Together we can
make dreams come true.
UBS Optimus Foundation.

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"I dream of becoming a doctor and helping sick children.
For my dream to come true, I have to be able to go to school."

Alem Zelleke, 14

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UBS

Wealth Management Research April 2010

UBS investor's guide

Special edition

2010 World Cup in South Africa

Surprising Africa
The host's economy • How to invest in Africa

And the World Champion is…
Money can buy you a Ronaldo, but not a World Cup • Muscle drain or muscle gain?

UBS

Contents

Football a male sport? This has not been the case for a long time now. And women are also playing an increasingly important role in African politics and business. The women (and men) in the UBS investor's guide editorial team are looking forward to the World Cup and hope you enjoy this special edition.
Source: www.gettyimages.com

You will find a comprehensive glossary of technical terms on the internet site www.ubs.com/glossaire

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Editorial

Dear readers,

In only a couple of weeks, the 19th Football World Cup will finally kick off. Lionel Messi, Cristiano Ronaldo, Wayne Rooney and their colleagues will dazzle fans with their magic. Or, in some cases (let's hope not too many), they may fail to live up to the hopes built up since the last contest in Germany four years ago. Whatever happens, for a full month, millions of fans around the world will put everything else on hold as they watch a new volume of sports legends written on the pitch.

Although we are all serious analysts, economists and strategists, most of my colleagues at UBS Wealth Management Research and I are nevertheless addicted to football. The chatter around the coffee machine is slowly but surely drifting away from the fumes of Eyjafjallajökull, the new SEC investigations, and Chinese monetary tightening. Instead, the talk is becoming increasingly dominated by debates about whether the Spanish team is stronger than the Argentinean, whether the English team can reach the final or whether the most obvious contender, Brazil, will win its sixth title.

One of the aims of this UBS investor's guide is to share our enthusiasm for the event. Once again, we have applied our usually quite dull analytical toolbox to deciphering the beautiful game's most coveted championship. However, this latest investor's guide is based on more than just football frenzy.

As this is the first World Cup to be held in Africa, we thought it would be useful to take a closer look at a continent that is too often forgotten when it comes to searching for investment opportunities or, even more simply, when assessing the state of the world economy. Bear in mind that Africa accounts for 15% of the global population and, owing to its strong demographic trends, is likely to accounts for 20% in just a couple of years.

We hope you enjoy the entertainment section of this issue, but we also urge you to study the information and analysis we present on Africa.

A. Höfert

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Surprising Africa: Know the score

Aside from some well-worn clichés, relatively little is known in the rest of the world about the continent that will host the World Cup in 2010. In this article, we highlight 10 surprising things you may not know about Africa.

1 China is South Africa's most important trading partner

China has overtaken such heavyweights as the US, Japan, Germany and the UK to become the country's largest trading partner (in terms of total trade). China's leading role comes just 10 years after establishing diplomatic and trade relations with South Africa. In 2009, China provided 16% of South Africa's imports and bought 11% of the country's exports. Taking a look at Africa as a whole, Africa's exports to China increased by a yearly average of 31% between 2000 and 2008, which compares with 13.5% for exports to the United States. At the same time, China is engaging increasingly in foreign direct investments in Africa, but compared with developed countries, the involvement is still at a relatively low level. While a large part of China's imports from Africa and foreign direct investments in the continent are attributable to the Asian giant's large commodity hunger, this relationship is not limited to commodities. China is also investing in African infrastructure and uses its own experience to help develop and run special economic zones designed to attract investment. With its energy hunger, China will continue to support African commodity exporters and, in the longer term, will likely help the continent grow richer.

2 Highest mobile phone subscription growth

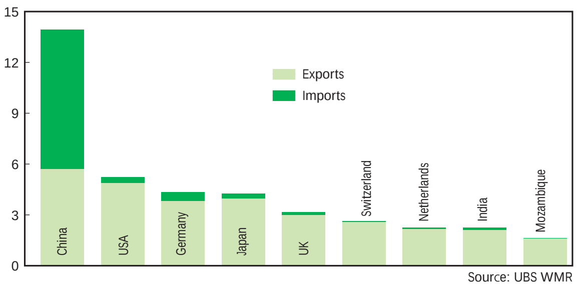
Some 40% of Africans already own a mobile phone – no other continent has higher subscriber growth. In a continent three times as large as the United States, but only a third as densely populated, telecommunication infrastructure is in big demand. Whereas developed nations often use the internet, retail and service networks, or marketplaces, mobile phone systems in Africa are now making many such services available for the first time: weather forecasts, health advice, and even mobile money – a virtual bank account that enables payments for many goods and services, including electricity and school bills, directly from a handset. These services are often cheaper, faster and more reliable than the erstwhile alternatives. According to a recent study, adding 10 extra phones for every 100 people in a typical developing country boosts GDP per person by 0.8 percentage points. This makes the mobile phone one of the most important drivers of living standards in Africa.

3 Africa: more diverse than you think

The African Union is made up of 53 diverse countries whose inhabitants speak more than 2,000 languages. Per-capita GDP in 2009, for example, was 51 times higher in Equatorial Guinea (USD 8,760) than in the Democratic

Figure 1

China has become South Africa's largest trading partner



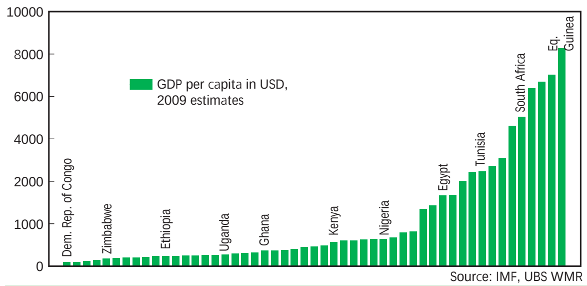
South Africa's total trade (exports plus imports in bn USD).

Source: UBS WMR

Source: www.masterfile.com

Figure 2

GDP per capita in selected African countries



Source: IMF, UBS WMR

The African Union is made up of 53 diverse countries whose inhabitants speak more than 2,000 languages. Also GDP per capita varies considerably.

Republic of Congo (USD 170), and the average GDP growth over the last three years in Angola (11.3%) was 17 percentage points higher than in Zimbabwe (–5.7%). The number of coups and plots in Africa has been trending lower in recent years, but the continent still leads the global rankings if we look at the last 30 years. However, in the past decade, civil conflicts have occurred in only a few of the continent's many countries, mainly located in the Saharan belt and in a couple of other sub-Saharan countries. Africa is commonly perceived as a mere commodity producer. Although it is true that commodities (including diamonds, gold, oil and various agricultural products), are an important driver of exports, consumers in many advanced African countries – and the companies that serve them – are on the rise.

4 Large agricultural sector, not enough food

The agricultural sector on average makes up 25% of the African economies' overall economic production. This compares, for example, with 1% in Switzerland. In spite of the majority of the Sub-Saharan labor force being employed in the agricultural sector, most African countries cannot provide enough food themselves. Because most African countries import significantly more food than they export, fluctuations in food prices on the world market strongly affect prices paid by Africans. Rising prices of agricultural goods in 2007 and 2008 led to significant increases in local food prices, with average inflation in Sub-Saharan countries rising from 7% in 2007 to 13% in 2008. As a typical African household spends half of its income on food, higher food prices in local currency, coupled with lower incomes owing to the recent global economic and financial crisis severely squeezed African households budgets. The UN estimates that in 2009 the number of hungry people in the world rose to more than one billion, of which around one-third are Africans. This is an increase of approximately 10% compared with the previous year, and is sadly the highest number in the last 40 years.

Murchison Falls, Uganda / Source: www.masterfile.com

5 World's largest hydropower potential in Congo

Africa's Congo River could provide the energy for the world's largest hydropower plant. According to the World Bank, the continent's largest river in terms of watershed holds the potential to produce 100 gigawatts of hydropower – more than the combined capacity of all of France's nuclear power stations. The mineral-rich Democratic Republic of Congo is Africa's fourth most populous country, but also one of its poorest. Currently, the state power utility delivers electricity to just 7% of the country's 68 million people. With access to electricity being one of the ingredients for sustained economic growth, the Congo River project might be a first step toward a less commodity-dependent region. To make the USD 80 billion project feasible, the Congo has partnered with Angola, Botswana, Namibia, and South Africa to share the resulting costs as well as the generated power. However, the high financing costs, widespread corruption, and lack of agreement between governments and other participants on key issues have slowed the project's progress. The fact that more and more countries, banks and other private companies are starting to participate in global carbon offset programs may, however, fuel renewed hope for the project's success.

6 African airlines growing larger, and becoming safer

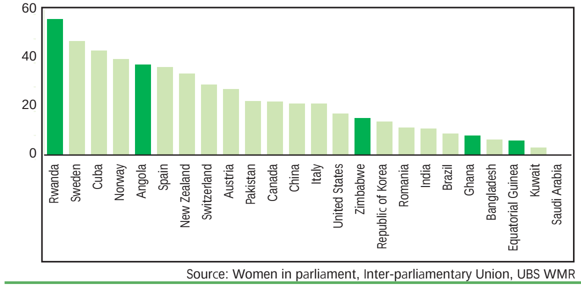
African airlines' accident rates came down by 77% in 2005–2008, while global accident rates actually increased 5%. According to the International Air Transport Association (IATA), African airlines were three times safer than those of Russia & the Commonwealth of Independent States (CIS) in 2008, and 1.2 times safer than Latin American airlines. Nonetheless, African airlines saw a sharp renewed increase in accident rates in 2009, and there is still a lot of catching up to do: The accident rates in Europe were still 22 times lower than in Africa last year. At the same time, however, African air traffic is also growing denser – between 2001 and 2008, the number of passengers on African-owned airlines increased by more than 46%. New airports are being built and new flight routes established in many parts of Africa, but, admittedly, the majority of African flights still take place in the relatively well-developed northern countries, as well as South Africa, and is associated mainly with tourism. The growing importance of African tourism is also reflected by the fact that last year 17% of all passengers leaving the European Union by plane were flying to a destination on the African continent. Looking ahead, several African aviation authorities are seeking negotiations with Europe on a common airspace.

7 Women ruling Rwanda's parliament

Rwanda holds the world record for the highest quota of female members in parliament. Since the last elections in 2008, women outnumber their male parliamentary counterparts, making up over 56% of parliament. The trend only really took off when a change in the constitution reserved a 30% minimum quota or at least 24 seats for female parliament members. After changing the constitution in 2003, the proportion of women in Rwanda's government rose from zero to 30 percent. Rwanda is joined by Angola (37.3%), Burundi (30.5%), Mozambique (34.8%), South Africa (33%), Tanzania (30.4%) and Uganda (30.7%) as the seven African countries with the highest quota of

Figure 3

Women in the world's parliaments



Percentage of female parliament members in selected countries: Rwanda holds the world record.

female parliamentary members. African governments frequently see women as critical partners to alleviate rural poverty and to diversify the economy, moving from dependence on agriculture and natural resources to a more knowledge-based approach. Nonetheless, this is a slow and ongoing process that will require time to translate into real effects for the economy.

8 Little trade within Africa, but growing integration

Trade between African countries makes up only 10% of their total trade. The remaining 90% consists of trade with the rest of the world. One of the reasons for such low regional trade is that African countries are predominantly exporters of commodities, such as oil, gas, and precious metals, while few countries on the continent have the manufacturing expertise needed to process these commodities into higher-value products. Yet, there are also structural and political reasons, such as weak infrastructure and restrictive tariffs that hinder trade. To mitigate these barriers, customs unions and free trade areas are being created. In Western Africa, for example, the implementation of plans to upgrade railways should reduce transport costs. Several countries in Western and Central Africa also already share a common currency, the CFA franc, which contributes to the harmonization of monetary and fiscal policies in the region. While many of the initiatives have not yet shown the desired success, they are forums for exchange and co-ordination between African states, which may form the basis for joint progress towards economic development and the strengthening of political institutions in the future.

9 Growing richer through smaller families

One African in two is a child. This fountain of youth is largely the result of declining mortality rates owing to the increased use of vaccines and antibiotics, as well as better access to safe water. Since the 1980s, however, birth rates in Africa have been falling by more than mortality rates, resulting in fewer children per family. For instance, in Botswana, women on average had 6.4 children in 1981, which fell to 3.2 in 2006. This means that the age-groups going into the workforce at present and over the next decades will be larger than the population of children and aged dependants that they support, meaning that income per capita can rise faster. This constellation – the reverse of the rapidly aging populations of Europe, the US and Japan – is called the demographic dividend, and is also believed to have played an important role in the economic miracles of the so-called Asian Tiger nations over the last decades. However, it is no done deal that Africa will be able to benefit from its shifting demography: In particular, in Sub-Saharan Africa HIV/AIDS threatens to decimate the working-age population, while more generally poor education, corruption, as well as a lack of well-regulated markets put at risk the positive effects of Africa's demographic trends. Nonetheless, demography probably remains Africa's biggest opportunity of the next 50 years.

10 Africa as a potential net oil importer in 2040

Africa holds an estimated 13% of the world's proven crude oil reserves and – owing to new discoveries – likely even more. At present, the continent produces 12% of the world's crude oil supply and consumes less than 4% of this, thus leaving the continent with a large surplus. On the back of emerging Asia's ever-growing hunger for natural resources, pressure on expanding production is omnipresent, and we can expect Africa to remain a growing source of commodity supply in the years to come. However, taking into account that 14.7% of the world's population lives on the continent, Africa does not enjoy excessive energy reserves in the long run. As African economies develop and grow, they too will have a bigger appetite for energy. Extrapolating historical numbers suggests that Africa might become a net importer of oil by 2040. Thus, supplying the world with non-renewable resources today comes at the cost of scarcity for future African generations.

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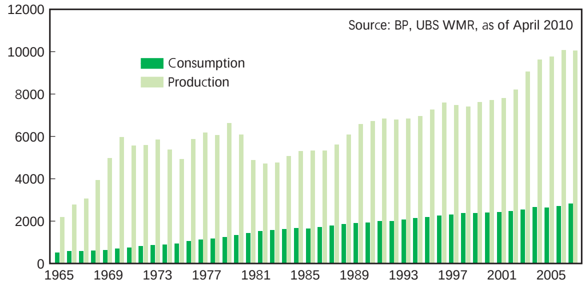
Figure 4

Massive excess production, but for how long?



Daily oil production and consumption in Africa, in thousand barrels.

South Africa – the host's economy

South Africa has maintained its status as Africa's uncontested economic powerhouse, generating nearly a quarter of Africa's total GDP. However, the country is losing ground relative to its global emerging market peers. We take a closer look at the rainbow nation's economy reveals serious structural challenges and the risk that the significant achievements of the past could be eroded.

South Africa's hosting of the Football World Cup can be interpreted as recognition of the country's economic and political progress. However, as the current debacle surrounding Greece – which hosted the Olympic Games in 2004 – shows, the staging of even a huge international sporting event is by no means a guarantee of future economic success.

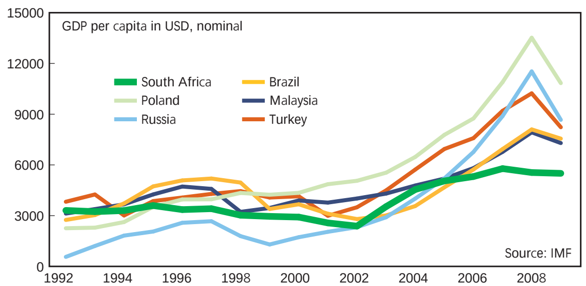
South Africa's progress over the 15 years since the end of apartheid has been based largely on political stability, prudent economic policies and a solid regulatory framework: The government has maintained tight control over spending and has expanded the tax base, resulting in healthy, low levels of government debt. Central bank policy has remained focused on containing inflation despite complaints that interest rates were too high and the South African rand too strong. Moreover, South Africa has been able to rely on its world-class legal system and regulatory environment, and it is recognized internationally for its high standards in corporate accounting and investor protection.

Losing ground

Although South Africa obviously has achieved much and remains predominant in Africa (see Text Box), a closer look at the economy reveals that it has continually lost ground relative to its emerging market peers. This is reflected in South Africa's relative decline in terms of GDP per capita. Although South Africa's GDP per capita in 1992 was above that of all countries other than Turkey in our peer group sample, it has now fallen well behind these countries (see Chart 1, countries selected based on similar levels of economic development in the early 1990s). The picture of relative deterioration is confirmed when purchasing power is accounted for. With an average growth rate of 3.4% over the last 15 years, South Africa has also underperformed average world economic growth at 3.7%.

Chart 1

Other emerging markets are leading the pack



While South Africa has become richer on a per capita basis, a peer group comparison of countries with similar levels of per capita wealth in the early 1990s shows that it has not kept pace with the rapid growth in other emerging markets (GDP per capita in USD, nominal).

Africa's economic powerhouse

In economic terms, South Africa remains uncontested on the continent despite losing ground versus its global emerging market peers. South Africa provides 40% of Africa's industrial output, 45% of its mineral production and generates over 50% of the continent's electricity. The large role of South Africa's real economy is reflected in its financial markets: Taken together, MSCI's market capitalization in Africa shows that South African stocks account for over 80%. In fact, the Johannesburg Stock Exchange (JSE) is among the top 20 exchanges in the world when measured on market value and turnover, while South Africa's bond markets are by far the most sophisticated on the continent. With just under 50 million inhabitants – approximately 6% of Africa's total population – the South African economy generates nearly a quarter of Africa's total GDP.

What is holding South Africa back?

As South Africa is clearly not reaching its potential, the question is: Which factors are acting as a brake and are thwarting economic development?

The labor market is a conspicuous candidate. Although the official unemployment rate is close to 25%, the true situation is more serious. Of South Africans over 15 years of age, 44% are classified as economically inactive and are therefore not included in the unemployment statistics. This is unusually high and means that finally only a very small group of workers generates the wealth on which the society as a whole depends. To improve the living standards of the population at large, the country needs to tap into the vast number of South Africans who currently do not participate in the economy and whose human capital largely lies idle.

Potential for investment in education

In the light of the large number of unemployed, it seems contradictory that South African firms have tremendous difficulties in filling vacant positions. This is explained by the skills shortage in the economy that has been aggravated by weak educational results. A high drop-out rate means that only 27% of students successfully complete 12

Table 1: Skills and education

Education results still weak

	South Africa	Poland	Russia	Turkey	Brazil	Malaysia
Pupil to teacher ratio in primary education	31	11	17	n.a.	24	16
% population attaining secondary education	27	51	89	28	31	35
Gross enrollment ratio in tertiary education	15	67	75	36	30	30
% university students studying science & engineering	20	22	n.a.	21	16	42
Adult literacy rate	88	n.a.	100	89	90	92

Source: UNESCO, UBS WMR

South Africa's economy is about more than just gold

For over a century, South Africa was the world's largest producer of gold until, in 2007, it was overtaken by China. Particularly during the 1970s and 1980s, gold exerted a significant influence on the economy, which helped result in a very strong currency. The South African rand hit a peak of about 1.50 USD per rand in June 1973, more than 10 times stronger than today's level. Gold's importance has diminished as the country's economy has diversified, and today's principal sectors include the automotive industry, financial services, tourism, manufacturing and retail. South African wines are world-renowned, but agriculture and food exports are actually very limited, at 4% of total exports.

In spite of the economy becoming more broad-based, exports remain fairly concentrated with over 50% derived from an array of mining products: South Africa supplies 80% of the world's platinum and is the world's largest producer of chrome, manganese and vanadium. Though coal and diamonds may seem very dissimilar, both stem from carbon deposits, which are common in South Africa, and both remain vital export goods for the country.

years of basic education, fewer than in most peer group countries (see Table 1 on page 11). Of these students, only one-fifth reach the standard required to be admitted to university, resulting in an extremely low flow of graduates. Similarly, in technical skills such as mechanics, bookkeeping and agriculture, South Africa scores poorly with enrollment rates of only about 5%.

Thus, while a very large part of the population is out of work, many do not have the skills employers require. Could they not be employed in lower-skilled jobs? These exist only to a very small extent in South Africa as the relatively high wage levels enforced by trade unions (also for unskilled workers), make South African companies employing lesser-skilled workers uncompetitive relative to other emerging markets. Adjusted for purchasing power, average wages in South Africa are estimated to be more than twice as high as in Brazil and Turkey, 1.6 times higher than in Malaysia and 1.3 times higher than in Poland.

Understandably, the apartheid legacy has left South Africa with a strong desire to provide "fair" wages. However, high wage levels do not reflect the country's level of education and skills, and mean that South Africa is steadily pricing itself out of global production markets.

Household finances should be consolidated

In spite of high unemployment, South African households have relatively high levels of consumption, which is funded in part by debt. This means that households, on average, have not been able to save. As an essential ingredient to economic progress, savings, however, are needed to fund investment, e.g., to ease South Africa's infrastructure bottlenecks and to build businesses. Therefore, South Africa remains highly dependent on foreign capital for investment, and this is reflected in large current account deficits, which make the country vulnerable to sudden capital withdrawals and sharply limit economic growth. It also means that – unlike most emerging markets – consumer spending is likely to remain sluggish and will not be a driving factor in the ongoing economic recovery. Lastly, with nearly 20% of the population over 15 years of age estimated to be HIV positive, the strain on households to provide care to the ill and to AIDS-orphans is all the more severe as HIV affects mostly those family members of prime working age.

South Africa must act to prevent past successes from being eroded

South Africa, therefore, faces tremendous challenges. Not only must prudent economic policies be continued in order to provide the economy with solid foundations for the long run, but the most important factors holding the country back deserve more focused attention. At present, however, some institutions are not looking bold enough. The current fiscal deficits (–7.9% in 2009 and estimated –7.1% in 2010 versus surpluses of 0.6% and 1.2% respectively in 2006/7), will let the country's debt level rise quickly, and today's historically low interest rates are potentially putting at risk the country's hard-fought reputation for keeping inflation in check. We believe that policy makers cannot rest on their laurels. Not only should past successes not be allowed to slip, but a sense of urgency is needed to ensure that South Africa's hard-won successes are not eroded.

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Source: www.dreamstime.com

A lot to catch up on

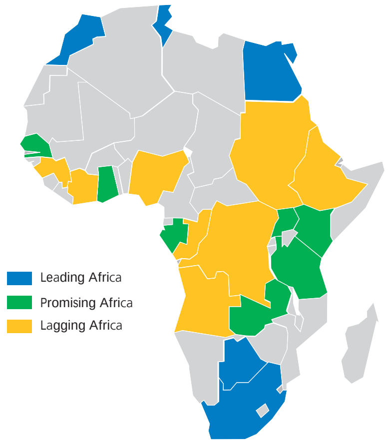
Africa is host to 14.7% of the world's population, growing at a rate three times faster than that of Europe. Yet its economy is still just roughly the size of the UK economy. Given these striking imbalances, we believe some parts of Africa still harbor large growth potential in the years ahead.

Overall, Africa has been less affected by the global economic crisis than originally expected, with GDP growing 2% in 2009 as estimated by the IMF. Recently, the IMF has upgraded its GDP growth forecasts for the continent to 4.3% for 2010 and 5.3% for

Figure 1

Leading, promising and lagging Africa

Africa, ranked by its relative economic potential



Source: IMF, World Bank, UBS WM

2011. Although these are strong numbers overall, as a continent of 53 diverse independent countries (according to the African Union), growth potential, investment opportunities and risk factors tend to greatly differ within Africa. It is therefore important to distinguish between economies that are better and those that are less well positioned for economic growth and development in the foreseeable future.

Investment opportunities limited but growing

Even though African markets have become more accessible to foreign investors over the past few years, large roadblocks to foreign investment still exist in many cases, in particular the small size of the markets and their limited liquidity. We want to highlight the investment vehicles open to most investors, namely traditional equity and bonds, but we do note that private equity is yet a further option for some investors.

Equities mainly in leading Africa

Investing via equities is a straightforward way to gain exposure to African growth. MSCI equity indices, which only include liquid stocks that fulfill minimum investability requirements, are a good proxy for easily investable African stocks. Taken together, these indices include USD 270 billion worth of equity market capitalization in seven African countries, as Figure 2 shows. Owing to the limited investability and low liquidity in many markets, however, most of the tracked stocks are still in the more developed African markets, such as South Africa (84%), and Egypt (7%). In these regions, the market capitalization is well diversified across sectors, but in the less developed "promising Africa" block, it is heavily skewed towards Financials (63%) and Consumer Staples (26%). While the Swiss Market Index is almost three times as large as the market capitalization of the African stocks tracked by MSCI, Africa's equity universe is certainly growing as more countries open up and develop their own stock markets. Promising African countries such as Botswana and Ghana are now under consideration for inclusion by MSCI.

Another way to gain equity exposure to growth in the less developed African countries is through large multinational companies that operate in these markets. For instance, multinational companies in the consumer sector are likely to benefit from a rapidly growing consumer base as well as overall improving living standards in several African countries. Also, an increasing number of South African and, more recently, Chinese companies in the energy and the industrials sector are set to experience growth from their investments in the continent. Other sectors in which South African multinationals are likely to benefit from African growth are companies in the telecom, banking, and food retail sectors. Such indirect equity investments in Africa through multinational companies, especially those domi-

Leading, promising, and lagging Africa

We evaluate five important factors that all affect the long-term growth potential of an economy: macroeconomic factors such as growth and inflation, the structural development of an economy, size of the population and life expectancy, as well as quality of governance and education. We do this analysis for all 20 African countries whose GDP size exceeds a minimum of USD 10 billion and are therefore – potentially – large enough to provide investment opportunities (see color-coded countries in Figure 1). Countries that we currently regard as highly unstable were excluded.

We call those African countries that, according to our indicators, are overall best positioned for further growth and development "leading Africa." They are: Botswana, Egypt, Morocco, South Africa, and Tunisia. These countries tend to be the most advanced and, for the same reason, also the most investable countries within the African continent. They have achieved a relatively high quality of governance and education as well as a relatively high life expectancy, but they are not the most populous countries on the continent.

Next is the group of "promising Africa," which refers to African countries that are in a position to become more advanced in a number of years, assuming that their fundamentals improve further. In this block are: Gabon, Ghana, Kenya, Senegal, Tanzania, Uganda, and Zambia. These include some of the more populous countries on the continent and quite a few of them enjoy relatively good governance, but education and life expectancy are still an issue in many cases.

Lastly, those countries that seem to be, overall, less well positioned and will likely need more time to develop are grouped as "lagging Africa," and are made up of: Angola, Congo Brazzaville, Congo Kinshasa, Côte d'Ivoire, Equatorial Guinea, Ethiopia, Nigeria, and Sudan. Most of these countries are rather undeveloped, with a comparably low quality of governance and education. Their population size differs, but they share a relatively low life expectancy. This group of countries tends to be the least investable currently. Even though, for example, Angola has seen strong economic growth recently owing to its oil reserves, this has not yet translated into more stable institutions. A few years down the road, however, some of the countries in this group may exhibit better fundamentals, supported by their commodity exports.

ciled in developed markets, bring with them lower volatility than direct equity investments in the continent, but they still can add diversification to a portfolio.

Bonds allow further diversification

Another way to gain exposure to African markets – particularly also to some of the less developed "promising Africa" block – are sovereign bonds. The easiest bond investments for foreign investors are international sovereign bonds denominated in major currencies. The J.P. Morgan EMBI Global, a sovereign international bond index that only includes relatively liquid bonds that meet minimum investability requirements, is a good proxy for easily accessible African debt. Taken together, the international bonds for all African countries make up USD 9.3 billion and EUR 2.1 billion of outstanding debt spread over five countries (see Figure 2). One way to gain exposure is to buy these bonds directly, but we advise a broad diversification when doing so. Currently, none of the major funds exclusively track African sovereign bonds. African bonds are included in funds that track the EMBI Global benchmark index, but they have little overall weight in Africa (less than 5%).

Risks and diversification

Overall, investments in African countries, especially in "promising Africa" and "lagging Africa" tend to be highly volatile. Economic policies may shift quickly, leading to high uncertainty and asset price volatility. Also, any decrease in global risk appetite tends to lead to a sell-off in the less developed African countries. We therefore advise interested investors to allocate only a small part of their portfolio to African markets. Also, we do not recommend exposure to single African markets, and we advise investors to take a diversified approach, both across countries and asset classes.

Over the coming years, more of the currently less accessible African markets will likely become open to foreign investors. At the same time, the already accessible African markets will tend to become less risky. We advise investors to keep an eye on African markets as well as our updates on them, as they come to the forefront of investing.

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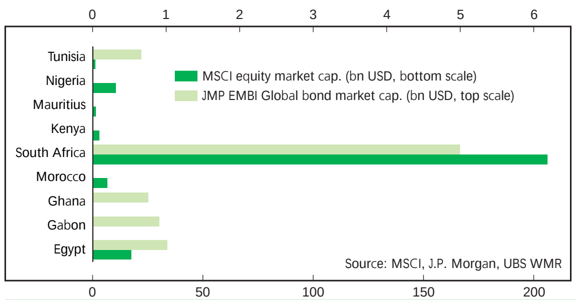
Figure 2

African equities and bonds – what's out there



Equity and bond market capitalizations in USD bn.

Sustainability – a delicate flower in Africa

Africa does not have the reputation of being a leader in sustainability issues. On closer examination, though, positive examples can be found in various areas.

Sustainability is often mentioned in connection with ecological considerations, such as the percentage of electricity output accounted for by renewable energies or changes in the total area of forests. However, there is much more to it than that. The social aspects of sustainability affect spending on education and health, where the state plays a leading role. In Africa, sustainability is also used to mean a stable institutional framework, which favors private enterprise and protects property rights and thus contributes to sustainable economic success.

In global terms, Africa is a lightweight as both an end-market and a financial center. Within emerging markets, multinationals prefer to commit to Asia, Latin America and Eastern Europe. There are some sectors, though, where Africa is a key producer: crude oil, diamonds, metals and soft commodities like cocoa and coffee. Sadly, examples are frequently uncovered showing that these resources are not being used in a sustainable way. Media attention is increasingly focused on internationally active companies, raising the pressure for responsible procurement. The reputational risks from cases of exploitative child labor or serious pollution are considerable.

The good news is that there are some positives along with all the negative examples. For instance, there have been initiatives by large companies to improve environmental and labor conditions in cocoa growing and create skilled jobs to increase local value-added. Equally, workplace rules in line with the International Labor Organization (ILO) are being observed all along the supply chain and preventive HIV/AIDS policies put in place, along with teaching programs and awareness projects. So multinationals that act in an exemplary manner can make an important contribution to minimum ecological and environmental standards in Africa by making efforts to produce in a way that is as environmentally and socially acceptable as possible and – crucially – holding themselves to account for this. We should not be overly optimistic, but it has become increasingly dif-

Coffee / Source: www.masterfile.com

ficult in recent years for globally active companies to ignore sustainability and transparency.

Few opportunities for sustainable investment

At present, there are scarcely any investment instruments for Africa that explicitly include ecological and social criteria. Sustainability products investing in emerging markets only pay marginal attention to Africa, and when they do they focus on South Africa. This has partly to do with the difficulty of finding companies with acceptable standards and disclosure practices. Standards are lower than in industrialized countries, although improvements have been perceptible in some regions in recent times. This improvement is related to changes to the law and pressure on firms to operate in accordance with international standards. South Africa is clearly ahead of the field in the continent when it comes to disclosing non-financial indicators such as those relating to the environment, society and corporate governance, and second only to Brazil among global emerging markets. This may have to do with the fact that South Africa has important firms in the mining industry, where environmental impact is high. Companies are also under a duty to disclose non-financial criteria.

The JSE SRI sustainability index was launched by the Johannesburg Stock Exchange in 2004. It mainly comprises large-cap companies, but there are also some mid-caps. They all engage in best practices in terms of environmental and social performance. The performance of the JSE SRI index has been almost identical to that of the traditional index. In March 2010, Standard & Poor's launched a pioneering Egyptian sustainability index (the EGX ESG index). Sustainability indices allow investors to compare companies. They are also a good guide to best practice (benchmarking), and encourage companies to raise their environmental and social standards.

Can sport make a difference?

In 2005, the International Year of Sport and Physical Education, the UN stressed the important role of sport "to foster peace and development, and to contribute to an atmosphere of tolerance and understanding". Two years later, the African Union Commission launched the International Year of African Football, reiterating this belief and emphasizing the prominent role football plays in African society. Although it might be unrealistic to claim that sport alone can reduce youth crime, drug abuse, civil strife, and diseases, we do think sport can give people joy, a positive identity, and feelings of empowerment while fostering teamwork and promoting responsible behavior. Although we could not find a statistical link between the percentage of football players and crime on a country level, several studies confirm our presumption on a regional and community level.

Soccer on the forefront

According to data collected by FIFA in 2006, the number of both youth and amateur football players as a percentage of the total population in Africa is relatively low, although the data might be flawed owing to a lack of registrations, measurement errors, and other factors. However, compared with the survey undertaken in 2000, the number of soccer players in Africa has increased by 13%, whereas the number of players in Europe and the Americas remained more or less stable. The FIFA World Cup in South Africa will likely foster this trend, and thereby help further social development in Africa.

Plenty of potential for microfinance

Africa is also a laggard when it comes to microfinance. This involves providing a broad range of financial services such as loans, savings accounts, payment transactions and insurance to people who previously had no access to them because they were poor. Microfinance is regarded as an important tool in fighting poverty. It has not yet taken off in Africa in the same way it has in Asia and Latin America. Sub-Saharan Africa has the highest percentage of the population making no use of financial services: 80%. By way of comparison, the figure in Asia is around 60%. Poor infrastructure, large distances, low population density, and a less stable political and social environment have so far hindered the emergence of a well-run commercial banking system, and hence also microfinance.

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Country	Population 2009 mn people	GDP per capita 2009 in USD	GDP growth last 5 years (average)	GDP growth 2010–2014[1] (average)	CPI inflation 2005–2009 (average)	CPI inflation 2010–2014[1] (average)
Angola	17.3	4027	14.6	7.2	15.0	10.5
Botswana	1.8	5995	0.8	7.5	9.6	5.6
Cameroon	19.9	1095	2.7	4.1	3.3	2.0
Dem. Rep. of Congo	64.8	171	5.7	6.9	21.7	11.3
Egypt	76.7	2450	6.1	5.4	10.4	7.5
Equatorial Guinea	1.3	8759	7.7	0.2	4.6	4.6
Ethiopia	81.2	418	10.9	7.5	19.3	7.2
Gabon	1.5	7414	2.2	3.2	2.5	3.2
Ghana	23.1	639	6.0	9.0	14.2	6.6
Kenya	35.9	842	4.7	5.7	11.9	5.6
Mauritius	1.3	7146	3.9	3.9	7.6	4.8
Namibia	2.1	4341	3.4	2.5	6.1	5.2
Nigeria	151.9	1089	5.5	5.7	11.0	8.6
Rwanda	9.8	512	7.8	5.8	10.8	5.3
Senegal	12.8	984	3.4	4.5	2.9	2.1
South Africa	49.2	5635	3.3	3.8	6.8	5.0
Sudan	39.1	1388	7.7	4.8	9.8	6.8
Tanzania	40.5	547	6.7	7.0	7.9	5.0
The Gambia	1.7	434	5.5	4.8	4.7	5.2
Tunisia	10.4	3794	4.7	5.3	3.6	3.2
Uganda	33.2	472	8.3	6.7	8.6	6.7
Zimbabwe	11.7	303	-5.5	6.0	18.8	7.6

[1]Forecasts

Source: International Monetary Fund, World Economic Outlook Database, 2009

"South Africa is a role model"

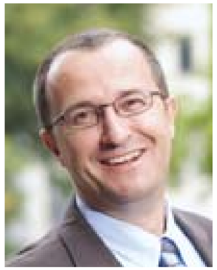
The UBS Optimus Foundation celebrates its tenth anniversary in 2010. We spoke to CEO Christoph Schmoker about philanthropy and commitments in Africa.

Mr. Schmoker, the UBS Optimus Foundation is celebrating its tenth anniversary in 2010. What are you particularly proud of?

That we selected the issue of child protection. In 2002, we decided to invest in the issue of protection against violence and exploitation, even though this is a very sensitive, taboo issue. Today, we are one of the three most important and knowledgeable organizations in the field in Europe, not just as a source of funds but also as an agenda setter.

Have there also been disappointments?

In terms of content, our commitment to an educational project in Afghanistan was not a success, and we did not manage to find a follow-on solution for all the children involved when the project came to an end. When we look at the institution, we were not sufficiently successful in making known the benefits of philanthropy. By that I don't mean the financial benefits, since logic dictates that it is negative for the donor, but the emotion and satisfaction that come from a commitment.



Christoph Schmocker has been the CEO of the UBS Optimus Foundation since 2001. Prior to joining the bank, he was Director for four years at Terre des Hommes, the largest internationally active children's charity organization in Switzerland. He qualified as primary teacher in Biel in 1985 and as SAWI marketing specialist in 1991.

What sort of people become philanthropists?

Often they are wealthy people who want to do something good and set something up that will last. Once they have achieved business success, inner values become increasingly important for such people. Our donors recognize that now is time to do something. Many keen donors find it hard to identify a suitable project, though. A great deal also depends on their personal interests. We have important issues, but we don't cover everything; for instance, we don't work on environmental or animal issues. The Optimus Foundation has an open architecture, though. We are happy to help people select a suitable environmental project, even though we are not involved ourselves.

What is the role of charities in society?

Charities complement government spending. They have advantages: they can take on more risk than projects financed with taxpayers' money. That allows charities to take up new areas and frees them from the need to follow political processes, so they can act as trendsetters. Climate change is a good example. Charities were talking about climate change long before there was a global climate summit.

Are there drawbacks too?

There are almost no requirements for transparency. Hence many charities are not transparent. Charities often find it hard to cooperate. Our Early Childhood Development initiative in South Africa is a good example. We co-operate with two other charities in this. That's rather the exception, though. Charities often see each other as competitors rather than partners to co-operate with.

Aren't charities taking on jobs that should really be done by the state?

That's a fair question, but it doesn't take account of individuals. If a father in Ethiopia sees that his daughter can't go to school because there is no schoolhouse, waiting for the state to build one doesn't help him. But people planning projects have to consider when the state should get involved. Ideally, a private charity launches an initiative that gradually has a ripple effect. For example, the neighboring villages can see that a school is being built. Maybe local government will be looking, so the state moves in and takes over the initiative. Perhaps half of all projects follow that pattern.

What does a project need to succeed?

Projects are successful when they have a lot of stakeholders. Let me explain, taking an education project as an example. You need the children, their parents, the teachers, the religious leaders, the politicians and in a small community you also often need a figurehead. You have to ask the people in the community what they need; it's called asset-based community development.

Are microloans a cure-all?

Microloans are a particularly good way for women to generate income. The best thing about them is the ownership. The women who get the money sign a contract, and they are responsible as entrepreneurs. Microloans can help to solve part of the problem, but they are not a cure-all. You still have AIDS. And there are children who still don't go to school or who don't have mosquito nets. You get back to the basic discussion about international development...

Which is?

Do you have to be healthy to be able to go to school and earn money? Or do you have to have money so you can stay healthy and go to school? Or do you have to be educated so you can stay healthy and earn money? Each project takes a different approach. Microloans tackle income. But there's also a fourth area, climate and the environment. You might have done things perfectly, but everything you have built up could be wiped out in a rainstorm or an earthquake.

Let's talk about Africa: is the World Cup good for Africa?

It's good for the continent of Africa that the spotlight is now on South Africa, so they can show "we can do it too" and generate confidence. But it may well be that black South African women see things quite differently…

How is the Optimus Foundation involved in South Africa?

We deliberately did not want to go into football. Projects have to last beyond the final match on 11 July, otherwise there is no sustainability. In 2008, we started a project to teach hospitality skills to young people with poor education. The fact that there was a demand for this in the run-up to the World Cup was a factor behind the success. Today, we are involved in a project to support young children.

How important is South Africa for Africa?

South Africa is a role model for other African states. For the western world it's one of the safer countries to invest in and is easy to relate to. South Africa has a pretty clear idea of where it wants to go, and the resources to achieve that. The country has relatively good expertise at the institutional level, good universities and a well-educated elite. The problem is that 70% of the population is unable to benefit from this. But things should be different 20 years from now. It is extremely hard for countries that have never had an elite to build one up.

If I wanted to start being a philanthropist in Africa, which country would you recommend to me?

Philanthropists need to be able to weigh up risk and return, like any other investor. If you have never been to Africa, don't go straight to Mali or Ethiopia, go to South Africa. The same applies to donors: it's best to invest in a country you know a little bit about. So South Africa is one of the countries to recommend, along with Botswana, Ghana and Tanzania. We advise against going into conflict countries.

What are the next steps?

We can raise our game. Initially at Optimus we just supported established aid agencies, as we didn't want to make mistakes. Today we are supporting many much smaller organizations, offering a much greater potential return.

How do you measure and assess how effective a project is?

1. Quantitatively: You measure how many children went to school in the past, and how many do now.
2. What is the impact of improving the number? Maybe the province is prepared to employ more teachers, because leaders have recognized that 80 children are too many for one teacher.
3. What are the consequences? Teachers have to be better trained as the area for the school and the number of pupils grow.
4. What is the impact? The new model encourages children, so more children are educated. The increased prestige of schools motivates teaches, so the teaching quality rises. Within 10 years, most of the children will have a profession, reducing poverty.

UBS Optimus Foundation: for the good of the children

The UBS Optimus Foundation celebrates its tenth anniversary in 2010. It was established by UBS on 17 December 1999 as a means of enabling the bank to participate in charitable activities together with its clients.

Our vision

We are committed to the overall wellbeing of children. We work to ensure that children and young people throughout the world have access to education and can grow up in an environment free from violence and sexual abuse. At the same time, we support targeted research to improve the health of the most disadvantaged sections of the global population.

Our mission

- We support the development, validation, promotion and dissemination of innovative approaches and ideas to improve the education, protection and health of disadvantaged children throughout the world, irrespective of their political, religious or ethnic background.
- To this end, we seek expert partner organizations who will act as innovators and are willing to bring about long-term change. We provide these partners with financial support as well as advice where necessary. We actively encourage the transfer of knowledge and the creation of new networks between the partners and other sponsors.
- In geographical terms, we concentrate primarily on the areas where there is the greatest need for action in respect of the key issues defined above, namely the southern hemisphere*. The issue of protection against violence and sexual abuse is also supported in northern, western and industrialized countries as required.
- As a foundation established by UBS AG, we promote the joint philanthropic commitment of clients, managers and employees. We do our utmost to ensure that the funds entrusted to us are leveraged to the greatest possible effect.
- Monies are invested in a targeted and direct manner, and with UBS covering all the foundation's administrative costs, every franc donated goes straight into projects.

Photo: Pierre-William Henry, Neuchâtel

Our funding areas

Children	
Education & Child Protection	Global Health Research
Education & Upbringing	Child Health
Protection from Violence & Sexual Abuse	Neglected Tropical Diseases
Optimus Study	Stop Buruli

See also: www.ubs.com/optimus

“Everybody is looking forward to the World Cup”

Sheila Mokoboto-Zwane, **Head of the Southern Africa office of the UBS Optimus Foundation, shares the excitement of the upcoming World Cup in her home country: “It's an African, not just a South African World Cup Competition because it stands to benefit the continent as a whole. It is bringing both blacks and whites and also rich and poor together. ” Sports promote race relations and improve learning – a fact that has been identified and utilized by education projects generally and early childhood development programs specifically, which is a core area for the UBS Optimus Foundation in Sub-Saharan Africa.**

Sheila is convinced that the region is well prepared to welcome fans to the biggest sports event ever held on African soil. However, will there be a longer-term impact for the region? “Absolutely! Our Tourism and Hospitality industry will definitely benefit in the longer term. I hope that visitors will love the country enough to return for a longer stay and explore our country's hospitality further, so that they can enjoy our beautiful weather, scenery, and perhaps return for a safari at the famous Kruger National Park or one of the many other parks we have in the country. Africans will also profit from the improved roads and infrastructure.”

To avoid “white elephants”, it will be important that people from disadvantaged regions are able to profit from the newly-built infrastructure and stadiums, using them for football or rugby clinics and competitions, for example. A lot of the locals have also been trained in different languages, e.g., French, German, Italian, Spanish, Portuguese, etc, so that hospitality for World Cup guests is enhanced. Many local people have added to their skills base by learning additional languages; this training will remain with them long after the 2010 World Cup wraps up.

From 11 June on, Sheila will put on a rainbow-colored football shirt at work and support the “Bafana Bafana” (South African football team). She is also organizing public viewings in townships for people who cannot afford to attend the matches. Sheila adds that Switzerland is her second home, so when Bafana-Bafana is not playing, she will be supporting the Swiss team!

And the World Champion is…

Back by popular demand, we once again open our econometric toolbox and use quantitative models to assess the likely winner of the upcoming World Cup. However, drawing on our past successes and especially our past failures, this time we are making a more cautious prediction of the tournament's outcome.

1 Forecasting football: more art than science

During the 2006 World Cup, our model's predictions were very close to perfect. Our forecast champion, Italy, which had only an outsider status among experts, managed to win its fourth title. In addition, our model correctly predicted 50% of the semi-finalists, 75% of the final eight and 81% of the final 16. This astonishing result led to a rather large amount of press coverage worldwide and earned the inventor of the model his 15 minutes of fame on CNN.

We came under tremendous pressure to use the same model to predict the outcome of the 2008 European Championship, and we relented – despite reminders that it has yielded unpredictable results several times in the past. Who can forget the fabulous run of the Danes in 1992 or the unbelievable win of the Greeks in 2004? Our forecast winner, the Czech Republic, did not even make it into the second round. Even worse, although our model correctly predicted 63% of the second-round teams, it forecast none of the final four.

The moral of this story is that one needs to be humble about the predictive power of one's models. Successful forecasting can often depend as much on luck as on skill, which is a lesson that is too often forgotten when it comes to quantifying the future. This should also serve as a warning to our readers: take the following with caution and a pinch of good humor. After all, football is only a game (in most countries).

Given our experience, we have decided not to go down the perilous path of predicting a likely outcome for the whole World Cup. Rather, we assess the probability of being among the final 16 (i.e., surviving the first round), being among the final four and, of course, winning the whole thing.

Explanatory factors
As in our previous studies, we rely exclusively on three factors to estimate the different winning probabilities:
1) past performance;
2) whether or not a team is a host nation; and
3) an objective quantitative measure that assesses the strength of each team three months before the start of the World Cup. Socioeconomic factors like population size or GDP growth have been proven to have no explanatory power when it comes to forecasting the performance of a specific team.

2 Past performance and experience are indicators of future performance

Unlike in the case of the European Championship, past performance and experience matter considerably when assessing the fate of a team at the World Cup. Of the 18 World Cups, five have been won by Brazil, four by Italy, three by Germany, two each by Argentina and by Uruguay, and one each by England and France. Hence, it should not be a surprise that picking the winner out of this small group is a rather safe bet. Moreover, Brazil is the only team that has participated in all the World Cups; Germany and Italy each have missed two. All three teams were present in the last 12 World Cups.

The number of times those three teams appeared in the finals is also impressive: seven times for Brazil and six times each for Germany and Italy. It is even more astonishing that only six teams reached the last 10 World Cup finals: the three aforementioned, Argentina, France and the Netherlands.

3 2002 World Cup final (Brazil vs. Germany) was a premiere, not a classic

Especially worth noting in this context is the 2002 World Cup final between Brazil and Germany. What might sound like a classic World Cup game was actually a first as both teams had never met in the 16 previous World Cups. However, even more astonishing than this oddity was the fact that, according to their Elo ratings (see page 28), the matchup was between the weakest Brazilian and the second-weakest German team ever to participate in a World Cup.

Source: www.dreamstime.com

Eight teams had better Elo ratings than Brazil and Germany before the 2002 World Cup started.

4 At least one surprise guest in semi-finals

The final four of a World Cup is slightly more open than the finalists. Twenty-three teams have made it to the final four. But here again five teams (Argentina, Brazil, France, Germany and Italy) dominate – accounting for 53% of all final four places. Nevertheless, it seems that at every World Cup there is at least one surprise participant in the semi-finals. In 2006, many saw Portugal in this role, although it had been a semi-finalist in 1966. Here again, 2002 is especially worth noticing: Two rather unlikely participants (at least at first glance), South Korea and Turkey, reached the semi-finals. However, one needs to acknowledge that South Korea had accumulated a great deal of experience (five previous World Cup appearances), and was also one of two host nations (the other being Japan).

5 Being host is an advantage

Being the host nation of the World Cup is obviously an advantage. One-third of all World Cups organized so far have been won by the host. Twelve hosts (63%) have reached the final four and all hosts have reached the final 16 (i.e., survived the first round, when the World Cup had less teams than the current 32). The biggest exceptions so far was Spain in 1982, which though having a rather strong team did not manage to reach the final four, and the upset of mighty host Brazil by tiny Uruguay in the 1950 final. In the same vein as the host advantage falls the continent advantage. So far, out of the 18 World Cups, 10 took place in Europe, six in Latin America and two on "neutral ground" in the US in 1994, and in Japan and South Korea in 2002. The score for Europe versus Latin America is nine to nine. Latin American teams have won all the World Cups held on their turf. European teams have won nine out of the 10 held on theirs. Brazil is the only Latin American team that has won in Europe. It has also won twice on neutral ground.

6 Historically long odds for the strongest team

All the historical data in the world cannot turn an uncompetitive team into a winner. Countries that failed to qualify for the 2010 World Cup include some traditional football countries like Hungary (two times World Cup finalist), and Sweden (once World Cup finalist and two times third place), or Russia, which, taking into account the former Soviet Union, has almost always made it into the final 16 (when it was present). But can we objectively assess the current strength of a national team? One can, of course, take the evaluation of bookmakers as a measure of subjective strength. Another alternative would be to consult the official FIFA rankings. What we prefer to do (as we have in our two previous football studies), is to rely on the Elo ratings (see box) of the teams in the month of March preceding the World Cup.

Elo Ratings

Elo ratings were developed by the Hungarian-American Physicist Arpad Elo (1903-1992) to measure and rank the strength of chess players. The ratings have been used in other sports like tennis but especially in football, where they have proven to be a better indicator and forecasting tool for determining the objective strength of teams than the FIFA ranking system. The Elo method for ranking football teams not only takes into account the number of wins, losses and draws of each team, it also examines the conditions under which those events occurred. As a result, beating a strong team like Brazil or Spain will improve a team's Elo ranking much more than beating a non-powerhouse like Malta or Andorra. Moreover, for example, winning abroad gains more points than winning at home, winning a World Cup qualifier gets more points than winning a friendly, and winning with a score of 5 to 0 will give more points than winning by 2 to 1. A nice feature of Elo ratings is that you can compare the strength of teams across times. For example, the Brazilian team, which won the World Cup in 2002, was significantly weaker than the one, which won it in 1962. You can find the ratings at
www.eloratings.net.

Source: www.dreamstime.com

Since 1950 and the surprising win by Uruguay, no team with an Elo rating below 1,820 has won the World Cup. As mentioned above, the weakest team (as measured by its Elo rating), to win the World Cup was Brazil in 2002. The strongest team to win the World Cup was Germany in 1974, followed by Brazil in 1962 and Brazil in 1970. Interestingly enough, with the exception of Germany in 1974, the strongest team going into a World Cup has never won it.

The most disappointing teams in World Cup history, i.e., the ones with very strong teams that did not even make it into the second round were France, Portugal and Argentina in 2002, Spain in 1998 and Italy in 1950. The most surprising teams in World Cup history, i.e., the ones with rather low Elo ratings that made it into the semi-finals, were South Korea and Turkey in 2002 (already mentioned above), Uruguay in 1950 and Argentina in 1990.

7 2010 the weakest World Cup since 1994

The 2010 World Cup, which has an average Elo score for all teams involved of 1,785, is the weakest World Cup since 1994 (despite the fact that three teams – Brazil, Spain and the Netherlands – have an Elo score above 2,000. The last World Cup with three such strong teams was in 1978 (Brazil, Germany and the Netherlands). This World Cup will also host the strongest Spanish team ever to go to a World Cup, the strongest English team since 1970, the strongest Dutch team since 1978, the strongest Brazilian and German teams since 1998, and an Italian team of comparable strength with the one that captured the World Cup in 2006. Hence, almost all historical favorites are traveling to South Africa with very strong teams, making it very unlikely that, with the noticeable exception of Spain, we will see a new, fancy World Cup winner in 2010.

Table 1: Round of 16

Country	Likelihood to reach the round of 16
South Africa	78%
Brazil	74%
Spain	73%
Netherlands	68%
England	63%
Germany	59%
Italy	59%
Argentina	55%
Mexico	52%
Chile	49%
France	49%
Portugal	47%
Serbia	42%
Uruguay	42%
USA	33%
Australia	33%
Denmark	32%
Switzerland	30%
South Korea	29%
Paraguay	29%

Source: UBS Wealth Management Research

Table 2: Semis

Country	Likelihood to reach the semi-finals
Brazil	49%
Germany	38%
Netherlands	34%
Italy	32%
Spain	28%
France	22%
England	21%
Argentina	20%
South Africa	17%
Uruguay	14%
Portugal	14%
Chile	13%

Source: UBS Wealth Management Research

Table 3: Winner

Country	Likelihood to win the World Cup 2010
Brazil	22%
Germany	18%
Italy	13%
Netherlands	8%
France	6%
Argentina	5%
Spain	4%
England	4%

Source: UBS Wealth Management Research

8 Round of 16: African teams – except South Africa – cannot exploit host advantage

Looking now at the likely outcome of the World Cup according to our model, tables 1, 2 and 3 list the 20, 12 and 8 most likely teams to emerge from the round of 16, reach the semi-finals and win the World Cup. Despite starting in its own World Cup with a much weaker team than the two it fielded in its previous World Cup appearances (1998 and 2002), South Africa's status as the host nation boosts the likelihood that it will make it into the round of 16. So far, every host nation has at least moved one round beyond the first one. Any other outcome would be a huge surprise – even though South Africa enters this World Cup with the weakest Elo ranking of any team, even below North Korea and New Zealand. Besides South Africa, there is no other African team on this top 20 list, but teams with a likelihood of reaching the second round of more than 25% are Didier Drogba's Ivory Coast and Samuel Eto'o's Cameroon.

9 Semi-finals: the usual suspects plus two surprises

This home bias could help South Africa reach the semi-finals, though we view such an outcome as very unlikely. We are more likely to see some of the traditional teams in the semis. Surprises could come from Chile and Portugal and (going beyond this top 12 list), South Korea, the US or Australia, which have rather strong teams, according to their Elo rankings.

Out of the top eight contenders to win the World Cup, six are former winners and the top three are the usual suspects. This might sound boring but, as stated above, past performance is a very strong predictor when it comes to forecasting the likely winner of a World Cup.

10 And the winner of the 2010 World Cup may be Brazil

Many readers might feel that European Champion and secret favorite Spain is underrated according to this model. Our English readers will certainly feel the same about England, though here there might be a home bias. The truth is, however, that both teams have tended to be underachievers when it comes to the World Cup. In the last three World Cups, Spain and England were ranked among the strongest teams but did not make it beyond the quarter-finals. Spain's best World Cup result was fourth place in 1950. England's performance at World Cups has been better, having won it once in 1966 and finishing fourth in 1990. Given the objective and subjective strengths of both teams and of their respective national championships, the stardom of many of their players and the football frenzy in both nations, this can truly be seen as an underachievement.

For the sake of keeping the World Cup interesting and making forecasting its outcome even more challenging, it would be great if one of those two teams can engineer a big surprise in Johannesburg on 11 July.

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"Strong coaches and strong managers choose to surround themselves with strong back-room staff"

The chief scout of the German national team is looking to use strategic thinking to bring football forward. He believes that although African national teams are often littered with individual stars, they often lack cohesion.

Urs Siegenthaler, can you describe your job for us?

Urs Siegenthaler: As chief scout for the German Football Association, I am responsible for watching players and games on behalf of the German national team. I also advise the team's coach and his staff; this is now Joachim Löw, previously it was Jürgen Klinsmann.

In German football you have a reputation for being an innovator. What do you say to this?

I base my approach on football, but not exclusively so. It's also a question of ethics. How do we want to appear as a team? If somebody does not wish to abide by certain values, he can still go on and achieve success, but I would not want to work with him. The motto for me and my team is "think like a team, talk like a team, act like a team". In football, and indeed in many other areas of life, there's often a big difference between what people say and what people do. I place great emphasis on strategic thinking and as such, have created a strategic database. How does a team play, how does a player act, what's going through the mind of our opponent's coach, what formation does a team use. I think that these ideas have helped German football make up a lot of ground on other countries. Looking beyond football, I also think that this approach can be applied to companies.

You were in Angola for three weeks at the African Cup of Nations. How do you see the future in terms of Africa's economies and businesses?

To highlight the problems of Africa and African countries, we can use the Nigerian national football team as an example. For many years now Nigeria has produced a number of outstanding footballers, but the national team constantly fails to live up to expectations. I believe that the cultural differences between the different tribes, cultures, family clans and religions are so significant that it is impossible, or at least very difficult, to create a cohesive footballing unit. There are still "medicine men" who now, for example, work as lawyers, and have a huge influence on their customers. While there is only one coach heading up the team, there are dozens of these "medicine men" in the background, each with a different approach. Such a structure is destined to fail when it comes to both football and business.

A lot of African footballers ply their trade in Europe and many of them play for top clubs. But, for the most part, African national teams have performed disappointingly at past World Cups. Do you think this generally stems from problems like the ones you identified with the Nigerian team?

A coach like Guus Hiddink, who has coached the South Korean, Australian and Russian national sides and can understand different cultural mentalities, would have the qualities required to lead an African team to success. A coach has to understand how to deal with the circumstances in Africa; after all, it is certainly not a lack of quality African players that stands in the way of success.

How do you rate the chances of the African teams in their "home World Cup?"

I doubt any of the teams will be particularly successful. The Africans are beginning to adopt a European approach to the game; they are holding back more, playing a tactical game. Their passion for the game is no longer there. In terms of the way the game is played, France has the most influence on African football. The coaches are French, the training facilities are set up according to the French model and players often begin their European careers with French clubs. However, I have my doubts as to whether the European model is the best way forward for African football. Another factor is that the World Cup in South Africa is taking place in their winter. Evening games will be played in temperatures of around 6 degrees. At the African Cup of Nations, games were held in 30° heat, something the African players are used to. In addition, the pitches will be well manicured – African players may be more used to playing on bumpier terrain. Furthermore, I don't think that the South African crowds will get behind the other African teams.

The approach you have brought into Joachim Löw's team, and previously into Jürgen Klinsmann's set-up, places more importance on statistics and analysis. Does football fit neatly into such equations?

I want to put people first and then come back to the relationship between people and technology. Employing a scout just to ease his conscience is not enough. A casual concertgoer can't recognize if a violin plays a note a second too late. The same applies to scouts. Not all scouts can correctly apply the analysis programs that all teams now use and draw the right conclusions. They are not all able to recognize what a player can and can't do and whether he can be coached to do something different. It is even more difficult to analyze entire teams and playing systems. And you also need people to receive this information, who are prepared to take it on board and implement it.

Does the German team now play differently against certain opponents than it did four years ago because you have been able to observe and analyze these teams better?

Of course you always need players who can put these demands into practice on the pitch. Any coach can tell his team to "get out there and score some goals", but working out how to do this is a completely different thing. The art of a coach or manager is being able to recognize "what can I ask my play-

Urs Siegenthaler
has been chief scout for the German national football team since 2005. The former FC Basel and Young Boys Bern player obtained his coaching certification from the sports university in Cologne. Siegenthaler's main job away from football is as an engineer in the construction industry. On August 1, 2010, Siegenthaler will become the sporting director at Hamburg SV, specializing in sports psychology, team development, scouting and developing young talent. Parallel to this, he may continue his role for the German national team.

ers to do, what will they understand, and what can they go out and do on the pitch?" Despite what everyone says to the contrary, I still believe that nobody is more intelligent than a football player. Footballers have to make decisions in a fraction of a second, adapt to new situations, keep their eye on the ball, and they must do so while under constant physical exertion. However, this intelligence is often limited to the playing field; as we've seen many times in the past, many footballers have trouble coping with the simpler things in life.

Will this systematic entry of data result in "play books" becoming the norm in football?

Football still lags behind many other sports in this respect. These sorts of "automated plays" work relatively well in terms of defense, but going forward this is not the case; this is because football – and this is what I think is part of the beauty of the game – is only predictable up to a certain point and this is likely to remain the case for now. Improvisation continues to play a key role.

You have a lot of contact with footballers. How do you go about looking after these sportsmen, many of whom are still very young? Do the players, many of whom earn millions, know what to do with their money?

Unfortunately I often see things end in tears. A lot of players are paid too much money when they are very young, and by very young I mean they are often under twenty. A lot of players come from humble backgrounds and their families are not used to dealing with so much money. It is often the father or another family member who manages the player's finances even though they are not equipped to do so. I think that in these cases, the clubs should at first assume some responsibility. However, they are nowadays often unable to do so as the connection between club and player is no longer what it once was.

You have seen and got to know a lot of coaches. What makes a successful coach?

A good coach, and indeed a good manager, must have excellent social skills, empathy, specialist knowledge and a high level of expertise. He must be able to gauge the ability of this team and his staff and should not be dictatorial, he must listen to those around him. Strong coaches and strong managers also choose to surround themselves with strong back-room staff.

What makes a complete footballer?

Talent isn't just about shooting at goal. Truly talented players set themselves goals in training – they understand them, take them on board, train towards them and put them into practice on the pitch. In addition they are strong leaders. Their presence elevates the level of their teammates. This is also the same in business.

Interview: pierre.weill@ubs.com
Investment writer, UBS AG

"Five years is a long time in football – but not in wealth planning"

According to "France Football", Barcelona and Argentina star striker Lionel Messi is said to have earned EUR 33 million in the last twelve months, making him the game's highest earner. But not all professional footballers are as exceptionally gifted as Messi, and as such do not earn anywhere near as much as the 2009 FIFA World Player of the Year.

Nevertheless, almost all professionals playing top-flight football in Europe or Latin America will earn the majority of their lifelong income between the ages of 20 and 35. And even this is conditional upon avoiding major injuries and maintaining the sort of form needed to play at the highest level.

Footballers must therefore be particularly careful when it comes to financial planning. Raphael von Arx, a UBS client advisor for South America in Basel, has a client portfolio including two dozen professional footballers, whom he has known for many years and with whom he enjoys a special relationship.

Uncertain economic situation back home

"Most South American and African footballers come over to Europe when they are still very young," explains von Arx. "It is usually their first time abroad and they often come from humble backgrounds." However, the players are well aware that they are not guaranteed to earn astronomic sums. Bank advisors try to show players that they should save and invest some of the money they earn today for their lives after they have retired from the game. Players from countries with unstable currencies and weak economies are often suspicious. For many of them, a period longer than five years is an eternity and they often worry about how secure their investments will be. They would prefer to have everything in cash, with some of their assets invested in real estate.

It is the client advisor's responsibility to show them that by holding cash, they are missing out on the often higher returns offered by other asset classes and that depending on the market and currency, and given the uncertain length of their career at any one club in a particular country, buying real estate may not always make sense. Bankers often continue to advise footballers on their finances even after they have retired. A player returning home to Argentina after a playing career abroad who is about to retire has already invested in a real estate project that is performing well.

Von Arx believes that most footballers are responsible with their money, even if they perhaps occasionally splash out on a sports car, which given their income is still well within their budget. "Many players support their relatives in Africa or South America." Almost all players advised by von Arx do not employ agents when it comes to their financial affairs, even if they have an agent for other matters, such as contract negotiations.

The biggest difference between footballers and other clients is their income profile. Nevertheless, they ultimately have the same financial goal. They are looking for safe investments that provide a steady return.

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Muscle drain or muscle gain?

If more African football players play for European clubs, does it foster development in Africa, or does it deprive the continent of its talent?

In 1889, Rotherham Town Football Club recruited Arthur Wharton as the first African professional football player under contract with an English club. At the time, football was widely unknown on the African continent, but the talents of its athletes were quickly acknowledged by the colonial powers: Over the next decades, several Africans played in Europe especially in the French and English football leagues. Today, a much larger number of Africans play in Europe, and also in the United States and in Asia. Several of them have made it into Europe's top teams, including Cameroonian Samuel Eto'o at Inter Milan, Ivorian Yaya Touré at FC Barcelona, and Ivorian Didier Drogba and Ghanaian Michael Essien at FC Chelsea. Almost all players of African national teams are currently under contract with clubs in Europe, while hardly anyone plays in Africa.


Source: www.dreamstime.com

Looming conflicts: Muscle drain?

Some critics have raised concerns about successful African players becoming less willing to play for their national teams, because, for instance appearances in Europe's prestigious Champions League are more lucrative. Such potentially conflicting commitments are only the tip of the iceberg of criticism of "muscle drain" out of Africa. Allegedly, especially when they first come to Europe, African players in European leagues are often employed under unfavorable conditions compared with other players, scouts exploit the lack of experience of young Africans to reap the benefits from transfers, and local teams in Africa have no means to compete for talent – a practice that FIFA president Sepp Blatter in 2003 denounced as "neo-colonialism" and "robbing the developing world of its best players." Very few of the top African players are still under contract on their home continent, which is one of the reasons for the low attractiveness of African leagues for fans and sponsors, decreasing revenues and media attendance for local clubs. This trend is self-reinforcing: The less attractive the African leagues, the less African players will be willing to stay in Africa.

Arising opportunities: Muscle gain?

At the same time, however, there may well be "muscle gain" associated with African players under contract abroad: The growing success of African national teams in the last decade has been fostered by the transfer of playing techniques and skills that players acquired by playing for international top teams. Prominent African players have also helped open an increasing number of football training schools and academies in Africa in which young talent is promoted. Such schools also provide formal education, advise players to not solely rely on football as a future occupation and offer a perspective besides sports. Generally, the example of successful Africans in Europe may inspire youngsters in Africa to strive for a similar achievement by training hard. Winning an engagement with a European club presents a way out of poverty for each individual African player, but their financial remittances to Africa are also being felt in players' families, communities, home clubs, and so on. Lastly, the success of African players abroad has created pride and a sense of identity with many Africans – often feeling the stigma of poverty, their soccer stars are positive examples of achievement.

More like Brazil: Have players abroad AND win World Cup titles

Not only African players strive to succeed in the European leagues: For instance, of Brazil's current squad, only a handful of players are under contract with clubs in Brazil, while the vast majority plays in Europe. For Brazil, this does not seem to have lessened the national team's success: Brazil is the most successful national team in the history of the World Cup and a five-time winner.

While not having won a World Cup yet, African national teams have had some notable successes in international tournaments in recent years. As a positive example of the promotion of young players in Africa, Ghana won the Under-20 World Cup as the first African team in 2009, and Nigeria was the runner-up at the Under-17 World Cup the same year. Following the participation of several North African teams, World Cups in the last two decades also saw a number of debuts of teams from Sub-Saharan Africa. Having qualified for the first time, Senegal achieved a surprise success in 2002 by beating the reigning French world champions and reaching the quarter-finals, being only the second African team to rank among the final eight teams since Cameroon in 1990. Now, if African national teams could follow Brazil and make even better use of the skills and experience that their players acquire in the world's best clubs, then, yes, one of the next football world champions may well be an African team…

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Money can buy you a Ronaldo, but not a World Cup

At its best, a football team is more than just 11 players. Comparing the teams' sporting quality with the aggregated transfer values of their players, we find that England's team is most overvalued, whereas the US boys offer the highest quality for money.

At least since Spanish football club Real Madrid paid a record EUR 94mn for Portuguese superstar Cristiano Ronaldo, it has become obvious that there is real money involved in the world's most popular sport. Sky-high transfer fees and salaries, however, do not always translate into championship titles. For Real Madrid, the investment seems to be paying off nevertheless, at least commercially.

Bread and circuses

While Spain is in a severe recession, Deloitte just crowned Real Madrid the highest revenue generating sports club in the world, recording revenues in excess of EUR 400mn in the last season. This contrasts with its sporting successes, which have been below the club's own expectations during recent years. According to the study, revenues of Europe's top soccer clubs grew by more than 220% since 1997, with broadcasting revenues being the main driver. As Spain's unemployment rate has risen from 8% in 2007 to 19% now, one would expect match day revenues to collapse. Instead, attendances in Real Madrid's Santiago Bernabéu stadium and Barcelona's Camp Nou have so far been higher on average than before the crisis. Bread and circuses, the Roman poet Juvenal once said. His words still seem to hit the nail on the head.

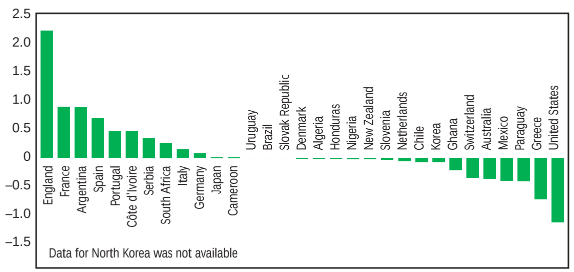
Champions on paper

It is widely recognized that at its best, a team is more than just 11 individual players. England and Spain, for example, often had several of the world's top players in their national teams. However, since winning the World Cup in 1966, England only once made it into the semi-finals (in 1990), being defeated by Germany. Spain's World Cup record, despite its recent win of the European Championship title, is even worse: only once reaching the final four back in 1950.

The big mismatch

In order to understand the distinction between a team's sporting successes and the market value of its players (the sum of estimated transfer values of the individual players), we have tried to calculate the 'fair value' of the world's top 100 national teams. By 'fair' we mean the price a team should have, if we only consider variables related to its sporting quality, like previous successes, current ranking, and the average age. In our model, these variables explain roughly 70% of the aggregated market value of the teams. For the 31 teams[1] that qualified for the World Cup, Fig. 1 shows the difference between the current transfer value and the 'fair value' of the average player in a team. The results confirm some of the anecdotal evidence: England has the most overvalued squad, followed by France, Argentina and Spain. In contrast, the US, Greece, Paraguay and Mexico have the most undervalued, or 'quality-for-money' teams. Whether or not this will help the US to defeat England in their group stage clash is a different question though.

Fig. 1: Brand it like Beckham



Source: FIFA, UEFA, transfermarkt.de, UBS WMR, as of March 2010

Over- and undervaluation of the average national team player, in million euros.

Expensive Spain, efficient Germany

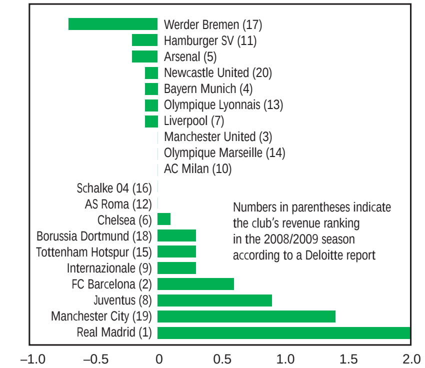
Running a similar model for Europe's 100 most competitive clubs – taking UEFA's team ranking as the yardstick – our model suggests that the top clubs in Spain's Primera División are, on average, the most overvalued, whereas the best teams in Germany's Bundesliga and in the French Ligue 1 appear to invest their money more successfully on average, from a purely sporting perspective.

Chicken or egg, money or superstar

On an individual club level, the German Bundesliga stands out as combining commercial and sporting successes, with FC Bayern Munich, Hamburger SV and Werder Bremen belonging to both Europe's most undervalued and top-earning clubs according to Deloitte (Fig. 2). In contrast, Real Madrid, Manchester City and Juventus are the most overvalued clubs. Most of them, however, successfully capitalize on the commercial value of their exclusive squads, also belonging to the highest revenue-generating clubs. Money attracts superstars and superstars attract money, and at least in the short to medium term, lacking top sporting performance does not seem to spoil the party, as Real Madrid showed during recent years. Other clubs, like Manchester City, bridge financial gaps by relying on wealthy patrons. As long as money keeps on rolling in, in one form or another, we would not be surprised to read about new record-high bids for the world's top players in the years ahead.

Fig. 2: German efficiency

Over- and undervaluation of the average player in Europe's top revenue generating clubs (in mn Euro)



Source: UEFA, transfermarkt.de, Deloitte, UBS WMR, as of March 2010

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[1] Data for North Korea was not available.

Brazil 2014: Looking ahead

By 11 July, we will know the winner of the 2010 World Cup. Thereafter, the songs of praise to the new champion will slowly fade away, and football will play a less prominent role in the global media for another four years. Meanwhile, however, Brazil will be diligently preparing the next tournament, the 2014 World Cup.

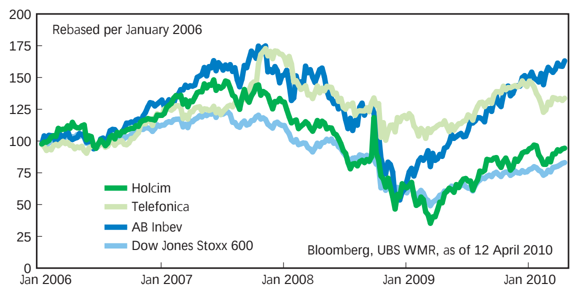
Less developed infrastructure in emerging markets

Brazil is not only hosting the World Cup in 2014, but also the Olympic Games in 2016. In an emerging market, the longer-term impact of newly-built public transportation, air traffic, or telecommunication capacity investments required for the hosting of such events is usually higher than in a developed economy, where infrastructure capacities are already more developed. According to the IMD World Competitiveness Yearbook 2009, Brazil is ranked 46th out of 56 countries in terms of infrastructure accessibility and quality (current host South Africa is ranked 54th). Germany, in turn, was ranked 9th when it hosted the 2006 World Cup. So the prospects are good that in Brazil, not only football fans, but society at large will benefit from the upcoming infrastructure improvements.

Telecommunication, transportation and tourism

Besides the necessary spending for soccer stadiums, we expect that investments in the telecommunication, transportation (railroads, public transportation, roads, airports, among others), and the catering and hospitality sectors will be highest. We estimate total gross investments in excess of USD 40bn between now and 2016; or roughly 2% of Brazil's current GDP. However, while the private sector will likely take over the bulk of investments in the hospitality sector, the government will have to finance a significant part of the public transportation capacity build-ups; money that will likely be missing elsewhere. Total public net new spending will therefore be lower than suggested by these figures. Nevertheless, we expect the additional investment to be supportive of economic growth in the years to come, but they will benefit some sectors and companies more than others.

Fig.1: Historical performance of our World Cup campaigners



It is not only about domestic companies

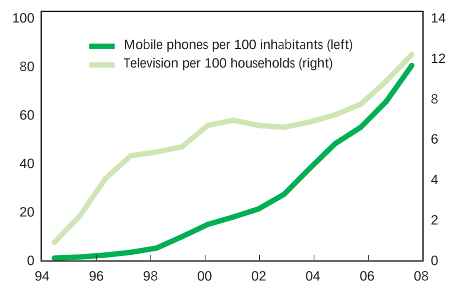
Apart from local Brazilian companies, some foreign internationals will also likely benefit from the planned investments. In Europe, we see mainly Telefonica, AB Inbev and Holcim as having above-average exposure to both the Brazilian economy and the planned activities for the upcoming events.

Beer to celebrate, …

Our first candidate is AB Inbev, the world's largest beer producer. With more than one-third of its bottom line deriving from Brazil, we believe that it will be beer and football that will make the World Cup in 2014 a successful event for AB Inbev. In addition to its exposure to Brazil, we have a high regard for AB Inbev's management team and its impressive track record in integrating acquired businesses.

Fig. 2: Brazil's telecommunication on a rising trend

Number of mobile phones and televisions per 100 inhabitants and households, respectively



Source: CEIC, UBS WMR, as of April 201

…phone calls home after glorious victories, …

Telefonica generated roughly EUR 8.4bn in revenues from its Brazilian business activities. As an international telecom company that Telefonica is, we believe, well equipped to profit from a further increase in telecommunication use (see Fig. 2). The company operates fixed-line businesses, mobile services, broadband and pay-TV in Brazil. Furthermore, with a dividend yield of more than 6% the stock offers some downside protection.

…and loads of cement to make it all happen

The construction and modernization of stadiums and investments in infrastructure projects require a lot of cement and building materials. Holcim already generates 15.4% of its sales in Latin America and is likely to benefit from the increased spending on airports, roads and sports stadiums given its presence in Brazil. With an overall exposure of more than 50% to emerging markets, Holcim is highly geared towards the strong growth trends in these markets. The World Cup in 2014 and the planned investments in infrastructure are probably the icing on the cake for Holcim.

Current positive assessment outweighs World Cup exposure

The 2014 World Cup is still far away. Although exposure to the event is a required element for inclusion here, we think its immediate impact on the share prices of the selected companies will be minimal. Rather, it will only gradually become more apparent. Therefore, we have limited ourselves to companies we also favor currently, and not only because of their exposure to the World Cup and the Olympic Games.

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Enterprises

Anheuser-Busch InBev NV 1, 2, 3. Holcim Ltd 2, 4, 5, 6, 7. Telefonica SA 2, 3, 5, 6, 7.

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Quiz answer

The letters of the correct answers spell out the solution word **RIO DE JANEIRO**.

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Mixed Sources

Which team will be crowned 2010 World Champions?

How large is Africa's share of the global population?

- A **8.9%**
- R **14.7%**
- N **21.3%**

Which river has the potential to provide energy for the world's largest hydroelectric power station in the future?

- I **Congo**
- U **Nile**
- E **Amazon**

How many independent countries make up the African continent?

- N **26**
- E **37**
- O **53**

Who is South Africa's biggest trading partner?

- P **USA**
- B **European Union**
- D **China**

How large is Africa's share of global oil production?

- E **12%**
- S **5%**
- C **2%**

Which country is the world's biggest producer of gold?

- O **South Africa**
- J **China**
- I **USA**

Which country has qualified for all World Cups to date?

- I **Italy**
- N **Germany**
- A **Brazil**

Which small country unexpectedly beat the mighty Brazil in the legendary Maracanã Stadium in Rio de Janeiro to win the 1950 World Cup?

- N **Uruguay**
- S **Bolivia**
- R **South Korea**

Which team at the 2010 World Cup is the most overvalued (based on past success in relation to the estimated transfer value of its players), according to estimates by Wealth Management Research (WMR)?

- B **Germany**
- R **Switzerland**
- E **England**

Which team at the 2010 World Cup is the most undervalued (based on past success in relation to the estimated transfer value of its players), according to estimates by Wealth Management Research?

- I **USA**
- S **Spain**
- P **Argentina**

Which African team does Wealth Management Research predict has the greatest chance of reaching the semi-finals?

- R **South Africa**
- E **Ivory Coast**
- B **Cameroon**

Where will the final on 11 July 2010 take place?

- S **Cape Town**
- O **Johannesburg**
- P **Pretoria**

According to UBS Chief Economist Andreas Hoefert's prediction, in which city are the celebrations for the 2010 World Champions likely to be most fervent?

(The solution is made up of the letters of the correct answers)

WORLD CUP 2010

Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H
South Africa	Argentina	England	Germany	Netherlands	Italy	Brazil	Spain
Mexico	Nigeria	USA	Australia	Denmark	Paraguay	Korea DPR	Switzerland
Uruguay	Korea Republic	Algeria	Serbia	Japan	New Zealand	Côte d'Ivoire	Honduras
France	Greece	Slovenia	Ghana	Cameroon	Slovakia	Portugal	Chile

Group games

June 11	16:00	South Africa – Mexico	:
	20:30	Uruguay – France	:
June 16	20:30	South Africa – Uruguay	:
June 17	20:30	France – Mexico	:
June 22	16:00	Mexico – Uruguay	:
	16:00	France – South Africa	:

June 12	13:30	Korea Rep. – Greece	:
	16:00	Argentina – Nigeria	:
June 17	13:30	Argentina – Korea Rep.	:
	16:00	Greece – Nigeria	:
June 22	20:30	Nigeria – Korea Rep.	:
	20:30	Greece – Argentina	:

June 12	20:30	England – USA	:
June 13	13:30	Algeria – Slovenia	:
June 18	16:00	Slovenia – USA	:
	20:30	England – Algeria	:
June 23	16:00	Slovenia – England	:
	16:00	USA – Algeria	:

June 13	16:00	Serbia – Ghana	:
	20:30	Germany – Australia	:
June 18	13:00	Germany – Serbia	:
June 19	16:00	Ghana – Australia	:
June 23	20:30	Ghana – Germany	:
	20:30	Australia – Serbia	:

June 14	13:30	Netherlands – Denmark	:
	16:00	Japan – Cameroon	:
June 19	13:30	Netherlands – Japan	:
	20:30	Cameroon – Denmark	:
June 24	20:30	Denmark – Japan	:
	20:30	Cameroon – Netherlands	:

June 14	20:30	Italy – Paraguay	:
June 15	13:30	New Zealand – Slovakia	:
June 20	13:30	Slovakia – Paraguay	:
	16:00	Italy – New Zealand	:
June 24	16:00	Slovakia – Italy	:
	16:00	Paraguay – New Zealand	:

June 15	16:00	Côte d'Ivoire – Portugal	:
	20:30	Brazil – Korea DPR	:
June 20	20:30	Brazil – Côte d'Ivoire	:
June 21	13:30	Portugal – Korea DPR	:
June 25	16:00	Portugal – Brazil	:
	16:00	Korea DPR – Côte d'Ivoire	:

June 16	13:30	Honduras – Chile	:
	16:00	Spain – Switzerland	:
June 21	16:00	Chile – Switzerland	:
	20:30	Spain – Honduras	:
June 25	20:30	Chile – Spain	:
	20:30	Switzerland – Honduras	:

Last Sixteen

1	June 26	16:00	1A – 2B	:
2	June 26	20:30	1C – 2D	:
3	June 27	16:00	1D – 2C	:
4	June 27	20:30	1B – 2A	:
5	June 28	16:00	1E – 2F	:
6	June 28	20:30	1G – 2H	:
7	June 29	16:00	1F – 2E	:
8	June 29	20:30	1H – 2G	:

Quarter-Finals

1	July 02	16:00	1EF5 – 1EF6	:
2	July 02	20:30	1EF1 – 1EF2	:
3	July 03	16:00	1EF4 – 1EF3	:
4	July 03	20:30	1EF7 – 1EF8	:

Semi-Finals

1	July 06	20:30	1QF2 – 1QF1	:
2	July 07	20:30	1QF3 – 1QF4	:

3rd Place

July 10	20:30	2SF1 – 2SF2	:

Final

July 11	20:30	1SF1 – 1SF2	: