Methodology

1.1 Introduction

The data for this report was compiled by research consultancy Profundo.

This note provides an overview of the methodology applied. It is organised as follows: section 1.2 describes the types of investments that are researched; section 1.3 stipulates the scope of the research; section 1.4 explain the estimation method to calculate financial institutions' contributions to deals when necessary; section 1.5 describes the data sources that were used for this research and section 1. 6 discusses the potential shortcomings.

1.2 Types of financing

The banks financing the top 120 coal plant developers can be involved through two types of financial transactions: through loans or the underwriting of share and/or bond issuances. This section outlines the different types of financing, how they were researched and the implications for the study.

1.2.1 Loans

The easiest way to obtain debt is to borrow money. In most cases, money is borrowed from commercial banks. Loans can be either short-term or long-term in nature. Short-term loans (e.g. trade credits, current accounts, leasing agreements) have a maturity of less than a year. They are mostly used as working capital for day-to-day operations. Short-term debts are often provided by a single commercial bank, which does not ask for substantial guarantees from the company.

A long-term loan has a maturity of at least one year, but more often of three to ten years. Long-term corporate loans are particularly useful to finance expansion plans, which only generate rewards after a certain period of time. The proceeds of corporate loans can be used for all activities of the company. Long-term loans are frequently extended by a loan syndicate, which is a group of banks brought together by one or more arranging banks. The loan syndicate will only undersign the loan agreement if the company can provide certain guarantees that interest and repayments on the loan will be fulfilled. Corporate loans are often used as project finance (a loan that is earmarked for a specific project) or as general corporate purposes or working capital. Sometimes, a loan's use of proceeds is reported as general corporate purposes when it will be used for a certain project. This is difficult to ascertain.

Moreover, another type of loan is a revolving credit facility. A revolving credit facility provides a company with an option to take up a loan from a bank (or more often: a banking syndicate) when it has an urgent financing need. It is similar to a credit card. Companies can use the revolving facility up to a certain limit, but they don't have to. Revolving credits are often concluded for a five-year period and then renewed, but many companies renegotiate their revolving credit facility every year with the same banking syndicate. Amounts, interest rates, fees and participating banks can change slightly every year. As the financial press often reports these renegotiations for larger companies, this might raise the impression that banks are lending huge sums of money to the same company every year. But this concerns renegotiations of basically the same facility and a revolving credit facility is hardly ever actually called upon for a loan. Within the scope of this research revolving credit facilities are counted for every time that they are renewed.

Although revolving credit facilities are not always fully called upon, the syndicate of banks providing the facility do have the obligation to provide the entire amount of money when the company asks for it. Therefore, even if the company ends up never using the facility, the banks were still involved with the company during the period of the revolving credit facility and would have provided the company with the money when they asked for it.

1.2.2 Share issuances

Issuing shares on the stock exchange gives a company the opportunity to increase its equity by attracting a large number of new shareholders or to increase the equity from its existing shareholders.

When a company offers its shares on the stock exchange for first time, this is called an Initial Public Offering (IPO). When a company's shares are already traded on the stock exchange, this is called a secondary offering of additional shares. To arrange an IPO or a secondary offering, a company needs the assistance of one or more (investment) banks, which will promote the shares and find shareholders. The role of investment banks in this process is therefore very important.

The role of the investment bank is temporary. The investment bank purchases the shares initially and then promotes the shares and finds shareholders. When all issued shares that the financial institution has underwritten are sold, they are no longer included in the balance sheet or the portfolio of the financial institution. Nevertheless, the assistance provided by financial institutions to companies in share issuances is crucial. They provide the company with access to capital markets, and provide a guarantee that shares will be bought at a pre-determined minimum price.

1.2.3 Bond issuances

Issuing bonds can best be described as cutting a large loan into small pieces, and selling each piece separately. Bonds are issued on a large scale by governments, but also by corporations. Like shares, bonds are traded on the stock exchange. To issue bonds, a company needs the assistance of one or more (investment) banks which underwrite a certain amount of the bonds. Underwriting is in effect buying with the intention of selling to investors. Still, in case the investment bank fails to sell all bonds it has underwritten, it will end up owning the bonds.

1.3 Scope

1.3.1 Timeframe

Corporate loans, bond and share issuances are considered credit activities. They fall within the remit of different departments within a bank, and as such are governed by relevant bank policies. The scope of this research for credit activities is January 2014 to September 2017. The analysis focuses on all deals identified between January 2014 and September 2017.

1.3.2 Included companies

The basis of this research is the list of 120 coal plant developers, developed and provided by urgewald. In addition to direct financing to these companies, the research was broadened to research the entire corporate groups, including holding companies and financing subsidiaries, with particular attention to subsidiaries and related companies with direct activities in coal. All subsidiaries and related companies that had no direct link to coal were excluded from the scope.

1.4 Financial institution financing contributions

The financial databases do not always include details on the levels of individual financial institutions' contribution to a deal. Individual bank's contributions to syndicated loans and underwriting were recorded to the largest extent possible where these details were included in the financial databases. In many cases, the total value of a loan or issuance is known, as well as the number of banks that participate in this loan or issuance. However, the amount that each individual bank commits to the loan or issuance has to be estimated. This research uses a two-step method to calculate this amount. The first uses the ratio of an individual institution's management fee to the management fees received by all institutions. This is calculated as follows:

Participant's contribution: $$\left(\frac{individual\ participant\ attributed\ fee}{sum\ of\ all\ participants\ attributed\ fees} * principal\ amount\right)$$

When the fee is unknown for one or more participants in a deal, the second method is used, called the 'bookratio'. The bookratio (see formula below) is used to determine the commitment distribution of bookrunners and other managers.

Bookratio: $$\frac{number\ of\ participants - number\ of\ bookrunners}{number\ of\ bookrunners}$$

Table 1 shows the commitment assigned to book runner groups with this estimation method. When the number of total participants in relation to the number of bookrunners increases, the share that is attributed to bookrunners decreases. This prevents very large differences in amounts attributed to book runners and other participants.

Table 1 Commitment assigned to book runner groups

Bookratio	Loans	Issuances
> 1/3	75%	75%
> 2/3	60%	75%
> 1.5	40%	75%
> 3.0	< 40%*	< 75%*

* In case of deals with a bookratio of more than 3.0, we use a formula which gradually lowers the commitment assigned to the bookrunners as the bookratio increases. The formula used for this:

$$\frac{\frac{1}{\sqrt{bookratio}}}{1.443375673}$$

The number in the denominator is used to let the formula start at 40% in case of a bookratio of 3.0. As the bookratio increases the formula will go down from 40%. In case of issuances the number in the denominator is 0.769800358.

1.5 Data sources

For the collection of financial data, this research relied on financial databases Bloomberg and Thomson Reuters Eikon. For additional data relating to project finance of coal-fired power plants, this research also includes research from IJGlobal.

1.6 Data limitations

The data and assessments presented in this report have not been provided by or authorised by any of the financial institutions or clients concerned. While every attempt has been made to research and present data and assessments accurately and objectively, it is difficult to guarantee complete accuracy. This is not least because of the lack of consistency and transparency in how financial institutions and coal sector clients record key financial and company information. Where there has been ambiguity in source information of financial services, the authors of this report have acted cautiously, resulting in a likely underestimation of the true amounts of finance involved. The authors are committed to correcting any identified errors at the earliest opportunity.