

8th edition

Southern Africa | West Africa | East Africa

Closing the value gap

Valuation methodology survey
2016/2017



Closing the value gap

Valuation methodology
survey 2016/2017



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Section 1: Foreword



*PwC is pleased to present the eighth edition of the biennial **Valuation Methodology Survey**. In the previous edition of the survey, we included a perspective from our colleagues in East Africa and West Africa, as well as Francophone Africa. This survey continues to build a wider African view on valuation-related matters across the continent.*

We have entered a period of much uncertainty and change, both in Africa and globally. With this in mind, the environment for doing deals has become increasingly challenging. We already know that deals in emerging markets such as ours can be challenging, with PwC research indicating that 50% of deals that enter detailed external due diligence in growth markets fail to complete.¹

Understanding the pitfalls that cause deals not to complete and identifying the most common types of issues that arise post completion, enables us to provide sound advice to our clients throughout the deal-making process. This is particularly important when market conditions are challenging and fluid. Therefore, in this edition of the survey we asked respondents specific questions about their experience in doing deals in Africa:

-  What key factors caused their deals not to be completed;
-  What valuation-related issues could cause deals to not succeed;
-  What macroeconomic events, structural issues and policy changes could cause deals to fail;
-  What business practices of the target could cause deals not to succeed;
-  What differentiates companies that are successful in closing deals from those that are not; and
-  What types of deal issues could arise post-completion.

We have noted a marked improvement in the availability of African market data and the valuation inputs needed to perform investment evaluation and analysis, but the lack of financial data remains one of the key challenges to doing deals in Africa. As a result, our survey continues to focus on the technical inputs required to perform valuations, with a view to continuing to contribute to the collective data available to valuation practitioners in Africa.

¹ PwC, *Getting on the right side of the delta: A deal-maker's guide to growth economies*, January 2012. <http://www.pwc.com/gx/en/services/advisory/deals/doing-deals-in-growth-economies.html>

This survey represents the views of 74 financial analysts and corporate financiers – 41 in Southern Africa, 18 in East Africa and 15 in West Africa (including Francophone Africa). We would like to thank all respondents for their valued contribution and the time and effort taken to participate in the survey. Thank you also to the PwC teams in Accra, Abidjan, Cape Town, Ebène, Johannesburg, Lagos, Nairobi and Paris that assisted with the compilation of the survey.

We trust that the survey will continue to be of benefit to readers and contribute to the development of valuation practice in the wider African market. We look forward to your feedback and will endeavour to incorporate your suggestions in the 2018/2019 edition of the publication.

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28 March 2017



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PwC's African footprint



Wherever you do business in Africa, we're there for you.



Africa is a continent of contrasts, unique challenges and amazing opportunities. Succeeding here depends on having a deep understanding of local issues, a global perspective, and the ability to use these to build tailored solutions. We've been doing business in Africa for almost a century, and over 9 000 professionals in 66 offices are working with our clients to add value to their businesses. It's what we do.



At PwC in Africa, we see opportunities where others see challenges.

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Section 2: Drivers of deal success



Deals in emerging markets can be challenging. Understanding not only the pitfalls that cause deals not to complete, but also the drivers of deal success, enables us to provide sound advice to our clients throughout the deal-making process.

Failing to complete a transaction results in considerable opportunity costs in the form of management attention, time and money, not to mention the potential of missing out on a value adding opportunity.

In this edition of the survey, we asked respondents for their views on the relevance of factors that might have caused their deals not to be completed.

Q: What are the factors which cause deals to not be completed? Please rank them in order of relevance, with 1 being the most relevant.

- Transparency and quality of the target’s financial information
- Inability to agree on value
- Concerns regarding the target’s business practices
- Post-completion concerns regarding management retention and continuity
- Management’s ability to make the integration a success
- Difficulties finalising and settling on transaction agreements
- Partnering/joint venture conflicts
- Government interference
- Changes in shareholder or investor sentiment
- Concerns regarding regulatory uncertainty



We weighted responses in order of relevance. Of the various reasons causing deals not to complete, the highest ranking response was the inability to agree on value.

In fact, the responses to the survey are supported by quantitative research performed by PwC. An assessment of over 200 deals, including publically-announced deals and a broader set of private deals that PwC has advised on, found that nearly 40% of deals failed to complete because of a valuation mismatch.²

This finding confirms our experience that doing deals in growth markets can be extremely difficult, and poses a real challenge to valuation practitioners like ourselves.

Transparency and quality of information was the pitfall that received the second-highest score. This is perhaps not surprising – in emerging markets, many businesses are understaffed in finance and IT and have less-developed financial reporting systems.

This ties in closely with the inability to agree on value. Where there is no accurate historical data on market size, no forecasts of market demand, and where the target does not prepare detailed projections, performing valuations that can be used to negotiate a transaction price becomes incredibly challenging.

Difficulties in finalising and settling transaction agreements also featured strongly, underscoring the importance of having an adviser with a strong local footprint.

Respondents also ranked concerns regarding the target’s business practices relatively highly, indicating that tax compliance, corruption and fraud are key risks that can cause deals to fail.

Figure 2.1 Factors causing deals to not be completed (weighted average score)

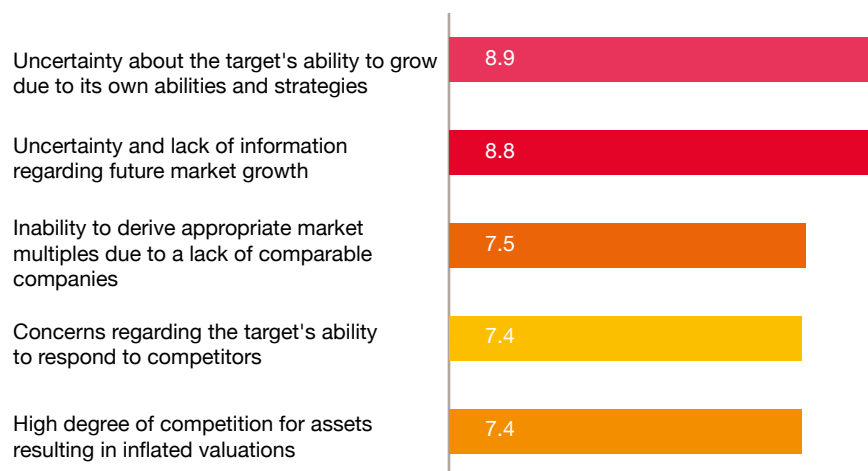


² PwC, *Getting on the right side of the delta: A deal-maker’s guide to growth economies*, January 2012. <http://www.pwc.com/gx/en/services/advisory/deals/doing-deals-in-growth-economies.html>

Q: Justifying market valuations can cause deals to fail. Which of the valuation-related issues in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- *Uncertainty and lack of information regarding future market growth*
- *Uncertainty about the target's ability to grow due to its own abilities and strategies*
- *Concerns regarding the target's ability to respond to competitors*
- *Inability to derive appropriate market multiples due to a lack of comparable companies*
- *High degree of competition for assets resulting in inflated valuations*

Figure 2.2 Valuation-related issues that cause deals to fail (weighted average score)



We found in the previous question that of the various reasons causing deals not to complete, the highest ranking response was the inability to agree on value. We therefore wanted to identify what valuation-related issues are most important to respondents. Our findings indicated that no single factor appears to stand out, but rather all of the factors listed are important.

Uncertainty about the target's ability to grow, and uncertainty and lack of information around future market growth were the two most relevant factors. This highlights the importance of conducting research to improve comfort around the forecasts used to value the target, as well as performing detailed financial and commercial due diligence analyses. It is also important to ensure that the transaction price is supported by a range of valuation scenarios that address the various uncertainties being considered.

Inability to derive market multiples is a common theme in Africa, with only a limited number of traded companies in some markets. Concerns about the target's ability to respond to competitors also featured prominently, again underscoring the importance of detailed due diligence and valuation analyses.

Interestingly a high degree of competition for assets resulting in inflated valuations also featured strongly. With Africa seen as a growth market by international investors, this is perhaps unsurprising.

Q: Macroeconomic events, structural issues and policy changes can cause deals to fail. Which of these factors in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- Exchange rate fluctuations
- Changing macroeconomic growth expectations
- Increased geopolitical uncertainty
- Lack of clear fiscal policies and directives
- Changes in government policy regarding interest rates
- Changes in government policy regarding exchange rates
- Changes in government policy regarding taxation resulting in increased tax burdens

Figure 2.3 Macroeconomic events, structural issues and policy changes that cause deals to fail (weighted average score)



Exchange rate fluctuations, increased geopolitical uncertainty and changing macroeconomic growth expectations were the most relevant factors identified by respondents. Lack of clear fiscal policies and directives, and changes in government policies governing taxation, exchange rates and interest rates made up the lower end of the ranking.

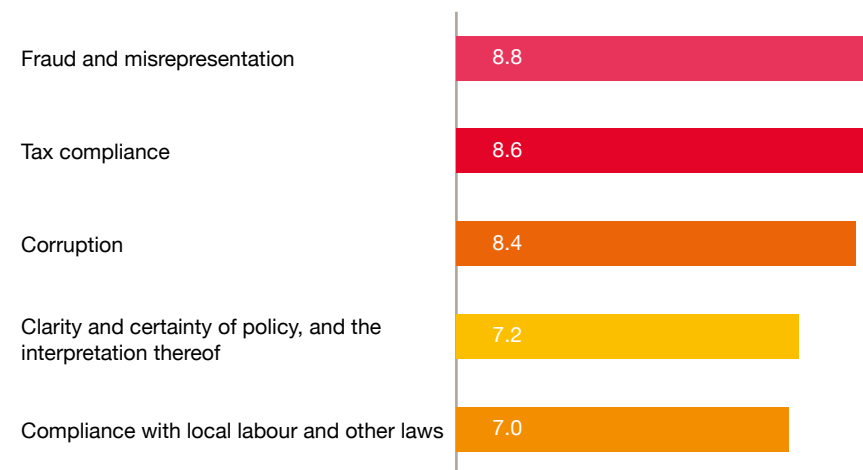
Interestingly, the most important factors identified relate to macro issues linked to geopolitical uncertainty and market volatility, rather than local in-country issues.



Q: Non-compliant business practices can cause deals to fail. Which of these business practices in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- Tax compliance
- Corruption
- Fraud and misrepresentation
- Clarity and certainty of policy, and the interpretation thereof
- Compliance with local labour and other laws

Figure 2.4 Business practices that cause deals to fail (weighted average score)



We asked respondents about business practices that can cause deals to fail. They were divided in their assessment of the top three non-compliant business practices and their impact on deal success.



Fraud and misrepresentation, followed by tax compliance and corruption made up the top three, while clarity, certainty and interpretation of policies and compliance with local labour and other laws were considered less relevant.

Q: Difficulties in negotiating contracts can cause deals to fail. Which of these factors in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- Less developed legal infrastructure
- Less experienced and less support in doing deals
- Different negotiation approaches
- Difficulty in identifying the interests or negotiating positions of the various stakeholders



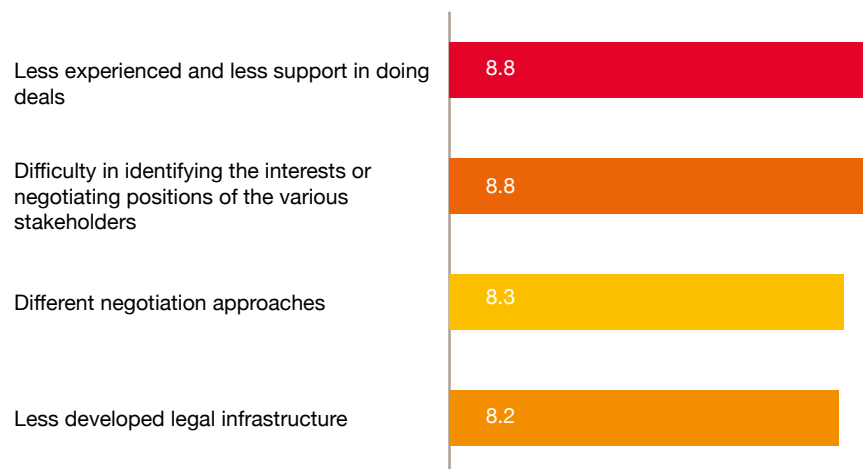
Negotiation is a critical stage in every deal across geographies and the complexity of negotiations in growth markets cannot be emphasised enough.

We asked respondents to indicate the main difficulties they encountered when negotiating deals and found that of the factors listed, no single factor appears to stand out more than others.

Difficulties in identifying the interests or negotiating positions of the various stakeholders and dealing with counterparties that have less experience and support in executing deals are common factors leading to failed negotiations. It is vital to understand who the key stakeholders are and to possibly encourage the counterparty to use an experienced adviser.

Different negotiation approaches can also cause deals to fail. It is critical for deal makers to adapt their negotiation approach to suit local customs and cultural norms.

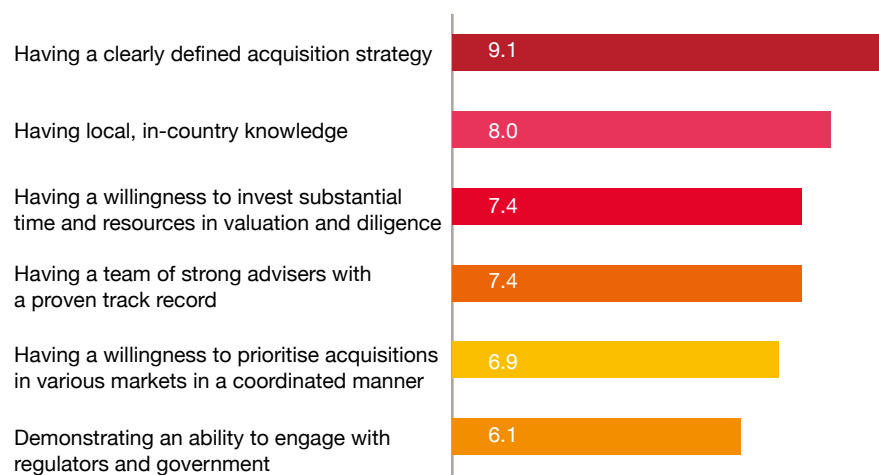
Figure 2.5 Difficulties in negotiations that cause deals to fail (weighted average score)



Q: What factors in your view differentiate companies that are successful in closing deals from those that are not? Please rank them in order of relevance, with 1 being the most relevant.

- Having a clearly defined acquisition strategy
- Having local, in-country knowledge
- Having a willingness to prioritise acquisitions in various markets in a coordinated manner
- Having a team of strong advisers with a proven track record
- Having a willingness to invest substantial time and resources in valuation and diligence
- Demonstrating an ability to engage with regulators and government

Figure 2.6 Factors differentiating companies that are successful in closing deals (weighted average score)



Having a clearly defined acquisition strategy is seen as the most important differentiating factor. Due diligence will be imperfect and valuations challenging, so a strong strategic rationale is critical to completing a deal.

In-country knowledge is also a key factor, which highlights the need to use advisers with a strong African footprint.

A willingness to invest is also key, ranking third among the various factors listed. Investing in due diligence, valuation analysis and post-deal integration are likely to be key differentiating factors.

Having a team of strong advisers is also important. However, this may be challenging for smaller companies making acquisitions that lack the deal-making capacity of large multinationals. The importance of this factor suggests that companies without significant in-house M&A capabilities may place more reliance on experienced advisers with a proven track record in closing deals.

Q: What are the factors that result in significant issues after completion? Please rank them in order of relevance, with 1 being the most relevant.

- Transparency and quality of the target’s financial information
- Concerns regarding the target’s business practices
- Post-completion concerns regarding management retention and continuity
- Management’s ability to make the integration a success
- Partnering/joint venture conflicts
- Government interference
- Changes in shareholder or investor sentiment
- Concerns regarding regulatory uncertainty



Many issues can still arise post completion. The highest ranking factor was management’s ability to make integration a success. Delivering value from a deal can only be achieved through successful post-deal integration.

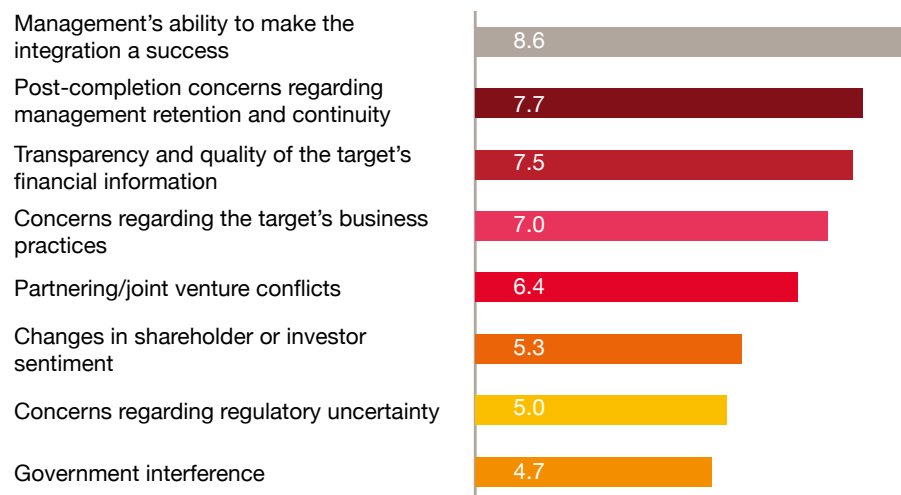
The results also show the importance of ensuring that management teams are retained. This is perhaps unsurprising in a diverse continent like Africa, where local operating experience and relationships are prerequisites to success.

Issues arising from the transparency and quality of the target’s financial information are not only a key factor causing deals to fail, but are also a prominent post-deal issue. This shows the importance of investing in an integration plan that ensures the alignment of financial reporting systems to those of the acquirer.

Concerns regarding the target’s business practices and partnering conflicts ranked in fourth and fifth places, showing the importance of performing detailed diligence on the target during the negotiation process, and of researching potential partners extensively.

We next surveyed respondents on the factors that differentiated companies that are successful in closing deals from those that are not.

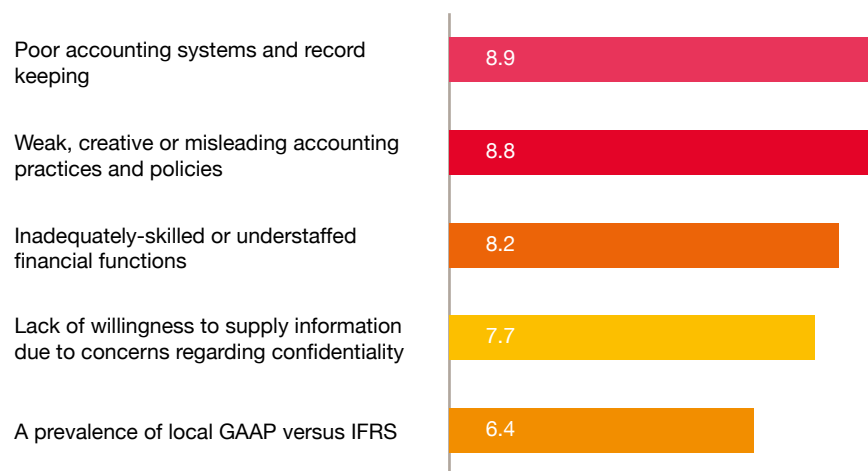
Figure 2.7 Factors resulting in significant issues after deal completion (weighted average score)



Q: Lack of financial information and market data can be a key determinant of a deal failing to close, or a factor giving rise to deals experiencing issues post completion. Which of these information-related issues in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- Weak, creative or misleading accounting practices and policies
- Poor accounting systems and record keeping
- Inadequately-skilled or understaffed financial functions
- Lack of willingness to supply information due to concerns regarding confidentiality
- A prevalence of local GAAP versus IFRS

Figure 2.8 Information-related issues that cause deals to fail (weighted average score)



Earlier we identified lack of financial information and the transparency and quality of financial information as key risk factors causing deals to not complete, as well as being prominent post-deal issues. We wanted to understand what specific information-related issues cause deals to fail.

Poor accounting systems and record keeping topped the list in terms of relevance with a weighted average score of 8.9, followed closely by weak, creative or misleading accounting practices and policies.

In third place, we find the prevalence of inadequately skilled or understaffed financial functions as an information-related factor hindering deals getting done.

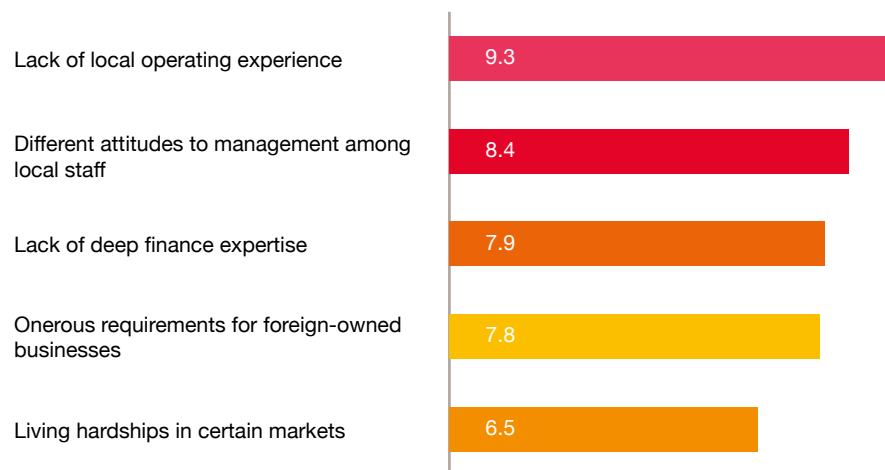
Reluctance to share information by selling parties over concerns regarding confidentiality was ranked as the fourth most relevant factor.

Perhaps unsurprisingly, with many African countries having adopted IFRS, the prevalence of local accounting standards were considered the least significant factor in determining the success of a deal.

Q: Post-completion integration issues can cause deals to fail. Which of these factors in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- Onerous requirements for foreign-owned businesses
- Lack of local operating experience
- Lack of deep finance expertise
- Different attitudes to management among local staff
- Living hardships in certain markets

Figure 2.9 Post-completion integration issues that cause deals to fail (weighted average score)



A lack of local operating experience was the single most important cause of post-completion integration issues.

Respondents also believe different attitudes to management among the local staff constituted a significant hurdle in integrating businesses post deal.

To be successful, foreign-owned businesses require managers with an affinity with the buyer in terms of loyalty and knowledge of company culture, but also local operating experience, and knowledge of local customs and language.

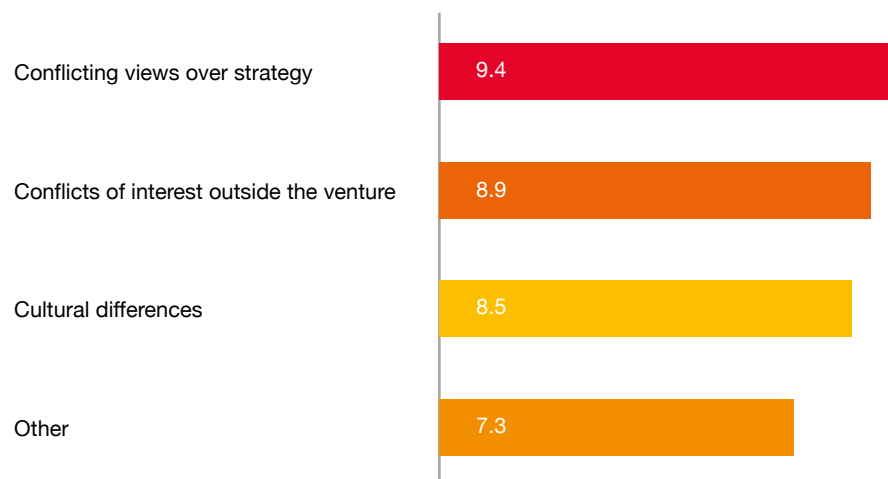
In a diverse continent like Africa, finding management that has local operating experience as well as an affinity with the buyer can present challenges.

A lack of deep expertise in finance and onerous requirements for foreign-owned businesses scored similarly. Living hardships in certain markets was found to be of less relevance.

Q: Partnering conflicts can cause deals to fail. Which of these factors in your view cause deals to not succeed? Please rank them in order of relevance, with 1 being the most relevant.

- *Conflicting views over strategy*
- *Conflicts of interest outside the venture*
- *Cultural differences*
- *Other*

Figure 2.10 Partnering conflicts that cause deals to fail (weighted average score)



A key reason for partnering is regulatory, with many African countries requiring an element of local ownership, and in the case of South Africa, regulations regarding black economic empowerment. However, partnering can offer significant benefits in the form of local relationships and access to in-depth knowledge of the local operating environment.

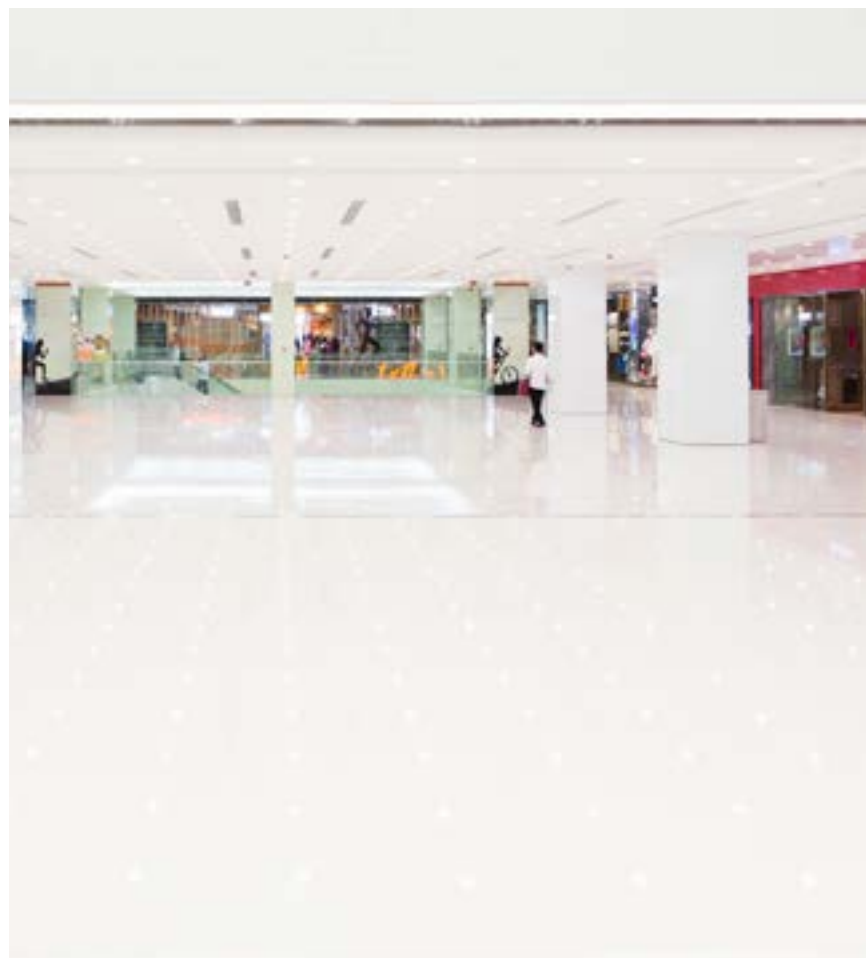
Reconciling differences and managing expectations are most often the most effective path to resolving conflicts between partners. Conflicting views over strategy is the leading factor underlying partnering conflicts. The longer the partnership exists, the greater the potential for changes in interests and strategic objectives. It is therefore important to define up front under what circumstances one partner can exit and how it will take place.

In addition to the above, having conflicting interests outside of a specific venture is believed to be the second most relevant factor causing deals not to succeed. This highlights the importance of conducting detailed research into any business partner.

Respondents also indicated that cultural differences play a role.

Other factors listed by respondents in varying degrees of relevance include differences in investment objectives, investment horizons, inequality in JV participation, and related-party transactions.

Section 3: Southern Africa



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Valuation approaches

There are a number of methodologies that can be used to value businesses. We have previously found that the approaches most commonly used in Southern Africa are:

- **The income approach (discounted cash flow approach)**

This approach determines the market value of the ordinary shares of a company based on the value of the cash flows that the company can be expected to generate in the future. This includes traditional discounted cash flow techniques and also real option valuations, which use option pricing models to measure the value of assets that share option characteristics.

- **The market approach (market multiple approach)**

This gauges the market value of the ordinary shares of a company based on a comparison of the company to comparable publicly-traded companies and transactions in its industry, as well as evaluating prior transactions in the ordinary shares of the company using an appropriate valuation multiple.

- **The net assets approach**

This evaluates the market value of the ordinary shares of a company by adjusting the asset and liability balances on the company's balance sheet to its market value equivalents. The approach is based on the summation of the individual piecemeal market values of the underlying assets, less the market value of the liabilities.

The aim of this section is to highlight the most popular valuation approaches being used in business enterprise valuations in Southern Africa. We were particularly interested in determining whether any changes have taken place in the choice of approaches followed by market participants since our previous survey in 2014.

Q: Which of the following valuation approaches do you prefer to value a going concern?

- *Income approach (discounted cash flow)*
- *Market approach (e.g. price/earnings ratio)*
- *Net asset approach*

The primary valuation approaches remain the income approach (discounted cash flow) and market approach (based on market multiples). The general indication from respondents is that the income approach remains the primary valuation methodology, used by 64% of respondents, while the market approach is also an important methodology, with 36% of respondents using it as their preferred approach.

In the South African market, where there are relatively few listed companies that can be used as a reliable source for market multiples, it is perhaps not surprising that the income approach continues to remain the most favoured methodology.

We also asked respondents whether they apply a secondary methodology. Of those respondents who use the income approach as their primary methodology, all confirmed using the market approach as their secondary method of choice.

Of the responses confirming the market approach as the primary methodology for valuing going concerns, all confirmed using the income approach as their secondary method of choice.



While the income approach remains the most popular approach, valuation practitioners increasingly seldom use only one approach to value businesses.

Income approach

Cost of capital

From a company's perspective, the weighted average cost of capital (WACC) represents the economic return (or yield) that an investor would have to give up by investing in any particular investment instead of in all available alternative investments that are comparable in terms of risk and other investment characteristics.³

WACC formula

The general formula for calculating the WACC (assuming only debt and equity capital) is:

$$\text{WACC} = k_d \times (d\%) + k_e \times (e\%)$$

where:

WACC = Weighted average rate of return on invested capital

k_d = After-tax rate of return on debt capital

$d\%$ = Debt capital as a percentage of the sum of the debt and ordinary equity capital (total invested capital)

k_e = Rate of return on ordinary equity capital

$e\%$ = Ordinary equity capital as a percentage of the total invested capital

There are three related steps involved in developing the WACC:

- Estimating the opportunity cost of equity financing;
- Estimating the opportunity cost of non-equity financing; and
- Developing market value weights for the capital structure.

Cost of equity

Estimating the cost of equity is the most subjective and difficult measure to quantify in the WACC formula, which is why we have dedicated a substantial part of this survey to this issue.

We have found in previous surveys that the capital asset pricing model (CAPM) is probably the most widely used model to determine the cost of equity.

CAPM formula

$$E(R_e) = R_f + \beta \times E(R_p)$$

where:

$E(R_e)$ = Expected rate of return on equity capital

R_f = Risk-free rate of return

β = Beta or systematic risk

$E(R_p)$ = Expected market risk premium: expected return for a broad portfolio of shares less the risk-free rate of return

The remainder of this section deals with the various components of the CAPM.

³ Pratt, S and Niculita, A. *Valuing a Business*. McGraw-Hill, 2008.

Risk-free rate

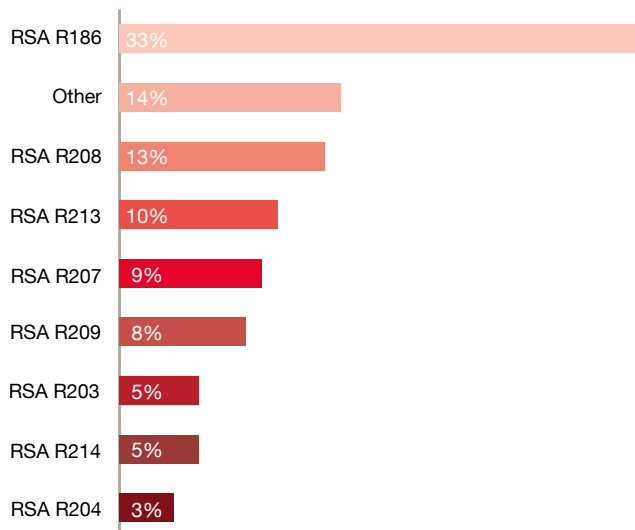
Ordinarily, valuation practitioners estimate the cost of equity by assessing its component parts using the CAPM.

In South Africa, various government bonds as well as yield curves are available as a proxy for the risk-free rate. We asked respondents to indicate their choice of proxy.

Q: When performing valuations in South Africa, how often are the following used as a benchmark for the risk-free rate?

- R203 Bond (maturity date: 15/09/2017)
- R204 Bond (maturity date: 21/12/2018)
- R207 Bond (maturity date: 15/01/2020)
- R208 Bond (maturity date: 31/03/2021)
- R186 Bond (maturity date: 11/12/2026)
- R213 Bond (maturity date: 28/02/2031)
- R209 Bond (maturity date: 31/03/2036)
- R214 Bond (maturity date: 28/02/2041)

Figure 3.1 Benchmarks used for the risk-free rate



The R186 remains the most popular benchmark, with 33% of respondents using the R186 as their benchmark rate, the same as in the previous survey. However, while the use of the R186 has increased relative to other government bonds, many respondents indicated that they do not use the yield of a single bond as their risk-free rate benchmark. Most respondents in the 'other' category use ten-year bond yields derived from the yield curve.

While the R186 is the preferred government bond, our findings show a continued preference for a bond yield derived from a yield curve.



Beta

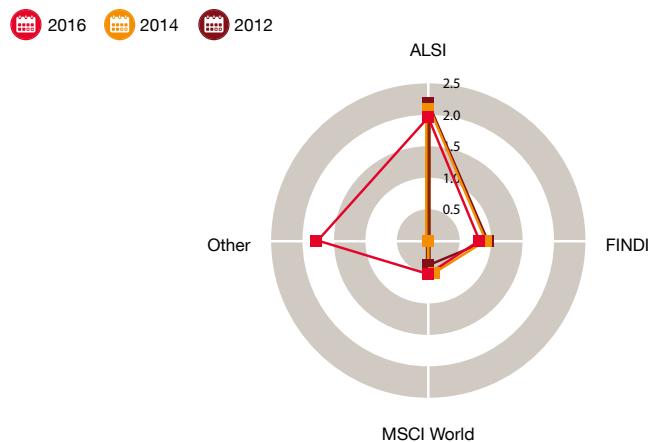
Beta measures the sensitivity of a share price to fluctuations in the market as a whole. It is calculated by regressing individual share returns against the returns of the market index.

A key issue relating to the beta calculation is the choice of market index. In practice, there is no index that accurately measures the total return of the market portfolio, necessitating the use of a market proxy. We asked respondents which index they use as a market proxy.

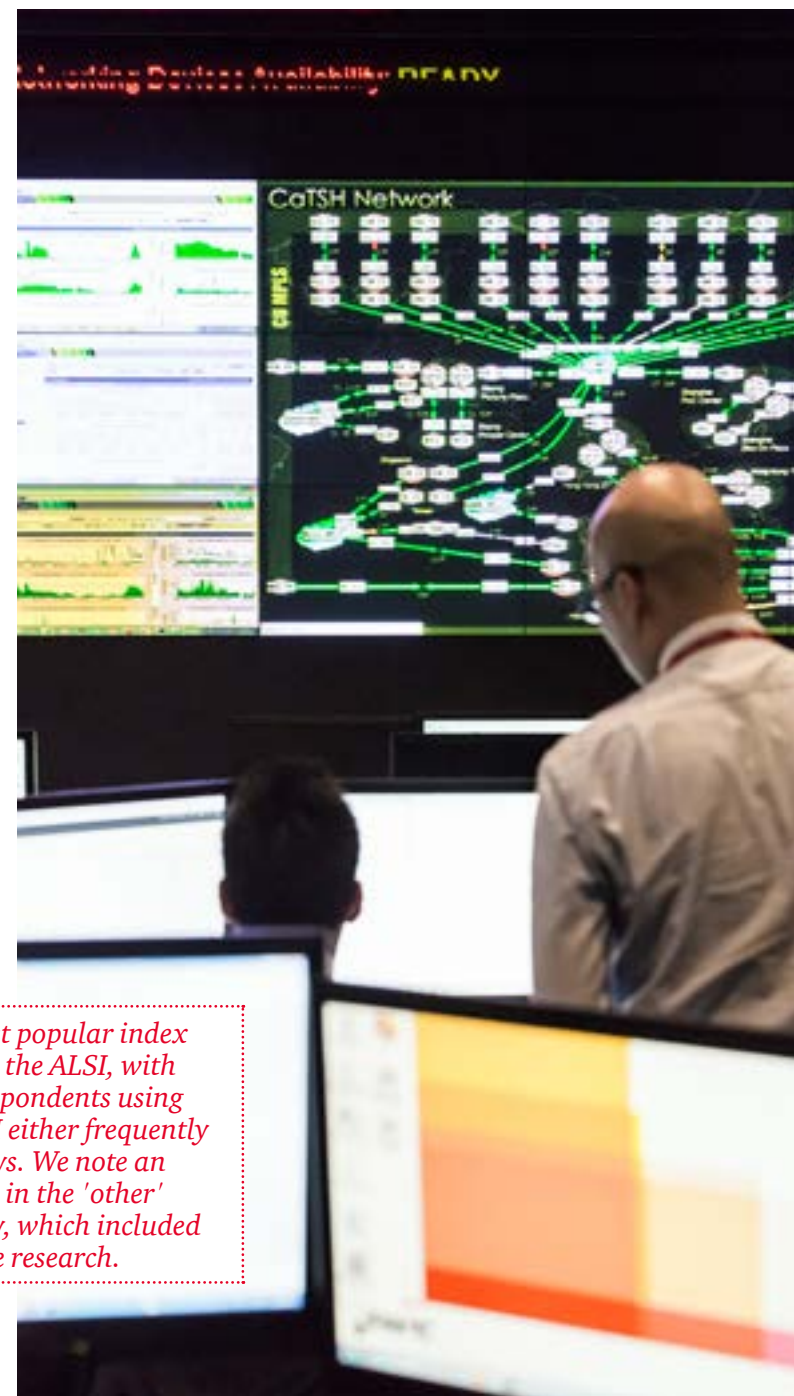
Q: When performing valuations in the South African market, how often would you consider each of the following to be an appropriate market index to use as a market proxy for a beta calculation?

- ALSI
- FINDI
- MSCI World

Figure 3.2 Market proxies used for beta calculations in the South African market



The most popular index remains the ALSI, with most respondents using the ALSI either frequently or always. We note an increase in the 'other' category, which included in-house research.

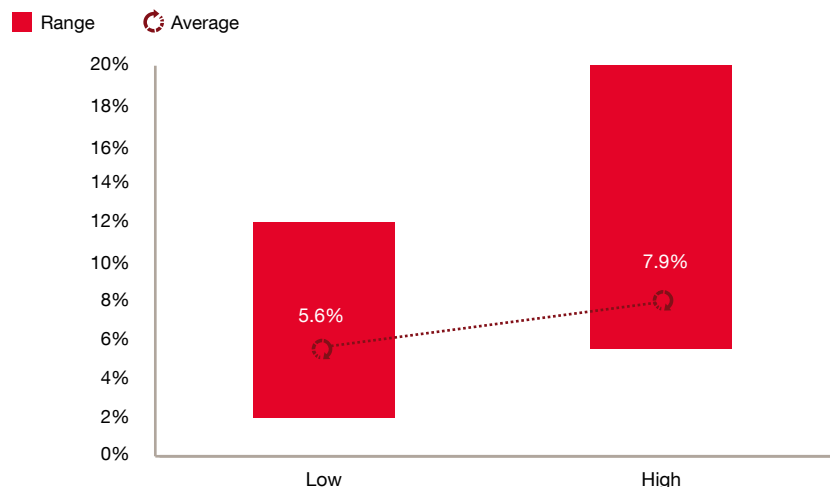


Equity market risk premium

The market risk premium is the single most debated input in a cost of capital calculation. We asked respondents what range of market risk premiums they apply.

Q: Please specify the range of equity market risk premiums applied when you use the CAPM. Please ignore discounts (e.g. marketability discounts) and premiums (e.g. control premiums and small company premiums), which will be addressed later in the survey.

Figure 3.3 Range of equity market risk premiums used in the CAPM



Average market risk premium applied

	Low	High
2016	5.6%	7.9%
2014	5.4%	6.8%
2012	4.7%	6.6%

Second and third quartiles

	Low	High
2016 2 nd quartile	5.50%	6.50%
2016 3 rd quartile	5.75%	7.50%

The market risk premium ranges from 2% to 20%, with the average used in South Africa ranging between 6% and 8%. Interestingly, a wider range is being used by respondents than observed previously, and a steady year-on-year increase has been observed over the past few years.

Small stock premiums

In computing an equity risk premium to apply to all investments in the CAPM, we are assuming that betas carry the weight of measuring the risk in individual firms or assets, with riskier investments having higher betas than safer investments. A number of studies, such as those producing the data contained in the annual *Duff & Phelps Valuation Handbook*, have shown that investments in small companies may have experienced higher returns than those predicted by the standard CAPM approach.

In theory, the CAPM would suggest a higher required return for small companies through a higher beta for such companies. The higher betas for small companies can be caused by higher operational and financial leverage, limited access to funding and other factors that make them more vulnerable to general market fluctuations.

However, the higher betas do not seem to fully explain the higher returns historically achieved by smaller companies. Some have interpreted this as an indication that there are other risks associated with small companies that the CAPM does not address. To adjust for this finding, many practitioners add an additional premium to the cost of equity of companies with smaller market capitalisation.

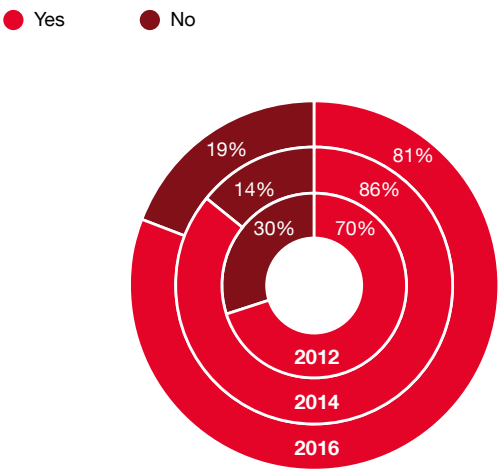
With various studies both supporting and refuting the notion of the small capitalisation premium, we asked respondents whether they apply a small stock premium (SSP) in the course of their valuation analysis.



Q: Do you adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company?

- Yes
- No

Figure 3.4 Use of small stock premiums

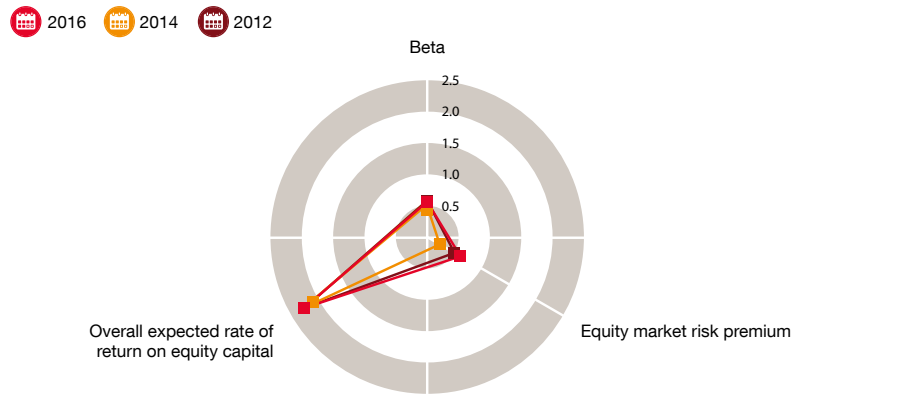


The number of respondents considering a small stock premium has remained relatively stable over the various editions of the survey, with the majority favouring the application of a small stock premium.

Q: When adjusting for small stock premiums, how often do you adjust each of the following factors?

- Beta
- Equity market risk premium
- Overall expected rate of return on equity capital

Figure 3.5 Adjustments made for company size



When applying an adjustment for company size, most respondents make an adjustment to the overall cost of equity.

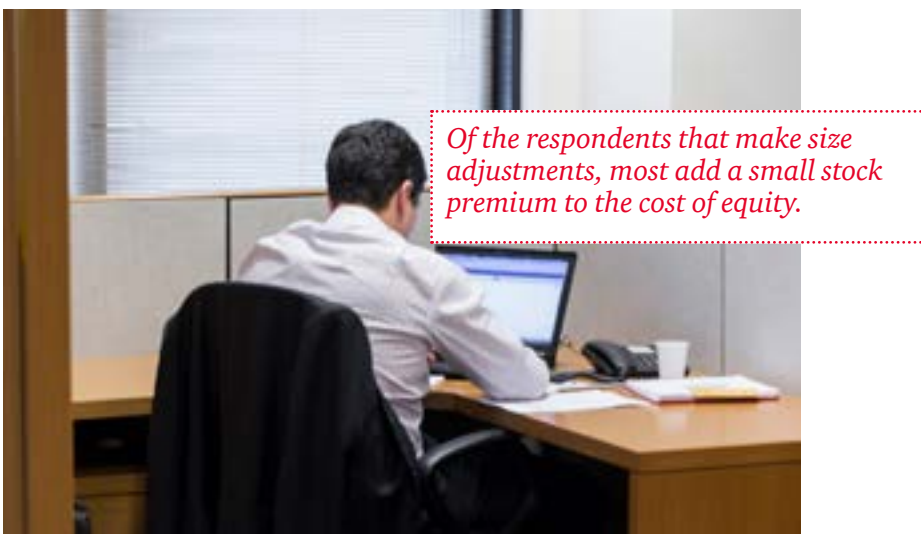
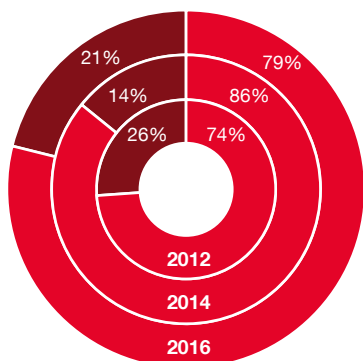
As the next step in the survey, we wanted to determine the methodology used to effect the adjustment for company size.

Q: Do you adjust by multiplying a factor (i.e. CAPM $k_e \times \{1 + SSP\}$) or adding a factor (i.e. CAPM $k_e + SSP$)?

- Multiplying
- Adding

Figure 3.6 Small stock premium inclusion methods

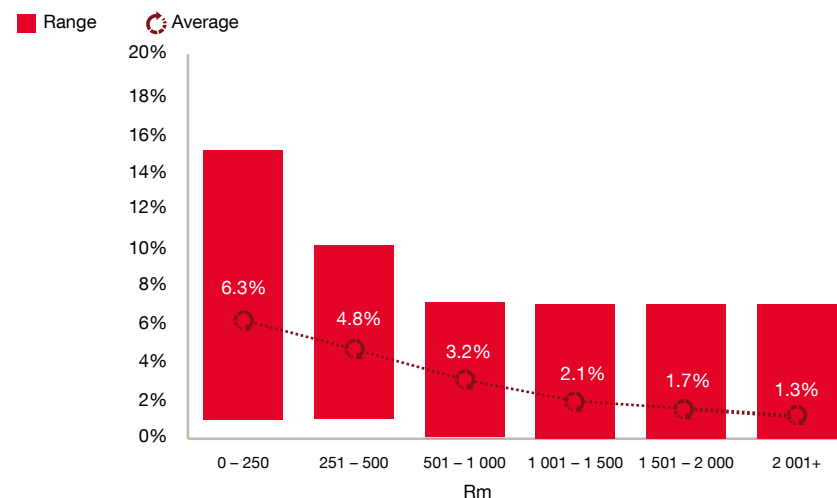
● Adding ● Multiplying



Of the respondents that make size adjustments, most add a small stock premium to the cost of equity.

Q: What is the benchmark small stock premium applied, given the expected size of the company or entity?

Figure 3.7 Small stock premiums applied additively



Average small stock premium applied: Adding⁴

Rm	0 – 250	251 – 500	501 – 1 000	1 001 – 1 500	1 501 – 2 000	2 001+
2016	6.3%	4.8%	3.2%	2.1%	1.7%	1.3%
2014	6.5%	5.2%	3.8%	2.3%	1.5%	0.7%
2012	6.7%	4.4%	2.8%	1.7%	0.9%	0.1%
2010	4.9%	3.7%	2.8%	1.3%	0.7%	0.1%
2007	5.2%	4.0%	2.7%	1.7%	1.3%	0.4%

⁴ In this year's survey, the clear majority of respondents indicated that they apply an additive premium, with very few applying a multiplication approach. Given the small sample size, data relating to the multiplication approach has therefore not been included.

Specific risk premiums

A key attribute of the CAPM is that investors are rewarded only for systematic risk. Specific risks that are theoretically diversifiable are not included in the CAPM. Finance theory states that investors should be compensated only for non-diversifiable risks.

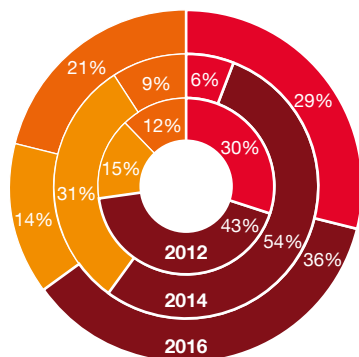
Given that the application of a specific risk premium (SRP) is not consistent with the CAPM, we surveyed market practitioners about whether they apply specific risk premiums and, if so, in what instances. We also asked respondents what premiums are considered for projects at various stages of development.

Q: How often do you adjust the CAPM rate of return by a premium that reflects unique risks to the extent that such risks could not be modelled in the forecast cash flows?

- Always
- Frequently
- Sometimes
- Never

Figure 3.8 Use of a specific risk premium

● Always
 ● Frequently
 ● Sometimes
 ● Seldom/Never



Nearly two thirds of respondents always or frequently apply specific risk premiums, with only 21% seldom or never applying specific risk premiums.

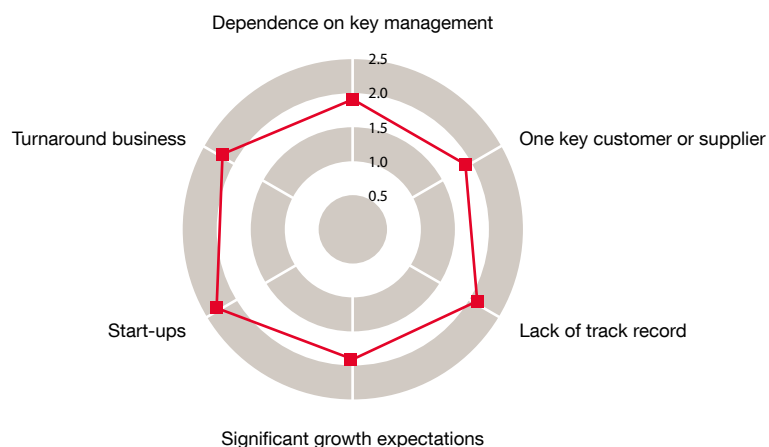
We found that 65% of respondents always or regularly consider an adjustment to the CAPM, which demonstrates that although the use of a specific risk premium is not supported by the CAPM and financial theory, specific risk premiums are widely used in practice.



Q: How often would each of the following conditions require you to apply a specific risk premium, also referred to as alpha?

- Dependence on key management
- One key customer or supplier
- Lack of track record
- Significant growth expectations
- Start-ups
- Turnaround businesses

Figure 3.9 Specific risk factors



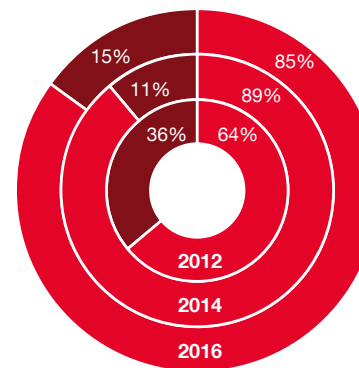
Respondents indicated that most of the factors listed would at some time be considered as motivation for the inclusion of a specific risk premium. They also mentioned high levels of gearing, diminishing competitive advantage and lack of financial controls as other factors that they would consider.

Q: Do you adjust by multiplying a factor (i.e. $CAPM\ k_e \times \{1 + SRP\}$) or adding a factor (i.e. $CAPM\ k_e + SRP$)?

- Multiplying
- Adding

Figure 3.10 Specific risk premium inclusion methods

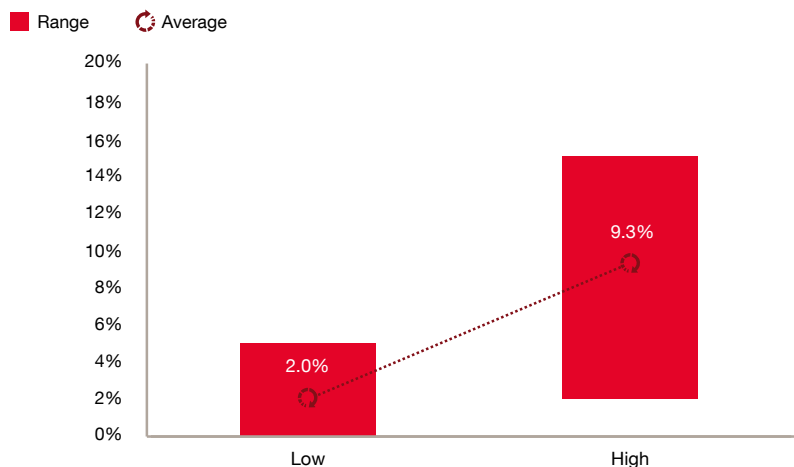
● Adding ● Multiplying



Most respondents adjust the overall expected return on equity capital by adding a premium. This is consistent with the results of previous surveys.

Q: What range of specific risk premiums would you normally apply?

Figure 3.11 Specific risk premiums applied additively



Average specific risk premium applied: Adding⁵

	Low	High
2016	2.0%	9.3%
2014	1.7%	7.3%
2012	2.7%	7.7%
2010	2.0%	7.0%
2007	2.0%	6.0%

In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The lower end of the specific risk premium falls between 2% and 3%, and the upper end between 9% and 13%.

Second and third quartiles

	Low	High
2016 2 nd quartile	2.0%	9.0%
2016 3 rd quartile	3.0%	12.7%

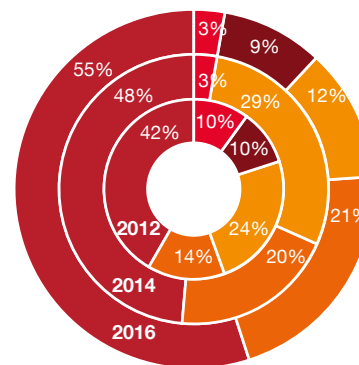
Specific risk premiums are used for a wide variety of reasons, with the upper end of the range likely to be dominated by hurdle rates used to appraise very high-risk projects. The wide range of specific risk premiums added to the CAPM is therefore likely to be a result of the variety of risks that specific risk premiums aim to address.

Q: One instance where specific risk premiums are sometimes applied is where the company is considered to be a start-up. If you apply a specific risk premium for start-up companies, what percentage would you normally apply, assuming you are adding the premium to the cost of equity?

- 0 – 1.9%
- 2.0 – 3.9%
- 4.0 – 5.9%
- 6.0 – 7.9%
- Greater than 8.0%

Figure 3.12 Specific risk premiums for start-up companies

0% – 1.9% 2.0% – 3.9% 4.0% – 5.9% 6.0% – 7.9% Greater than 8%



No less than 76% of respondents apply a premium of greater than 6%. However, a wide range of premiums is applied, suggesting that specific risk premiums are highly asset-specific.

⁵ In this year's survey, the clear majority of respondents indicated that they apply an additive premium, with very few applying a multiplication approach. Given the small sample size, data relating to the multiplication approach has therefore not been included.

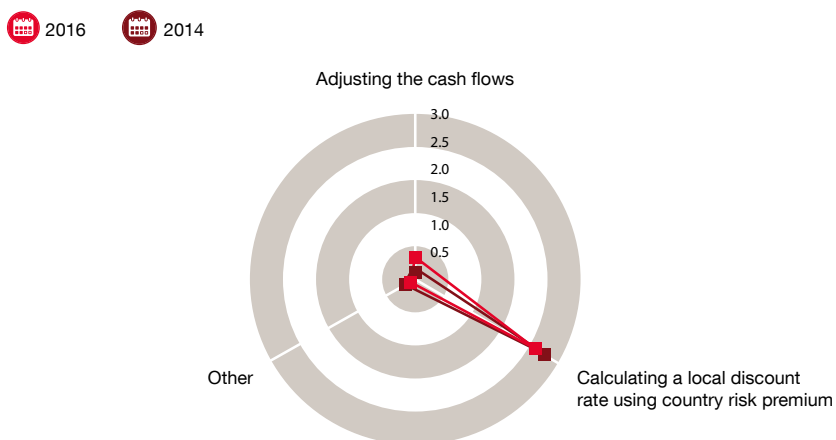
Country risk premiums

When valuing businesses in emerging markets, it is critical that a prospective investor assesses and quantifies the risks inherent in investing in different sovereign territories. We asked respondents how they account for country risk in their valuations.

Q: How do you generally adjust for country risk when valuing an asset in a country where no reliable long-bond yield (i.e. risk-free rate) can be observed?

- Adjusting the cash flows
- Calculating a local discount rate using a US-dollar or euro-based risk-free rate and adding a premium for local country risk and inflation
- Other

Figure 3.13 Country risk premium inclusion methods



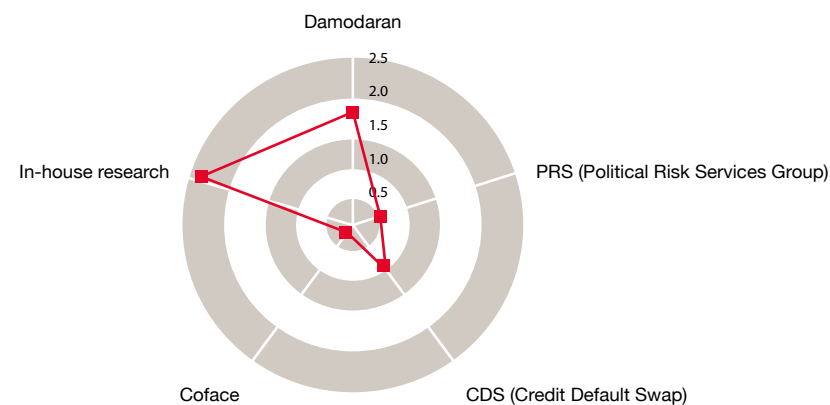
The survey results indicate that country risk differentials are recognised mainly by adjusting local discount rates with a country risk premium. This is consistent with the results in previous surveys.

Given the level of activity in countries with limited capital market data, we asked respondents some additional questions regarding how they determine their country risk adjustments.

Q: How often is each of the following service providers used as a source of information for country risk premium?

- Damodaran
- PRS (Political Risk Services Group)
- CDS (Credit Default Swap)
- Coface

Figure 3.14 Country risk premium data sources



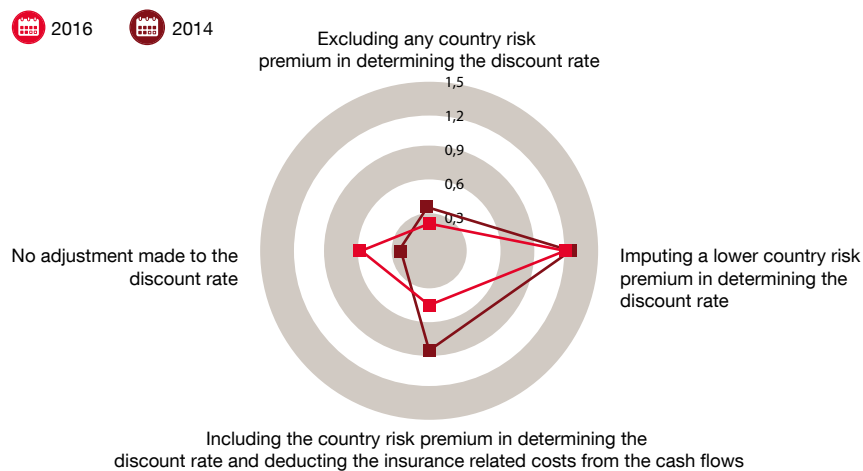
Damodaran is a popular source of country risk premiums for respondents. In-house proprietary models and calculations were also highlighted as a popular source for country risk premiums.

The majority of respondents are familiar with the concept of international insurance against country risk. We asked respondents how they factor in international insurance against country risk when calculating the discount rate.

Q: If international insurance is factored in, how do you adjust the discount rate?

- Excluding any country risk premium in determining the discount rate
- Imputing a lower country risk premium in determining the discount rate
- Including the country risk premium in determining the discount rate and deducting the insurance-related costs from the cash flows
- No adjustment made to the discount rate

Figure 3.15 Discount rate adjustment method when factoring in international insurance



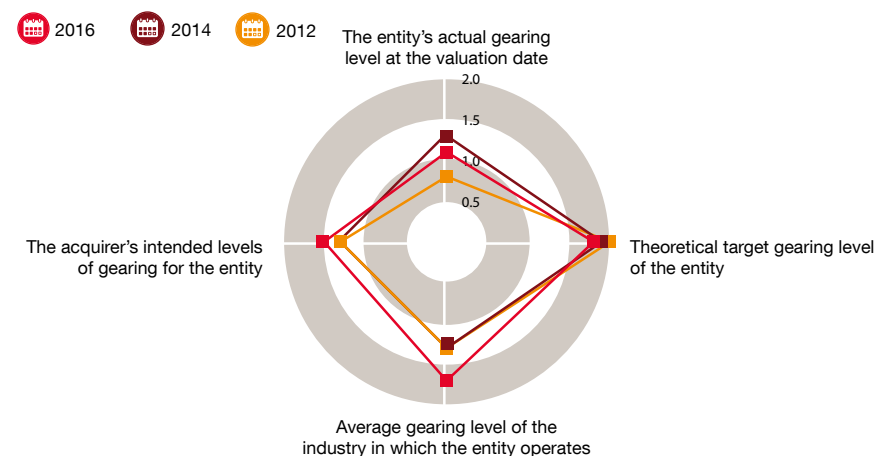
Most respondents impute a lower country risk premium where international insurance is used to mitigate country risk.

Gearing

Q: Which of the following approaches are used in determining an appropriate level of debt and equity in the cost of capital calculation?

- Average gearing level of the industry in which the entity operates
- Theoretical target gearing level of the entity
- The acquirer's intended levels of gearing for the entity
- The entity's actual gearing level at the valuation date

Figure 3.16 Approaches used in determining the appropriate level of debt and equity



As was the case in previous surveys, the theoretical target gearing of the entity being valued was the approach adopted most frequently.

Market approach

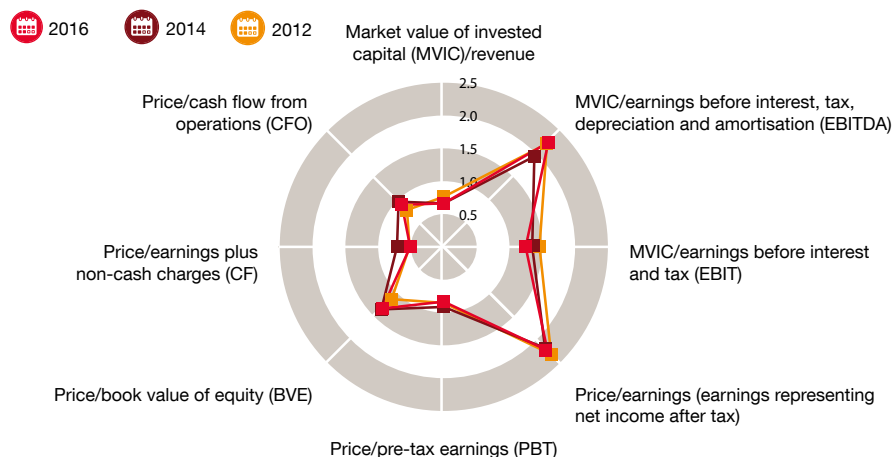
Choice of multiples

A number of valuation multiples or valuation benchmarks can be used in the application of the market approach. This section of the survey tested the frequency of use of a range of common market multiples.

Q: When using the market approach, how often do you use each of the following valuation multiples?

- Market value of invested capital (MVIC)/revenue
- MVIC/earnings before interest, tax, depreciation and amortisation (EBITDA)
- MVIC/earnings before interest and tax (EBIT)
- Price/earnings (earnings representing net income after tax)
- Price/pre-tax earnings (PBT)
- Price/book value of equity (BVE)
- Price/earnings plus non-cash charges (CF)
- Price/cash flow from operations (CFO)

Figure 3.17 Valuation multiples used



The price/earnings and EV/EBITDA multiples are the most widely used valuation multiples, where EV = enterprise value.

Adjustments to multiples

Q: If applicable, which of the following adjustments to observed comparable company multiples would you consider in applying the market multiple approach?

- Country risk
- Diversification
- Growth
- Size

Figure 3.18 Adjustments to valuation multiples



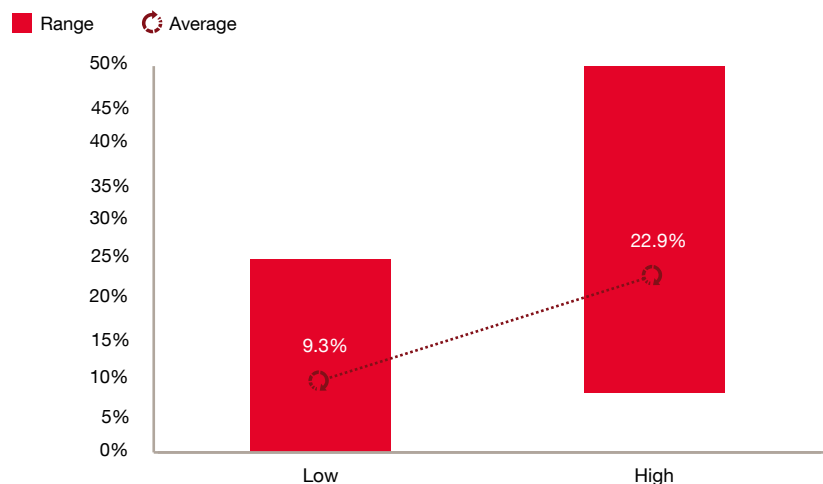
Most respondents indicated that they consider making adjustments in determining appropriate multiples in terms of the market approach.

In this year's survey, we again asked questions to gauge the quantum of the discounts being applied.

Country risk adjustments

Q: Assuming you are valuing a business that operates in an emerging market, but you are using developed market comparable companies to derive an earnings multiple, what is the range of discounts you would apply to developed market comparable company multiples to reflect differences in country risk?

Figure 3.19 Range of discounts applied to developed market comparable multiples to reflect differences in country risk



In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The relatively low average results from a large number of respondents not applying country risk premiums in certain instances.

Country risk adjustments – discounts applied

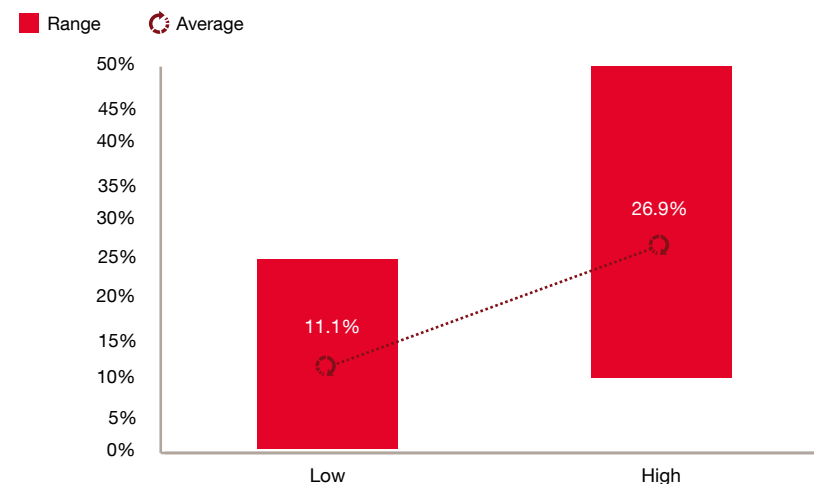
	Low	High
2016 average	9.3%	22.9%
2016 2 nd quartile	9.4%	24.9%
2016 3 rd quartile	10.0%	30.0%

The lower end of the country risk adjustments is between 9% and 10%, while the upper end is between 25% and 30%.

Size adjustments

Q: Assuming you are valuing a business that is significantly smaller than the listed comparable companies you used to derive an earnings multiple, what is the range of discounts you would apply to comparable company multiples to reflect differences in size?

Figure 3.20 Range of discounts applied to developed market comparable multiples to reflect differences in size



In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The lower end of the size adjustments falls between 10% and 14%, while the upper end is between 30% and 33%.

Size adjustments – discounts applied

	Low	High
2016 average	11.1%	26.9%
2016 2 nd quartile	10.0%	29.8%
2016 3 rd quartile	14.4%	32.9%



The lower end of the size adjustments falls between 10% and 14%, while the upper end is between 30% and 33%.

Discounts and premiums

Minority discounts

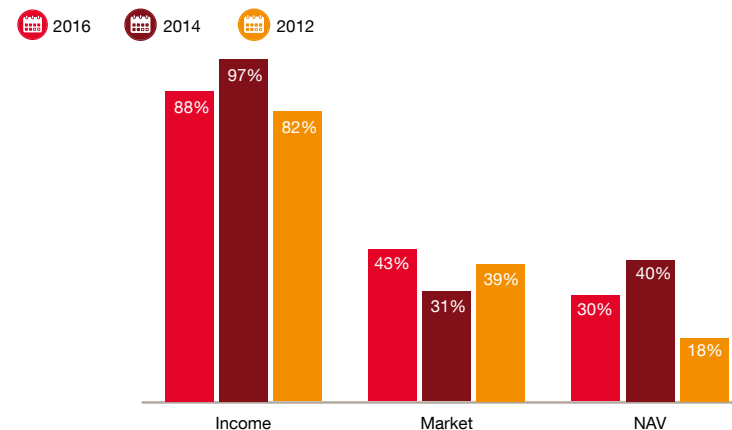
The minority discount relates to the lack of control that minority shareholders have over the operation and corporate policy of a given investment. The minority shareholders can generally neither direct the size or timing of dividends nor appoint management. A minority shareholder can also not veto the acquisition, sale or liquidation of assets.

Minority discounts are therefore usually applied when valuing a non-controlling interest to discount the value for lack of control.

Q: Do you generally apply a minority discount when using any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 3.21 Approaches in which minority discounts are applied



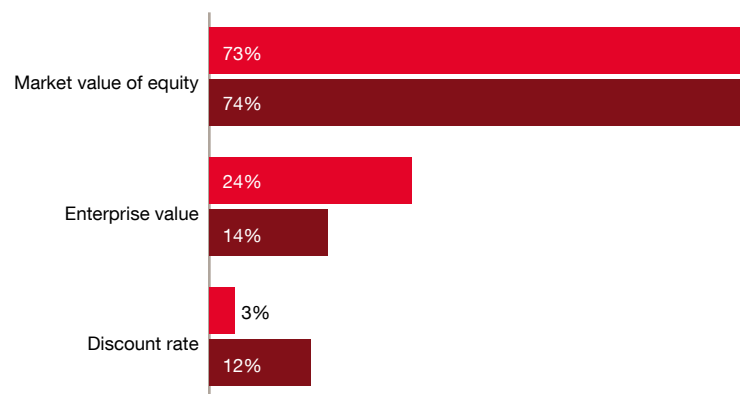
The majority of respondents will consider a minority discount under the income approach.

Q: Where do you apply minority discounts?

- Market value of equity
- Enterprise value
- Discount rate

Figure 3.22 Application of minority discounts

2016 2014

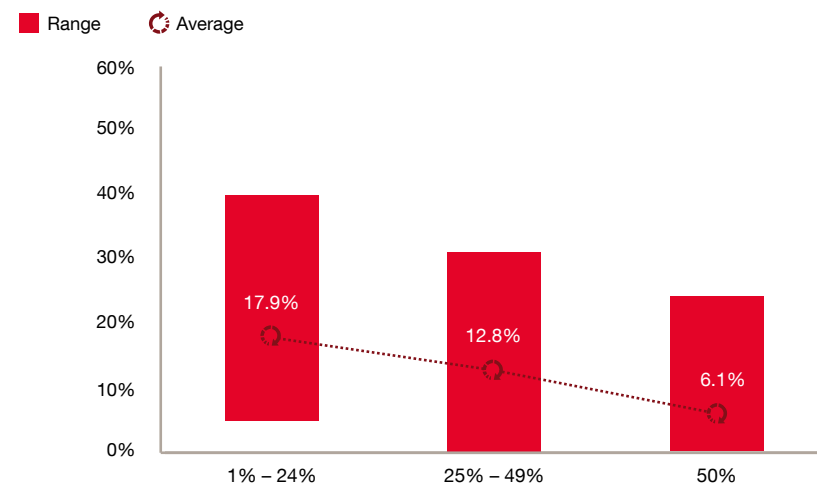


When asked where they apply minority discounts, the majority of respondents indicated that they prefer to apply minority discounts to the market value of equity.

Given that most respondents acknowledge the appropriateness of the minority discount, we asked them for an indication of the range of minority discounts normally applied in their valuation analysis.

Q: Please indicate the benchmark minority discount normally applied, given the size of the interest being valued.

Figure 3.23 Average minority discount: Equity value



Average size of discount applied⁶

Size of interest	1 – 24%	25 – 49%	50%
2016	17.9%	12.8%	6.1%
2014	17.5%	13.0%	6.0%
2012	17.8%	14.4%	
2010	22.0%	15.0%	
2007	20.0%	16.0%	

Second and third quartiles

Size of interest	1 – 24%	25 – 49%	50%
2016 2 nd quartile	17.5%	11.5%	5.0%
2016 3 rd quartile	20.0%	15.0%	10.0%

The average minority discount applied to the market value of equity is 18% for an interest in the range 1% – 24% and 13% in the range 25% – 49%. Where joint control exists, respondents indicated that they applied a minority discount of 6% on average.

⁶ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to adjustments to enterprise value has therefore not been included.

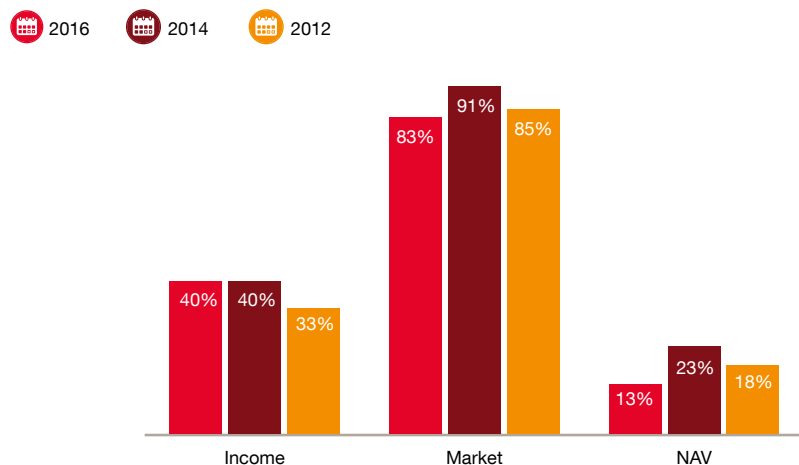
Control premiums

The control premium is the inverse of the minority discount, and similar issues have to be considered in calculating a control premium. To summarise, a control premium relates to the additional value associated with the ability to control the distribution of cash generated by a company, which includes the ability to influence the timing and size of its dividend distribution.

Q: Do you generally apply a control premium when using any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 3.24 Approaches in which control premiums are applied



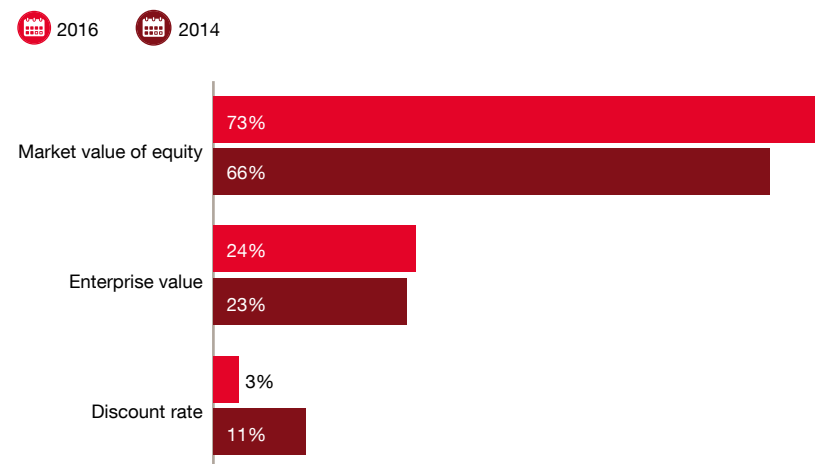
Most respondents appear to consider the control premium to be already implicitly included in the income approach and will only apply the control premium when following a market approach. However, if the control premium relates to synergies not built into the cash flows, it may in some cases be applied when the income approach is used.

Given that most respondents acknowledge the appropriateness of the control premium, we asked them to indicate how they go about applying control premiums in their valuation analysis.

Q: Where do you apply control premiums?

- Market value of equity
- Enterprise value
- Discount rate

Figure 3.25 Application of control premiums

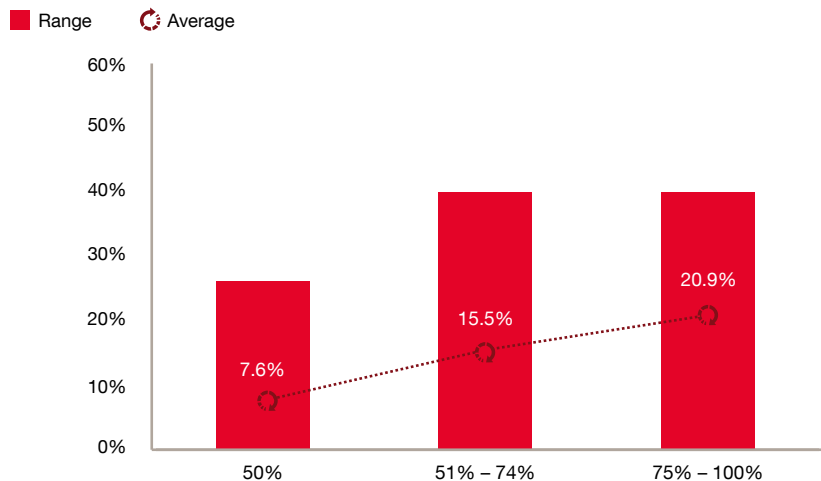


While some respondents apply adjustments to the discount rate or enterprise value, the majority of respondents apply control premiums to the market value of equity.

We then sought to quantify the benchmark control premiums that are typically applied.

Q: Please indicate the benchmark control premium normally applied, given the size of the interest being valued.

Figure 3.26 Average control premium: Equity value



Average size of premium applied⁷

Size of interest	50%	51 – 74%	75 – 100%
2016	7.6%	15.5%	20.9%
2014	7.8%	16.6%	23.9%
2012		18.8%	22.4%
2010		18.0%	22.0%
2007		18.0%	23.0%

The average control premium applied to the market value of equity is 16% for an interest in the range of 51% – 74% and 21% in the range 75% – 100%. Where joint control exists, respondents indicated that they applied a control premium of 8% on average.

Second and third quartiles

Size of interest	50%	51 – 74%	75 – 100%
2016 2 nd quartile	5.0%	15.0%	20.0%
2016 3 rd quartile	10.0%	20.0%	25.0%

⁷ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to the adjustments to enterprise value has therefore not been included.

Marketability discounts

Marketability can be defined as 'the ability to convert the business ownership interest (at whatever ownership level) to cash quickly, with minimum transaction and administrative costs in so doing and with a high degree of certainty of realising the expected amount of net proceeds'⁸.

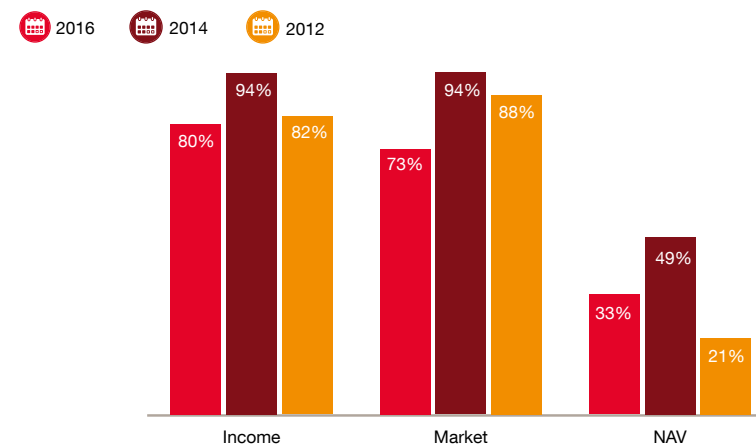
It is important to distinguish a marketability discount from a minority discount. The lack of ownership control captured by the minority discount addresses the limited ownership and lack of operational control, whereas the marketability discount deals with how quickly and certainly the ownership share can be converted to cash.

There is, however, an expected relationship between marketability and ownership share. Even after we discount a minority interest for a lack of control, it is usually harder to sell a non-controlling interest than a controlling ownership interest. The marketability discount is therefore expected to decrease with the size of the ownership share.

Q: If the entity is not listed, do you apply a marketability discount to any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 3.27 Approaches in which marketability discounts are applied



Respondents recognise the need to adjust for marketability in all valuation approaches. The remainder of this section therefore deals with how respondents apply marketability discounts in their valuation analysis.

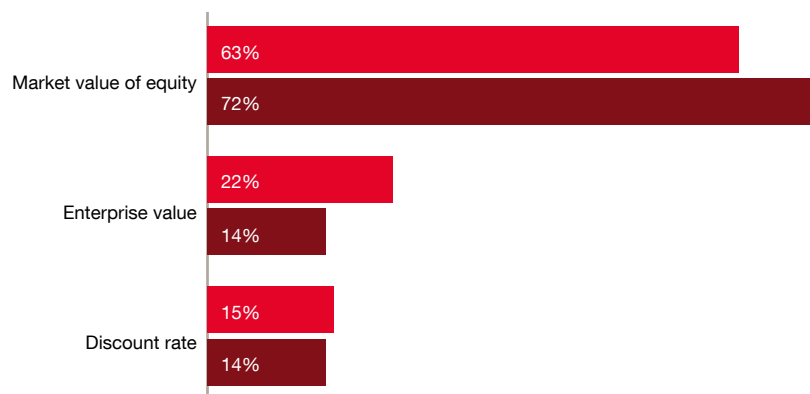
⁸ Pratt, S, Reilly, R and Schweighs, R. *Valuing a Business*. McGraw-Hill, 2000.

Q: Where do you apply marketability discounts?

- Market value of equity
- Enterprise value
- Discount rate

Figure 3.28 Application of marketability discounts

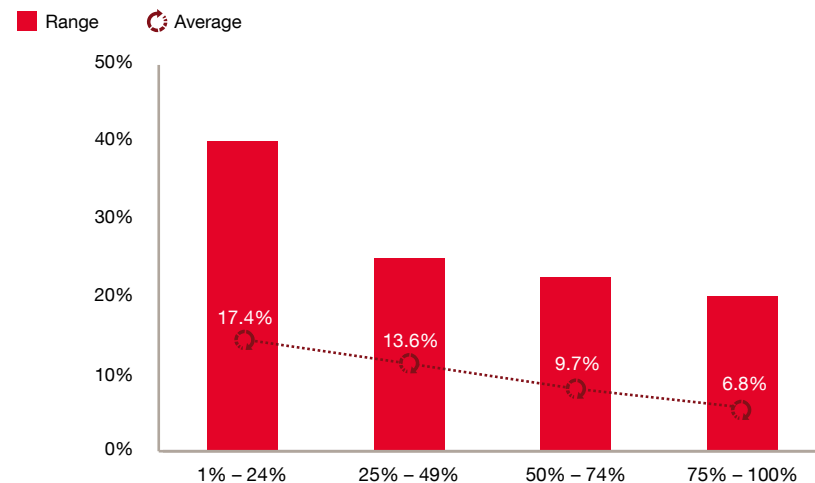
2016 2014



The majority of respondents apply marketability discounts to the market value of equity. We subsequently asked them to quantify the benchmark discounts that are typically applied.

Q: Please indicate the benchmark marketability discount normally applied, given the size of the interest being valued.

Figure 3.29 Average marketability discount applied: Equity value



Average size of discount applied⁹

Size of interest	1 – 24%	25 – 49%	50 – 74%	75 – 100%
2016	17.4%	13.6%	9.7%	6.8%
2014	17.2%	13.4%	9.8%	8.0%
2012	15.3%	13.3%	10.1%	8.1%

Second and third quartiles

Size of interest	1 – 24%	25 – 49%	50 – 74%	75 – 100%
2016 2 nd quartile	15.0%	15.0%	10.0%	5.0%
2016 3 rd quartile	23.0%	16.8%	15.0%	10.0%

The second and third quartile ranges provide an indication of the size of the marketability discounts that are applied by respondents. In the case of outright control, respondents indicated that they apply on average a 5% marketability discount.

For a minority interest of below 24%, the marketability discount increases considerably, with respondents indicating that they apply on average a 17% marketability discount. This is also in range between the second and third quartiles of 15% and 23%.

⁹ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to adjustments to enterprise value has therefore not been included.

BEE considerations

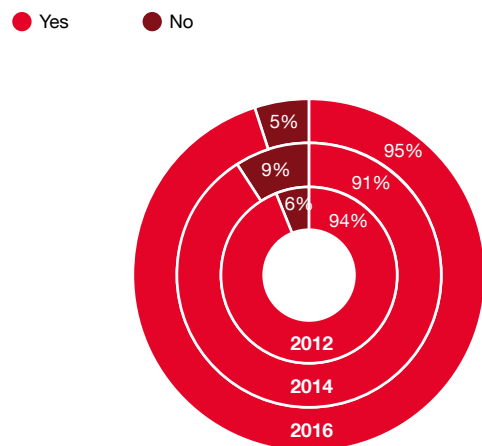
Black economic empowerment (BEE) remains an integral part of South Africa's transformation process. A particularly contentious issue in valuing BEE investments is the issue of lock-in discounts, so our questions were focused on obtaining the market's view on whether these discounts are appropriate and, if so, what the quantum of these lock-in discounts is that the market is applying.

Q: A hypothetical BEE transaction has been structured to include the following lock-in periods for the empowerment parties: three years, five years and ten years.

A BEE interest is held in a listed company. Would you apply a discount to the observed share price for the lock-in agreed between the parties?

- Yes
- No

Figure 3.30 Application of BEE discounts



Most respondents consider a discount to the observed market price to be necessary. These results are broadly consistent with the results of our previous surveys.

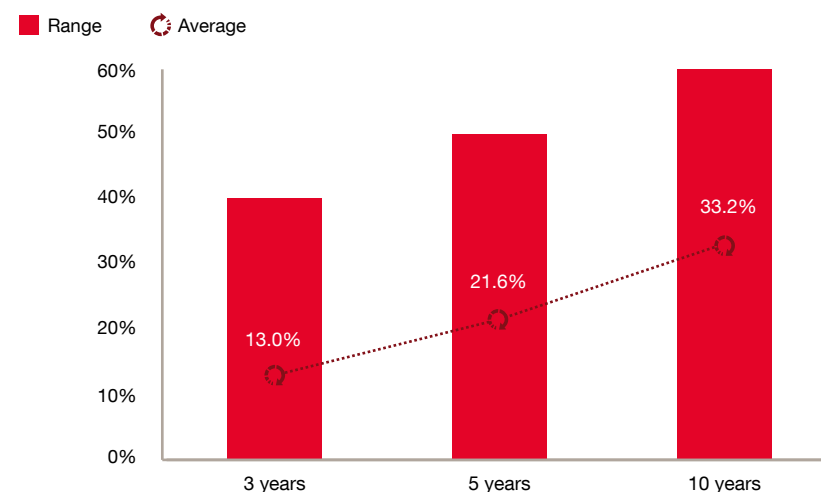
Typical BEE structures include lock-in periods whereby BEE entities are required to remain invested in the structure for a number of years, or where other restrictions are placed on the transferability of the shares held by the BEE entity. The discount applied in the market is likely to be correlated with the length of lock-in periods being considered by market practitioners.

We attempted to gauge the impact of varying lock-in periods by asking respondents how they consider lock-ins of varying lengths from a valuation perspective.

Q: What is the average discount you would apply for the respective lock-in periods?

- Three years
- Five years
- Ten years

Figure 3.31 Average lock-in discount applied



Average lock-in discount applied

	3 years	5 years	10 years
2016	13.0%	21.6%	33.2%
2014	10.5%	19.6%	30.5%
2012	13.4%	24.5%	35.8%
2010	9.3%	19.8%	32.8%
2007	8.0%	16.0%	29.0%

Second and third quartiles

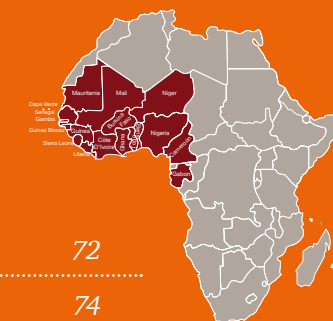
	3 years	5 years	10 years
2016 2 nd quartile	11.0%	21.0%	31.0%
2016 3 rd quartile	20.0%	30.0%	40.0%

The discount level increases significantly as the lock-in period increases. The average discount relating to a ten-year lock-in was 33% in the latest survey. In comparison, discounts of 13% and 22% were applied for three- and five-year lock-ins, respectively.

Section 4: West Africa



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Valuation approaches

There are a number of methodologies that can be used to value businesses. We have previously found that the approaches most commonly used in West Africa are:

- **The income approach (discounted cash flow approach)**

This approach determines the market value of the ordinary shares of a company based on the value of the cash flows that the company can be expected to generate in the future. This includes traditional discounted cash flow techniques and also real option valuations, which use option pricing models to measure the value of assets that share option characteristics.

- **The market approach (market multiple approach)**

This gauges the market value of the ordinary shares of a company based on a comparison of the company to comparable publicly-traded companies and transactions in its industry, as well as evaluating prior transactions in the ordinary shares of the company using an appropriate valuation multiple.

- **The net assets approach**

This evaluates the market value of the ordinary shares of a company by adjusting the asset and liability balances on the company's balance sheet to its market value equivalents. The approach is based on the summation of the individual piecemeal market values of the underlying assets, less the market value of the liabilities.

The aim of this section is to highlight the most popular valuation approaches being used in business enterprise valuations in West Africa. We were particularly interested in determining whether any changes have taken place in the choice of approaches followed by market participants since our previous survey in 2014.

Q: Which of the following valuation approaches do you prefer to value a going concern?

- *Income approach (discounted cash flow)*
- *Market approach (e.g. price/earnings ratio)*
- *Net asset approach*

The primary valuation approaches remain the income approach (discounted cash flow) and market approach (based on market multiples). The general indication from respondents is that the income approach remains the primary valuation methodology, used by 58% of respondents, while the market approach is also an important methodology, with 42% of the respondents using it as their preferred approach.

We also asked respondents on whether they apply a secondary methodology. Of those respondents who use the income approach as their primary methodology, 91% confirmed using the market approach as their secondary method of choice.



Income approach

Cost of capital

From a company's perspective, the weighted average cost of capital (WACC) represents the economic return (or yield) that an investor would have to give up by investing in any particular investment instead of in all available alternative investments that are comparable in terms of risk and other investment characteristics.¹⁰

WACC formula

The general formula for calculating the WACC (assuming only debt and equity capital) is:

$$\text{WACC} = k_d \times (d\%) + k_e \times (e\%)$$

where:

WACC = Weighted average rate of return on invested capital

k_d = After-tax rate of return on debt capital

$d\%$ = Debt capital as a percentage of the sum of the debt and ordinary equity capital (total invested capital)

k_e = Rate of return on ordinary equity capital

$e\%$ = Ordinary equity capital as a percentage of the total invested capital

There are three related steps involved in developing the WACC:

- Estimating the opportunity cost of equity financing;
- Estimating the opportunity cost of non-equity financing; and
- Developing market value weights for the capital structure.

Cost of equity

Estimating the cost of equity is the most subjective and difficult measure to quantify in the WACC formula, which is why we have dedicated a substantial part of this survey to this issue.

We have found in previous surveys that the capital asset pricing model (CAPM) is probably the most widely used model to determine the cost of equity.

CAPM formula

$$E(R_e) = R_f + \beta \times E(R_p)$$

where:

$E(R_e)$ = Expected rate of return on equity capital

R_f = Risk-free rate of return

β = Beta or systematic risk

$E(R_p)$ = Expected market risk premium: expected return for a broad portfolio of shares less the risk-free rate of return

The remainder of this section deals with the various components of the CAPM.

¹⁰ Pratt, S and Niculita, A. *Valuing a Business*. McGraw-Hill, 2008.

Risk-free rate

Ordinarily, valuation practitioners estimate the cost of equity by assessing its component parts using the CAPM.

In Nigeria and other West African countries, various government bonds are available as a proxy for the risk-free rate. We asked respondents to indicate their choice of proxy.

Q: When performing valuations in Africa, how often are the following used as a benchmark for the risk-free rate?

- Local currency bond yield
- US risk-free rate
- A European country underlying risk-free rate (Germany, France, etc.)
- US risk-free rate plus a country risk premium
- A European country underlying risk-free rate (Germany, France, etc.) plus a country risk premium

Figure 4.1 Benchmarks used for the risk-free rate



The local currency bond yields are widely used in West Africa. The yield on the ten-year Federal Government Bond was widely reported as the benchmark by Nigerian respondents. However, as not all West African countries have government bonds that are traded on an exchange, a large number of respondents also consider alternative approaches whereby a risk-free rate can be determined using a US or European risk-free rate, plus a premium for country risk.

A wide range of approaches is used in West African markets. This is likely to be driven by variations in the availability of suitable government bond data across the various West African countries in which the survey respondents are based.



Beta

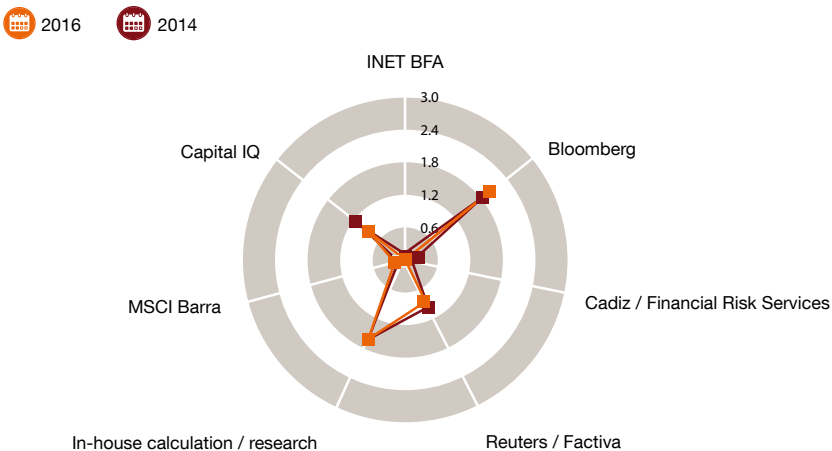
Beta measures the sensitivity of a share price to fluctuations in the market as a whole. It is calculated by regressing individual share returns against the returns of the market index.

Analysts often do not use raw data (e.g. share prices and share returns) to estimate beta based on their programmed regression algorithms, but rather subscribe to information systems and databases as sources for betas. We asked respondents to indicate which service providers they use most often.

Q: When performing valuations in Africa, how often do you make use of the following service providers as a source of information for beta calculations?

- Bloomberg
- Cadiz Financial Risk Services
- In-house calculation/research
- INET BFA (previously McGregor BFA)
- MSCI Barra
- Reuters
- Capital IQ

Figure 4.2 Service providers used to source betas



Bloomberg continues to be a popular source for beta estimates. In-house calculations are also frequently used.

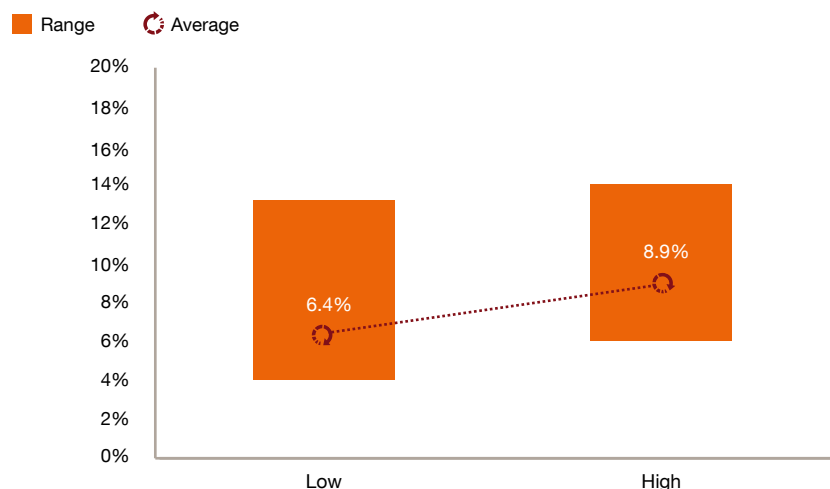


Equity market risk premium

The market risk premium is the single most debated input in a cost of capital calculation. We asked respondents what range of market risk premiums they typically apply.

Q: Please specify the range of equity market risk premiums applied when you use the CAPM. Please ignore discounts (e.g. marketability discounts) and premiums (e.g. control premiums and small company premiums), which will be addressed later in the survey.

Figure 4.3 Range of equity market risk premiums used in the CAPM



Average market risk premium applied

	Low	High
2016	6.4%	8.9%
2014	7.1%	10.2%
2012	5.0%	10.0%

The market risk premium ranges from 4% to 14%, with the average used in West Africa ranging between 6% and 9%.

Second and third quartiles

	Low	High
2016 2 nd quartile	5.6%	8.0%
2016 3 rd quartile	7.1%	10.1%

Small stock premiums

In computing an equity risk premium to apply to all investments in the CAPM, we are assuming that betas carry the weight of measuring the risk in individual firms or assets, with riskier investments having higher betas than safer investments. A number of studies, such as those producing the data contained in the annual *Duff & Phelps Valuation Handbook*, have shown that investments in small companies may have experienced higher returns than those predicted by the standard CAPM approach.

In theory, the CAPM would suggest a higher required return for small companies through a higher beta for such companies. The higher betas for small companies can be caused by higher operational and financial leverage, limited access to funding and other factors that make them more vulnerable to general market fluctuations.

However, the higher betas do not seem to fully explain the higher returns historically achieved by smaller companies. Some have interpreted this as an indication that there are other risks associated with small companies that the CAPM does not address. To adjust for this finding, many practitioners add an additional premium to the cost of equity of companies with smaller market capitalisation.

With various studies both supporting and refuting the notion of the small capitalisation premium, we asked respondents whether they apply a small stock premium (SSP) in the course of their valuation analysis.

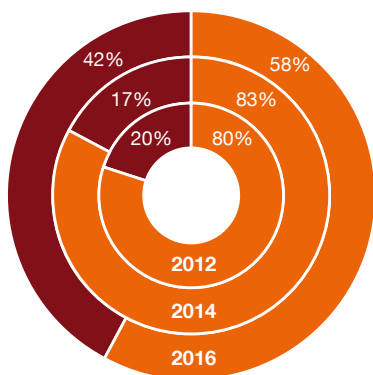


Q: Do you adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company?

- Yes
- No

Figure 4.4 Use of small stock premiums

● Yes ● No



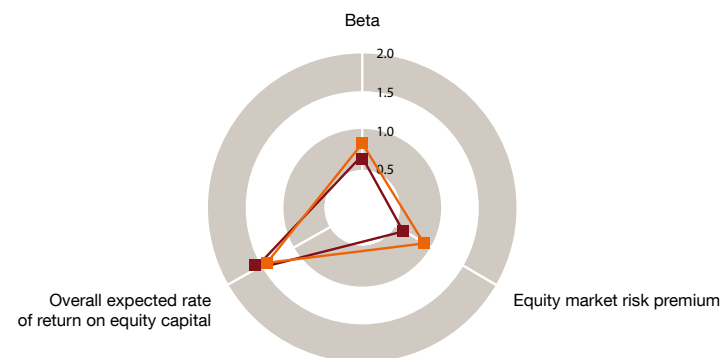
The number of respondents considering a small stock premium has declined compared to prior years, but the majority still favour its application.

Q: When adjusting for small stock premiums, how often do you adjust each of the following factors?

- Beta
- Equity market risk premium
- Overall expected rate of return on equity capital

Figure 4.5 Adjustments made for company size

2016 2014



When applying an adjustment for company size, most respondents make an adjustment to the overall cost of equity.

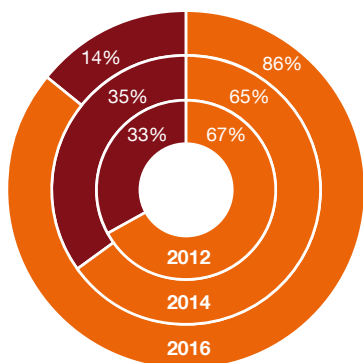
As the next step in the survey, we wanted to determine the methodology used to effect the adjustment for company size.

Q: Do you adjust by multiplying a factor (i.e. CAPM $k_e \times \{1 + SSP\}$) or adding a factor (i.e. CAPM $k_e + SSP$)?

- Multiplying
- Adding

Figure 4.6 Small stock premium inclusion methods

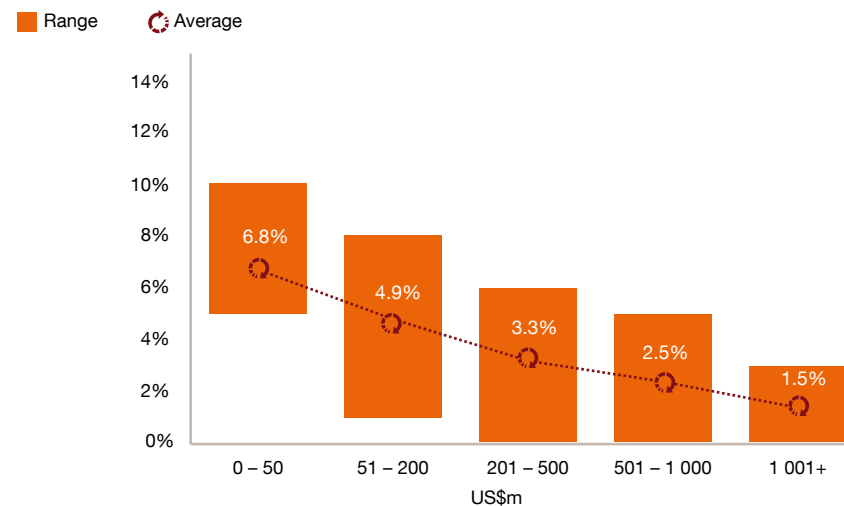
● Adding ● Multiplying



Of the respondents that make size adjustments, most add a small stock premium to the cost of equity.

Q: What is the benchmark small stock premium applied, given the expected size of the company or entity?

Figure 4.7 Small stock premiums applied additively



Average small stock premium applied: Adding¹¹

US\$m	0 - 50	51 - 200	201 - 500	501 - 1 000	1 001+
2016	6.8%	4.9%	3.3%	2.5%	1.5%
2014	6.3%	4.7%	2.8%	1.9%	1.1%

¹¹ In this year's survey, the clear majority of respondents indicated that they apply an additive premium, with very few applying a multiplication approach. Given the small sample size, data relating to the multiplication approach has therefore not been included.

Specific risk premiums

A key attribute of the CAPM is that investors are rewarded only for systematic risk. Specific risks that are theoretically diversifiable are not included in the CAPM. Finance theory states that investors should be compensated only for non-diversifiable risks.

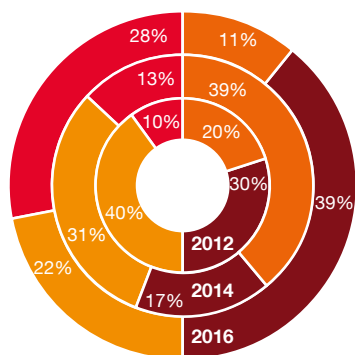
Given that the application of a specific risk premium (SRP) is not consistent with the CAPM, we surveyed market practitioners about whether they apply specific risk premiums and, if so, in what instances. We also asked respondents what premiums are considered for projects at various stages of development.

Q: How often do you adjust the CAPM rate of return by a premium that reflects unique risks to the extent that such risks could not be modelled in the forecast cash flows?

- Always
- Frequently
- Sometimes
- Never

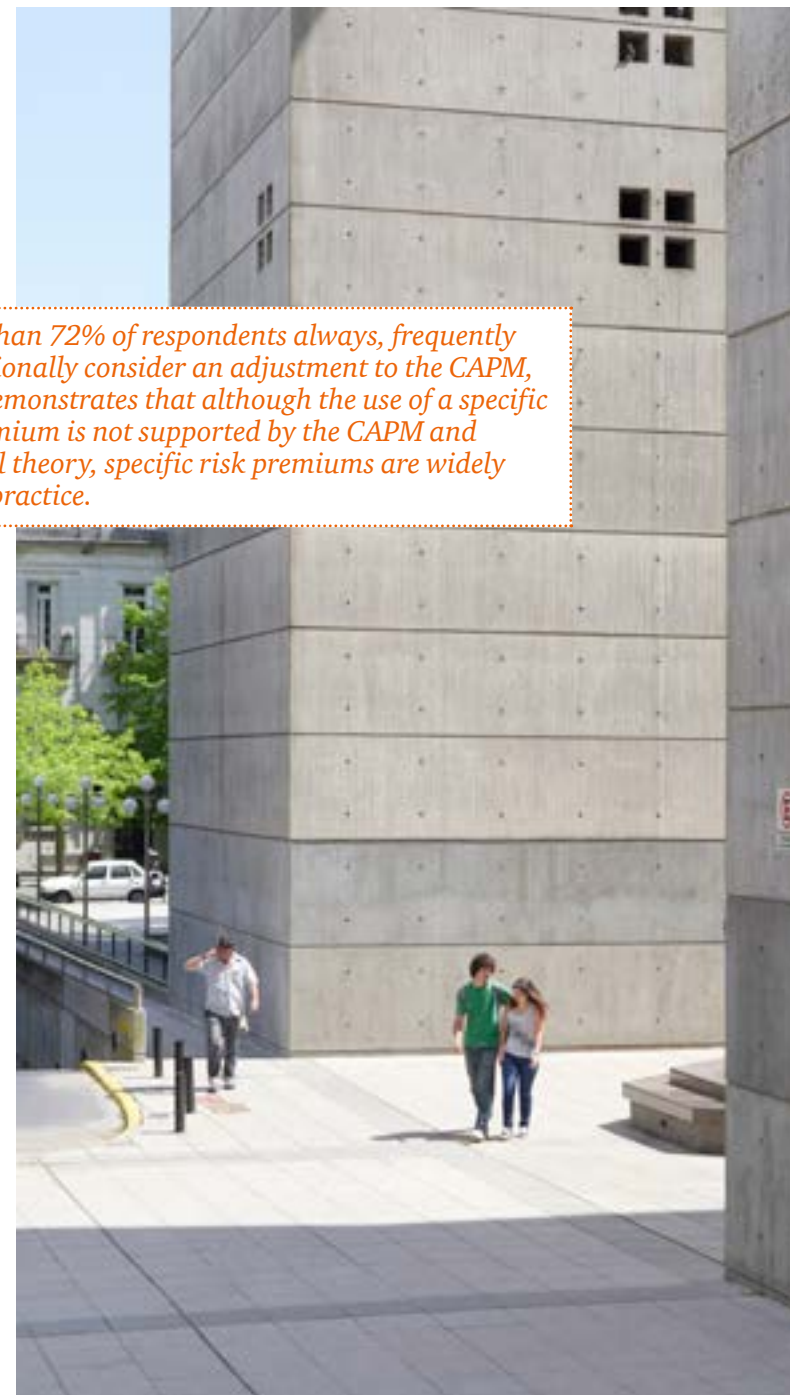
Figure 4.8 Use of a specific risk premium

Always Frequently Sometime Seldom/Never



61% of respondents sometimes or frequently adjust the CAPM by applying a specific risk premium, with 11% always applying an adjustment for specific risks.

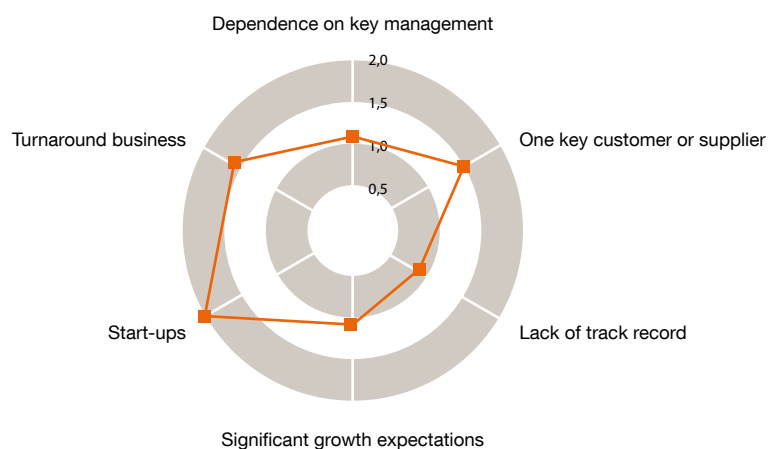
No less than 72% of respondents always, frequently or occasionally consider an adjustment to the CAPM, which demonstrates that although the use of a specific risk premium is not supported by the CAPM and financial theory, specific risk premiums are widely used in practice.



Q: How often would each of the following conditions require you to apply a specific risk premium, also referred to as alpha?

- Dependence on key management
- One key customer or supplier
- Lack of track record
- Significant growth expectations
- Start-ups
- Turnaround businesses

Figure 4.9 Specific risk factors



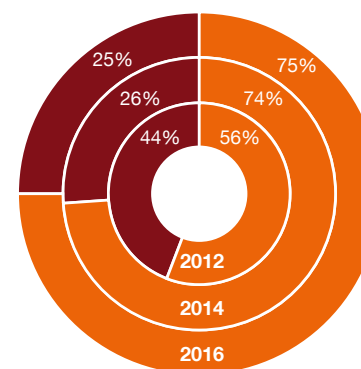
Respondents indicated that most of the factors listed would at some time be considered as motivation for the inclusion of a specific risk premium.

Q: Do you adjust by multiplying a factor (i.e. $CAPM\ k_e \times \{1 + SRP\}$) or adding a factor (i.e. $CAPM\ k_e + SRP$)?

- Multiplying
- Adding

Figure 4.10 Specific risk premium inclusion methods

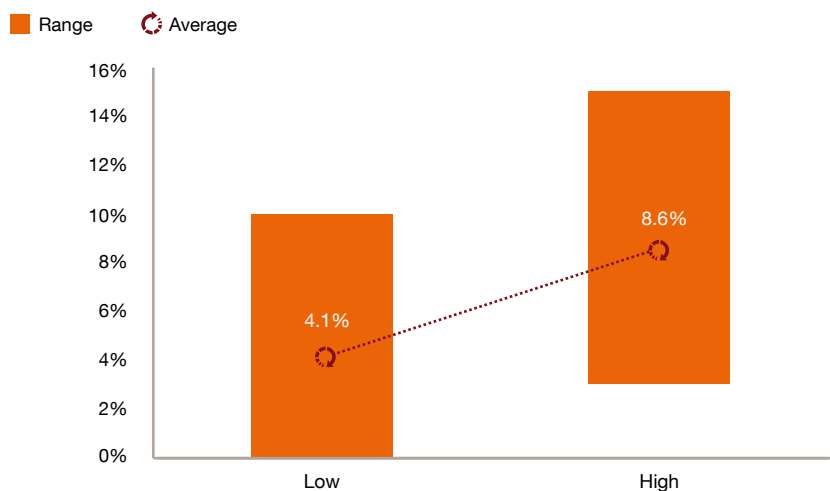
● Adding ● Multiplying



Most respondents adjust the overall expected return on equity capital by adding a premium. This is consistent with the results of previous surveys.

Q: What range of specific risk premiums would you normally apply?

Figure 4.11 Specific risk premiums applied additively



Average specific risk premium applied: Adding¹²

	Low	High
2016	4.1%	8.6%
2014	1.3%	6.2%
2012	3.0%	8.0%

In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The lower end of the specific risk premium falls between 3% and 6%, and the upper end between 10% and 11%.

Second and third quartiles

	Low	High
2016 2 nd quartile	3.0%	10.0%
2016 3 rd quartile	5.5%	10.6%

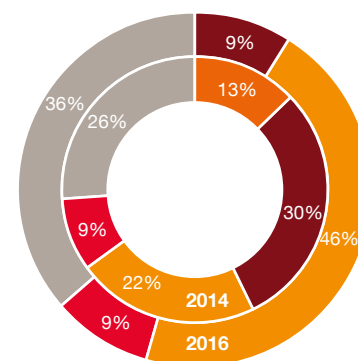
Specific risk premiums are used for a wide variety of reasons, with the upper end of the range likely to be dominated by hurdle rates used to appraise very high-risk projects. The wide range of specific risk premiums added to the CAPM is therefore likely to be a result of the variety of risks that specific risk premiums aim to address.

Q: One instance where specific risk premiums are sometimes applied is where the company is considered to be a start-up. If you apply a specific risk premium for start-up companies, what percentage would you normally apply, assuming you are adding the premium to the cost of equity?

- 0 – 1.9%
- 2.0 – 3.9%
- 4.0 – 5.9%
- 6.0 – 7.9%
- Greater than 8.0%

Figure 4.12 Specific risk premiums for start-up companies

0% – 1.9% 2.0% – 3.9% 4.0% – 5.9% 6.0% – 7.9% Greater than 8%



More than half of respondents apply a premium of lower than 6%, but 36% apply a premium of greater than 8%. This indicates a very wide range of premiums being applied, suggesting that specific risk premiums are highly asset specific.

¹² In this year's survey, the clear majority of respondents indicated that they apply an additive premium, with very few applying a multiplication approach. Given the small sample size, data relating to the multiplication approach has therefore not been included.

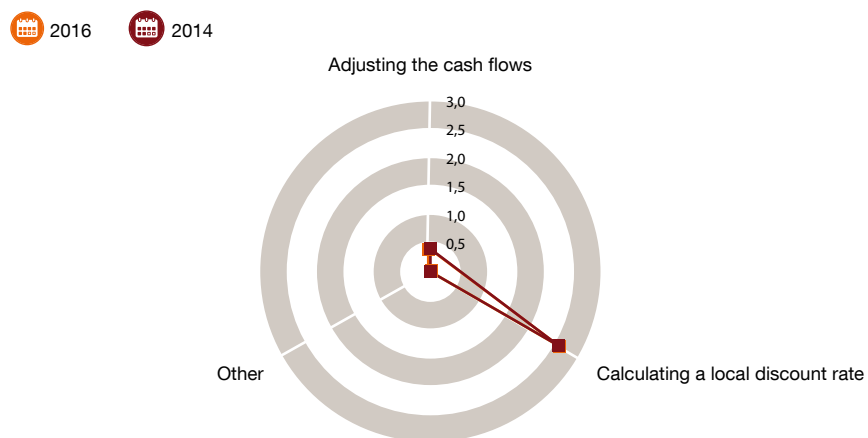
Country risk premiums

When valuing businesses in emerging markets, it is critical that a prospective investor assesses and quantifies the risks inherent in investing in different sovereign territories. We asked respondents how they account for country risk in their valuations.

Q: How do you generally adjust for country risk when valuing an asset in a country where no reliable long-bond yield (i.e. risk-free rate) can be observed?

- Adjusting the cash flows
- Calculating a local discount rate using a US-dollar or euro-based risk-free rate and adding a premium for local country risk and inflation
- Other

Figure 4.13 Country risk premium inclusion methods



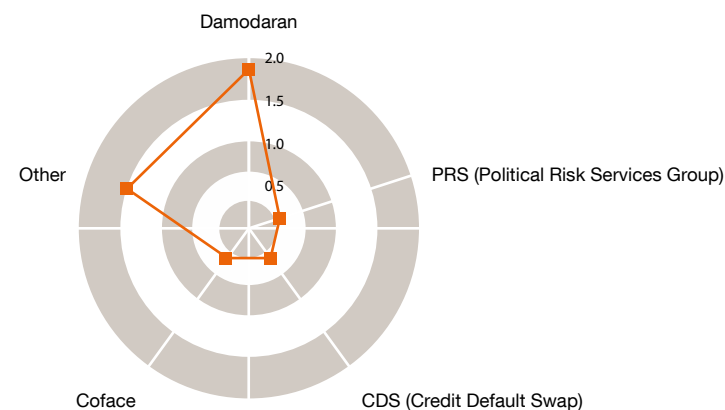
The results indicate that country risk differentials are recognised mainly by adjusting local discount rates with a country risk premium.

Given the level of activity in countries with limited capital market data, we asked respondents some additional questions regarding how they determine their country risk adjustments.

Q: How often is each of the following service providers used as a source of information for country risk premium?

- Damodaran
- PRS (Political Risk Services Group)
- CDS (Credit Default Swap)
- Coface

Figure 4.14 Country risk premium data sources



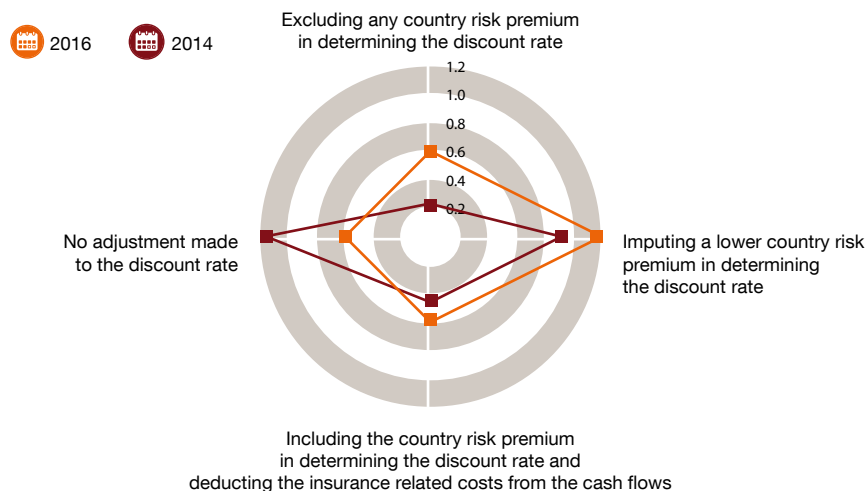
A number of publicly available data sources are used, with Damodaran being a popular source of information.

Few respondents were familiar with the concept of international insurance against country risk. We asked respondents how they factor in international insurance against country risk when calculating the discount rate.

Q: If international insurance is factored in, how do you adjust the discount rate?

- Excluding any country risk premium in determining the discount rate
- Imputing a lower country risk premium in determining the discount rate
- Including the country risk premium in determining the discount rate and deducting the insurance-related costs from the cash flows
- No adjustment made to the discount rate

Figure 4.15 Discount rate adjustment method when factoring in international insurance



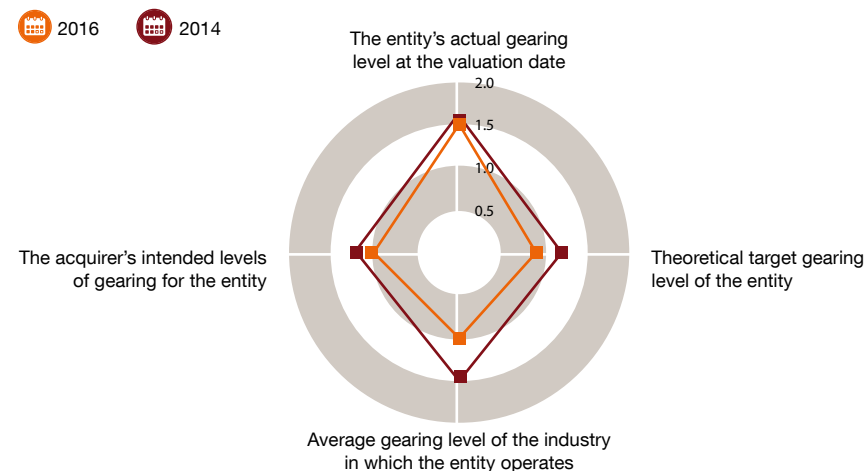
Of those respondents familiar with the concept of international insurance, most impute a lower country risk premium to mitigate risk. A large number also exclude the country risk premium entirely, while others make no adjustment to the discount rate.

Gearing

Q: Which of the following approaches are used in determining an appropriate level of debt and equity in the cost of capital calculation?

- Average gearing level of the industry in which the entity operates
- Theoretical target gearing level of the entity
- The acquirer's intended levels of gearing for the entity
- The entity's actual gearing level at the valuation date

Figure 4.16 Approaches used in determining the appropriate level of debt and equity



A wide variety of indicators is considered as part of the respondents' gearing assumptions. These include industry and actual target gearing levels.

Market approach

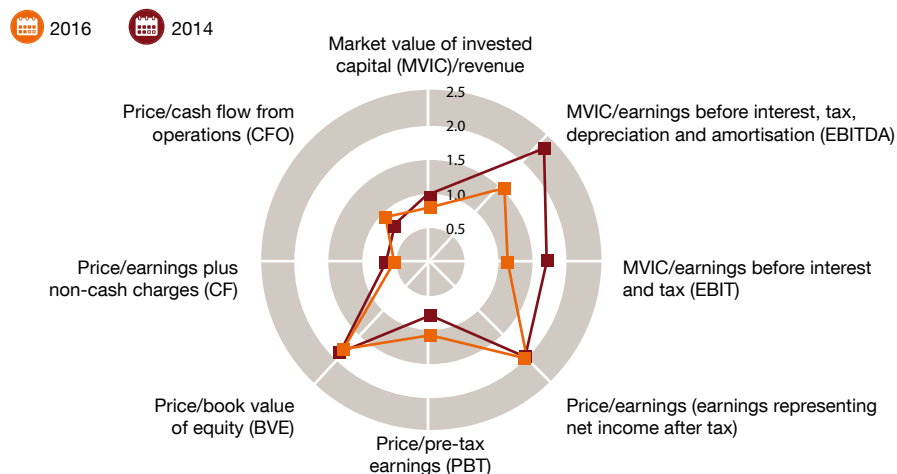
Choice of multiples

A number of valuation multiples or valuation benchmarks can be used in the application of the market approach. This section of the survey tested the frequency of use of a range of common market multiples.

Q: When using the market approach, how often do you use each of the following valuation multiples?

- Market value of invested capital (MVIC)/revenue
- MVIC/earnings before interest, tax, depreciation and amortisation (EBITDA)
- MVIC/earnings before interest and tax (EBIT)
- Price/earnings (earnings representing net income after tax)
- Price/pre-tax earnings (PBT)
- Price/book value of equity (BVE)
- Price/earnings plus non-cash charges (CF)
- Price/cash flow from operations (CFO)

Figure 4.17 Valuation multiples used



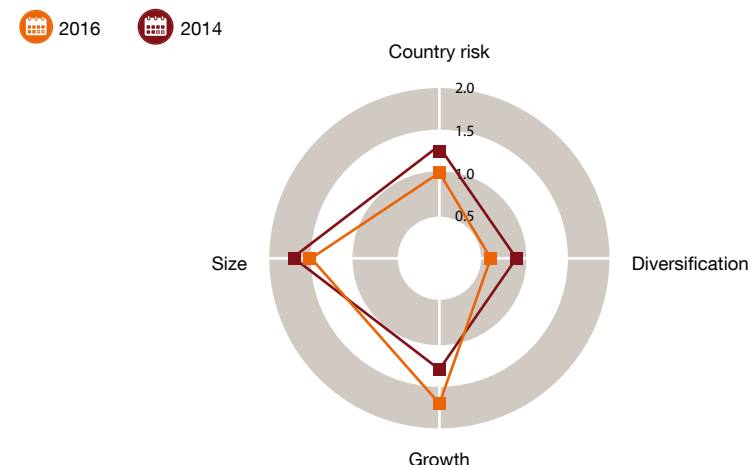
The price/earnings, price/book and EV/EBITDA multiples are the most widely used valuation multiples, where EV = enterprise value.

Adjustments to multiples

Q: If applicable, which of the following adjustments to observed comparable company multiples would you consider in applying the market multiple approach?

- Country risk
- Diversification
- Growth
- Size

Figure 4.18 Adjustments to valuation multiples



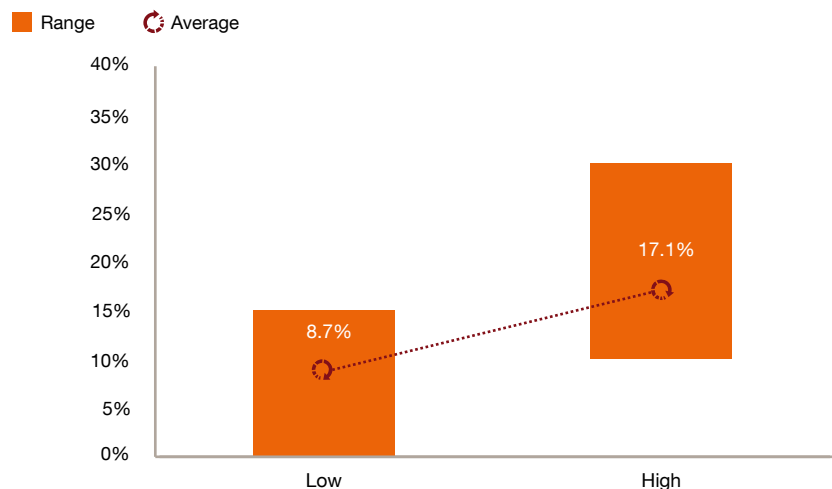
Most respondents indicated that they frequently or sometimes consider making adjustments in determining appropriate multiples in terms of the market approach.

In this year's survey, we again asked questions to gauge the quantum of the discounts being applied.

Country risk adjustments

Q: Assuming you are valuing a business that operates in an emerging market, but you are using developed market comparable companies to derive an earnings multiple, what is the range of discounts you would apply to developed market comparable company multiples to reflect differences in country risk?

Figure 4.19 Range of discounts applied to developed market comparable multiples to reflect differences in country risk



In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles.

Country risk adjustments – discounts applied

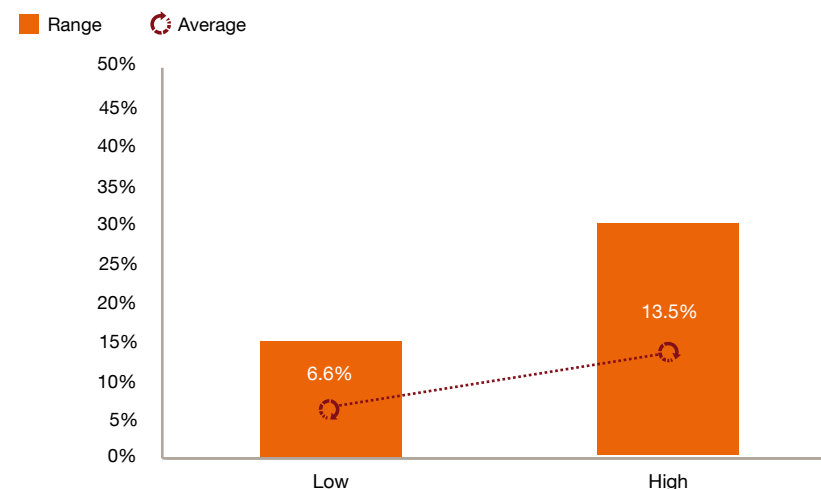
	Low	High
2016 average	8.7%	17.1%
2016 2 nd quartile	8.8%	16.5%
2016 3 rd quartile	13.7%	20.6%

The lower end of the country risk adjustments falls between 9% and 14%, and the upper end between 17% and 21%.

Size adjustments

Q: Assuming you are valuing a business that is significantly smaller than the listed comparable companies you used to derive an earnings multiple, what is the range of discounts you would apply to comparable company multiples to reflect differences in size?

Figure 4.20 Range of discounts applied to developed market comparable multiples to reflect differences in size



Once again, in order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. Here too, we considered the average range falling between the second and third quartiles.

Size adjustments – discounts applied

	Low	High
2016 average	6.6%	13.5%
2016 2 nd quartile	5.1%	11.5%
2016 3 rd quartile	8.9%	19.5%



The lower end of the size adjustments falls between 5% and 9%, and the upper end is between 12% and 20%.

Discounts and premiums

Minority discounts

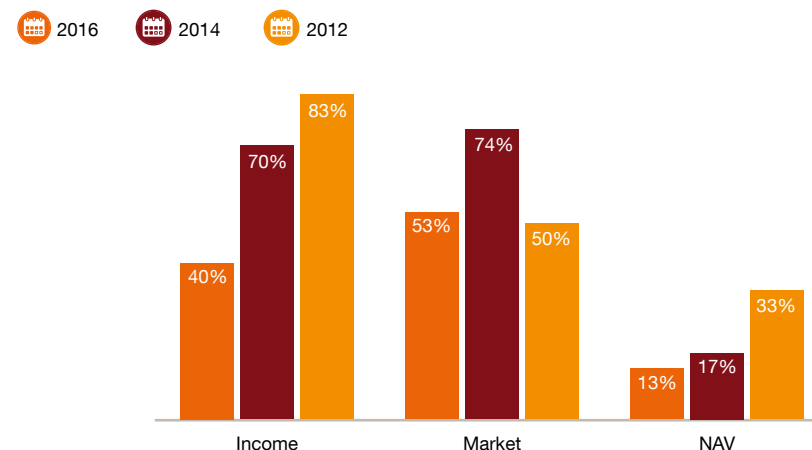
The minority discount relates to the lack of control that minority shareholders have over the operation and corporate policy of a given investment. The minority shareholders can generally neither direct the size or timing of dividends nor appoint management. A minority shareholder can also not veto the acquisition, sale or liquidation of assets.

Minority discounts are therefore usually applied when valuing a non-controlling interest to discount the value for lack of control.

Q: Do you generally apply a minority discount when using any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

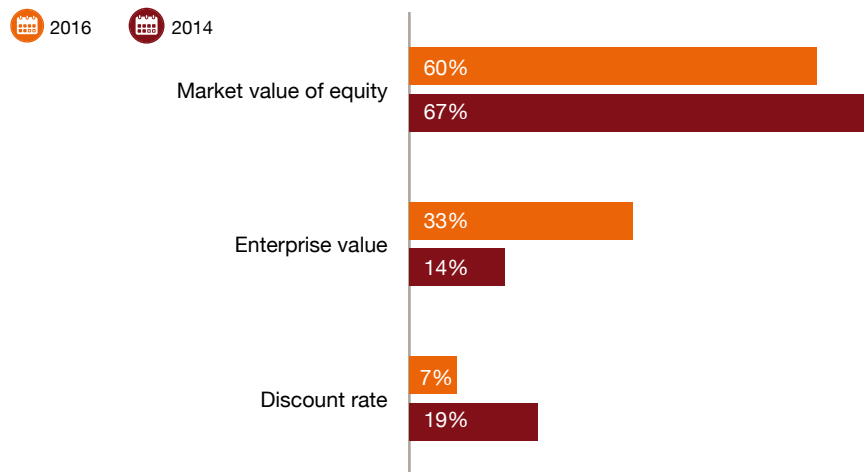
Figure 4.21 Approaches in which minority discounts are applied



Q: Where do you apply minority discounts?

- Market value of equity
- Enterprise value
- Discount rate

Figure 4.22 Application of minority discounts

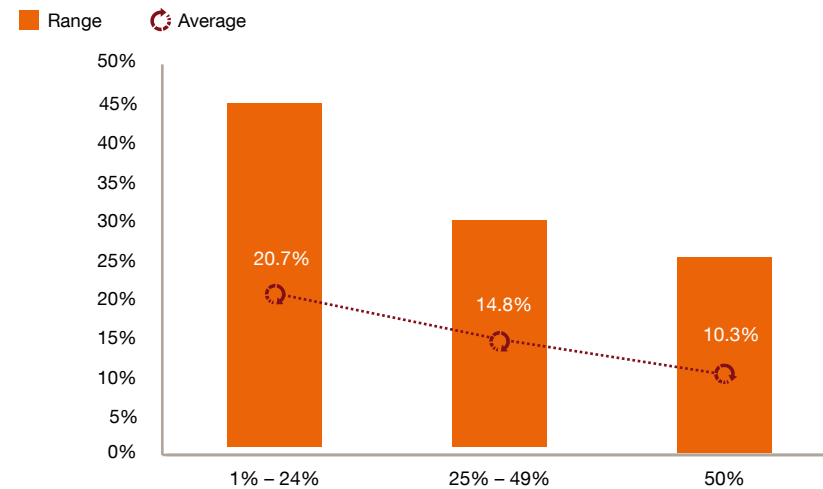


When asked where they apply minority discounts, most respondents indicated that they prefer to apply minority discounts to the market value of equity.

Given that most respondents acknowledge the appropriateness of the minority discount, we asked them for an indication of the range of minority discounts normally applied in their valuation analysis.

Q: Please indicate the benchmark minority discount normally applied, given the size of the interest being valued.

Figure 4.23 Average minority discount: Equity value



Average size of discount applied¹³

Size of interest	1 – 24%	25 – 49%	50%
2016	20.7%	14.8%	10.3%
2014	16.7%	12.8%	8.5%

Second and third quartiles

Size of interest	1 – 24%	25 – 49%	50%
2016 2 nd quartile	17.5%	14.0%	10.0%
2016 3 rd quartile	22.0%	20.0%	15.0%

The average minority discount applied to the market value of equity is 21% for an interest in the range 1% – 24% and 15% in the range 25% – 49%. Where joint control exists, on average the respondents indicated a minority discount of 10%.

¹³ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to adjustments to enterprise value has therefore not been included.

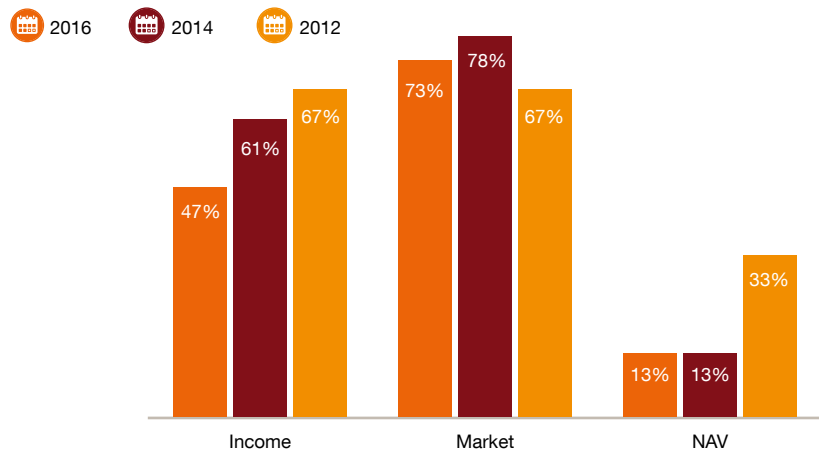
Control premiums

The control premium is the inverse of the minority discount and similar issues have to be considered in calculating a control premium. To summarise, a control premium relates to the additional value associated with the ability to control the distribution of cash generated by a company, which includes the ability to influence the timing and size of its dividend distribution.

Q: Do you generally apply a control premium when using any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 4.24 Approaches in which control premiums are applied



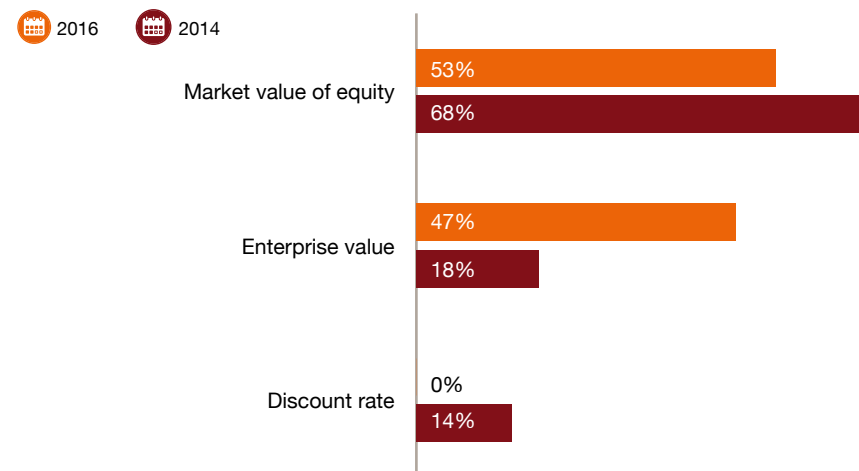
The control premium may already be implicitly included in the income approach and as a result it should normally be considered in a market approach valuation. However, if the control premium relates to synergies not built into the cash flows, it may in some cases be applied when the income approach is used.

Given that most respondents acknowledge the appropriateness of the control premium, we asked them to indicate how they go about applying control premiums in their valuation analysis.

Q: Where do you apply control premiums?

- Market value of equity
- Enterprise value
- Discount rate

Figure 4.25 Application of control premiums

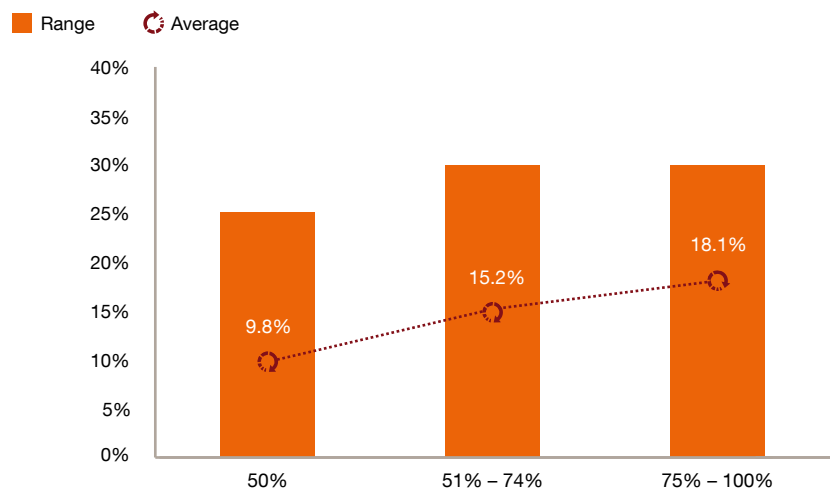


While some respondents apply adjustments to the enterprise value, most apply control premiums to the market value of equity.

We then sought to quantify the benchmark control premiums that are typically applied.

Q: Please indicate the benchmark control premium normally applied, given the size of the interest being valued.

Figure 4.26 Average control premium: Equity value



Average size of premium applied¹⁴

Size of interest	50%	51 – 74%	75 – 100%
2016	9.8%	15.2%	18.1%
2014	4.6%	10.9%	16.4%

Second and third quartiles

Size of interest	50%	51 – 74%	75 – 100%
2016 2 nd quartile	8.0%	15.0%	20.0%
2016 3 rd quartile	11.3%	20.0%	25.0%

The average control premium applied to the market value of equity is 15% for an interest in the range of 51% – 74% and 18% in the range 75% – 100%. Where joint control exists, respondents indicated that they applied a control premium of 10% on average.

¹⁴ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to the adjustments to enterprise value has therefore not been included.

Marketability discounts

Marketability can be defined as 'the ability to convert the business ownership interest (at whatever ownership level) to cash quickly, with minimum transaction and administrative costs in so doing and with a high degree of certainty of realising the expected amount of net proceeds'¹⁵

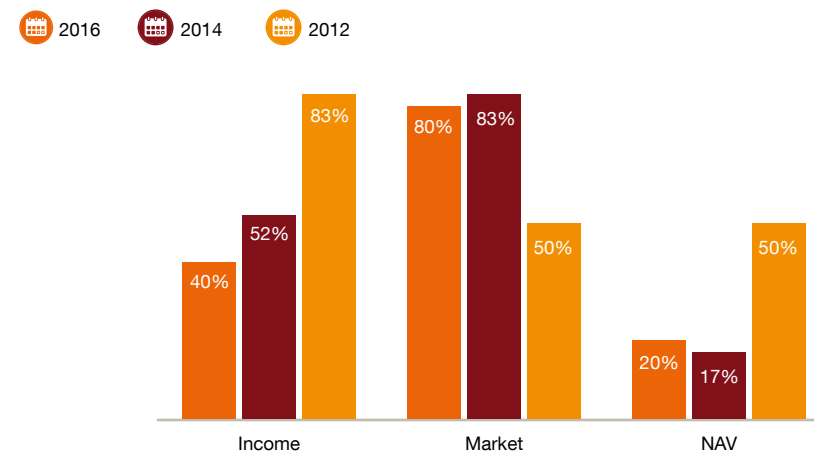
It is important to distinguish a marketability discount from a minority discount. The lack of ownership control captured by the minority discount addresses the limited ownership and lack of operational control, whereas the marketability discount deals with how quickly and certainly the ownership share can be converted to cash.

There is, however, an expected relationship between marketability and ownership share. Even after we discount a minority interest for a lack of control, it is usually harder to sell a non-controlling interest than a controlling ownership interest. The marketability discount is therefore expected to decrease with the size of the ownership share.

Q: If the entity is not listed, do you apply a marketability discount to any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 4.27 Approaches in which marketability discounts are applied



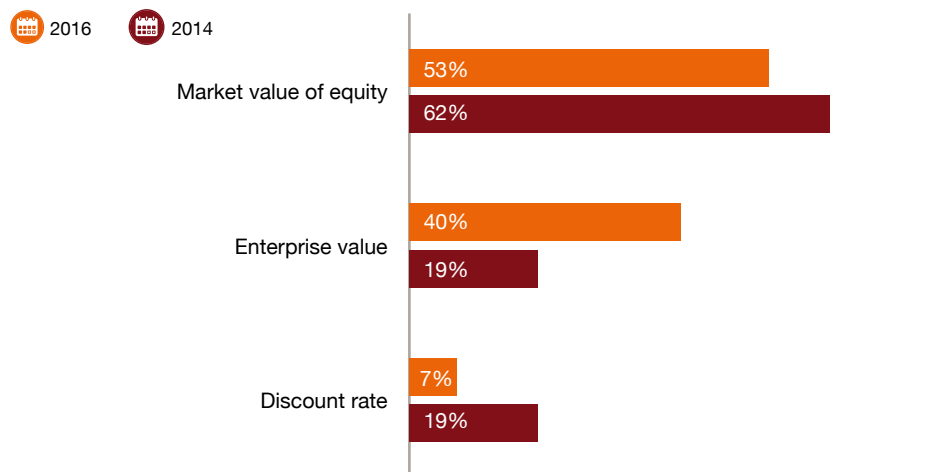
Respondents recognise the need to adjust for marketability in all valuation approaches. The remainder of this section therefore deals with how respondents apply marketability discounts in their valuation analysis.

¹⁵ Pratt, S, Reilly, R and Schweighs, R. Valuing a Business. McGraw-Hill, 2000.

Q: Where do you apply marketability discounts?

- Market value of equity
- Enterprise value
- Discount rate

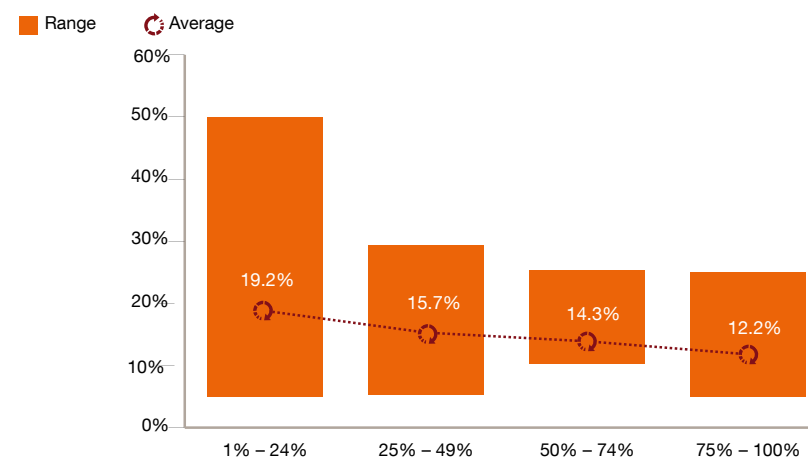
Figure 4.28 Application of marketability discounts



The majority of respondents apply marketability discounts to the market value of equity. We subsequently asked them to quantify the benchmark discounts that are typically applied.

Q: Please indicate the benchmark marketability discount normally applied, given the size of the interest being valued.

Figure 4.29 Average marketability discount applied: Equity value



Average size of discount applied¹⁶

Size of interest	1 – 24%	25 – 49%	50 – 74%	75 – 100%
2016	19.2%	15.7%	14.3%	12.2%
2014	17.3%	14.9%	11.0%	6.7%

Second and third quartiles

Size of interest	1 – 24%	25 – 49%	50 – 74%	75 – 100%
2016 2 nd quartile	15.0%	15.0%	14.0%	10.0%
2016 3 rd quartile	23.0%	18.8%	15.0%	15.0%

The ranges provide an indication of the size of the marketability discounts that are applied by respondents. As shown in the tables above, we considered the ranges falling between the second and third quartiles. Respondents indicated that in cases of outright control they apply on average a 10% marketability discount.

¹⁶ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to adjustments to enterprise value has therefore not been included.

Section 5: East Africa



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Valuation approaches

There are a number of methodologies that can be used to value businesses. We have previously found that the approaches most commonly used in East Africa are:

- **The income approach (discounted cash flow approach)**

This approach determines the market value of the ordinary shares of a company based on the value of the cash flows that the company can be expected to generate in the future. This includes traditional discounted cash flow techniques and also real option valuations, which use option pricing models to measure the value of assets that share option characteristics.

- **The market approach (market multiple approach)**

This gauges the market value of the ordinary shares of a company based on a comparison of the company to comparable publicly-traded companies and transactions in its industry, as well as evaluating prior transactions in the ordinary shares of the company using an appropriate valuation multiple.

- **The net assets approach**

This evaluates the market value of the ordinary shares of a company by adjusting the asset and liability balances on the company's balance sheet to its market value equivalents. The approach is based on the summation of the individual piecemeal market values of the underlying assets, less the market value of the liabilities.

The aim of this section is to highlight the most popular valuation approaches being used in business enterprise valuations in East Africa. We were particularly interested in determining whether any changes have taken place in the choice of approaches followed by market participants since our previous survey in 2014.

Q: Which of the following valuation approaches do you prefer to value a going concern?

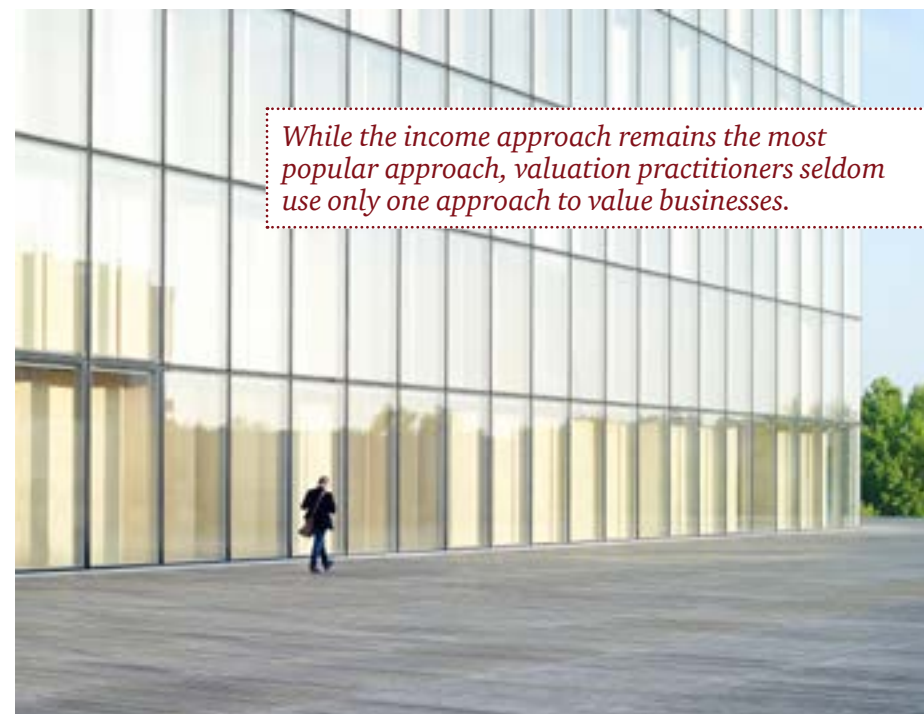
- *Income approach (discounted cash flow)*
- *Market approach (e.g. price/earnings ratio)*
- *Net asset approach*

The primary valuation approaches remain the income approach (discounted cash flow) and market approach (based on market multiples). The general indication from respondents is that the income approach remains the primary valuation methodology, used by 61% of respondents.

In the East Africa market, where there are relatively few listed companies that can be used as a reliable source for market multiples, it is perhaps not surprising that the income approach is the most favoured methodology.

We also asked respondents whether they apply a secondary methodology. Of those respondents who use the income approach as their primary methodology, 79% confirmed using the market approach as their secondary method of choice.

While the income approach remains the most popular approach, valuation practitioners seldom use only one approach to value businesses.



Income approach

Cost of capital

From a company's perspective, the weighted average cost of capital (WACC) represents the economic return (or yield) that an investor would have to give up by investing in any particular investment instead of in all available alternative investments that are comparable in terms of risk and other investment characteristics.¹⁷

WACC formula

The general formula for calculating the WACC (assuming only debt and equity capital) is:

$$\text{WACC} = k_d \times (d\%) + k_e \times (e\%)$$

where:

WACC = Weighted average rate of return on invested capital

k_d = After-tax rate of return on debt capital

$d\%$ = Debt capital as a percentage of the sum of the debt and ordinary equity capital (total invested capital)

k_e = Rate of return on ordinary equity capital

$e\%$ = Ordinary equity capital as a percentage of the total invested capital

There are three related steps involved in developing the WACC:

- Estimating the opportunity cost of equity financing;
- Estimating the opportunity cost of non-equity financing; and
- Developing market value weights for the capital structure.

Cost of equity

Estimating the cost of equity is the most subjective and difficult measure to quantify in the WACC formula, which is why we have dedicated a substantial part of this survey to this issue.

We have found in previous surveys that the capital asset pricing model (CAPM) is probably the most widely used model to determine the cost of equity.

CAPM formula

$$E(R_e) = R_f + \beta \times E(R_p)$$

where:

$E(R_e)$ = Expected rate of return on equity capital

R_f = Risk-free rate of return

β = Beta or systematic risk

$E(R_p)$ = Expected market risk premium: expected return for a broad portfolio of shares less the risk-free rate of return

The remainder of this section deals with the various components of the CAPM.

¹⁷ Pratt, S and Niculita, A. *Valuing a Business*. McGraw-Hill, 2008.

Risk-free rate

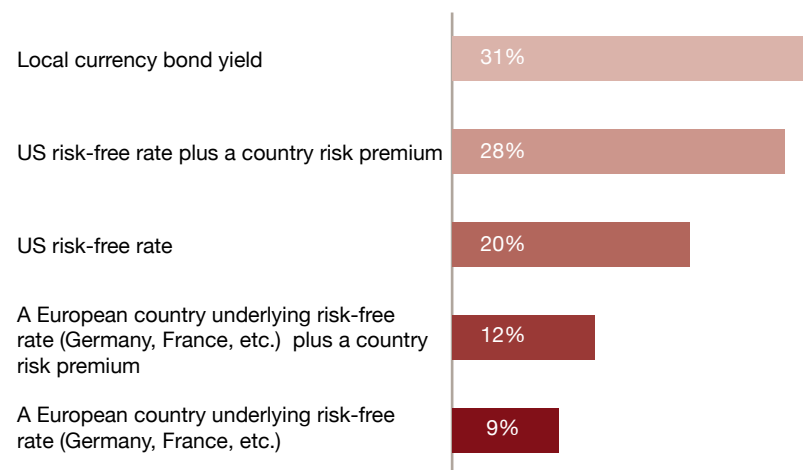
Ordinarily, valuation practitioners estimate the cost of equity by assessing its component parts using the CAPM.

In many of the East African countries, various government bonds are available as a proxy for the risk-free rate. We asked respondents to indicate their choice of proxy.

Q: When performing valuations in Africa, how often are the following used as a benchmark for the risk-free rate?

- Local currency bond yield
- US risk-free rate
- A European country underlying risk-free rate (Germany, France, etc.)
- US risk-free rate plus a country risk premium
- A European country underlying risk-free rate (Germany, France, etc.) plus a country risk premium

Figure 5.1 Benchmarks used for the risk-free rate



Respondents indicated that various risk-free rate benchmarks are used in East Africa. The most widely used approach is a local currency bond yield. However, as not all of the available government bonds are actively traded on an exchange, a large number of respondents also consider alternative approaches, including adding a country risk premium to a recognised risk-free rate, for example, the US or European risk-free rate.

A wide range of approaches is used in East African markets. This is likely to be driven by variations in the availability of suitable government bond data across the various East African countries in which the survey respondents are based.



Beta

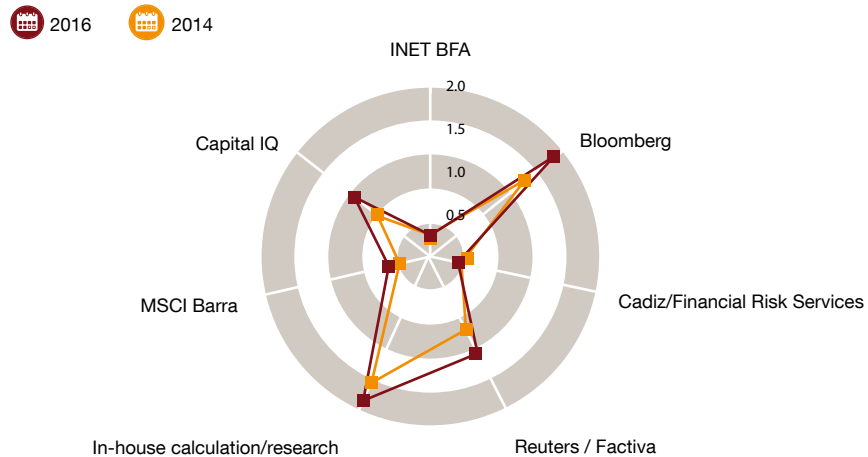
Beta measures the sensitivity of a share price to fluctuations in the market as a whole. It is calculated by regressing individual share returns against the returns of the market index.

Analysts often do not use raw data (e.g. share prices and share returns) to estimate beta based on their programmed regression algorithms, but rather subscribe to information systems and databases as sources for betas. We asked respondents to indicate which service providers they use most often.

Q: When performing valuations in Africa, how often do you make use of the following service providers as a source of information for beta calculations?

- Bloomberg
- Cadiz Financial Risk Services
- In-house calculation/research
- INET BFA (previously McGregor BFA)
- MSCI Barra
- Reuters
- Capital IQ

Figure 5.2 Service providers used to source betas



Bloomberg continues to be a popular source for beta estimates. Capital IQ and in-house research came out as the other popular sources.

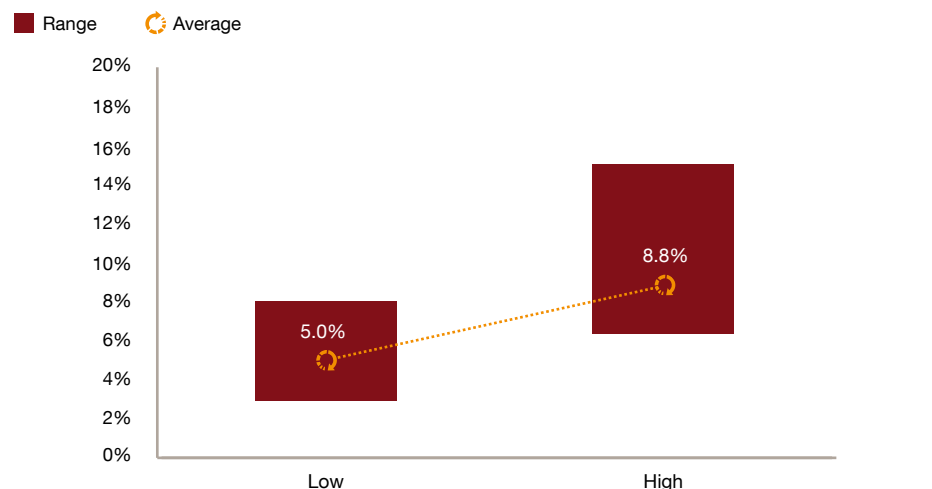


Equity market risk premium

The market risk premium is the single most debated input in a cost of capital calculation. We asked respondents what range of market risk premiums they typically apply.

Q: Please specify the range of equity market risk premiums applied when you use the CAPM. Please ignore discounts (e.g. marketability discounts) and premiums (e.g. control premiums and small company premiums), which will be addressed later in the survey.

Figure 5.3 Range of equity market risk premiums used in the CAPM



Average market risk premium applied

	Low	High
2016	5.0%	8.8%
2014	5.9%	11.1%
2012	5.2%	8.2%

Second and third quartiles

	Low	High
2016 2 nd quartile	5.5%	7.3%
2016 3 rd quartile	5.5%	10.3%

A wide range of market risk premium was observed. The average market risk premium used in East Africa ranges between 5% and 9%.

Small stock premiums

In computing an equity risk premium to apply to all investments in the CAPM, we are assuming that betas carry the weight of measuring the risk in individual firms or assets, with riskier investments having higher betas than safer investments. A number of studies, such as those producing the data contained in the annual *Duff & Phelps Valuation Handbook*, have shown that investments in small companies may have experienced higher returns than those predicted by the standard CAPM approach.

In theory, the CAPM would suggest a higher required return for small companies through a higher beta for such companies. The higher betas for small companies can be caused by higher operational and financial leverage, limited access to funding and other factors that make them more vulnerable to general market fluctuations.

However, the higher betas do not seem to fully explain the higher returns historically achieved by smaller companies. Some have interpreted this as an indication that there are other risks associated with small companies that the CAPM does not address. To adjust for this finding, many practitioners add an additional premium to the cost of equity of companies with smaller market capitalisation.

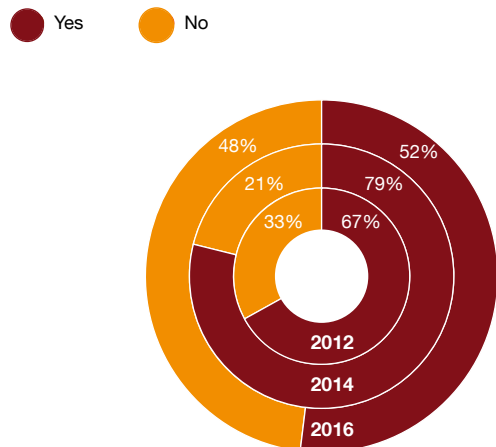
With various studies both supporting and refuting the notion of the small capitalisation premium, we asked respondents whether they apply a small stock premium (SSP) in the course of their valuation analysis.



Q: Do you adjust the CAPM rate of return by a premium that reflects the extra risk of an investment in a small company?

- Yes
- No

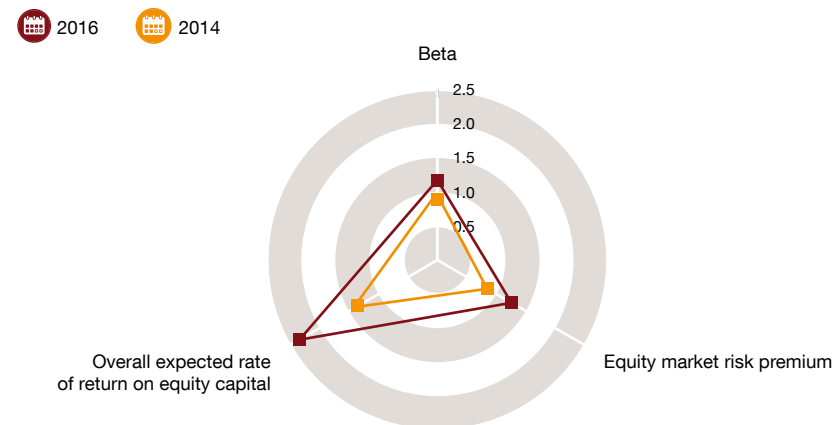
Figure 5.4 Use of small stock premiums



Q: When adjusting for small stock premiums, how often do you adjust each of the following factors?

- Beta
- Equity market risk premium
- Overall expected rate of return on equity capital

Figure 5.5 Adjustments made for company size



The number of respondents considering a small stock premium has declined compared to prior years, but the majority still favour its application.

When applying an adjustment for company size, most respondents make an adjustment to the overall cost of equity.

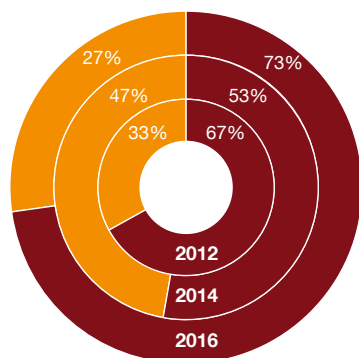
As the next step in the survey, we wanted to determine the methodology used to effect the adjustment for company size.

Q: Do you adjust by multiplying a factor (i.e. CAPM $k_e \times \{1 + SSP\}$) or adding a factor (i.e. CAPM $k_e + SSP$)?

- Multiplying
- Adding

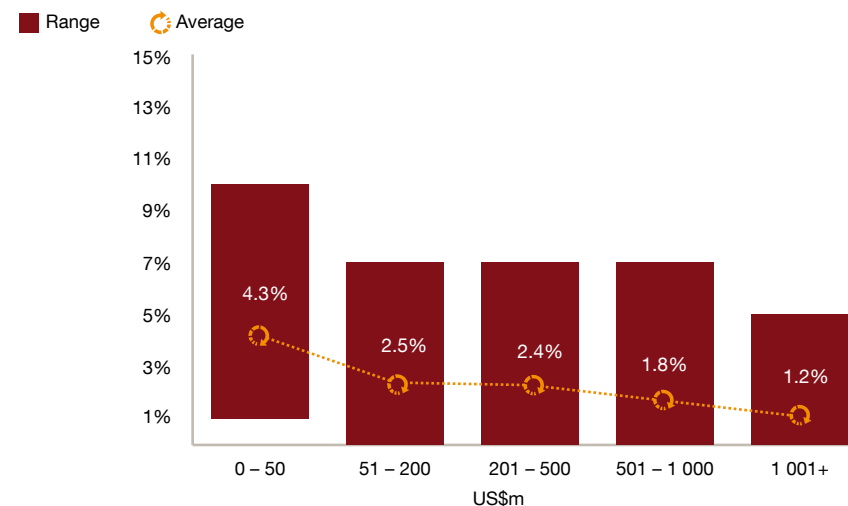
Figure 5.6 Small stock premium inclusion methods

● Adding ● Multiplying



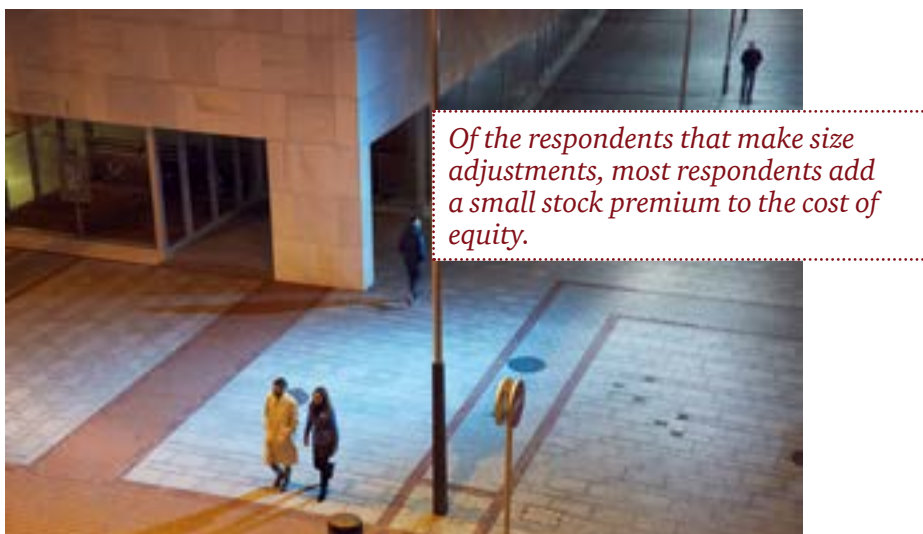
Q: What is the benchmark small stock premium applied, given the expected size of the company or entity?

Figure 5.7 Small stock premiums applied additively



Average small stock premium applied: Adding¹⁸

US\$m	0 – 50	51 – 200	201 – 500	501 – 1 000	1 001+
2016	4.3%	2.5%	2.4%	1.8%	1.2%
2014	5.7%	4.2%	3.7%	3.1%	2.5%



¹⁸ In this year's survey, the clear majority of respondents indicated that they apply an additive premium, with very few applying a multiplication approach. Given the small sample size, data relating to the multiplication approach has therefore not been included.

Specific risk premiums

A key attribute of the CAPM is that investors are rewarded only for systematic risk. Specific risks that are theoretically diversifiable are not included in the CAPM. Finance theory states that investors should be compensated only for non-diversifiable risks.

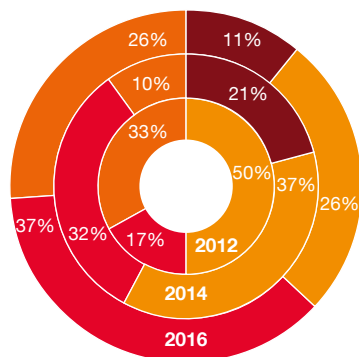
Given that the application of a specific risk premium (SRP) is not consistent with the CAPM, we surveyed market practitioners about whether they apply specific risk premiums and, if so, in what instances. We also asked respondents what premiums are considered for projects at various stages of development.

Q: How often do you adjust the CAPM rate of return by a premium that reflects unique risks to the extent that such risks could not be modelled in the forecast cash flows?

- Always
- Frequently
- Sometimes
- Never

Figure 5.8 Use of a specific risk premium

● Always ● Frequently ● Sometimes ● Seldom/Never



In general, most respondents apply specific risk premiums, with 63% applying specific risk premiums either sometimes or frequently, and 11% always applying specific risk premiums.

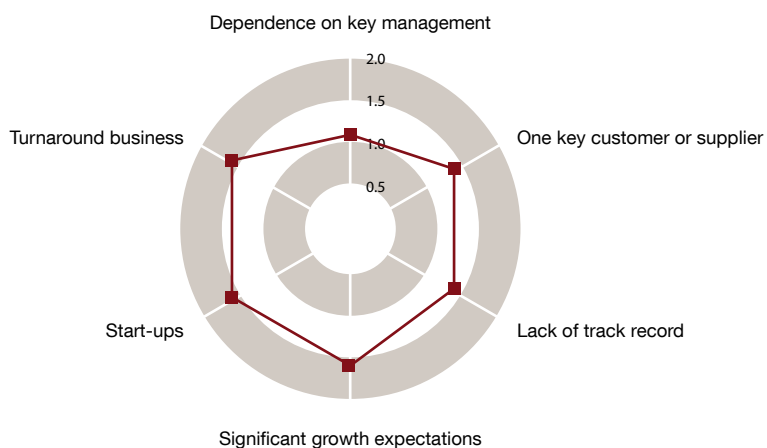
About 74% of respondents always, regularly or occasionally consider an adjustment to the CAPM, which demonstrates that although the use of a specific risk premium is not supported by the CAPM and financial theory, specific risk premiums are widely used in practice.



Q: How often would each of the following conditions require you to apply a specific risk premium, also referred to as alpha?

- Dependence on key management
- One key customer or supplier
- Lack of track record
- Significant growth expectations
- Start-ups
- Turnaround businesses

Figure 5.9 Specific risk factors



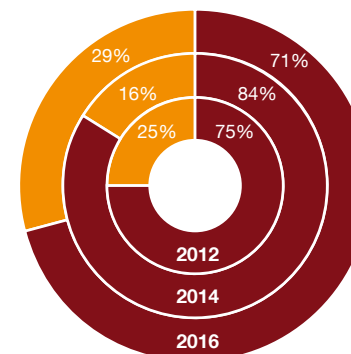
Respondents indicated that most of the factors listed would at some time be considered as motivation for the inclusion of a specific risk premium.

Q: Do you adjust by multiplying a factor (i.e. $CAPM\ k_e \times \{1 + SRP\}$) or adding a factor (i.e. $CAPM\ k_e + SRP$)?

- Multiplying
- Adding

Figure 5.10 Specific risk premium inclusion methods

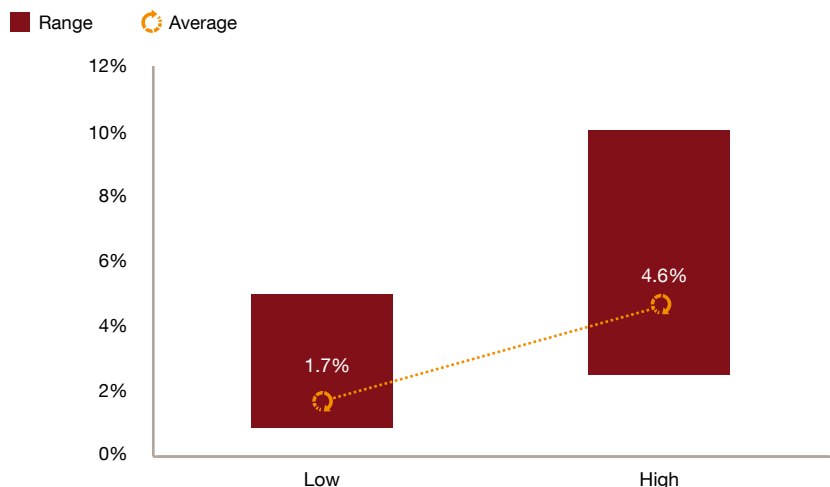
● Adding ● Multiplying



Most respondents adjust the overall expected return on equity capital by adding a premium. This is consistent with the results of previous surveys.

Q: What range of specific risk premiums would you normally apply?

Figure 5.11 Specific risk premiums applied additively



Average specific risk premium applied: Adding¹⁹

	Low	High
2016	1.7%	4.6%
2014	1.5%	5.7%
2012	1.0%	10.0%

In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The lower end of the specific risk premium falls between 1% and 2%, and the upper end between 4% and 5%.

Second and third quartiles

	Low	High
2016 2 nd quartile	1.0%	4.0%
2016 3 rd quartile	1.9%	4.8%

Specific risk premiums are used for a wide variety of reasons, with the upper end of the range likely to be dominated by hurdle rates used to appraise very high-risk projects. The wide range of specific risk premiums added to the CAPM is therefore likely to be a result of the variety of risks that specific risk premiums aim to address.

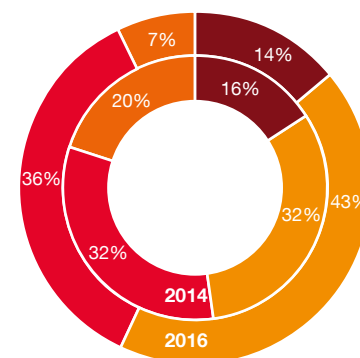
¹⁹ In this year's survey, the clear majority of respondents indicated that they apply an additive premium, with very few applying a multiplication approach. Given the small sample size, data relating to the multiplication approach has therefore not been included.

Q: One instance where specific risk premiums are sometimes applied is where the company is considered to be a start-up. If you apply a specific risk premium for start-up companies, what percentage would you normally apply, assuming you are adding the premium to the cost of equity?

- 0 – 1.9%
- 2.0 – 3.9%
- 4.0 – 5.9%
- 6.0 – 7.9%
- Greater than 8.0%

Figure 5.12 Specific risk premiums for start-up companies

0% – 1.9% 2.0% – 3.9% 4.0% – 5.9% 6.0% – 7.9% Greater than 8%



A wide range of premiums is applied, suggesting that specific risk premiums are highly asset-specific.

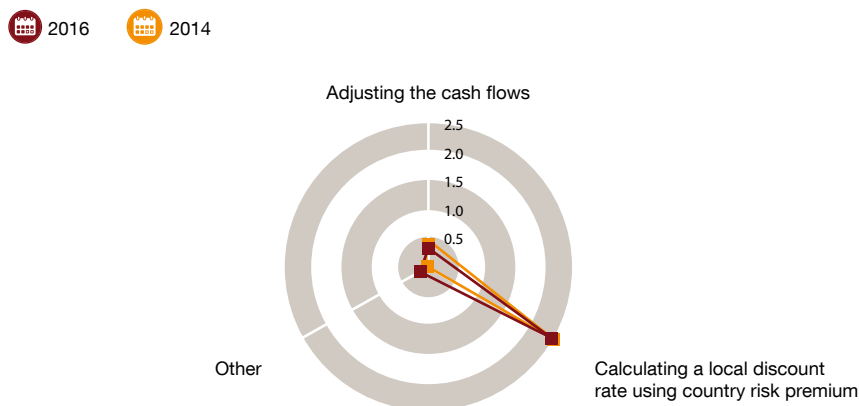
Country risk premiums

When valuing businesses in emerging markets, it is critical that a prospective investor assesses and quantifies the risks inherent in investing in different sovereign territories. We asked respondents how they account for country risk in their valuations.

Q: How do you generally adjust for country risk when valuing an asset in a country where no reliable long-bond yield (i.e. risk-free rate) can be observed?

- Adjusting the cash flows
- Calculating a local discount rate using a US-dollar or euro-based risk-free rate and adding a premium for local country risk and inflation
- Other

Figure 5.13 Country risk premium inclusion methods



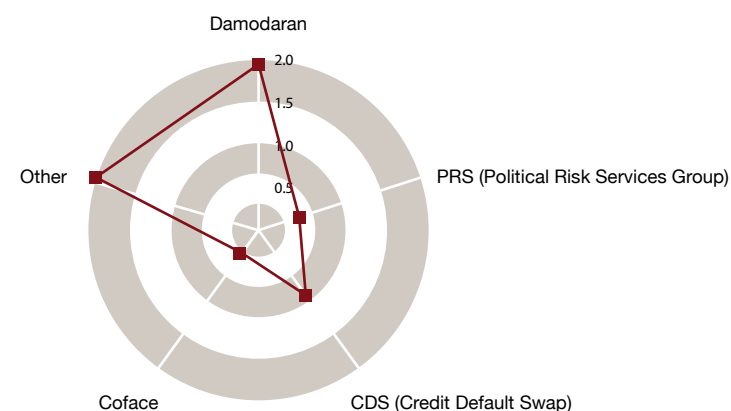
The survey results indicate that country risk differentials are recognised mainly by adjusting local discount rates with a country risk premium. This is consistent with the results in previous surveys.

Given the level of activity in countries with limited capital market data, we asked respondents some additional questions regarding how they determine their country risk adjustments.

Q: How often is each of the following service providers used as a source of information for country risk premium?

- Damodaran
- PRS (Political Risk Services Group)
- CDS (Credit Default Swap)
- Coface

Figure 5.14 Country risk premium data sources



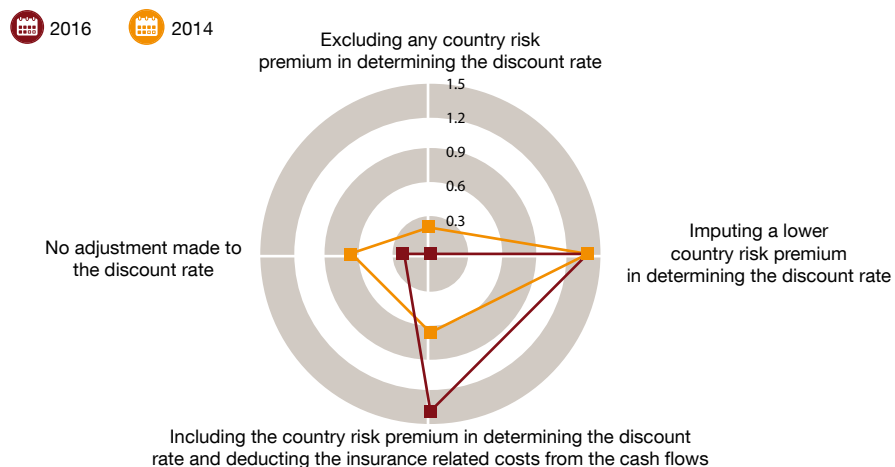
A number of publicly available data sources are used, with Damodaran being a popular source of information. A number of respondents also indicated that they use in-house methodologies to calculate country risk premiums.

The majority of respondents are familiar with the concept of international insurance against country risk. We asked respondents how they factor in international insurance against country risk when calculating the discount rate.

Q: If international insurance is factored in, how do you adjust the discount rate?

- Excluding any country risk premium in determining the discount rate
- Imputing a lower country risk premium in determining the discount rate
- Including the country risk premium in determining the discount rate and deducting the insurance-related costs from the cash flows
- No adjustment made to the discount rate

Figure 5.15 Discount rate adjustment method when factoring in international insurance



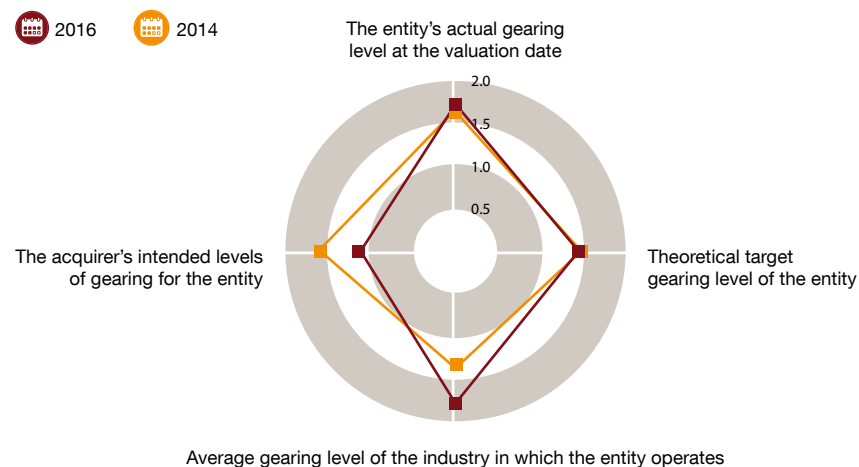
Most respondents either impute a lower country risk premium where international insurance is used to mitigate country risk, or include the country risk premium in determining the discount rate and deduct the insurance-related costs from the cash flows.

Gearing

Q: Which of the following approaches are used in determining an appropriate level of debt and equity in the cost of capital calculation?

- Average gearing level of the industry in which the entity operates
- Theoretical target gearing level of the entity
- The acquirer's intended levels of gearing for the entity
- The entity's actual gearing level at the valuation date

Figure 5.16 Approaches used in determining the appropriate level of debt and equity



A wide variety of indicators is considered as part of the respondents' gearing assumptions. These include actual industry and target gearing levels.

Market approach

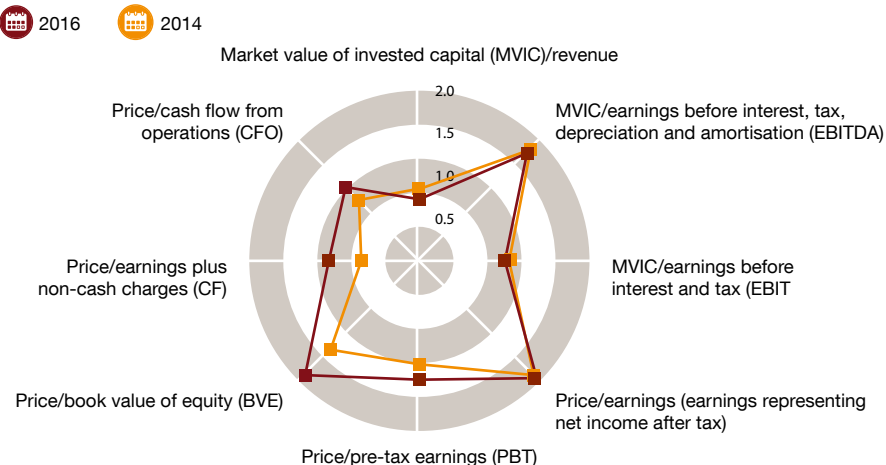
Choice of multiples

A number of valuation multiples or valuation benchmarks can be used in the application of the market approach. This section of the survey tested the frequency of use of a range of common market multiples.

Q: When using the market approach, how often do you use each of the following valuation multiples?

- Market value of invested capital (MVIC)/revenue
- MVIC/earnings before interest, tax, depreciation and amortisation (EBITDA)
- MVIC/earnings before interest and tax (EBIT)
- Price/earnings (earnings representing net income after tax)
- Price/pre-tax earnings (PBT)
- Price/book value of equity (BVE)
- Price/earnings plus non-cash charges (CF)
- Price/cash flow from operations (CFO)

Figure 5.17 Valuation multiples used



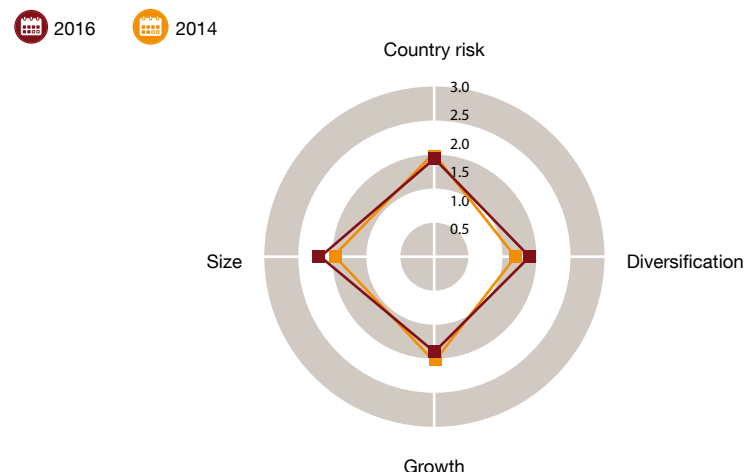
The price/earnings, price/book and EV/EBITDA multiples are the most widely used valuation multiples, where EV = enterprise value.

Adjustments to multiples

Q: If applicable, which of the following adjustments to observed comparable company multiples would you consider in applying the market multiple approach?

- Country risk
- Diversification
- Growth
- Size

Figure 5.18 Adjustments to valuation multiples



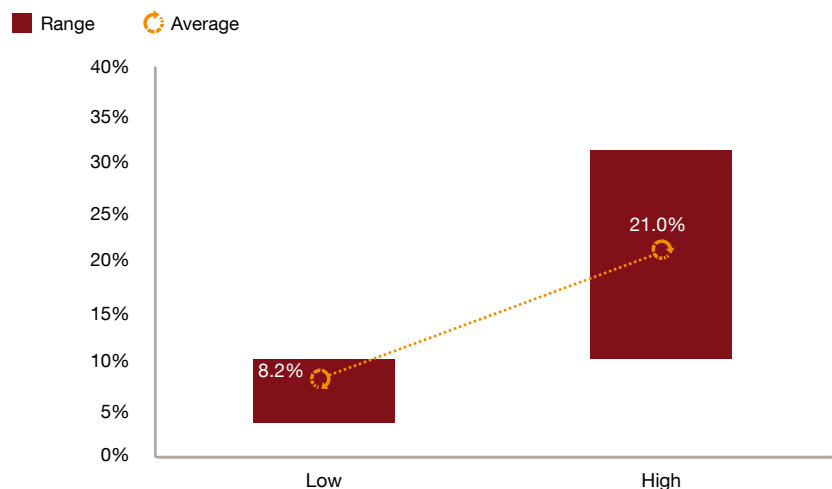
The majority of respondents indicated that they consider making adjustments in determining appropriate multiples in terms of the market approach.

In this year's survey, we again asked questions to gauge the quantum of the discounts being applied.

Country risk adjustments

Q: Assuming you are valuing a business that operates in an emerging market, but you are using developed market comparable companies to derive an earnings multiple, what is the range of discounts you would apply to developed market comparable company multiples to reflect differences in country risk?

Figure 5.19 Range of discounts applied to developed market comparable multiples to reflect differences in country risk



In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. The lower end of the country risk adjustments is 10%, while the upper end is between 20% and 25%.

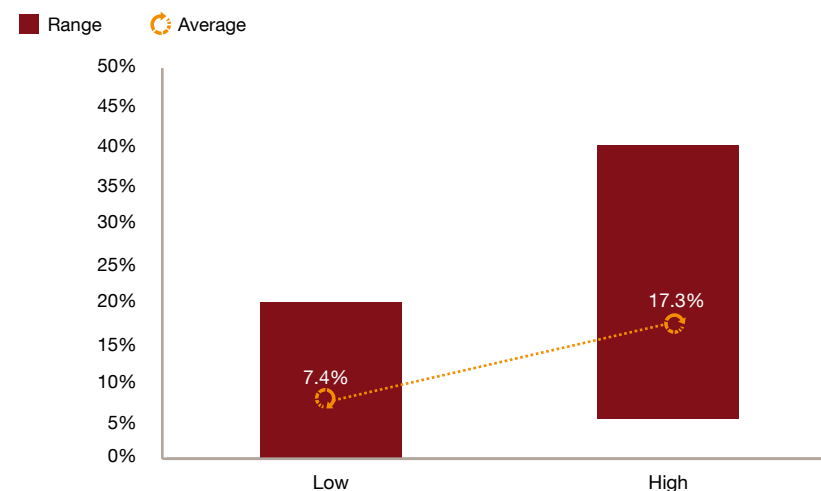
Country risk adjustments – discounts applied

	Low	High
2016 average	8.2%	21.0%
2016 2 nd quartile	9.8%	20.4%
2016 3 rd quartile	10.0%	25.0%

Size adjustments

Q: Assuming you are valuing a business that is significantly smaller than the listed comparable companies you used to derive an earnings multiple, what is the range of discounts you would apply to comparable company multiples to reflect differences in size?

Figure 5.20 Range of discounts applied to developed market comparable multiples to reflect differences in size



Once again, in order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. Here too, we considered the average range falling between the second and third quartiles. The lower end of the size adjustments is between 7% and 10%, while the upper end is between 15% and 20%.

Size adjustments – discounts applied

	Low	High
2016 average	7.4%	17.3%
2016 2 nd quartile	7.6%	15.2%
2016 3 rd quartile	10.0%	20.0%



The lower end of the size adjustments applied by the respondents is between 7% and 10%, while the upper end is between 15% and 20%.

Discounts and premiums

Minority discounts

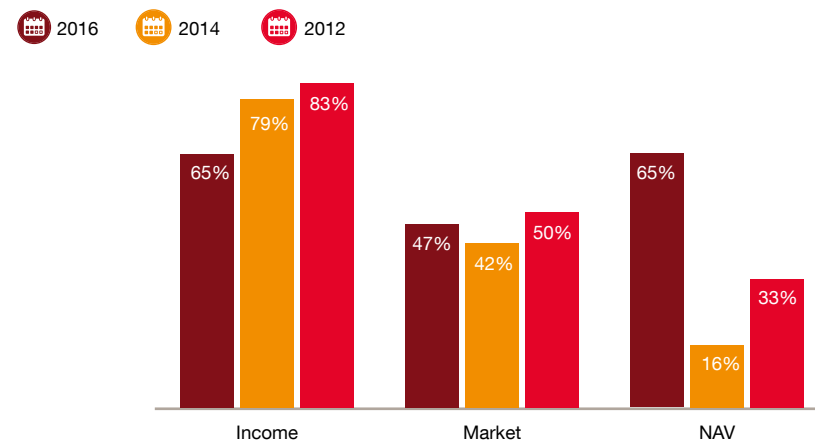
The minority discount relates to the lack of control that minority shareholders have over the operation and corporate policy of a given investment. The minority shareholders can generally neither direct the size or timing of dividends nor control the selection of management.

A minority shareholder can also not veto the acquisition, sale or liquidation of assets. Minority discounts are therefore usually applied when valuing a non-controlling interest to discount the value for lack of control.

Q: Do you generally apply a minority discount when using any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 5.21 Approaches in which minority discounts are applied

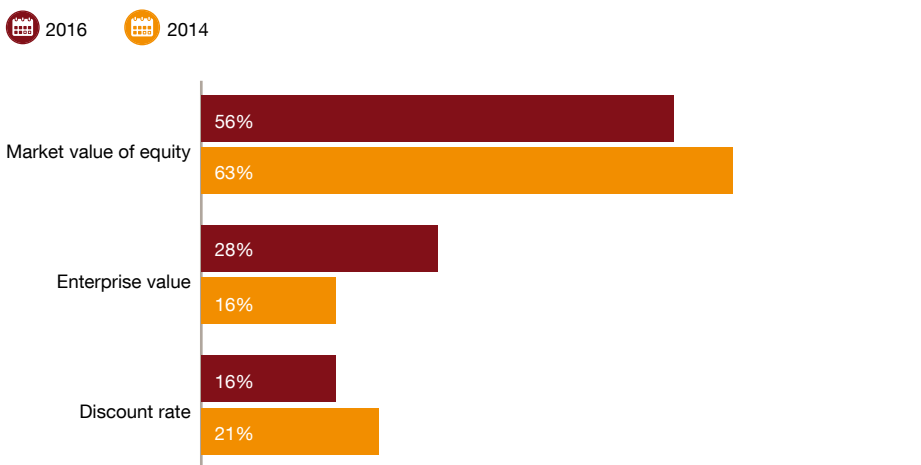


The majority of respondents will consider a minority discount under the income approach.

Q: Where do you apply minority discounts?

- Market value of equity
- Enterprise value
- Discount rate

Figure 5.22 Application of minority discounts

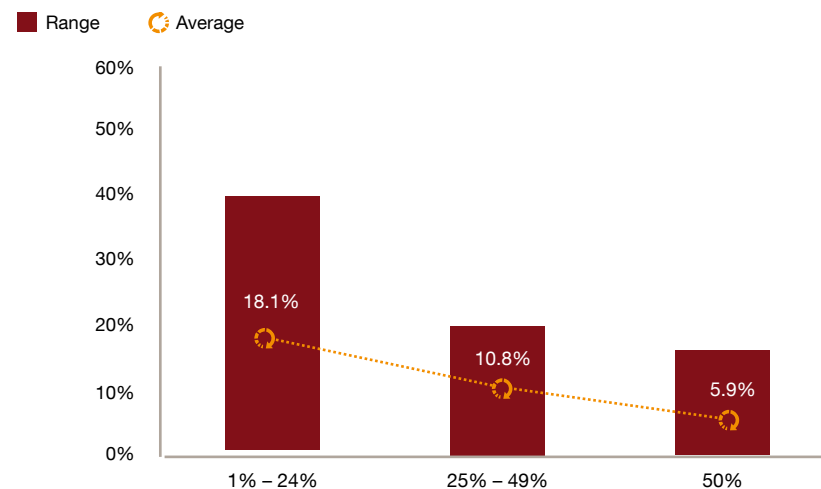


When asked where they apply minority discounts, most respondents indicated that they prefer to apply minority discounts to the market value of equity.

Given that most respondents acknowledge the appropriateness of the minority discount, we asked them for an indication of the range of minority discounts normally applied in their valuation analysis.

Q: Please indicate the benchmark minority discount normally applied, given the size of the interest being valued.

Figure 5.23 Average minority discount: Equity value



Average size of discount applied²⁰

Size of interest	1 – 24%	25 – 49%	50%
2016	18.1%	10.8%	5.9%
2014	23.8%	16.2%	7.5%

Second and third quartiles

Size of interest	1 – 24%	25 – 49%	50%
2016 2 nd quartile	20.0%	10.0%	5.0%
2016 3 rd quartile	23.0%	15.0%	10.0%

The average minority discount applied to the market value of equity is 18% for an interest in the range 1% – 24% and 11% in the range 25% – 49%. Where joint control exists, respondents indicated that they applied a minority discount of 6% on average.

²⁰ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to adjustments to enterprise value has therefore not been included.

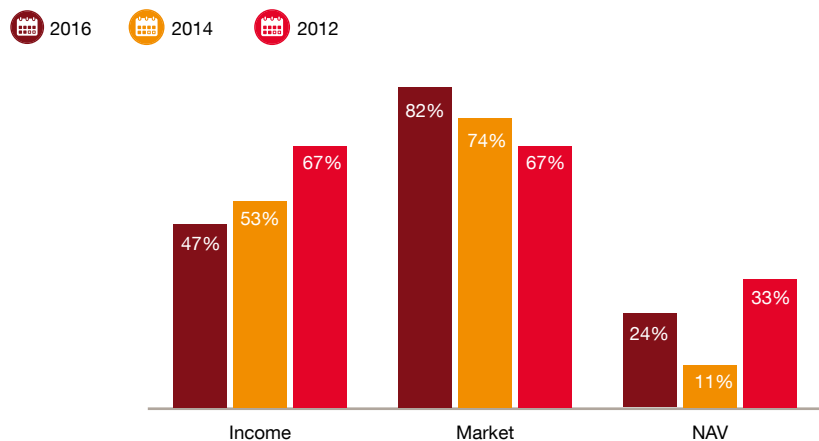
Control premiums

The control premium is the inverse of the minority discount, and similar issues have to be considered in calculating a control premium. To summarise, a control premium relates to the additional value associated with the ability to control the distribution of cash generated by a company, which includes the ability to influence the timing and size of its dividend distribution.

Q: Do you generally apply a control premium when using any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 5.24 Approaches in which control premiums are applied



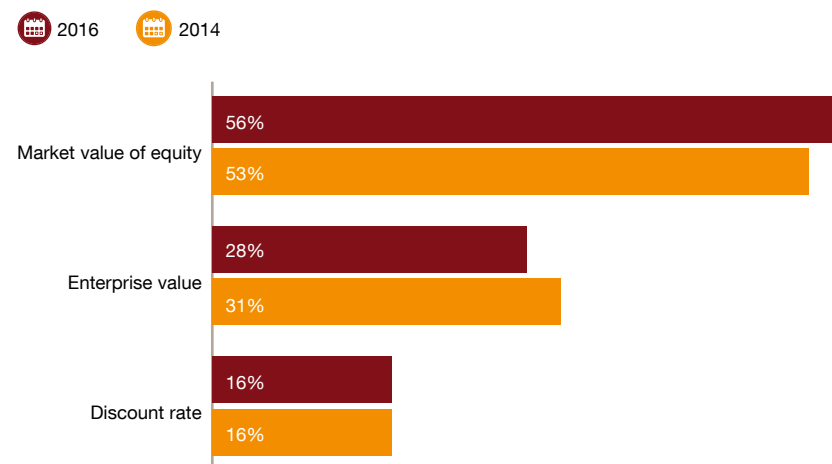
The control premium may already be implicitly included in the income approach, and normally it is only applied in a market approach valuation. However, if the control premium relates to synergies not built into the cash flows, it may in some cases be applied when the income approach is used.

Given that most respondents acknowledge the appropriateness of the control premium, we asked them to indicate how they go about applying control premiums in their valuation analysis.

Q: Where do you apply control premiums?

- Market value of equity
- Enterprise value
- Discount rate

Figure 5.25 Application of control premiums

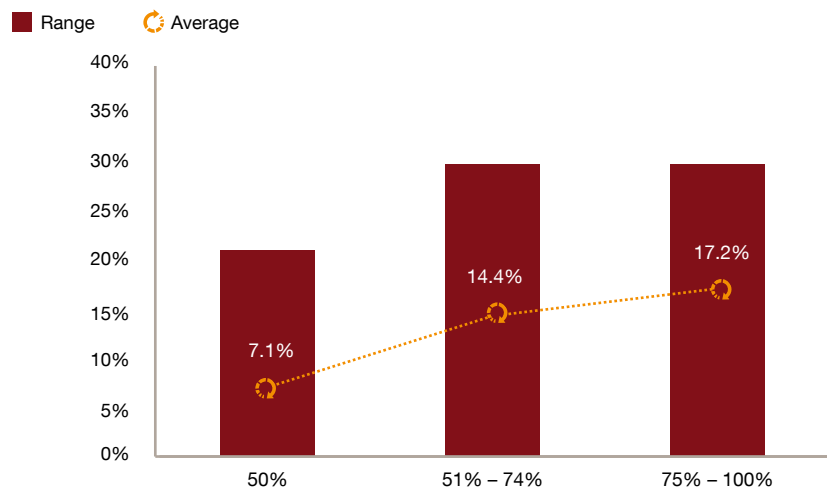


While some respondents apply adjustments to the discount rate or enterprise value, the majority of respondents apply control premiums to the market value of equity.

We then sought to quantify the benchmark control premiums that are typically applied.

Q: Please indicate the benchmark control premium normally applied, given the size of the interest being valued.

Figure 5.26 Average control premium: Equity value



Average size of premium applied²¹

Size of interest	50%	51 – 74%	75 – 100%
2016	7.1%	14.4%	17.2%
2014	5.6%	14.4%	19.4%

Second and third quartiles

Size of interest	50%	51 – 74%	75 – 100%
2016 2 nd quartile	5.0%	15.0%	20.0%
2016 3 rd quartile	10.0%	20.0%	25.0%

The average control premium applied to the market value of equity is 14% for an interest in the range 51% – 74% and 17% in the range 75% – 100%. Where joint control exists, respondents indicated that they applied a control premium of 7% on average.

²¹ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to the adjustments to enterprise value has therefore not been included.

Marketability discounts

Marketability can be defined as 'the ability to convert the business ownership interest (at whatever ownership level) to cash quickly, with minimum transaction and administrative costs in so doing and with a high degree of certainty of realising the expected amount of net proceeds'.²²

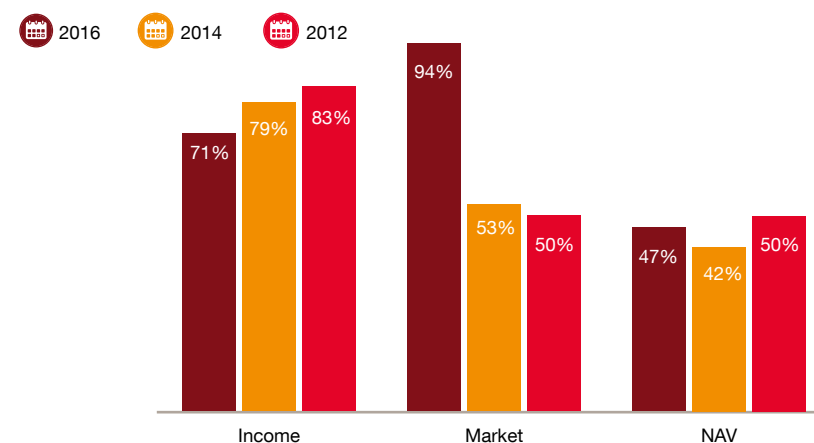
It is important to distinguish a marketability discount from a minority discount. The lack of ownership control captured by the minority discount addresses the limited ownership and lack of operational control, whereas the marketability discount deals with how quickly and certainly the ownership share can be converted to cash.

There is, however, an expected relationship between marketability and ownership share. Even after we discount a minority interest for a lack of control, it is usually harder to sell a non-controlling interest than a controlling ownership interest. The marketability discount is therefore expected to decrease with the size of the ownership share.

Q: If the entity is not listed, do you apply a marketability discount to any of the following approaches?

- Income approach
- Market multiple approach
- Net asset value

Figure 5.27 Approaches in which marketability discounts are applied



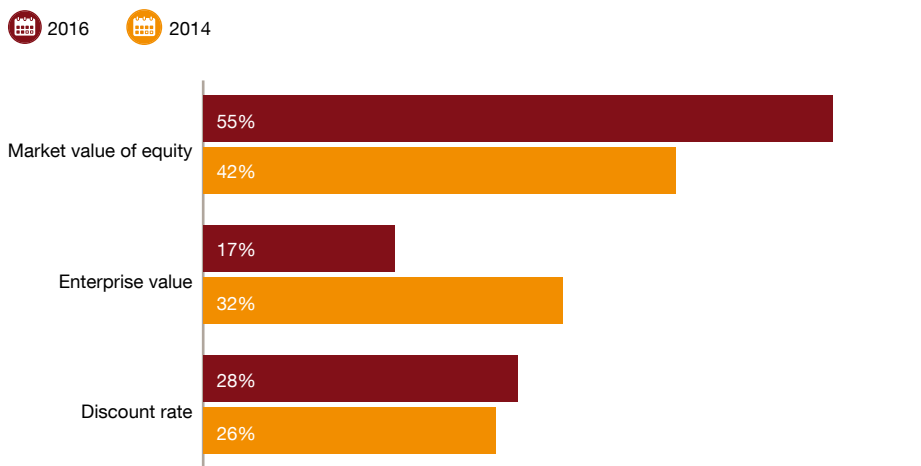
Respondents recognise the need to adjust for marketability in all valuation approaches. The remainder of this section therefore deals with how respondents apply marketability discounts in their valuation analysis.

²² Pratt, S, Reilly, R and Schweighs, R. Valuing a Business. McGraw-Hill, 2000.

Q: Where do you apply marketability discounts?

- Market value of equity
- Enterprise value
- Discount rate

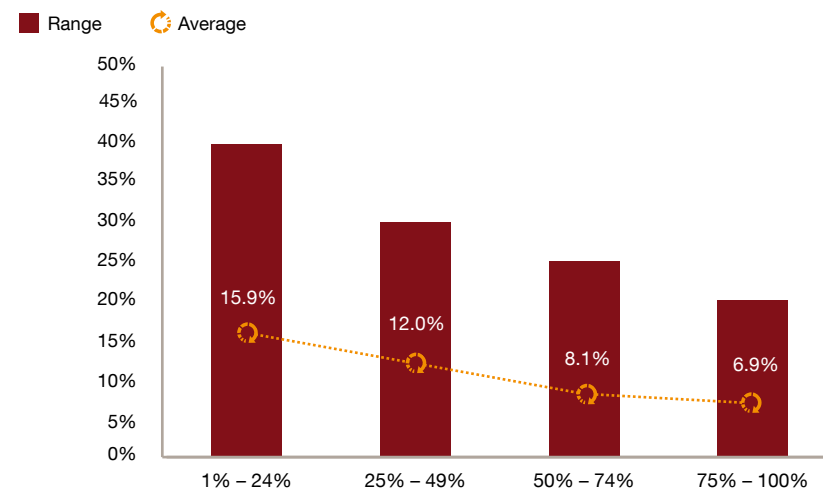
Figure 5.28 Application of marketability discounts



The majority of respondents apply marketability discounts to the market value of equity. We subsequently asked them to quantify the benchmark discounts that are typically applied.

Q: Please indicate the benchmark marketability discount normally applied, given the size of the interest being valued.

Figure 5.29 Average marketability discount applied: Equity value



Average size of discount applied²³

Size of interest	1 – 24%	25 – 49%	50 – 74%	75 – 100%
2016	15.9%	12.0%	8.1%	6.9%
2014	17.5%	15.4%	11.4%	7.5%

Second and third quartiles

Size of interest	1 – 24%	25 – 49%	50 – 74%	75 – 100%
2016 2 nd quartile	10.5%	12.5%	8.5%	5.0%
2016 3 rd quartile	23.8%	15.0%	10.0%	10.0%

The ranges provide an indication of the size of the marketability discounts that are applied by respondents. As shown in the tables above, we considered the ranges falling between the second and third quartiles. Respondents indicated that in cases of outright control they apply on average a 5% marketability discount.

²³ In this year's survey, the clear majority of respondents indicated that they apply an adjustment to equity, with very few applying an enterprise value adjustment. Given the small sample size, data relating to adjustments to enterprise value has therefore not been included.

Section 6: Infrastructure



*The seventh edition of the ICA²⁴ annual report, **Infrastructure financing trends in Africa – 2015**, published in 2016, reports that a total of US\$83.4bn was committed to Africa’s infrastructure development in 2015, compared to US\$74.5bn in 2014. These funds derived from various sources, including private equity investors, debt financiers, national governments, developers and major contractors.*

Of this total funding commitment, 83% is reported as having been earmarked for projects in the transport and energy sectors, with commitments being defined as direct funds approved in any given year for projects over their lifetime. The sourcing of funding for smaller-scale developments such as the increasing range of renewable energy opportunities still presents significant challenges, though.

Given the continued importance of the prospects for capital projects and infrastructure in Africa, and specifically the growth in infrastructure spend, this year – for the second consecutive time – we surveyed respondents once more on how they value infrastructure-related investments

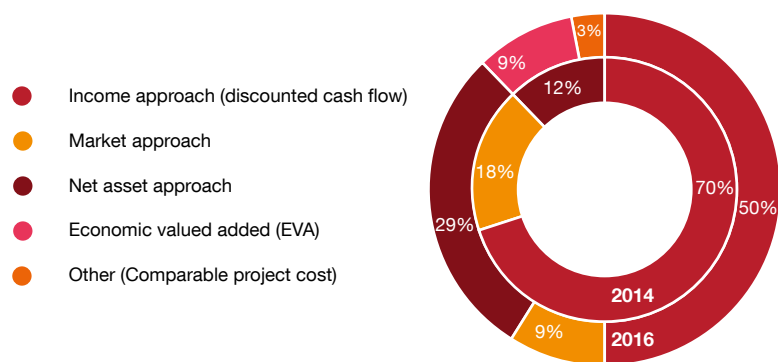
²⁴ *The Infrastructure Consortium for Africa is a major initiative to accelerate progress to meet the urgent infrastructure needs of Africa in support of economic growth and development. It addresses both national and regional constraints to infrastructure development with an emphasis on regional infrastructure, recognising the challenges at this scale.*

Q: Infrastructure assets represent a unique asset class, having a distinctive set of characteristics that sets them apart from more traditional equity or debt investments. They are generally defined by high development costs, long and/or finite lives, and specific financing structures and they are often intended to be specific in nature (railways, gas pipelines etc.).

Which of the following valuation approaches do you usually use for valuing infrastructure projects?

- Income approach (discounted cash flow)
- Market approach
- Net asset approach
- Economic valued added (EVA)

Figure 6.1 Approaches used for valuing infrastructure projects



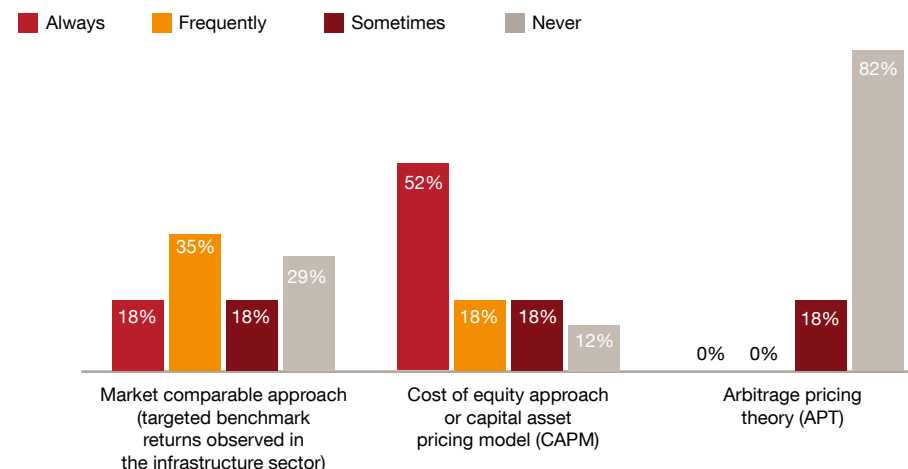
The majority of respondents value infrastructure investments using a discounted cash flow methodology. Given that each infrastructure project has unique characteristics, this is not an unsurprising result. Comparable project cost was also mentioned as one method relied on in determining the value of an infrastructure asset.

Methodologies based on discounted cash flow are favoured by the majority of the respondents.

Q: Benchmarking unlisted infrastructure projects is difficult relative to traditional asset classes such as equities and fixed income.

In estimating an appropriate rate of return for infrastructure projects, which of the following methods do you use?

Figure 6.2 Methods used to benchmark rate of return for infrastructure projects



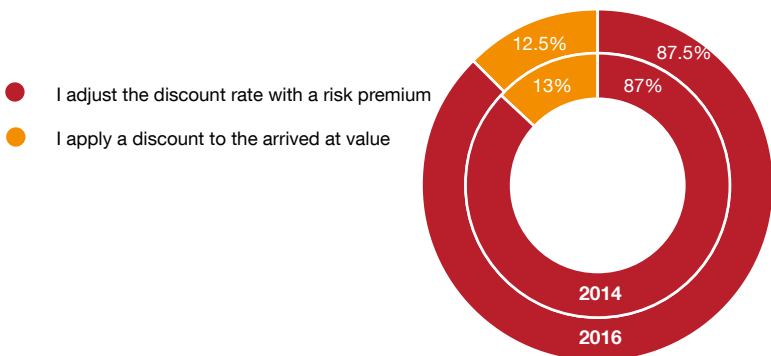
As with business valuations, the CAPM is a methodology that is frequently or always used. However, in the infrastructure sector, analysts look to market returns or benchmarks to use in their discounted cash flow analyses. This is unsurprising given that when considering infrastructure as an asset class, it is more challenging to identify listed comparable companies to use in a traditional CAPM approach. Analysts are therefore inclined to look to alternative methodologies to determine an appropriate rate of return looking at, for example, the stage of life of the underlying asset, the use of internal rate of returns and valuations arrived at using a specified yield.

While the CAPM is used in determining an appropriate rate of return, given the unique challenges posed in valuing infrastructure projects, it appears that respondents are more open to alternative measures of return.

Q: How do you adjust for the perceived risk associated with an infrastructure project/asset?

- I adjust the discount rate with a risk premium.
- I apply a discount to the arrived-at value.

Figure 6.3 Adjustments made for perceived risk associated with infrastructure projects



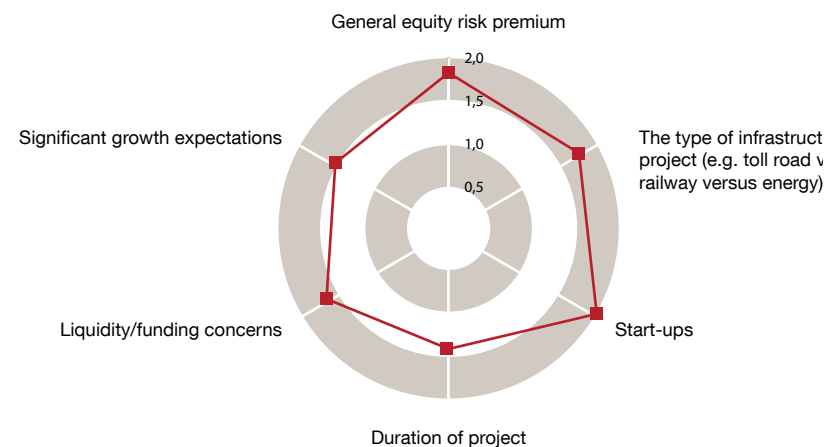
Most respondents incorporate the risk associated with an infrastructure project in the discount rate.

Risks are generally addressed in the determination of the discount rate applicable to the infrastructure project being valued.

Q: What factors do you adjust for when deriving the rate of return for individual infrastructure projects/assets?

- General equity risk premium
- The type of infrastructure project (e.g. toll road versus railway versus energy)
- Start-ups
- Duration of project
- Liquidity/Funding concerns
- Significant growth expectations

Figure 6.4 Specific risk factors



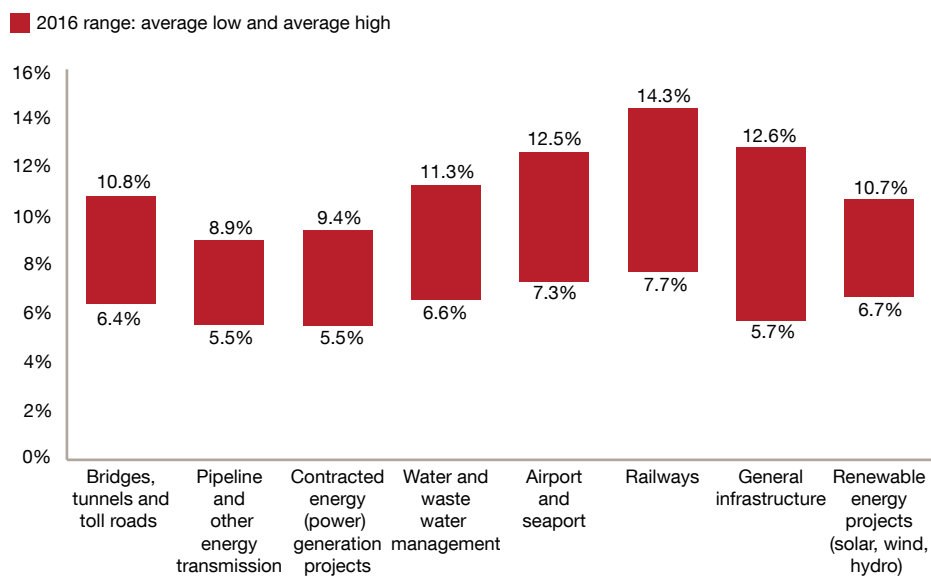
Respondents frequently consider a range of risk factors, project attributes and market factors. The nature of the project (including stage of development, type and duration) is a key consideration, in addition to general market conditions, including the equity risk premium expected by the market.

A very wide range of risk factors is considered, both specific to the project being valued, as well as external to it, such as the equity market risk premium expected by investors.

Q: What is the range of market risk premiums/equity risk premiums you would typically apply to the following infrastructure asset classes?

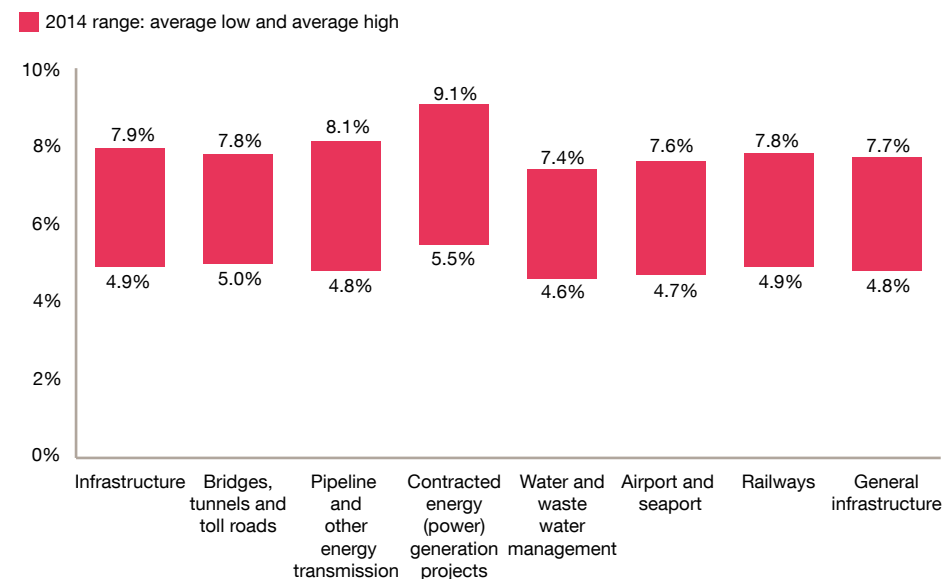
- Bridges, tunnels and toll roads
- Pipeline and other energy transmission
- Contracted energy (power) generation projects
- Water and waste water management
- Airport and seaport
- Railways
- General infrastructure
- Renewable energy projects (solar, wind, hydro)

Figure 6.5 Market risk premiums/equity risk premiums for infrastructure asset classes



We noted wide ranges in market risk premium across infrastructure asset classes. This is believed to reflect a diversity of infrastructure projects, differences in the life stages of underlying projects/assets, and respondents being based in many different geographies.

Given the wide ranges, we have illustrated in this current edition of the survey the range as being the averages of the low and high percentages. For comparative purposes, we present the results from the 2014 survey below:

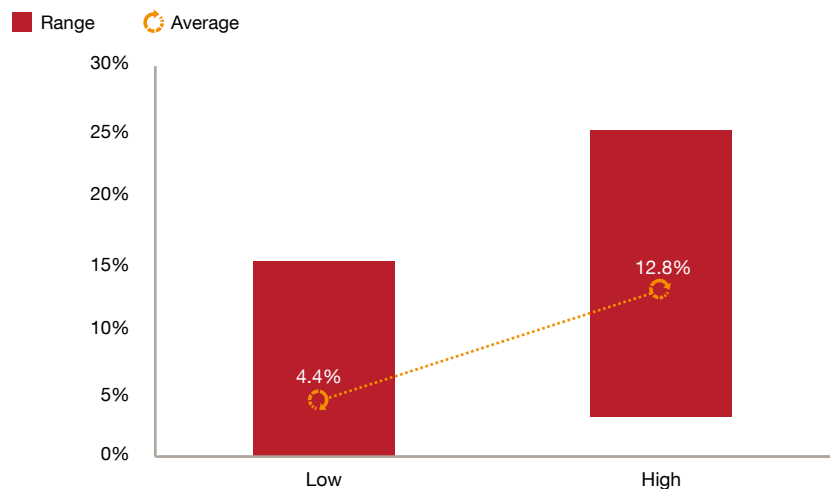


In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have also been calculated and are shown below:

	Bridges, tunnels and toll roads	Pipeline and other energy transmission	Contracted energy (power) generation projects	Water and waste water management	Airport and seaport	Railways	General infrastructure	Renewable energy projects (solar, wind, hydro)
2016 2 nd quartile	7.5%	7.5%	7.3%	8.0%	8.0%	8.0%	8.0%	8.0%
2016 3 rd quartile	10.0%	8.8%	9.5%	10.0%	10.0%	11.5%	9.8%	10.5%

Q: What is the range of project risk premiums you would typically apply to infrastructure projects to account for project-specific risks?

Figure 6.6 Project risk premiums applied to infrastructure projects



Average size of premium applied

	Low	High
2016	4.4%	12.8%
2014	2.4%	6.8%

Project risk premiums range between 4% and 13% on average. A wide range of premiums is observed, which is likely to relate to the diversity of infrastructure projects being valued by respondents.

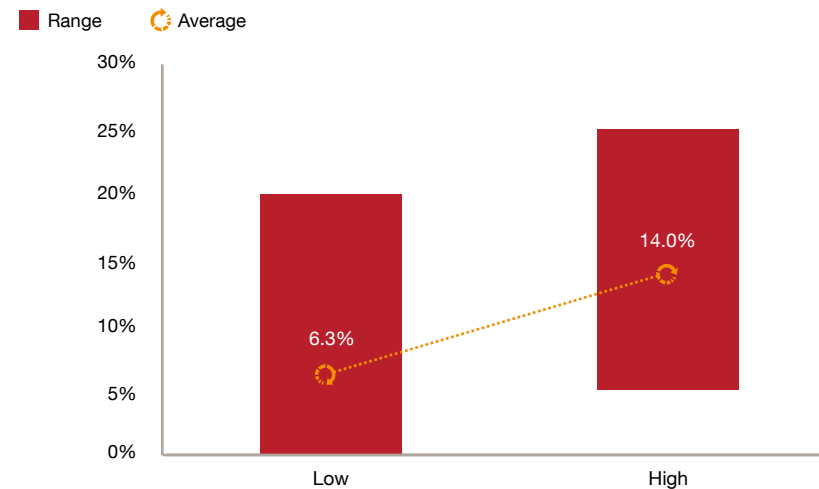
In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The lower end of the specific risk premium falls between 4% and 5%, and the upper end between 12% and 16%.

Second and third quartiles

	Low	High
2016 2 nd quartile	4.5%	12.2%
2016 3 rd quartile	5.4%	15.5%

Q: What is the range of market risk premiums you would typically apply for start-up infrastructure projects that are not yet under construction?

Figure 6.7 Market risk premiums applied to start-up infrastructure projects



Average size of premium applied

	Low	High
2016	6.3%	14.0%
2014	7.3%	14.2%

A wide range of premiums is applied to start up projects. On average, they range between 6% and 14%.

In order to eliminate any outliers in the first and fourth quartiles, the second and third quartiles have been calculated. As can be seen, we considered the average range falling between the second and third quartiles. The lower end of the specific risk premium falls between 6% and 9%, and the upper end between 12% and 20%.

Second and third quartiles

	Low	High
2016 2 nd quartile	5.5%	12.4%
2016 3 rd quartile	9.0%	20.0%

Section 7: Appendices



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Appendix 1:

Overview of survey methodology

Research was conducted via an online survey comprising some 50 questions. The following types of questions were asked:

- **Frequency-type questions** in which respondents were asked to indicate whether they always, frequently, sometimes or seldom used the particular methodology, variable or source;
- **Alternative-type questions** in which respondents were asked to indicate whether or not a certain procedure is being followed;
- **Range-type questions** in which respondents needed to indicate the value or value range normally used for a particular variable; and
- **Rank-type questions** in which respondents were asked to rank each answer choice in order of relevance.

The survey ran from 8 November 2016 to 27 January 2017. Valuation practitioners, financial analysts and corporate financiers in East Africa, West Africa (including Francophone countries) and Southern Africa were invited to participate in the survey.

We received 74 completed and 13 partially completed submissions across territories. To the extent possible, we have included the responses from the partially completed submissions.

The responses were analysed and the results of the analysis are presented in the sections of this publication.

Frequency-type questions

The objective of the frequency-type questions was to determine the relative importance of each of the items tested. The frequency questions were analysed based on the following matrix:

Value	Description
3	Item tested is always used/considered by respondents
2	Item tested is frequently used/considered by respondents
1	Item tested is sometimes used/considered by respondents
0	Item tested is seldom or never used/considered by respondents

Alternative-type questions

Respondents were required to make a choice between two or more alternative responses. The result of the alternative-type questions is presented in this publication as a **percentage of total respondents**.

Range-type questions

Respondents were required to provide the value(s) for certain variables, for example, the market risk premium. Respondents had the option to include either a single value or a range of values. In cases where a range was provided, the data was analysed utilising the midpoint of the range to calculate, for example, average/median values.

Rank-type questions

Respondents were asked to rank answer choices in order of relevance. Ranking questions calculate the average ranking for each answer choice to determine which answer choice was most preferred overall. The answer choice with the largest average ranking is the most preferred choice.

Appendix 2:

List of respondents

Southern Africa

- African Rainbow Capital
- Anglo American
- Alpha Wealth
- Altron
- Apis Partners
- Athena Capital
- Bank of America Merrill Lynch
- BDO
- Brimstone Investment Corporation
- BCX
- Cadiz Financial Service Group
- Deloitte
- DG Capital
- DPI Development Partners International
- EY
- Ethos Private Equity
- Gap Capital
- Grindrod Bank
- Java Capital
- JP Morgan
- Kagiso Tiso
- KPMG
- Leaf Capital
- Mazars
- Mettle
- Morgan Stanley
- MTN
- Musa Capital
- Nedbank Capital
- Novitas Capital Advisors
- One Capital
- Old Mutual Investment Group
- Pollination Capital
- Public Investment Corporation (PIC)
- PricewaterhouseCoopers Corporate Finance
- PSG Capital
- Rand Merchant Bank (RMB)
- Remgro Corporate Finance
- Sanlam Corporate Finance
- Standard Bank
- Stonehage Fleming
- Thebe Investment Corporation
- Valbridge

West And Francophone Africa

- Africa Finance Corporation
- African Rainbow Minerals
- Bureau Veritas
- European Bank for Reconstruction and Development
- CDG Capital Private Equity
- ENEO
- FBN Capital
- FBN Merchant Bank
- FCMB Group
- Hudson & Cie
- Lafarge
- Maroc Investment
- PwC
- Rothschild Global Advisory
- Société Générale
- Sync Consult Management Consultants
- UAC of Nigeria
- UniSecurities Ghana

East Africa

- Activa
- AfrAsia Bank
- Altéo
- BDO
- BRITAM
- Ciel Group
- Citibank
- DEG
- IPRO Growth Fund
- International Financial Services
- Mauritius Union Assurance
- NIC Capital
- Pivot Ltd
- Proparco
- PwC
- Standard Bank
- Standard Investment Bank
- Swan Group
- The Mauritius Commercial Bank

Appendix 3:

List of abbreviations

Abbreviation	Description
ALSI	JSE All-Share Index
APT	Arbitrage pricing theory
β	Beta or systematic risk
BEE	Black economic empowerment
bn	Billion
BVE	Book value of equity
CAGR	Compound annual growth rate
CAPM	Capital asset pricing model
CF	Cash flows (earnings + non-cash charges)
CFO	Cash flow from operations
CPI	Consumer price index
DCF	Discounted cash flow
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
E(Re)	Expected rate of return on equity capital
E(Rp)	Expected market risk premium
EV	Enterprise value
EVA	Economic value added
FINDI	JSE Financial and Industrial Index
GDP	Gross domestic product
IAS	International Accounting Standards
ICA	The Infrastructure Consortium for Africa
IFRS	International Financial Reporting Standards
JSE	Johannesburg Stock Exchange
JV	Joint venture

Appendix 4:

PwC Deals

Abbreviation	Description
Kd	After-tax rate of return on debt capital
Ke	Rate of return on equity capital
m	Million
MSCI World Index	Index of 1 500 world stocks
MVIC	Market value of invested capital
NAV	Net asset value
PBT	Pre-tax earnings
PE	Price/earnings, also earnings representing net income after tax
PPP	Public-private partnerships
PwC	PricewaterhouseCoopers
R	South African rand
Rf	Risk-free rate of return
SRP	Specific risk premium
SSP	Small stock premium
US\$	United States dollar
WACC	Weighted average cost of capital

PwC Deals provides comprehensive commercial, financial, economic and strategic advice to companies taking on significant business growth opportunities. We have developed a reputation for excellent advice, strong relationships and high levels of independence. These attributes, coupled with a vast range of experience, have made PwC Deals a key corporate adviser in the South African market.

Our range of specialist advisory services across critical areas of corporate finance and transaction services includes:

- **Valuation advice**
We provide independent expert valuation advice to businesses and evaluate the financial implications of, amongst others, acquisitions, investments, mergers and joint ventures.
- **Mergers & acquisitions**
We focus on the deal process from strategy through to post-deal integration, accessing the capital markets and valuing, negotiating and structuring deals. Our specialists also help clients to complete and extract the maximum value from transactions.
- **Debt and equity capital advisory services (DECAS)**
We provide independent and objective advice while working with clients to structure, arrange, negotiate and implement holistic financing solutions across the capital structure in order for them to meet their strategic objectives.

Our detailed knowledge and experience across various industry sectors and products (such as transactional banking, bank, debt and equity capital markets, and financial markets) allow us to identify, source and match the best available solution(s)/product(s) to a client's specific needs.

- **Business recovery services (BRS)**
We provide strategic and tactical advice to directors, management, shareholders, lenders and other stakeholders of businesses that are facing challenging circumstances by providing a service that allows them to remain in control and make more-informed decisions. We have a dedicated team that works closely with clients to stabilise and fix troubled operations and ensure a long-term solution that results in a viable and sustainable future for the business.
- **Infrastructure, government and utilities (IG&U)**
We advise governments, state-owned enterprises and private-sector investors in project financing, public-private partnerships and privatisations. We provide counsel on the deal process from strategy to financial closure.
- **Delivering deal value**
We work with clients to ensure that the value they receive from their transactions is maximised. Our services include post-merger integration, divestiture and post-acquisition improvements.

- **Transaction services**
We assist companies involved in acquisitions, divestitures and strategic alliances to access local and global capital markets. Our services include financial and tax due diligence, sell-side due diligence, vendor assistance, no-access due diligence, and bid support. We help our clients maximise the return on their deals and identify and manage associated transaction risks.
- **Forensics**
We combine financial accounting skills with investigative rigour and industry expertise to deliver expert support and solutions in cases of corporate disputes, investigations of corporate crime, as well as fraud consulting. We assist organisations with confronting and dealing with critical issues that tend to have far-reaching financial and legal implications.

Valuation & Economics

For organisations that need an independent valuation of their business, PwC draws on vast international expertise and research to provide a comprehensive service. We also offer independent advice on a variety of value-related matters, such as advising on the cost of capital and evaluating the financial implications of restructurings, investments, mergers and joint ventures. We help clients to evaluate their options by putting an exact price on shares, debt instruments, goodwill, brands and other intangible assets.

Whether a client requires advice on cross-border deals, an expert opinion for the Takeover Regulation Panel or the JSE, advice on or assistance with price negotiations, or in addressing IFRS valuation issues, we understand that complex valuations require specialist resources.

We have a dedicated team specialising in performing large, complex and technically challenging valuations. The team is part of an international network of valuation specialists with access to global best practice and top-quality international research. They can assist in:

- Independent expert opinions;
- Financial reporting valuations;
- Tax valuations; and
- Valuation consulting.

Independent expert opinions

There are a wide range of circumstances in which an independent opinion of value is required and each scenario requires specialist knowledge and the application of specific skills.

Courts, regulators, tax authorities, shareholders and businesses may, at different times, all need an objective specialist to provide a valuation of an asset or business. In the instance of shareholder disputes, an opinion is often required by shareholders. The context and purpose of the valuation determines the approach that is required to provide an appropriate opinion.

In cases where boards of directors are required by the Takeover Regulation Panel to obtain appropriate external advice on an offer, a fair and reasonable opinion is required. Related-party transactions may also give rise to the need for a fairness opinion in terms of the JSE Limited's Listings Requirements.

Increasingly, non-executive directors and audit committees bear a significant responsibility for corporate governance and this has numerous implications in the realm of independent valuations. Our Valuation & Economics team has the required experience to provide a robust and credible independent expert valuation.

Financial reporting valuations

International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) have introduced significant changes to the way in which accounts must be prepared and presented and require a wider range of assets to be valued on an annual basis.

IFRS 3 governs the accounting treatment for business combinations. A fair value exercise for assets and liabilities is required, whereby all assets (tangible and intangible) from a merger or acquisition have to be included in the balance sheet of the acquirer at their current market value and are depreciated over the term of their useful economic life.

Goodwill is tested for impairment annually, and is marked down for any impairment calculated during the annual review process.

These requirements call for a specialist valuation offering that both understands the specific accounting implications and the wider commercial context in which those financial reporting valuations apply.

PwC's valuation services draw on considerable technical and financial specialisation provided by our Valuation team in combination with the firm's accounting specialists to deliver integrated advice to clients.

Tax valuations

Valuations often lie at the heart of disputes and negotiations with tax authorities. The specific demands of the tax authorities require specialist advice and detailed knowledge of their working methods and practices.

Our Valuation & Economics team is able to assist with tax valuations, including valuations for capital gains tax, stamp duty, estate duty and exchange control purposes.

Valuation consulting

Our valuation specialists assist businesses to achieve an in-depth understanding of the value of each business or asset in a transaction. Our technical knowledge combined with our in-depth industry knowledge, allows us to understand the specific factors driving each deal. We also have extensive experience in valuing businesses for the purpose of black economic empowerment (BEE) transactions and can draw on our vast knowledge to consider specific valuation issues related to BEE transactions.

Examples

- In the event of a merger, acquisition or alliance, it is vital to understand the value likely to be created through the transaction.
- Understanding the value of the business is the first step towards making a BEE transaction – a detailed valuation is often required from the outset.
- In the event of a dispute, an independent valuation is likely to help resolve issues swiftly.
- Multinational operations make an understanding of the issues driving valuations in different countries essential. Applying a common methodology across all countries generates a more reliable view of an international business's value.
- Achieving a reliable valuation of a business or asset is a critical driver of a successful transaction for buyers and sellers in acquiring or selling a business.

Mergers & acquisitions

As a leading corporate adviser in the African market, our dedicated and highly experienced Mergers & Acquisitions (M&A) team can identify opportunities, assist in deal structuring, lead negotiations for mergers and acquisitions, disposals, corporate listings, management buy-ins and management buyouts.

Our position has been reinforced through the completion of key local and cross-border deals and we are also highly experienced in advising companies and black investment groups on BEE transactions and finance raising.

We enjoy high levels of independence in relation to advisory and M&A mandates, since our advice is distinct and independent from financing.

For those pursuing growth opportunities or divestitures, our dedicated and exclusive M&A research resources can identify opportunities locally and internationally through our global network, as well as providing input on global trends and transactions to assist clients with their transactions.

For every deal, we can leverage the strength of our international transactions network and we are also able to draw on the full range of PwC services – including due diligence, tax and other specialised advisory services.

Mergers & acquisitions advisory

When organic growth does not satisfy the needs of stakeholders, or when businesses decide to dispose of non-core assets, our Corporate Finance team can assist.

The first challenge for any company seeking to expand is to identify the right business to acquire. At the same time, companies wishing to restructure by disposing of non-core assets at the highest possible prices require similar support.

Our direct line to both our African and worldwide network immediately extends clients' scope of opportunity. Specialist advice at each critical stage of the transaction – from target identification, investigation, structuring and financing, to facilitating and negotiating the purchase of target companies – ensures that clients gain maximum advantage.

Our integrated worldwide Corporate Finance network, structured in industry groups, facilitates the identification of potential deals in the international arena.

Supporting clients through every step of a transaction, we will review and value their business, identify prospective buyers, and negotiate a transaction most suited to their requirements that will maximise the value to their business.

Black economic empowerment

The planning and implementation of a BEE transaction is a unique and complex process that requires a significant investment of time and resources from corporate entities, BEE partners, financiers, and advisers.

We are uniquely placed in having comprehensive experience in advising both entities seeking an appropriate empowerment partner and empowerment groups on strategic issues, and offering support in structuring negotiations with prospective targets or partners.

Our credentials speak for themselves and over the years we have advised numerous leading South African and multinational companies in successfully implementing long-term, sustainable empowerment initiatives. In addition, as corporate adviser to some of the most respected BEE individuals and consortiums in South Africa, we have built up a wide network of potential empowerment partners for corporate South Africa.

As an independent adviser we are able to take our clients through the process of deciding the most appropriate empowerment strategy, designing and structuring the partnership, identifying and negotiating with the best partners fitting the selected strategy, assisting in the design and implementation of a sustainable funding structure, and delivering an appropriate, value-enhancing empowered organisation. As we do not lend money into transactions, we offer independent advice as to the optimum funding appropriate for the transaction.

Corporate lead advisory

PwC Corporate Finance proactively assists, advises and supports the development and implementation of corporate strategies. Many companies and individuals turn to us for help in shaping their businesses and reviewing strategic objectives. We assist with developing financial models, conducting industry research, and determining optimal financial structures.

Advice is geared to our clients' needs – whether to implement acquisition or rationalisation strategies, to operate effectively within regulatory regimes, or to sharpen defences against hostile bids.

In the current economic environment a number of enterprises are discovering that they require advice on restructuring, reorganisation and unbundling, as well as attracting strategic equity partners. We have an experienced team to advise on the strategic, commercial and legal aspects of these issues.

We also advise on inward and outward investment opportunities, and we have significant capacity to apply the power of multidisciplinary international resources, comprising industry and service line experts, to contribute in this regard.

Debt and equity capital advisory services (DECAS)

We pride ourselves on being product agnostic, allowing the client the freedom to choose the most appropriate products and product supplier. We strive to achieve this by:

- Focusing on the provision of independent advice rather than the sale of funding and hedging solutions;
- Identifying, sourcing and matching the best available solutions and products to the specific needs of our clients; and
- Breaking down the silos that exist between and within the various product suppliers in order to ensure that the best available solutions/products are sourced from the most appropriate suppliers.

Typical services we provide include:

- Raising of new finance as a result of event-driven activities such as:
 - Capital expansion;
 - Mergers & acquisitions;
 - Disposals;
 - Dividend recapitalisations;
 - Share buy-backs;
 - Introduction of a new shareholder; and
 - Special projects (property development, project and infrastructure finance).
- Refinancing of existing facilities as a result of:
 - Event-driven activities as detailed above;
 - Positive changes in the market and/or credit migration of the client that should result in more attractive terms;

- Existing providers of finance having reached their industry/sector and/or single borrower exposure limit, and needing to access additional or new sources of finance; and/or
- Facilities nearing maturity.
- Restructuring of existing facilities as a result of:
 - An event of default or potential event of default;
 - Deterioration in the creditworthiness of the client; and/or
 - Financial performance not expected to achieve forecast due to a number of reasons (e.g. economic slowdown, labour unrest, deterioration in commodity prices).

Our general advisory offering also addresses treasury needs (including the management of interest rate, currency, credit and liquidity risk); disposal of banking portfolios; buy-back of debt and assistance with ratings advisory.

By acting as a pure client and private-side adviser, we do not negotiate/participate as an actual counterparty to the transaction, allowing us to remain objective and provide an independent check and balance to our clients.

Business recovery services (BRS)

The survival of a business can be threatened by any sudden shift in environment or weaknesses in finances and/or operations.

There are many factors (such as market changes, strategic challenges, banking facility issues and operational disruptions) that can contribute to a crisis and may be characterised by:

- Severe underperformance;
- Solvency and liquidity issues;
- Declining earnings; and
- Increased borrowing to survive.

Our specialist advisers can identify the problem areas affecting a business and resolve them quickly and efficiently. The solutions offered are sensitive to the business and their employees and provide management and stakeholders with in-depth and dynamic options based on which to make informed decisions.

The range of interventions we offer extends from making firm recommendations to preparing business and restructuring plans, as well as implementation and monitoring support in achieving these plans. In aiming to preserve, enhance and realise value in distressed businesses, we provide:

- Review services, including independent business reviews, cash flow reviews, contingency planning and more;
- Restructuring and turnaround solutions, including advice, development and implementation of plans;
- Business rescue services;
- Optimised exits;
- Cash and working capital management; and
- Crisis stakeholder management.

Our team is here to support clients every step of the way with strategic and tactical solutions.

Infrastructure, government and utilities (IGU)

The IGU team provides leading-edge advice, from strategy through to transactions, in the areas of:

- Public-private partnerships;
- Project finance;
- Privatisations; and
- Smart procurement.

We provide independent financial advice, ensuring a balance between conflicting objectives and the best structured and most competitive transactions for our clients.

We focus on providing advice to either government or private-sector participants that achieves the objective of getting the transaction completed, while optimising the benefit to our clients.

Our local and international advisory experience covers numerous sectors, including:

- Hospitality;
- Health;
- Education;
- Power;
- Mining;
- Oil & gas;
- Information and communications technology, including telecommunications and convergence;
- Transport (road, rail, ports and public transport); and
- Water and waste.

Public-private partnerships

Governments are under significant pressure to improve public services and develop infrastructure. This places an undue burden on government resources and public-sector capital. Increasingly, the private sector is asked to provide capital and resources through public-private partnerships (PPPs), which take on many forms, including concessions and joint ventures.

PPPs allow the public sector to achieve value for money by accessing private-sector capital, resources and skills, thereby obtaining the benefits of innovation, risk transfer and improved quality/service levels.

PPPs allow the government sector to develop in ways that are usually only associated with the private sector, while private businesses that enter into PPPs are opening up to new growth opportunities and are increasing their capacity for development.

We help governments undertake feasibility studies by scoping and developing projects and evaluating appropriate procurement methodologies. By managing the procurement process, including negotiations assistance, we ensure a timely financial close in accordance with legal and regulatory requirements. We also advise governments on the principles and implementation of PPPs.

We assist the private sector with PPPs by structuring deals, developing and modelling the commercial and financial structures for transactions, arranging finance and providing advisory assistance from bid submissions and clarification through to financial close. In addition, we provide specialist commercial advice to BEE investors participating in PPPs.

Privatisations

In order to privatise an asset successfully, governments often seek a reliable methodology. This may include:

- Recognising local, cultural and economic conditions;
- Learning from international experience and best practices;
- Developing an appropriate strategy and structure; and
- Ensuring the procurement process is competitive and fair.

We reconcile investors' profit motives with the government's requirements for political and financial transparency. For governments, PwC can assist in ensuring that these requirements are met and by offering support and advice on developing the appropriate strategy and structure for the privatisation transaction.

Similarly, we advise private sector investors, management and employees on acquiring assets being privatised and assist in developing structures that access international and local funds, allowing for a competitive bid.

Smart procurement

We provide procurement transaction structuring and advice to the public sector for large and complex procurement transactions that are not being procured through PPPs, but which still require value-adding commercial structuring.

We provide advice and assistance during all aspects of the procurement process:

- Process development, including adopting the most appropriate procurement strategy for the relevant transaction. This also includes determining the commercial structure of the transaction and the risk allocation and mitigation strategies;
- Documentation development, including an expression of interest (EOI), request for qualification (RFQ) and request for proposal (RFP) as appropriate for the chosen procurement strategy;
- Development of the evaluation criteria and the contract term sheet;
- Process administration, including managing the bid process in such a manner that the outcomes of the process are able to withstand legal challenge;
- Bid evaluation by assisting with providing evaluation commentary and assessments; and
- Contract negotiations.

Project finance

Project finance relates to the limited recourse financing of public or private infrastructure projects. Increasingly, governments and companies want to shelter their balance sheets and prefer to finance major projects on a stand-alone basis. This is especially true for PPPs, but can be used for all types of infrastructure projects.

Funding for infrastructure projects is complex and presents specific challenges that require specialist knowledge and understanding to create appropriate finance structures to ensure that risks are dealt with effectively.

The increasing need for public sector infrastructure means that funding from the private sector is in high demand. Investors are required to use sophisticated financial engineering to secure PPPs with the public sector, which requires increasing levels of innovation.

We provide independent advice and assistance in developing and modelling commercial and financial structures for transactions, arranging the most appropriate and efficient mix of financing and closing each transaction by supporting the negotiations to financial close.

Delivering deal value

Our service offering is focused on working with clients to ensure that the value they receive from their transactions is maximised. Services include post-merger integration, divestiture and post-acquisition improvements.

Post-merger integration

The primary aim of our post-merger integration service offering is to ensure that clients achieve a timely and effective business integration.

The post-deal integration process is about how synergies will be attained and how the combined business will be stabilised to preserve current value and ensure that the acquirer achieves the required return from the transaction.

Our services, on a high level, include:

- Planning an integration in order to achieve day-one readiness;
- Drawing up of integration plans (first-100-day plans) applying a holistic multi-work stream approach (including finance and tax structuring, HR and change management, IT, operations and legal);

- Challenging management on their integration plans;
- Project managing the planning and implementation of the plan;
- Coordinating the use of specialist skills such as HR/change management and IT specialists from PwC; and
- Identifying the critical path of an integration process.

Our post-merger integration methodology can also be adapted and applied for restructuring, disposal assistance, day-one readiness assessments and integration health checks.

Divestiture (carve-out)

The preparation of carve-out financial statements can be challenging as there is limited guidance covering their composition. Moreover, the seller's financial statements and the carve-out financial statements may treat the same item differently. As a result, the preparation of carve-out financial statements requires special attention to ensure that all of the assets and liabilities of the separate business have been properly identified, and that all relevant costs of doing business have been reflected in the carve-out financial statements.

We assist clients in following a structured carve-out approach giving specific attention to identification of what is 'in' and what is 'out', the treatment of shared assets and services as well as identifying dependencies on the larger entity or group.

Post-acquisition improvements

Our post-acquisition improvement service offering is aimed at attaining and preserving deal value after the transaction process has been concluded by ensuring potential issues identified during the transaction process are timeously and appropriately dealt with.

We assist clients with the provision of appropriately skilled specialist resources to address potential issues while management focuses on business as usual.

Transaction services

Our Transaction Services offering assists companies with acquisitions, divestitures, strategic alliances and access to local and global capital markets.

We see ourselves as deal process managers that help clients get deals done faster, with less disruption and at a more attractive price. Using cross-functional teams, we bring together all the relevant expertise from across the firm, including tapping into the firm's vast industry/sector knowledge, both locally and globally.

We help clients maximise the return on their deals and manage associated risks. Our services add value by:

- Assessing the target business relative to the economic and operational objectives of the client, and the assumptions underpinning the deal;
- Assessing the basis of the transaction and providing clients with analyses that support their negotiations. We cover areas such as issues affecting pricing, sustainability and synergies; and

- Assessing risk factors and providing guidance on the way the deal should be structured.

We work with clients to leverage due diligence findings in deal negotiations and help them to maximise the benefits of their deals while managing risk effectively.

Forensics

Our network of professionals includes forensic accountants, analysts, fraud investigators, forensic technologists and anti-money laundering and legal specialists. Working together, we offer integrated accounting, financial, statistical, and forensic services to legal firms and organisations.

We provide services in five key areas:

- **Expert accounting and dispute resolution**

Solutions we offer include:

- Damages quantification;
- Expert accounting;
- Expert determination;
- Valuation and business disputes; and
- Transaction and shareholder disputes.

- **Forensic accounting and investigations**

We pursue a proven four-pronged strategy:

- Minimising business disruptions, financial loss and reputational damage;
- Identifying the perpetrators and uncovering actionable evidence;
- Tracing and retrieving stolen/missing assets to as great an extent as possible; and
- Recommending and/or implementing effective remedial action to prevent future problems.

- **Fraud risk consulting**

Our proactive solutions focus on:

- Control environment;
- Fraud risk assessment;
- Information and communication; and
- Monitoring.

- **Forensic technology solutions**

These include:

- Securing electronic evidence;
- Investigating discrepancies or allegations involving computerised systems and electronic data;
- Data recovery services; and
- Data analytics.

- **Anti-money laundering**

We provide services including:

- Customer due diligence and all of its elements (risk rating, EDD, SDD);
- Suspicious and unusual activity and transaction monitoring;
- Regulatory reporting;
- Records management (storage and retrieval);
- Governance and oversight (policies, governance reports);
- Training tailored to organisational roles (classroom, e-learning); and
- Regulatory interaction models (reporting and requests).



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