

A CONCEPTUAL FRAMEWORK ON COUNTRY RISK IN THE DISCOUNTED CASH FLOW

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I. INTRODUCTION

There is an important body of international jurisprudence supporting the point that country risk has gained prominence in international arbitration over the past decade. One can easily browse decisions rendered by international arbitral tribunals to find out that country risk has been extensively discussed in many instances and that a country risk premium has been applied in a large number of cases involving investment disputes. However, one would also probably note that many international tribunals have failed to adopt a standardized and uniform approach for applying country risk premium. In some instances, tribunals are simply silent as to country risk and do not engage into the debate when valuing an asset. In other cases, country risk takes the form

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of a fixed, arbitrary premium applied to the discount rate under the income approach (Discounted Cash Flow).¹ There is also a body of evidence that country risk should not take the form of a premium but rather the cash flow should be adjusted to reflect economic and political uncertainties of a particular country. Not surprisingly, country risk in international arbitration is perceived as a process fraught with uncertainty and confusion typically leading to a set of inconsistent decisions and diverging jurisprudence.

In the light of the above, I propose to develop a conceptual framework for fulfilling the arbitrators' and/or the parties' goal of developing a satisfactory approach to country risk. I advocate that such an approach should be clearly principles based, internationally consistent and converged. Such a framework is needed to give coherence to the application of country risk and application of country risk premium when required. I have sought to explain options available to arbitrators and parties when deciding on the applicability of specific country risk premium. This article is written from the valuation practitioner's perspective and not a legal one. Consequently, I do not discuss situations where the parties are legally bound to a specific approach concerning country risk, usually under constraints or prohibitions from a domestic legal system or dictated by an international treaty.

II. WHAT IS COUNTRY RISK?

The concept of country risk is not new or obscure. Over the past decades, the financial services or the reinsurance industries have expanded their risk management structures, building models to deal with credit risks, market risks, perorations risks, liquidity risks and more recently, country risks. The notion of country risk is now a common feature found in the valuation involving developing and emerging markets, which are typically perceived as more volatile than industrialized economies. Truly, many developing and emerging countries present a greater array of risks that are primarily of a "downside" nature, such as currency inconvertibility, expropriation, civil unrest, and general institutional instability. Therefore, investments in these countries

¹ This is discussed in Florin Dorobantu, Natasha Dupont, and Alexis Maniatis, *Country Risk and Damages in Investment Arbitration*, 31 ICSID Review 219-231 (2016).

are generally viewed as riskier, and thus commanding a higher expected return than otherwise comparable investments made in developed markets, for instance in USA or Europe.

While it is impossible to generalize, as risks differ from country to country and may affect businesses in myriad ways, however, evidence shows that many types of risks need to be assessed as they can significantly impact valuation. Institutional risk, for instance, should not be overlooked. This form of risk involves all of the uncertainties about how the rules of the game are likely to change. Given the recent experience of large-scale investments in Latin America or Central Europe, it is clear that these risks need to be accounted for in valuation. In many “frontier” countries, the key questions are whether the overall structure of income and decision rights will remain in place, existing agreements will be honored, and the resulting claims will be enforced. Most prominent among risks are those arising from changes in inflation and the exchange rate. Of course, the extent of the investment’s exposure to such risks will depend on the terms and enforceability of the investment agreement. For instance, transfer risks can pose a serious threat to a cross-border investment if the international investor is not able to convert local currency into foreign exchange, and so be unable to make debt-service payments in foreign currency or repatriate income from the emerging market to the home country. In such a scenario, the risk normally arises from exchange rate fluctuations due to market conditions but also potentially to restrictions imposed by the government in the country in which the investment is made.²

Macroeconomic risks can be disruptive as well. Ultimately, an international investment project in a developing and emerging market is a bet on the viability of the local economic conditions. Companies and cross-border investments can be negatively impacted by unfavorable economic uncertainties at the national level—economic instability, deficient financial markets, illiquid banking sector, distorted local supply and demand conditions, sudden changes in regulatory regimes, etc.

² See Donald R Lessard, *Incorporating Country Risk in the Valuation of Offshore Projects*, 9(3) *Journal of Applied Corporate Finance* (1996), for a discussion on the taxonomy of risks, including currency risks.

III. INCORPORATING COUNTRY RISK INTO VALUATION

Let me assume that country risk cannot be diversified away. In such case, it should be reflected in the valuation approach, regardless of the valuation model being used. For instance, under the market approach, it is undisputed that the choice of comparable transactions or comparable companies should consider country risk as a criterion for comparability. The market approach, also referred to as the “comparables” or the “relative valuation” approach, assesses the market value of an asset relative or in comparison to the observed market values of similar (ideally identical) assets for which information is available. It is based on the “law of one price,” the fundamental principle of economics that identical assets must sell for the same price, because otherwise there would exist arbitrage opportunities. The asset being valued is usually not identical to the assets whose market values can be observed, and the market approach therefore relies on the more general view that similar, or comparable, assets should trade for similar prices provided appropriate adjustments can be made. The robustness of the valuation involving comparables depends on the quality of the comparison, which requires scrutiny of timing of the transaction (comparable transactions typically occur over a period of one year prior to the valuation date), the size of the companies to be compared,³ and the capital structure (comparables should have similar amount of debt and/or equity to fund operations and finance assets).⁴

The heterogeneous nature of markets, however, means that it is usually not possible to find market evidence of comparable transactions involving identical businesses. Often, transaction

³ Publicly traded securities for large and mid-caps can be bought and sold nearly instantaneously and often are subject to detailed disclosure about their financial condition and results, which is not the case for closely-held companies.

⁴ These issues have been discussed in greater length by the ICCA-ASIL Task Force on Damages in International Arbitration, of which the author is a member. The Task Force is developing a web-based app designed to assist arbitrators and practitioners alike in developing a consistent and rigorous approach to damages in international arbitration. The app, which will be launched in 2019, comprehensively and interactively maps out the various legal, financial, and policy concepts and issues that arise in damages. The various valuation approaches are thoroughly presented in this electronic tool.

costs, taxes and policy distortions make it difficult to find reliable comparables. If it is not possible to select comparables from the same market and country, it becomes necessary to create a benchmark of selected comparables drawn from jurisdictions with similar market conditions, socio-economic and trade performance (*e.g.* inflation), tariff and non-tariff barriers, tax and regulatory regimes, access to finance constraints and currency risks. For instance, it may be problematic to compare a Ukrainian petroleum business to a similar business based in Spain as different market characteristics would create a bias in the benchmark. However, the benchmark could be created from selected firms in economies similar to Ukraine in the Central and Eastern European region.

Reflecting country risk under an income approach is less straightforward and turns on whether the extra risk of investing in an emerging market can be diversified or not, keeping in mind that the relevant risk for valuation purposes is that by the marginal investor. If risk cannot be diversified away, the country risk has to be precisely assessed and taken into account in the valuation. The income approach to valuation is inherently forward looking because it relies explicitly on projections of an asset's cash flows into the future. The market value of the asset is determined by summing all future projected cash flows, adjusted for timing and uncertainty. It is based on the fundamental principle of financial economics that the market value of any asset is equal to its ability to generate cash flows in the future. The DCF method is the most common implementation of the income approach. It applies a discount rate that accounts for cash flows timing and systematic risk, and idiosyncratic risk by way of the beta, assuming a stable capital structure (constant proportions of debt and equity). The income approach also includes more sophisticated methods such as the real-options method and the Adjusted Present Value (APV) but these methods are rarely found in arbitration due to their complexity. In the next sections, I discuss how to apply country risk under the DCF approach.⁵

⁵ See Thierry Sénéchal, *Dealing With Uncertainty: Discounted Cash Flow (DCF) Versus Adjusted Present Value (APV)*, 5(3) Gas & Energy Law Intelligence (2007).

IV. A FRAMEWORK FOR COUNTRY RISK IN THE DISCOUNTED CASH FLOW MODEL (DCF)

I now turn to the application of country risk under the income approach and more particularly the DCF model. The proposed framework to use can be summarized as follows:

Step 1: Determining if country risk should apply

The immediate question is whether country risk should be considered explicitly in valuation. Put differently, the issue is whether a marginal investor—the investor most likely to be trading on the equity—can diversify the extra risk in a developing or emerging market such as Peru, Indonesia, Ukraine or Russia, or not.

Finance theory clearly indicates the cost of capital should not reflect risk that can be diversified away.⁶ If the additional risk of investing in such a country could be diversified away, an extra risk premium should not be charged. If not, it makes sense to think about estimating a country risk premium. Let's take the example of a large blue chip company with operations worldwide and an investment dispute with one of the BRIC countries. As a marginal investor, the multinational or the international shareholder/debtholder is probably globally diversified, with many sources of global diversification in the financial markets and cross-border opportunities in several regions of the world. In such scenario, the application of an extra risk premium in the valuation may not be necessary. On the other hand, if the marginal investor is a national company operating in a poorly diversified economy and with limited or no investments abroad, then the likelihood of diversifying away country risk declines substantially, which may command the use of an appropriate risk premium in the valuation.

Evidence from market surveys on the cost of equity show that typically country risk commands a premium, in particular for emerging and developing countries. For instance, the 2014 survey conducted by Prof. Fernandez shows that the average premium

⁶ Aswath Damodaran, *Country Risk: Determinants, Measures and Implications*, July 2015, <http://pages.stern.nyu.edu/~adamodar/>.

for advanced economies was 5.4%, against 8.36% for troubled EU countries, 8.33% for emerging Asia, and 8.29% for eastern Europe. Although the research does not conclusively show what country risk premiums to use, it confirms that valuation practitioners factor extra country risk into their assessment of market premium (Market Risk Premium used in 88 countries in 2014: a survey with 8,228 answers, Fernandez and Linares, 2014).⁷

Not only is it more difficult to account for risks related to a company's strategy, market position and industry dynamics in an emerging market, but there are usually greater risks caused by higher volatility in local capital markets, illiquidity of the banking sector, macroeconomic and political instability, corruption, and so on. Therefore, in many circumstances, arbitrators will be left with no other way than to account for these risks, either by applying the so-called country risk premium (which is a country-specific measure to incorporate country risks into the valuation using the DCF approach) or adjusting the cashflow to reflect such risks.

Step 2: Assessing country risk

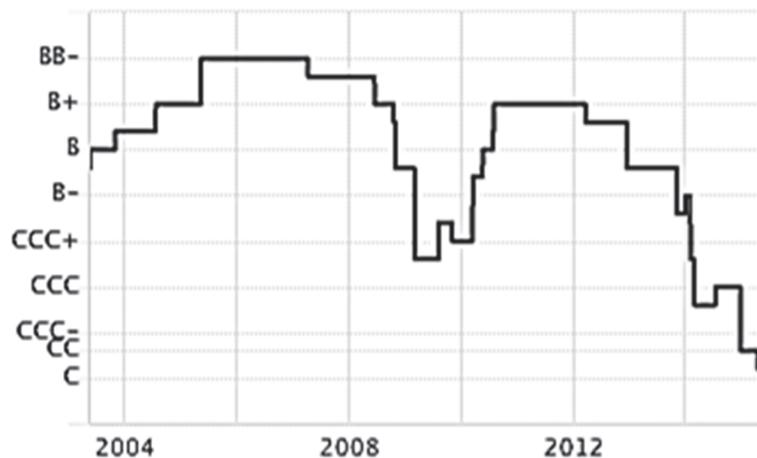
Now I assume that the marginal investor is not globally diversified, so that one is left with the task of assessing country risk. There is no agreed-upon and systematic method to estimate country risk. But valuation experts have a few options. First, use the sovereign rating attached to a country by ratings agencies. Second, use the services of market research institutions, such as the Economist Intelligence Unit (EIU), that provide broader measures of country risk. Third, use a market based measure, such as the spread of a local bond in USD and a US dollar-denominated bond of similar maturity. Let us review these options.

Option 1: Estimating country risk from the sovereign rating. One of the simplest and most accessible measures of country risk is the country debt rating assigned by a ratings agency, such as S&P, Moody's and Fitch mentioned earlier. These ratings measure default risk on sovereign bonds rather than equity risk. But they

⁷ Pablo Fernandez, Pablo Linares and Isabel Fernandez Acín, *Market Risk Premium Used in 88 Countries in 2014: A Survey with 8,228 Answers*, June 2014, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2450452.

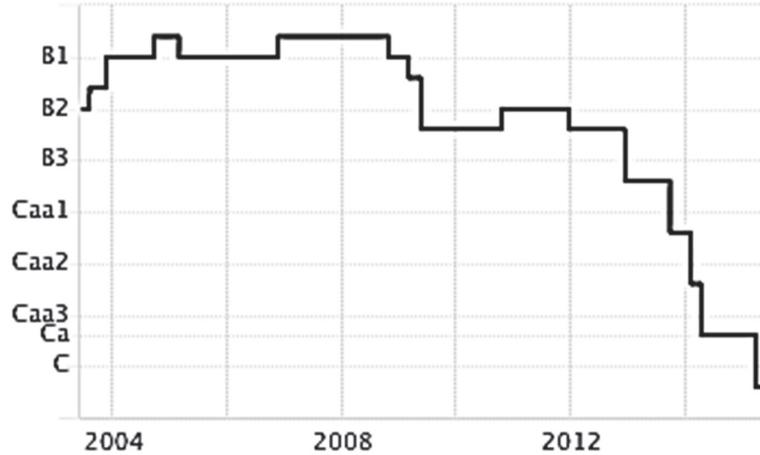
are affected by many factors that drive equity risk, such as a country's budget, trade balance, political uncertainty, and currency stability. For instance, let us take the example of Ukraine. The ratings Fitch, S&P and Moody's assigned to Ukraine in 2014 showed the Ukrainian market was highly speculative and posed major risks. Between 2009 and 2013, Standard & Poor's credit rating fluctuated between CCC+ and B⁸, demonstrating that Ukraine faced major uncertainties and exposure to adverse business, financial, or economic conditions that could make it hard for a debtor to meet its financial commitments (Figure 1). In early 2014, Moody's also downgraded Ukraine's long-term foreign currency issuer default rating to 'CCC' from 'B', asserting that political risk and country instability in late 2013 and early 2014 had significantly increased, putting pressure on the sovereign credit profile (Figure 2). These ratings imply that adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the debtor to meet its financial commitments.

Figure 1: Standard & Poor credit rating for Ukraine, 2008-2018



⁸ Standard & Poor's credit rating can fluctuate between AAA (the highest rating) to D (the worst rating in case of a default).

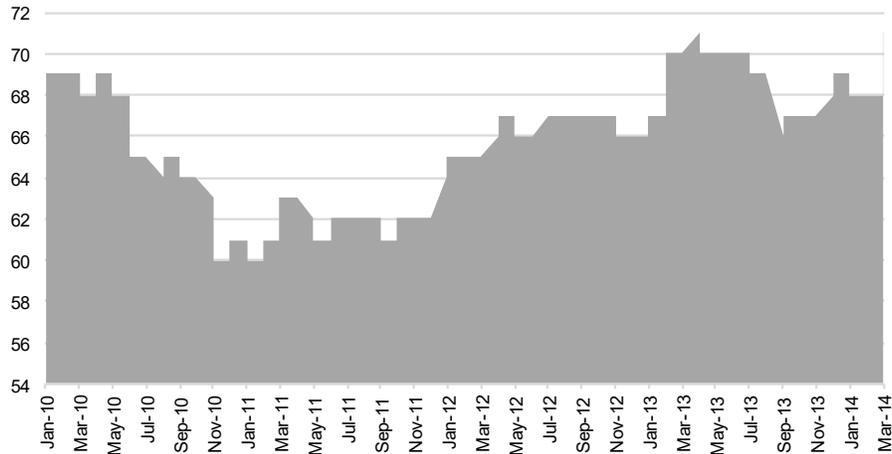
Figure 2: Moody's credit rating for Ukraine, 2008-2018



Source: Data downloaded from Bloomberg

Option 2: Estimating country risk from market research institutions. Rather than focus only on default risk, like ratings agencies, some market intelligence service providers have developed numerical country risk scores that take a more comprehensive view of risk. These risk scores are often estimated from the bottom up, by looking at economic fundamentals by country. The Economist Intelligence Unit (EIU), for instance, provides a risk ranking of 0 to 100, and the lower the score, the less the country risk. The EIU uses indicators related to sovereign, currency, bank, and political and economic risks. For example, a country with a risk score of 50 is not necessarily twice as risky as a country with a score of 25. However, it provides a good indication, in qualitative terms, on how country risk is perceived and how it evolves over time. Let's use again our example from Ukraine. One can observe that Ukraine's country risk was rising in 2012 and 2013 (Figure 3).

Figure 3: Ukraine country risk per the EIU (ranking of 0 to 100)



Source: Data downloaded from Bloomberg

Option 3: Using a market based measure to estimate country risk. These measures are sometimes set at the so-called sovereign risk premium (such as the spread between the local government bond yield in US dollars and a US government bond of similar maturity). In recent years, gauging country risk premiums from the spreads in credit default swaps (CDS) has emerged. CDS markets have developed in many regions, providing more updated market measures of default risk.⁹ In particular, CDS spreads for national governments provide measures of default risk that are more current and precise, in some cases, than bond default spreads investors charge for buying bonds the country issues, the most widely used proxy for the country risk premium.

⁹ The JP Morgan Guide to Credit Derivatives: "Credit Default Swaps (CDS) are protection contracts that provide the protection buyer an insurance against the occurrence of credit events of a reference entity, in exchange for periodic payments to the protection seller. These periodic payments consist of the so called CDS premium or spread. ... Since the CDS buyer purchases an insurance on a risky bond, it is evident that the position formed by a long risky bond plus long CDS on the same bond should approximately replicate a risk-free investment. Hence, one says that the CDS spread serves as a good approximation for the implied credit risk premium in the bond: this means that in events of distress, the CDS spread will increase, as the perceived credit risk on the reference bond rises and investors increase their demand for insurance".

Several challenges will arise when assessing country risk. First, what factors should a country risk premium include? Should some elements of country risk not be considered in the valuation, such as regulatory or political risks? It is my opinion that country risk should include these risks, because no contract or treaty between two parties can be seen as an insurance policy or guarantee against all political or other risks associated with a business venture or investment. In determining compensation using a DCF analysis, it is important to include all components of perceived risk for investing in a country. What is more, it is not usually possible to isolate the effect of some risks, such as political risk, and keep only currency, economic and social risks, when creating a country risk profile.

Another challenge may arise with the choice of the reference market for application of the country risk. A company's exposure to country risk doesn't usually come from where it incorporates but from where it does its business. For instance, when valuing petrol stations in a specific region of Ukraine, it would make sense to derive a measure of country risk for the region where are located the stations and not for the entire country or another country if the petrol stations company is incorporated outside Ukraine. Country risk applies unequally both to companies within different countries and also to companies operating in different parts of a country. However, it is usually impractical to derive a reliable measure of country risk for a specific region or subdivision of a country. For instance, in our Ukrainian example, it may be difficult to assess the risk of a business located in a particular region and servicing only this region, because reliable information on risk at the subnational level may simply not be available. Therefore, arbitrators and Experts would probably select to rule out this option of assessing risk at the subnational level.

Finally, the choice of the valuation date has an impact on the final valuation outcome and the application of country risk. The arbitrator may be faced with the choice of dates appropriate for assessing country risk. For instance, how should the tribunal assess country risk in the case of a long-term investment, such as an oilfield development, when a country's risk profile may change significantly over the course of the investment timeline? Should country risk at the time of investment be used, or would it be more appropriate to refer to another time, for instance the time at

which the risk starts deteriorating due to economic or political conditions or any other date chosen by the tribunal for the purpose of valuation. Of course, this issue has a legal dimension¹⁰ to be discussed with the tribunal. Most typically, country risk should be assessed at the time of the valuation date chosen by the tribunal.

Step 3: Estimating the country risk premium and its application to the discount rate

Once the level of risk has been correctly assessed and a decision made on the risks to take into account, one is left with the task of estimating the country risk premium.

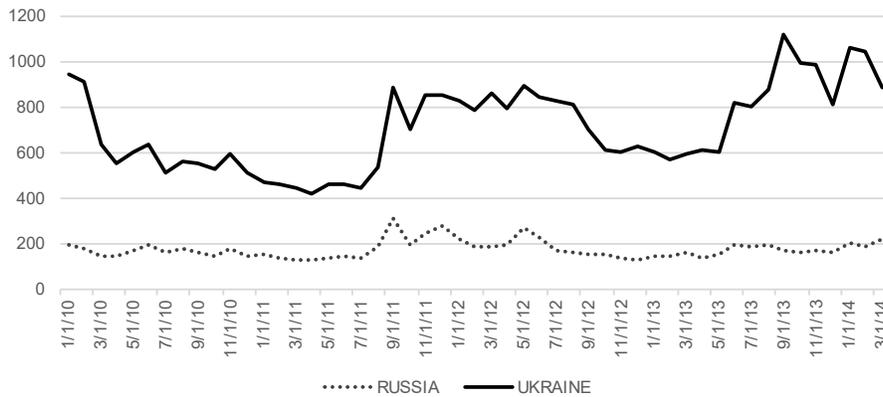
A simple approach is the measure of default risk when lending to the government of the country under study. As indicated earlier, practitioners often refer to sovereign default spread. When a government issues bonds denominated in a foreign currency such as the US dollar, the interest rate on the bond can be compared to a rate on a riskless investment in that currency to get a market based measure of the default spread for that country. I consider that this approach is appropriate to determine the country risk premium in most instances. However, I note that there is no theoretical or empirical support for assuming the sovereign spread is an appropriate metric for country risk. In addition, this approach would not work for assets found in financial distress. The other way to estimate the country risk premium is with credit default swap (CDS) default spreads, which are timelier and more dynamic than sovereign bond ratings. CDS spreads also reflect fundamental changes in the issuing entities.

Let us go back to our Ukrainian example. First, the country risk premium is estimated from the bond market. In Ukraine, the

¹⁰ As noted by the ICCA-ASIL Task Force on Damages, country risk is also an area where the law and finance theory interact closely, particularly in investor-State cases, in which State acts can be a source of political risk either in the form of lawful activities (for example, lawful regulation) or unlawful activities (for instance, unlawful expropriation). Therefore, questions are legitimately raised as to which State Acts should be included in the valuation. These are complex questions that try the boundaries between the law and the valuation process. Furthermore, line drawing between the acts that are included in the valuation and those that are excluded can be challenging.

USD 5-year Caa bond was priced to yield at 11.50%. With a US 5-year bond yielding at 2.0%, the default spread becomes 9.5%, which is a proxy for the country risk premium. Now let's turn to another approach for estimating country risk premium by reference to the CDS market. According to data provided by Bloomberg,¹¹ the CDS default spread for Ukraine over the period March 2013 to March 2014 is 884 basis points or 8.8% (Figure 4).

Figure 4: CDS default spread for Russia and Ukraine



Source: Bloomberg (country CDS USD SR 5Y)

Step 4: Incorporating country risk in the forecasted cashflow

Previously (Step 3), I have proposed a method for taking into account country risk and increasing the cost of equity by a country risk premium. An alternative option is available. It consists in adjusting the underlying cash flows of the business or asset for country risk. Cash flows should model all the asset specific risks, both systematic and unsystematic, including asset-specific country risk. Modeling country risks explicitly in the cash flow projections in a so-called “scenario DCF approach” deals with cash flow uncertainty explicitly by (i) asking “what if” questions about key inputs and how they could impact value, (ii) looking at the cash flows/value under future scenarios and (iii) using probability distributions for key inputs. In other words, the projected cash flows might be more accurately adjusted under

¹¹ See Damodaran, *supra* note 6.

this approach to account for various aspects of risk, including those factors normally considered to fall within country risk.

This alternative approach is also recognized by leading valuation authorities. In their seminal textbook *Valuation*, the consulting firm McKinsey & Company, a leading strategic and financial advisor to major corporations, said: “When significant uncertainty exists, especially when there is a possibility of much more upside than downside (or vice versa) in future cash flows, it is best to model future outcomes in two or more scenarios that capture the variation in the paths of future cash flow. This approach is solid and easy to apply in, for example, valuing corporate or business strategies”.¹² In the case of uncertainty, and a need to test assumptions of the forecast, the scenario based DCF may bring many benefits to the valuation framework, and may significantly reduce the need to rely on an arbitrary country risk premium.

It is beyond the scope of this paper to provide a detailed discussion on scenario based DCF but, in our Ukrainian example, the scenario based DCF would be useful to take into account the uncertainties prevailing in the country in early 2014, when there is possibly more downside than upside in future cash flows. In these circumstances, it may be best to model future outcomes in two or more scenarios that capture the variable paths of future cash flows. The scenario based DCF is often more accurate than the single-path DCF valuation based on single point estimates (or linear expectations). Indeed, scenarios built into the DCF model can provide an appropriate solution, for anticipating major disruptions and changes in the fundamentals of a DCF model on an ex ante basis, such as when variables fluctuate such as oil prices, which can be unpredictable.

To illustrate, I turn again to our Ukrainian example. Let us assume that one needs to put a value on oil distribution assets destroyed in 2014. In light of the prevailing market conditions in late 2013 and early 2014, it may be appropriate to incorporate a sensitivity analysis (scenarios) into a DCF model used to develop a forecast for oil price in Ukraine. The base case scenario,

¹² TIM KOLLER ET AL., *VALUATION: MEASURING AND MANAGING THE VALUE OF COMPANIES*, 741 (6th ed. 2015).

corresponding to the single-path DCF valuation, would still be valid to outline the relevant market projections that are used to build the most likely scenario in oil prices (*e.g.* historical oil prices coupled with projections based on a crude oil futures contract could serve as the underlying variables of this base case scenario). But it may be important to understand how an asset value changes in the likelihood of fast changing market conditions and country risk. The scenario DCF approach, which simulates alternative trajectories of cash flow under different expectations, would model a best case and a worst case scenario, setting all inputs at the most optimistic and most pessimistic levels. Instead of assuming that revenue growth and margins will be maximized under a single-path growth model, the scenario based DCF would refer to a feasible combination of growth in revenues and risk. In other words, instead of using crude oil futures contracts that assumed low volatility in early 2014 (and would possibly fail to predict a major market correction in the crude oil price), a scenario based model would recognize the sources of uncertainty for the oil market and the country's macroeconomic and political conditions and adjust cash flows to reflect the prevailing risks. Note that under a scenario based DCF model, it may not be required to add the country risk premium to the discount rate (cost of equity) if the risks normally taken as being part of country risk are instead modelled in the cash flow projections (double counting risk must be avoided).

On the use of the scenario based DCF approach, it is correct to say that this does not remove any of the fundamental challenges a valuation practitioner faces when determining future cash flows. Despite their popularity, all income based approaches (such as single-path DCF or scenario analysis) seek to encapsulate asset risk in one number, requiring experts to make detailed assumptions about the nature of risk. The merit of the scenario based approach is that it assigns careful weights to all possible outcomes, by taking into account macro-economic uncertainties.

V. CONCLUSION

In this article, I have discussed a possible framework for incorporating country risk into the DCF. If country risk is to be applied (if it is assumed that risk cannot be diversified away), there are different options to estimate the country risk premium.

The incorporation of a country risk premium for non-diversifiable country risk in an assessed cost of equity is usually relatively simple because data on sovereign spreads (*e.g.* bonds or CDS) is readily available. On the other hand, the exercise of fixing the cash flow for the asset or company taking into account country risk in an emerging market can be challenging, but is sometimes more appropriate. Most importantly, in undertaking this analysis it is important to always be consistent and not to double count risk in the DCF model.