Discounted Cash Flow Methodology - Country Risk Premium

In the Discounted Cash Flow (DCF) valuation approach, future expected Unlevered Free Cash Flows (UFCFs) are discounted with the Weighted Average Cost of Capital (WACC) to determine a firm´s enterprise value. - When investing outside one´s domestic market, often a *Country Risk Premium* (CRP) added to the WACC is considered, reflecting the unique, additional risk assumed.

The concept of a CRP is frequently associated with investing in emerging markets: Typically, these are characterized by a weak regulatory framework, weak implementation through courts and administration, political instability as well as by a lacking infrastructure, on top of rather illiquid capital markets. Further, also the macro-economic environment in such markets can be challenging, often characterized by inflationary pressure, not least accompanied by highly volatile currency exchange rates. – Positive attributes, such as excellent growth prospects, anticipated economic transformation and an outlook for improvement of political and regulatory weaknesses could by far outweigh risks, though.

However, when valuing an asset in an emerging market, the same basic principles apply, as in any other market: The asset has to be assessed on a stand-alone basis, within its economic environment. - Therefore, the input parameters of a DCF valuation approach will be based on and driven by the dynamics of the local currency as well as the local capital market. And all DFC-relevant parameters have to follow: For instance, forecasts of future expected UFCFs would be in local currency. Or, the applied WACC would have to reflect local macro-economic and market characteristics, such as local inflation (embedded in the local risk-free rate) or the local Market Risk Premium (MRP, i.e. the difference between the return of the local market and its applicable risk-free rate). In regards to the MRP, one may assume this to be markedly higher for any emerging market than that of established, liquid and stable capital markets.

However, whilst an approach entirely based on local parameters is in essence the right one, practical issues will almost certainly arise: For instance, capital markets history in emerging markets tends to be short. Hence, estimating a local MRP is not only difficult amid lack of reliable data and data history, also approximation attempts often end in outrageously high estimates or fluctuate widely, due to contrasting periods of high yields, inflation and volatility amid instable capital flows. - Not least for these reasons, analysts by times prefer to re-base DCF input data on a stable base currency (e.g. US$, EUR). However, this requires a transfer of the entire DCF framework and all its relevant drivers into the chosen base currency, including the WACC, with a CRP added to the respective stable currency environment´s MRP.

For a number of reasons, this approach should be implemented with caution, though: To start with, when assessing an asset based in an emerging market by using a stable currency framework, such as the US$, merely estimating an appropriate CRP may already be challenging. That could be determined, if the respective emerging country had, for instance, a US$-denominated 10-year sovereign bond or similar outstanding. The spread between that bond and the respective 10-year US T-bond could be used as an indication to determine a preliminary CRP. However, that benchmark´s price and yield pattern will almost certainly be considerably less volatile than that of the respective emerging country government bond. To address this issue, the preliminary CRP would have to be multiplied by the ratio of the (assumedly higher) volatility of the US$-denominated emerging market government bond and the respective volatility of its US$ benchmark.

Frequently, though, an emerging market sovereign may not even have government bonds outstanding with sufficiently long maturities, neither in local nor a foreign currency. Then, only approximations or good guesses may help.

This triggers a much more fundamental issue, though: Shouldn´t the relatively higher macro-related risk of an emerging market rather be illustrated and assessed by drafting a set of alternative scenarios, ideally in terms of local currency. This approach would require to spread risks over both, future expected UFCFs as well as a local WACC, instead of merely adding some (probably quite intuitive, inaccurate) CRP on top of a stable base currency-driven WACC. Certainly, attaching probabilities to UFCF scenarios would be a tedious task, but perhaps worth it. Especially, if one viewed the entire DCF valuation approach as tool of due diligence.

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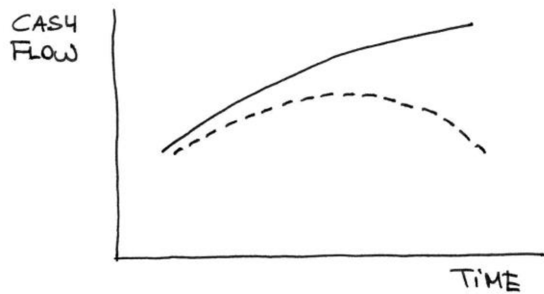
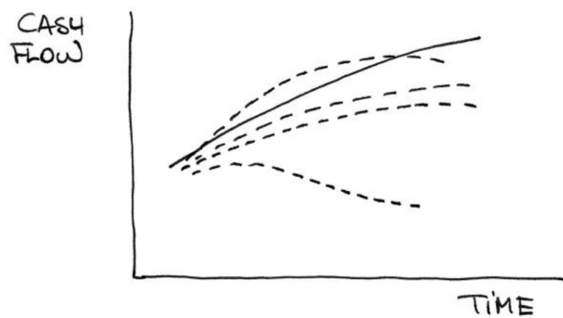


DISCOUNTED CASH FLOWS WITH "NORMAL" WACC

DISCOUNTED CASH FLOWS WITH "HIGH" WACC (INCLUDING CRP)



DISCOUNTED CASH FLOWS WITH "NORMAL" WACC BY BUILDING SCENARIOS

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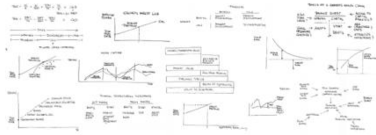

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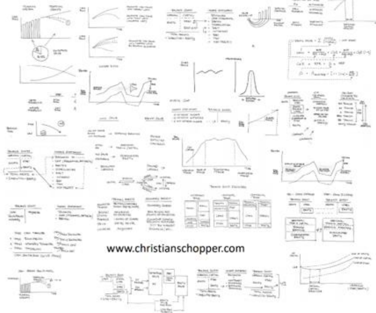

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