

ASSESSMENT OF TRANSACTION VALUES BETWEEN AFFILIATED ENTITIES

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Purpose: The research aims to assess the impact of internal cash flows resulting from the links between business entities.

Design/methodology/approach: The study will use the method of obtaining empirical material (data from the stock exchange, own database created on the basis of consolidated financial statements). Subsequently, methods of economic analysis presented in the literature were presented and used to calculate the value of transactions between related parties.

Findings: The research presented in the article indicates that there are significant measurable values of internal cash flows, which, if not taken into account, result in an underestimation of the value of the company and informs that the assessment of the financial position of related parties requires adjustment for the value of internal cash flows.

Research limitations/implications: The article presents the measurement method and results of measuring the value of internal cash flows in 31 companies listed on the Warsaw Stock Exchange for the period 2010-2020. The data was hand-collected by compiling the author's own database. Subsequent studies will present ways to assess internal cash flows and use in evaluating the situation of related parties.

Practical implications: The article shows how to assess the value of transactions occurring between related parties. Measuring these transactions indicates the value of cash that flows between these entities. Cash from these transactions should be taken into account in the evaluation of related parties, as classical financial indicators are not able to properly assess the financial position of related parties.

Originality/value: Transactions between related parties lead to the creation of internal cash flows called in foreign literature, the phenomenon of tunneling. The analysis of this phenomenon allows you to assess the financial situation of capital ties and take into account their impact on the financial performance of capital groups.

Keywords: internal cash flow, tunneling, related parties.

Category of the paper: Research paper.

1. Introduction

The assessment of related party transactions is an important issue that is an integral part of the financial management of affiliated entities and forms the basis for assessing the financial condition of the parties. Valuing an affiliated company based on consolidated financial statements is challenging because these types of financial statements merge the financial data of the affiliates at the stage of consolidation of financial statements, which causes some research problems. First of all, the specifics of the company cannot be taken into account when assessing its financial position, as the affiliated entity consists of many entities (closely held companies) operating in different areas. Consolidated financial statements do not reflect the numerous capital and organizational links between the entities. Moreover, consolidated financial statements present the results of the affiliated companies as if they were a single entity (IFRS 10). In summary, the correct assessment of the financial position of affiliated parties is limited by the source of information. Since 2008, it has been mandatory under IFRS to additionally present affiliated entities' transactions in the consolidated financial statements as supplementary information, which indicates that the data have a significant impact on the financial position of a closely held corporation. According to ISFR 24, a related party transaction is a transfer of resources, services, or obligations between a reporting entity and a related party, regardless of whether a price is charged (MSR 24). Therefore, the article aims to present a method for valuing transactions between related parties forming a group of companies (a capital group). Related parties engage in transactions by selling products, goods, and materials; making loans, receiving interest on loans and dividends on their shares; purchasing debt securities; and also engaging in other transactions. The occurrence of these events is strictly regulated by law and results from the application of transfer pricing and reverse financing rules known as 'thin capitalization'. These transactions give rise to cash flows (internal cash flows) that are omitted in the consolidation phase of the statement of cash flows and do not affect the final value of the consolidated statement of cash flows of the affiliated entity, which in practice means that we assess the related entity as a single entity (because this is the purpose of the consolidated financial statements, in which the flows occurring between affiliates are omitted).

The dynamically changing environment and thus the functioning of related parties in the global arena influence the need to improve the existing tools for assessing a company's financial condition. Therefore, the primary contribution of such a study will be the evaluation of internal cash flows in the context of the financial position of affiliated entities.

The research in this article aims to assess the value of internal cash flows resulting from transactions between related parties. To achieve this goal, it was necessary to formulate the following research hypothesis:

H(0): The value of internal cash flows is an incentive for the establishment of capital groups.

2. Literature Review

Internal cash flows are a research problem that has yet to be sufficiently studied in the Polish literature. The analysis of the literature has made it possible to distinguish two research streams: theories of cash holding and the phenomenon of tunneling.

Shleifer and Vishny (1986) were among the first to discuss tunneling, i.e., the role of a major shareholder in providing benefits to all shareholders. This positive view of blockholders was further elaborated by Grossman and Hart (1988) and Harris and Raviv (1988). The common phenomenon of tunneling is treated as a transfer of value from minority shareholders to majority shareholders or a transfer of benefits to managers at the expense of shareholders. Tunneling can be divided into three types (Atanasov, Black, Ciccotello, 2008): cash flow tunneling, asset tunneling, and equity tunneling. Asset tunneling can be further divided into asset tunneling "in", i.e., overpricing assets, or "out", i.e., selling assets of related parties below their market value. Cash flow tunneling removes part of the current cash flow through transfer pricing or contractor compensation that exceeds market standards. Equity tunneling involves increasing the shareholding of a majority shareholder at the expense of a minority shareholder, e.g., through share dilution, freeze-outs (also called a shareholder squeeze-out), insider trading, hostile takeovers, or other financial transactions that discriminate against minority shareholders (La Porta et al., 2000).

In Polish literature, the phenomenon of tunneling has not yet been clearly defined, but it is possible to find related concepts and studies. According to P. Mielcarz (2009), the value of majority shareholdings or controlling stakes differs from that of minority shareholdings, and what distinguishes these shareholdings from each other is called private benefit. Private benefits constitute free cash generated by a company solely in favor of the owners of controlling stakes, i.e., so-called exclusive flows. They are the result of:

- additional flows generated by the company through trade and civil transactions between the controlling and the controlled company,
- legal and tax regulations that create grounds for different taxation of capital gains (including dividends) of investors with controlling stakes and owners of non-controlling interests,
- forcing an investment policy on the controlled company, thus creating exclusive flows benefitting the controlling entity.

Another study touching on the problem of transactions between related parties was conducted by M. Aluchna in 2010. The results enabled the creation of a typology matrix of related parties based on their development directions, taking into account the ownership structure and the importance of the internal or external market. The great importance of the internal market implies that companies operating as part of an affiliated group (or a capital group) want to create their own market, where they create demand and supply and offer

products and services to each other. In such a market, companies do business mainly with other companies in the group and are quite reluctant to include companies from outside the group. The greater importance of the internal market is observed in countries with a weaker institutional order and a lower level of trust. The second level considered in the creation of the matrix of group types is the ownership structure of the company. A concentrated structure implies the presence of a controlling shareholder who exercises control over the group. In such cases, preferred shares are often used and pyramid structures are highly prevalent. They are also found in countries with less advanced regulations meant to protect minority shareholders in the capital market and the low importance of the stock market as an external source of financing.

K. Byrka-Kita (2012) also indirectly addresses tunneling by exploring the benefits of controlling a company in business valuation. The author points out that the benefits derived from exercising control come down to the use of the company's resources or benefits with the exclusion of minority shareholders - and in most cases at their expense. These benefits can be both monetary and non-monetary.

A review of Polish literature shows that tunneling in Polish companies is not directly addressed. Moreover, previous Polish research ambitions on family businesses describe corporate governance only in passing and usually on a theoretical rather than a practical basis. The global interest in family ownership stems from the fact that family companies are an important part of the economic system and that their continuity and success significantly affect the stability and efficiency of the economy, both nationally and globally. Therefore, it seems to be of interest to carry out a study in Poland, identifying family-owned businesses and also examining the phenomenon of tunneling to evaluate its impact on the management of these companies.

Nowadays, cash holding is a widely discussed research topic. It became popular in the last decade of the 21st century after the 2008 financial crisis; however, the first theories were developed back in the second half of the 20th century:

- Miller and Orr's model of the demand for money (1966),
- pecking order theory (1984),
- free cash flow theory by M.C. Jensen (1986),
- the trade-off model by Ferdows and De Meyer (1990),
- Opler's research (1999).

Research on cash holding was conducted by Ferreira and Viley (2004), followed by Ahmed and Streimikiene (2020), who investigated the influence of the external environment on the phenomenon of cash holding in a company. The research by Hendrawata (2019) shows that companies in developing countries are accumulating more and more cash. Phan (2019), on the other hand, describes this phenomenon as corporate savings. In Poland, Bialek-Jaworska's (2017) research identified factors that influence Polish non-financial firms' lending to other firms, starting with motives for recognition and sources of funds. Bialek-Jaworska (2017) derived the following conclusions from the study, which confirmed international research and

their links to the tunneling phenomenon. Cash holding is prompted by a transactional motive, protection from the risks associated with the use of derivatives, investment opportunities, and borrowings. Non-financial firms try to follow in the footsteps of financial institutions by lending money obtained from their cash flow, especially when they have long-term investments (Bialek-Jaworska, 2017). A summary of the theories and studies on tunneling and the phenomenon of cash holding is compiled in Table 1. Tables, figures and formulas – continuous numbering in the text.

Table 1.

Literature review of internal cash flow

Cash holding theories	Tunneling phenomenon
Jensen (1986) free cash flow theory Ferdows and De Meyer (1990) – the trade-off model Miller and Orr (1966) – the model of the demand for money pecking order theory (1984) Opler (1999) Ferreira and Viley (2004) Hendrawata (2019) – more cash in companies in the developing countries Moshin, Ahmed, Streimikiene (2020) – external environment Phan (2019) – corporate savings Bialek-Jaworska (2017) – non-financial companies behave like financial institutions	According to Kee-Hong, Jun-Koo, Jin-Mo (2002), tunneling is the transfer of value from majority shareholders to minority shareholders or the transfer of companies' assets and profits to their controlling shareholders. La Porta et al., (2000) state that tunneling works when a controlling shareholder transfers a company's resources or does so without transferring assets. Mielcarz (2009) – exclusive flows Mioduchowska-Jaroszewicz (2013) – calculation formula internal cash flows

Source: own research.

Economic policy uncertainty and financial development affect a company's cash holding policy before and after a global financial crisis, as evidenced by another study based on data from Chinese non-financial firms from 1997-2018, published in 2022 (Legesse, Guo, Wang, et al.). Firstly, economic policy uncertainty increases cash holdings and sensitivity to operating cash flows. On the other hand, financial institutions and market developments reduce the sensitivity of corporate cash holdings to cash flows. Finally, the impact of economic policy uncertainty on firms' cash sensitivity to operating cash flow decreases with financial developments. Companies adjust their cash holding policies in response to changes in economic policy and financial developments, suggesting that macroeconomic factors determine the precautionary motives for holding cash.

An analysis of the literature on cash holdings and tunneling shows that there are no studies that present a way to measure internal cash flows, that is, they take into account the aspect of economic events occurring between related parties. Thus, it is proven that the literature has not found ways to measure the value of transactions occurring between related parties. The article fills the research gap in this regard.

3. Data and methodology

This article aims to analyze the external cash flows of affiliated entities in the years 2010-2020 using the example of Polish business entities listed on the Warsaw Stock Exchange in Poland. The study was based on 31 annual financial statements. The selection of the companies for the study was very difficult in terms of homogeneity of the study sample, as they should be related parties preparing consolidated financial statements in accordance with IFRS rules, taking into account IAS 24, i.e., presenting transactions between the related parties, operating in the same industry and/or closely related to that industry, for no less than 11 years. Private companies from the construction, metallurgy, metal industry, and machinery and equipment manufacturing sectors were selected for the study. Finally, 341 observations (11 years, 31 companies) were used for the study. Data for the study were collected independently by the author to form a research base by compiling financial data from consolidated financial statements of 'related party transactions'.

The formula (1) below shows the method of measuring the value of internal cash flow (Mioduchowska-Jaroszewicz, 2013):

$$CF\ internal = \sum Pin\ (Lin) - \Delta\ Rec + \Delta\ Liab + Ri - Ci - B + L + Bx \quad (1)$$

where:

CF internal – internal cash flow in related parties in the group of companies,

Pin (Lin) – profit (loss) from mutual transactions,

$\Delta\ Rec$ – change in accounts receivable,

$\Delta\ Liab$ – change in accounts payable,

Ri – interest income,

Ci – interest cost,

B – borrower, loans received,

L – lender, loans granted,

Bx – extra benefits – profits (losses) gained from factors such as transfer pricing, 'thin capitalization', cash management.

4. Research results

The results shown in Table 2 were obtained based on Formula 1.

Table 2.*Value of internal cash flows in related parties*

Item	Data in thousands PLN										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1.	37 917	18 148	16 740	-7 187	21 956	15 681	6 815	20 183	12 366	0	0
2.	0	0	-169	985	-141	-1167	-1878	-1086	-1266	0	0
3.	-1 227	0	-1 245	-7	-779	-6 744	-12 743	30 469	10 694	0	0
4.	120184	139651	38271	143366	134049	160241	162958	-61757	-262th	-139th	-82670
5.	52 020	3 619	-57 992	-92 028	3 395	-46 197	-42 346	40 659	68 820	14 142	835th
6.	-14244	-28616	-17686	-59232	-11086	-24336	-14309	-4952	-6812	-8559	0
7.	-28800	11492	-53	-7127	10518	-12304	-5104	-17956	-19479	18016	-34446
8.	0	0	0	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	-6 073	-6 988	2 218	-2 917	6 989	-20 591
10.	0	0	14103	-10720	4891	4139	-11737	17453	5053	3715	-1533
11.	44036	14558	5538	30125	6149	12182	10815	2773	2688	0	0
12.	-4397	-7489	-3988	-5292	-3111	-6612	-1714	-6823	1301	-3184	208
13.	0	0	0	0	0	0	0	0	0	8788	-4238
14.	-1653	-30492	11920	-16207	-24700	-879	-98	-1640	230	-2686	712
15.	1140	0	0	-2292	26 695	16529	0	0	0	0	0
16.	59622	30982	-18811	-50339	1152	-97043	48276	-143026	-166562	3729	-11
17.	-48712	-54029	64138.2	-36139	-32496	-429.3	-66.2	0	0	0	-249
18.	-90980	-112901	-230364	-171935	-346498	-107512	-2222	-618	-796	99873	0
19.	6	0	0	26	-5294	0	0	0	-132	0	0
20.	4568	-88423	-10105	18925	-26965	-111343	-16913	0	0	0	0
21.	277723	130184	179365	-379132	-123859	18237	-413267	-4607	-465820	0	0
22.	1339	858	-2211	3591	1498	1360	-2770	1095	2383	-23908	4012
23.	-51598	-25350	51413	51280	111910	106268	81332	95209	2164	13979	-7152
24.	-16400	-13652	-24890	0	1479	13115	16857	57736	137689	135591	140997
25.	84655	50 246	-37 695	7 659	-61 231	-32 017	-8 073	-133th	47 479	2 015	0
26.	97631	1413	2859	-867	-49994	23168	19705	-4823	17838	49517	0
27.	0	0	11804	-1	8167	28052	22258	15843	18844	18844	25321
28.	0	-2748	-3886	7832	14210	11613	14321	7133	6073	-1369	3221
29.	-4403.14	15651	22988	13492	19373	21060	13377	44107	71509	92437	0
30.	1111	1353	945	787	1072	64461	67947	14047	20279	23004	-17577
31.	4745.3	2628.7	-351	-1106.4	-850.6	-1068.7	-18.3	-0.53	-0.075	-0.025	-0.162

*th – thousands (000).

Source: own research.

Table 3.*The name of the company considering the number from Table 2*

Name	Item	Name	Item	Name	Item
ABM solid	1.	Elektrobudowa	11.	Impexmetal	21.
ATREM	2.	Elektrotim	12.	Introl	22.
AWBUD	3.	Energoinstal	13.	KBP Dom	23.
Boryszew	4.	Erbud	14.	Mennica	24.
BUDIMEX	5.	FAM	15.	Mirbud	25.
Ceramika Nowa Gala	6.	Famur	16.	Mostostal W-wa	26.
Cognor	7.	Ferro	17.	Mostostal Zabrze	27.
Decora	8.	Ferrum	18.	Patentus	28.
Dekpol	9.	Herkules	19.	PGO	29.
Drozapol	10.	HUTMEN	20.	Selena	30.
ZUE	31.				

Source: own research.

The value of internal cash flows presented in Table 2 shows a very high variability of results and, in terms of value, a large differentiation between the companies. The variation of the absolute values shows the need to create indicators, that is, to evaluate these values considering the main financial categories: assets, revenues, and change in cash. The results from Table 2

also show that the values of these flows are positive and negative and are due to transactions between related parties, which should be treated as inflows (positive amounts) to the controlling company and outflows (negative amounts) from the controlling company (Formula 1). In this way, we obtained the values of cash flows circulating between related parties (Figure 1), which are not included in the assessment of the financial position of related parties because they are not presented in a typical financial statement that is the basis for the valuation of the financial position of related parties, i.e., the consolidated statements of financial position and comprehensive income.

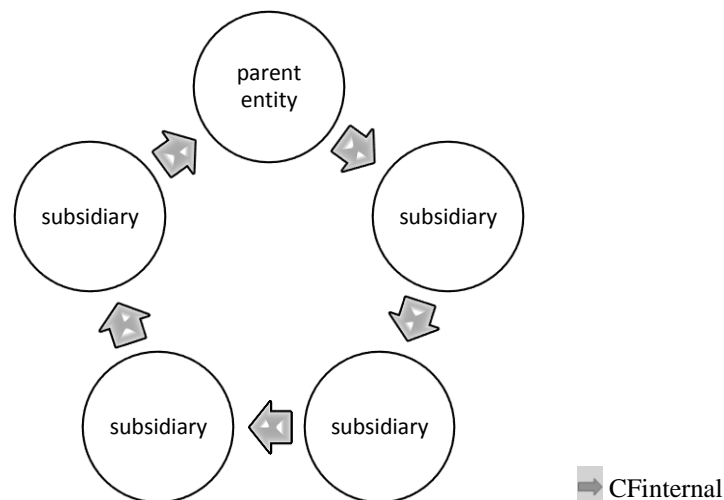


Figure 1. Circulation of internal cash flows.

Source: own research.

5. Conclusions

The research hypothesis was positively verified against the background of the research results, thus achieving the purpose of the study. The value of internal cash flows is important for the evaluation of the financial position of companies. Future research articles will present the results of studies that consider the data on the value of internal cash flows in reference to other financial categories, which will facilitate comparisons and help create econometric models to determine the impact of internal cash flows on various aspects of related party activities. In addition, it should be noted that internal cash flows:

- and their significance is confirmed by a literature review of theories of tunneling and cash holding in the studied companies (a general worldwide trend of global capital groups),
- and the occurrence of significant and measurable values indicates that the companies are undervalued,

- indicate that the phenomenon of tunneling exists among the related parties,
- are a driving force for the formation of capital groups,
- indicate that the valuation of the financial position of related parties requires adjustment based on the value of internal cash flows.

The presented method of measuring transactions between related parties is extremely important in assessing the financial position of related parties and in valuing the value of these parties. The issue presented points to the direction in the study of related parties, provides an opportunity for the tax authorities to control transactions that may be outside of taxation. In addition, the value of intra-group transactions can cause to regulate the value of profit. Thus affecting the benefits of owners (tunneling). In addition, the value of internal cash flows informs about additional cash found in the related party (cash holdings).

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