement and stress testing is carried out.

Investment characteristics

The investment characteristics and risk controls of Ninety One's Emerging Markets Local Currency Dynamic Debt Strategy are as follows:

Emerging Markets Local Currency Dynamic Debt strategy	
Benchmark	JP Morgan Government Bond Index-Emerging Markets (GBI-EM) Global Diversified

Risk controls	Internal parameters
Number of holdings	Typically 15-25 active long and short positions
Portfolio duration	Benchmark +/- 2 years
EMFX Exposure	Typically 75-125%
Hard Currency EM Debt	Maximum 30%
Corporate Debt (excl. supra-nationals) of which High Yield (HY)	Maximum 15% Maximum 10%
Maximum per country	Benchmark +/- 2 risk units
Maximum per currency	Benchmark +/- 2 risk units
Maximum per HY issuer (excl government and quasi-sov bonds)	Typically 2%
Cash	Maximum 10%

Derivative use: Futures, IRS, TRS, FX Forwards allowed within above investment rules under UCITS fund with extended investment powers. UCITS rules: max 5%, but max 10% allowed as long as sum of issuers between 5-10% < 40%.
These internal parameters are subject to change not necessarily with prior notification. These are for information purposes and describe current investment process.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

General risks:

The value of investments, and any income generated from them, can fall as well as rise. Where charges are taken from capital, this may constrain future growth.

Past performance is not a reliable indicator of future results. If any currency differs from the investor's home currency, returns may increase or decrease as a result of currency fluctuations.

Investment objectives and performance targets are subject to change and may not necessarily be achieved, losses may be made.

Specific risks:

Currency exchange: Changes in the relative values of different currencies may adversely affect the value of investments and any related income.

Default: There is a risk that the issuers of fixed income investments (e.g. bonds) may not be able to meet interest payments nor repay the money they have borrowed. The worse the credit quality of the issuer, the greater the risk of default and therefore investment loss.

Derivatives: The use of derivatives may increase overall risk by magnifying the effect of both gains and losses leading to large changes in value and potentially large financial loss. A counterparty to a derivative transaction may fail to meet its obligations which may also lead to a financial loss.

Emerging market (inc. China): These markets carry a higher risk of financial loss than more developed markets as they may have less developed legal, political, economic or other systems.

Interest rate: The value of fixed income investments (e.g. bonds) tends to decrease when interest rates rise.

Liquidity: There may be insufficient buyers or sellers of particular investments giving rise to delays in trading and being able to make settlements, and/or large fluctuations in value. This may lead to larger financial losses than might be anticipated.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

Environmental, Social and Governance integration

Environmental, Social and Governance (ESG) integration is a priority for the leadership at Ninety One. We believe it adds more value to our clients to treat material ESG issues as an integral part of the investment analysis process rather than as a separate procedure.

We have a dedicated global ESG team, which is steered by a senior Investment Governance Committee. Together with all the investment teams, the ESG team focuses on integration strategies, ESG research and engagement efforts.

ESG integration within sovereign Emerging Market Debt

Proprietary ESG analysis	Investment process integration	Outcomes
Sovereign ESG scorecard – Comprehensive eight factor scoring of **ESG trends** based on **qualitative assessment** by regional specialists – Informed by analysis of third party data, policy analysis and interaction with policy-makers Ongoing collaboration and interaction with ESG team	ESG scores feed into **all** our investment scorecards across sovereign, FX and rates scorecards with 5% weight Complemented by a **Political Risk** score capturing shorter-term **governance** outlook **Engagement** with company management, NGOs and country policy makers	Structured ESG process **embeds ESG risk management** in portfolio construction Ability to **tailor ESG solutions** for institutional clients **Collaboration with clients** ranging from sharing of quarterly ESG trend scorecards and qualitative views to ad hoc ESG interaction on particular topics, companies and countries.

ESG scorecard sub-categories

Environmental Policy			Social Policy			Governance	
Climate Action	Resource Strategy	Land & Water Management	Built Environment	Human Capital	Inclusive Growth	Institutional Capacity	Economic Policy

For illustrative purposes only

We have incorporated ESG-related factors in our investment process since the inception of our emerging market debt (EMD) capability. The details have naturally evolved as the asset class has matured and as ESG data has become more readily available. We now run an eight-factor ESG momentum scorecard that ensures we cover all the key elements of ESG, including 16 of the 17 SDGs. This scorecard provides a framework for our assessment of ESG policies and implementation, and their relevance to the long-run prospects for an economy, which in turn can influence asset returns.

ESG is integrated into our standard investment process through the ESG impact score. The ESG impact score is complemented by a political risk score that captures near-term governance shifts (which can potentially impact longer-term ESG trends).

Both these scores feed into all our investment scorecards – currencies, local rates and sovereign credit. Thus, all other things equal, markets with improving ESG scores will be higher up the scorecard rankings than those that are deteriorating.

Within corporate debt we monitor ESG issues using MCSI ESG Research, which combines quantitative and qualitative analysis to assess companies and countries from an ESG perspective. Corporate governance is one of the eight fundamental factors in our quantitative screen of the benchmark universe.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

Appendix

Strategy leader biographies

Werner Gey van Pittius

Co-Head of Emerging Market Sovereign & FX
Joined the firm in 2003
Joined the industry in 2003

Werner is Co-Head of Emerging Market Sovereign & FX at Ninety One. He is jointly responsible with Peter Eerdmans for all global emerging market sovereign debt strategies. Werner is also responsible for EEMEA research in the team. He moved to London from Cape Town where he was a fixed income quantitative analyst and managed Ninety One's asset and liability matching book. Prior to Ninety One, Werner played professional rugby in concurrence with academic programmes. He holds a Bachelor of Commerce degree in Insurance Science from the University of Pretoria, a Bachelor of Commerce (Hons) degree in Financial Economics from the University of Stellenbosch, and a Master of Science degree in Applied Statistics from Oxford University. In addition, Werner obtained the Society of Technical Analysts diploma and was awarded the Chartered Financial Analyst (CFA) designation from the CFA Institute in 2006.

Antoon de Klerk

Portfolio Manager
Joined the firm in 2006
Joined the industry in 2005

Antoon is an investment specialist and portfolio manager in the Global Emerging Market Debt team at Ninety One. He is a portfolio manager for our Emerging Markets Local Currency Debt, Emerging Markets Local Currency Total Return Debt, and African Fixed Income strategies. He also has joint regional research responsibilities for Africa. He joined the Investec Group in 2005 as part of the Investec chartered accountant (TOPP) Programme. After spending time in accounts and investment banking where he was involved with merger and acquisition advisory work, he joined the firm in 2006. Antoon holds a Master's degree (cum laude) in Economics and an honours degree in Accounting from the University of Stellenbosch and is a Chartered Accountant (SA). Antoon studied in Germany as part of his post-graduate economic studies.

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For further information on the investment team, investment process, performance target and indices, please see the Important information section.

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Investment team

There is no assurance that the persons referenced herein will continue to be involved with investing for this Strategy, or that other persons not identified herein will become involved with investing assets for the Manager or assets of the Strategy at any time without notice. References to specific and periodic team meetings are not guaranteed to be held or fully attended due to reasonable priority driven circumstances and holidays.

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Performance target

The target is based on Manager's good faith estimate of the likelihood of the performance of the asset class under current market conditions. There can be no assurances that any Strategy will generate such returns, that any client or investor will achieve comparable results or that the manager will be able to implement its investment strategy. Actual performance of Strategy investments and the Strategy overall may be adversely affected by a variety of factors, beyond the manager's control, such as, political and socio-economic events, adverse changes in the interest rate environment, changes to investment expenses, and a lack of suitable investment opportunities. Accordingly, target returns may be expected to change over time and may differ from previous reports.

Specific portfolio names

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