

Metal Ores in Tax-Driven Wealth Chains: A Case Study of Tax Planning in the Finnish Mining Sector

Matti Ylönen and Lauri Finér

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Matti Ylönen

Doctoral researcher

1. University of Helsinki

Department of Political and Economic Studies

World Politics

Hiihtäjätie 8 C 23

00810 Helsinki, Finland

matti.v.ylonen@gmail.com

tel. +358 40 723 1118

+1 475 434 6651

2. Aalto University Business School

Department of Economics

POB 11000, 00076 AALTO, Finland

Lauri Finér

Doctoral researcher

University of Helsinki, Faculty of Law

Kauppiaankatu 8-10 D 25

00160 Helsinki, Finland

lauri.finer@helsinki.fi

tel. +358 41 501 2317

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Abstract

Corporate tax avoidance, extractive industry taxation and global wealth chains have become topical issues. We contribute to these discussions with a multiple case study of tax planning in the mining industry. Based on an extensive screening of the financial accounts of all companies mining metallic ores in Finland, we provide an in-depth analysis of the tax planning arrangements at three mines in Finland in an industry where the financial statements of local subsidiaries are often not public. The mines were operated by two Canadian enterprises that utilized seven different tax planning arrangements in a country with institutions and resources that outpace those of the majority of notable mining countries. We argue that the arrangements symptomize a wider international phenomenon where multinational enterprises can exert societal power commonly associated with sovereign states. Crossing the disciplinary boundaries of accounting, global political economy, development studies and tax law, we also contribute to the emerging research agenda on the role of wealth chains in the global economy. We argue that the diversity of thin capitalization arrangements we discovered calls for greater sensitivity in accounting research. Finally, the findings problematize the clear-cut categorization of developing and developed countries, and highlight the role of tax advisory providers in the tax-driven wealth chains.

Keywords: Tax avoidance, mining industry, global wealth chains, multinational companies

JEL Classifications: F23 (Multinational Firms – International Business), G32 (Corporate Finance and Governance / Capital and Ownership Structure), H26 (Taxation, Subsidies, and Revenue / Tax Evasion and Avoidance), K34 (Other Substantial Areas of Law / Tax Law), M41 (Accounting)

1. Introduction

The system of prices is like the system of words or the system of numbers. Words, prices and numbers are nominal and not real. They are signs and symbols needed for the operation of working rules. ... Words are deceptive if they do not convey the meaning intended; numbers are liars if they do not indicate the actual quantities; prices are inflated or deflated if they do not reflect the course of real value.

– John C. Commons, *Legal Foundations of Capitalism*, 1957 [1924]: 9

Corporate tax avoidance is an emerging academic topic (Jenkins & Newell, 2013: 381).¹ Tax has long been marginalized in political science, law, and social policy, and it has not received the ‘intellectual attention it deserves from accounting scholars’ (Boden, Killian, Mulligan & Oats, 2010: 541–544). This obscurity has gradually changed. Tax avoidance has gathered increasing attention in academia, among inter- and non-governmental organizations and the media (see e.g., Hearson & Brooks, 2010). Tax policies are no longer an isolated enclave within enterprises; rather, they are discussed ‘in the boardroom’ (KPMG, 2005). These tensions have resulted in calls for research of ‘transfer pricing in broader social, political and organizational contexts’ in order to understand how accounting techniques re-allocate wealth (Sikka & Willmott, 2010: 353).

This, however, is easier said than done. Graham and Tucker (2006) note that ‘information about tax shelters is notoriously hard to find’, suggesting that scholars should ‘creatively obviate this lack of information’ in order to understand tax shelters better (Lisowsky, 2010). Hanlon and Heitzman (2010: 157) also suggest the use of ‘some other’ data sources. We answer to these calls by providing a multiple case study (Yin, 2003) of mining industry tax planning. Cognizant that most major mining countries do not disclose financial data on tax shelters, we turned our attention to an extractive-rich country where local financial accounts were available – Finland. Moreover, the Finnish mining industry has developed significantly in the past decade (see section 4), while still being of a reasonable size for an industry-wide analysis (see section 2). In addition, Finland is a member of the EU and the

¹ When using concepts such as ‘tax avoidance’ or ‘tax planning’, we do not judge the legality of the arrangements, since aggressive tax planning structures are often legal (OECD, 2013). The national tax authorities and ultimately courts assess the legality of certain arrangements based on local legislation, obtaining also confidential corporate information not available for research purposes (for further discussion, see e.g. Otusanya, 2011).

OECD, and its corporate income taxation system is similar to most countries. Therefore, the findings can be used to assess deficiencies of the global tax system (see section 4).

The literature on corporate tax avoidance has typically relied on two categories: intra-firm transfer pricing and thin capitalization (e.g., Becker, Fuest & Riedel, 2012). These categories are occasionally supplemented by a third category of intellectual property rights (IPR) related tax avoidance (e.g., Dischinger & Riedel, 2011; Corrick, 2016). Of these, thin capitalization is typically understood as a practice whereby subsidiaries based in low-tax countries grant loans to subsidiaries in high-tax countries where the interest costs are tax-deductible (Becker et al., 2012; Buettner & Wamser, 2007; Bartelsman & Beetsma, 2003; Clausing, 2003; Desai, Foley, & Hines, 2005). The separate entity doctrine we discuss later in this section, along with the fact that parent companies exercise ultimate power over their subsidiaries, allows multinationals largely to select capital structure in each country independent of external funding needs of individual investments (Ting, 2014). Furthermore, IPR-related tax avoidance is usually discussed in the context of patents, copyrights and other products of the knowledge economy (e.g., Dischinger & Riedel, 2011). We contrast these generalizations by analyzing three kinds of specific thin capitalization arrangements. We also discuss the use of immaterial mining concessions in tax planning. This is the first contribution of this article.

Researchers of extractive industry taxation have often identified insufficient resources and/or institutions in developing countries as a major determinant for the non-taxation of mining companies (Barma, Kaiser & Le, 2012; Baunsgaard, 2001; A. Bebbington, Hinojosa, D. Bebbington, Burneo & Warnaars, 2008; Fuest & Riedel, 2012; Gayi & Nkurunziza, 2016; Jenkins & Newell, 2013; Prichard, Brun & Morrissey, 2012; West, 2016). Crossing the disciplinary boundaries between accounting, development studies, tax law, and studies of international political economy, we argue that mining tax legislation in Finland is actually inferior to that in many developing countries. This critique of strict conceptions of developed and developing countries is the second contribution of the article.

Our third contribution is more theoretical. Drawing from the tradition of evolutionary economics as well as from contemporary research on global political economy, we maintain that much world trade has little to do with market mechanisms as the prices are planned in the corporate headquarters (Ylönen & Teivainen, 2015). However, the dominant paradigmatic quantitative approach in tax research offers few tools for analyzing this phenomenon because it operates on an aggregate statistical level, thus framing the phenomenon in a way that provides little information on the specifics of tax avoidance policies (Golden-Bibble & Locke, 2007: 6).

In contrast, our firm-level case studies allow nuanced analyses on how tax avoidance opportunities shape the corporation-state relationships. Our particular interest is how ‘decentered corporations’ (Desai, 2008) utilize power over states in their attempts to design and impose effective tax laws (Genschel and Rixen, 2014). As a consequence, the traditional analyses of global value chains (Gereffi & Korzeniewicz, 1994) or global production networks (Henderson, Dicken, Hess, Coe & Wai-Chung Yeung, 2002) are not enough. There is a need for more attention on how enterprises are able to design and maintain fictional wealth chains that ‘hide, obscure and relocate wealth to the extent that they break loose from the location of value creation’ (Seabrooke & Wigan, 2014a). This has much to do with the notion by Sikka and Willmot (2010: 353) on how accounting techniques alter the statistics used to manage national economies.

Contributing to the nascent literature on wealth chains, we argue that the artificial corporate price planning mechanisms thrive on two pillars of the international tax system, namely the separate entity doctrine and the arm’s length principle. According to these principles, individual companies belonging to the same group are separately liable for their taxes and use arm’s length prices in their mutual transactions. We argue that the separate entity doctrine not only facilitates tax avoidance arrangements (Eden & Kurlde, 2005) but is also a key concept in understanding the rupture between value creation and places of production (Ting, 2014: 71). Separate entities are fictional in a world where enterprises plan their operations as a single economical unit (Graham, 2003). This facilitates artificial wealth creation in locations that attract multinational enterprises with tax incentives (Palan, 2002).

Much of the econometric research on corporate tax avoidance departs from the notion of ‘arm’s length principle’. However, the concept is *just a theoretical principle*, i.e., the in-practice price setting of intra-group transactions is part of tax planning policy in contrast to *actual* arm’s length pricing (Ylönen & Teivainen, 2015). The scarce critical literature on arm’s length principle usually discusses its abuse in the context of mispriced trade of services and goods within enterprises (Ylönen & Teivainen, 2015). However, the same principle applies also to the intra-group interests (Heckemeyer & Overesch, 2013). These deficiencies of the international tax system give multinational enterprises increasing ‘autonomy with the absence of constrained choice or limits to choice or behavior,’ a power usually identified with the use of governmental power (Samuels, 1973: 277).²

The remainder of this article progresses as follows. In the next section, we will describe our research

² Samuels’ conception of freed is based on the ideas originally developed Robert Lee Hale.

materials and methodology. Section 3 will continue discussing and developing some of the key concepts relating to the mining industry and taxation. Section 4 gives an introduction of the mining industry in Finland, and Section 5 is devoted to the case studies. The penultimate section discusses the case studies in light of the questions posed in this introduction. We conclude by discussing the implications of this study in the context of wider developments in corporate taxation.

2. Research Methodology and the Selection of the Case Enterprises

In September 2013, the OECD and G20 countries adopted a 15-point action plan to address tax avoidance of multinational enterprises³ (MNEs), i.e., base erosion and profit shifting, or BEPS (OECD, 2013). Later, OECD published a report on measuring the effects of BEPS (OECD, 2015a), where they concluded that ‘the significant limitations of existing data sources mean that, at present, attempts to construct indicators or undertake an economic analysis of the scale and impact of BEPS are severely constrained’. The effects of tax avoidance have been mostly studied with econometric methods (e.g., Bartelsman & Beetsma, 2003; Becker, Fuest & Riedel, 2012; Buettner & Wamser, 2007; Clausing, 2003; Desai, Foley, & Hines, 2005; Dharmapala, 2014; Dischinger & Riedel, 2011; Grubert & Mutti, 1991; Huizinga & Laeven, 2008; Kosi & Valentincic, 2012; Markle & Shackelford, 2009). Previous studies have focused on tax planning on an aggregate level, and the lack of publicly available data has often restricted the use of these methods (Lisowsky, 2010; OECD, 2015a). The poor quality of aggregate source data has meant that while most of these studies document tax avoidance, they do not address its effects for economies or the arrangements used (Dharmapala, 2014, but see Huizinga & Laeven, 2008).⁴ Moreover, publicly available financial statements often fail to give unequivocal information on tax costs and thus require further interpretation (Hanlon, 2003: 850–852). OECD (2015a) has also criticized econometric studies on tax avoidance for failures ‘to disentangle real

³ We use the concepts ‘enterprise’ and MNE for economic entities. From a legal viewpoint, these entities usually consist of a parent company and directly- or indirectly-owned subsidiaries. The concept of ‘company’ in this case stands for a legal person, such as a limited liability company, which belongs to a corporate group. From the viewpoint of tax law, taxes are borne on legal persons instead of the enterprises to which they belong.

⁴ Most of the studies use publicly available financial data on accounting profits declared in an individual country together with information on local statutory headline tax rates to assess semi-elasticity of tax rate change on profits before taxes. However, financial statements of tax havens are not usually included in the source data due to secrecy, which severely weakens the validity of the results, since the tax havens are the cause and result of tax avoidance (Dharmapala, 2014: 441). Moreover, a low income tax rate does not necessarily indicate a tax shelter since tax incentives in the developed countries included in the data are based on specific incentives that lower the effective tax rate on profits below the statutory rate (OECD, 2015a: 96–98).

economic effects from the effects of BEPS-related behaviours' (see also Killian, 2006).

The few earlier case studies have used material from public hearings (Otusanya, 2011; Ting, 2014), court decisions (Otusanya, 2011; Sikka & Willmot, 2010), public financial account data (Ylönen & Laine, 2015) and information acquired directly from enterprises (Ali-Yrkkö & Rouvinen, 2014). These studies highlight the deficiencies in using aggregate data from financial account databases as they fail to include information on the discovered high-profile tax avoidance affairs (OECD, 2015a: 19). While the case studies provide 'a rich source of evidence' on BEPS arrangements, their small number limits the use of them in a broader analysis (OECDa, 2015). In contrast with the previous case studies, we combined an industry-wide analysis of financial accounts accompanied with an in-depth analysis of selected case study MNEs that we found particularly interesting in light of our research questions.

We started the research by acquiring publicly available financial data from all companies operating metallic ore mines in Finland in 2013. A preliminary screening of this data enabled us to assess the business models and the corporate structures on a general level and enabled us to select three mines for closer scrutiny. After an in-depth inquiry into the financial accounts of two Canadian MNEs that operated the three mines, we found that they utilized seven specific tax-planning techniques to reduce their tax burdens in Finland.

Furthermore, we sent the outlines of the case studies for comments to the MNEs while preparing a report published by a Finnish corporate responsibility research NGO Finnwatch, where we presented some of our factual findings on the tax arrangements (Finér & Ylönen, 2016).⁵ The MNEs' replies verified our interpretation on the arrangements and provided useful insights on how they saw them. By combining data from various sources (Yin, 2003), we were thus able to overcome some of the difficulties in gathering reliable information on the tax planning structures (Lisowsky, 2010, p. 1696).

The case study method is useful as it can increase understanding of 'complex social phenomena' such as tax planning and allow access to previously unknown observations (Yin, 2003). Earlier studies suggest that case studies can help to understand tax avoidance structures (Ting, 2014; Ylönen & Laine, 2015) and the global division of value added between MNE functions (Ali-Yrkkö & Rouvinen, 2014). These studies also show that tax planning is decisive in determining where profits are accounted. By providing information on the difficulties Finland faces in taxing its mining sector enterprises, we provide a critical and revelatory (Yin, 2003: 42) case in the sense that 'if it happens there, it happens

⁵ The original responses are available in full as annexes of the Finnwatch report.

everywhere' (Patton, 1990).

The availability of the financial statements of local subsidiaries in most European countries as well as that on taxable income and taxes paid in Finland provided a good starting point for our research. We also utilized data from consolidated accounts, corporate websites, and the Orbis database.⁶ This allowed us to obtain a reliable picture of the tax structures employed, which supported the selected method (Yin, 2003). The case studies were selected in a two-stage process. First, we screened the publicly available financial data of 2011–2013 from all enterprises mining metallic ores at 12 mines in Finland in 2013 (see Annex 1). This data included not only the financial statements of local subsidiaries but also stock exchange data, such as consolidated annual reports and a number of financial statements of non-Finnish subsidiaries that were relevant for the operations in Finland. This exercise provided us with an overall picture of the business models, corporate structures, and the profitability of the mines. To improve validity of our findings, we consequently also included financial data from 2014 as it became available during the research process.

The screening revealed that six out of the eleven companies operating the mines failed to generate tax revenues because they were unprofitable during the period⁷ (see Table 1). Two have filed for bankruptcy since then. Three out of the five profitable mines (Kevitsa, Pyhäsalmi and Suurikuusikko, discussed in section 5) have generated corporate income tax (CIT) with Kevitsa doing so for the first time in 2014. Kylylahti mine has been profitable but generated no income tax due to high interest costs and being in the start-up phase. We assume it will pay income tax in the future. The fifth profitable mine (Kemi) was operated by the loss-making Outokumpu Plc that was able to consolidate its mining profits with the losses of other Finnish group companies. Based on the screening of the financial statements, we consider four of the companies to be thinly capitalized due to tax planning (see Table 1). These four companies belonged to either a Canadian or Australian MNE. Of the seven other mining companies, five had lost their equity at least partially due to losses and not only because of tax planning. The last two companies that did not seem to be thinly capitalized belonged to a Finnish and Swedish mining enterprise.

In the second stage, we narrowed our focus to three mines operated by two enterprises, Agnico Eagle Mines Ltd (AE) and First Quantum Minerals Ltd (FQM), as a multiple case study increases the generalizability of our findings (Yin, 2003: 53–54). This screening allowed us to assess the external

⁶ Bureau van Dijk's database contains financial information on over 170 million companies worldwide.

⁷ The Orivesi and Jokisivu mines were both operated by a single company.

and internal validity of the case studies, i.e., that they would provide relevant information for our research setting (Yin, 2003: 34–35). The mines are the three largest metallic ore mines operated by foreign-based MNEs in terms of production as well as profits, and we could preliminarily identify thin capitalization arrangements during the screening. A further justification for the case study selection was that the mines operated by AE and FQM had been operational for several years before 2013, which enabled the assessment of tax implications over the lifetime of the mines with sufficient data for the research.⁸

We analyzed the business activities at the mines and the associated corporate structures from the exploration phases until the end of 2014. The case studies also involve enterprises that owned the mining rights earlier. We discovered that the case enterprises thrived on tax savings using seven different types of arrangements that erode the Finnish tax base. They were:

1. Using thin capitalization and intra-group loans to finance the local mining business (Sections 5.2–5.4)
2. Setting up a holding company that uses intra-group loans to purchase shares in the mining business in an intra-group restructuring (Sections 5.2 and 5.3)
3. Using intra-group loans to finance separate investments abroad (Section 5.3)
4. Acquiring mining rights in an intra-group arrangement to gain tax-deductible depreciations and amortizations⁹ (Section 5.2)
5. Using a Swedish holding company to avoid the Finnish dividend tax at source and the transfer tax (Sections 5.2–5.4)
6. Offsetting profits from one mine with losses from another mine using the Finnish group contribution system (Sections 5.2 and 5.3)
7. Avoiding Finnish capital gains tax by entitling Finnish mining concessions to a foreign subsidiary (Section 5.2).

⁸ At the time of the initial study, the financial accounts up to 2013 were publicly available. Moreover, the information on corporate income taxes paid in Finland was available up to 2013. We later updated the data with financials from 2014, when they became available.

⁹ Depreciations are regular decreases in tangible asset value, in contrast to amortizations that result in decrease in value of intangibles. Both are costs that decrease profits and are usually deductible from taxable income. They are usually made schematically in relation to elapsed time in contrast to value adjustments based on observed value difference between the balance sheet and real asset value. The posterior write downs are also often tax-deductible, but deferred compared to accounting.

We will discuss each of the arrangements in detail in section 5 after laying out the foundations of the mining industry taxation in section 3 and the basics of the Finnish mining industry in section 4.

3. Taxing the Mining Industry: Concepts, Developments, and Challenges

Mining is a peculiar industry. Ores are finite and immobile, and extraction creates major environmental and social impacts and risks (Otto et al., 2006: 19). Mineral resources are typically considered to belong to national wealth, and the resource rights are owned by the state (Guj, 2012: 3; Ministry of Employment and the Economy, 2010: 2). These factors give weight to demands for charging ‘rent’ to mining enterprises (Baunsgaard, 2001: 5). Mining policies typically aim to manage the exploitation of extractives for the benefit of the communities involved, maximizing the revenues in the long term (Guj, 2012: 5–7). Other objectives should also be taken into account, such as revenue stability, equity between taxpayers, transparency, and administrative efficiency (Guj, 2012).

One option for charging rents would be to tax investors or employees instead of mining enterprises (Keightley & Sherlock, 2014: 15–16). However, mining is a capital-intensive industry, with a relatively marginal role for salary taxes (Runge, 1998: 83). In both Finland and developing countries, many skilled employees are recruited temporarily from abroad due to the lack of domestic expertise (Ministry of Employment and the Economy, 2010: 16; Gayi & Nkurunziza, 2016: 49). This further limits the gains for local communities. Moreover, the shareholders of foreign MNEs usually come from abroad, and tax conventions restrict the levying of taxes on them.¹⁰

Corporate income tax (CIT) is only paid from taxable profits; therefore, it is not an adequate tool for charging rents to mining enterprises (Boadway & Keen, 2010: 32–44). Consequently, there are a myriad of mining-specific taxes (Guj, 2012: 4–5). Exploration and mining are risky but can also result in high rewards. In order to be effective, mineral taxes should be sufficiently low to enable the initial high capital investment and exploration costs. However, the rents should be sufficiently high to compensate for the right to exploit national resources and for the potential damages. As a result, most countries have resorted to a regular CIT supplemented with a royalty system. Governments often mix instruments in order to achieve a balance between economic efficiency and effectiveness in raising revenues (Barma et al., 2012: 123; see also Otto et al., 2006: 278).

¹⁰ The OECD (2014) and United Nations (2011) model tax conventions grant the right to tax either to the resident state or the source state or both.

Early mining royalty systems were typically based on the amount of production. However, since the 1950s, value-based royalty systems (*ad valorem*) have gained popularity as production-based royalties can tilt the production path by reducing initial output (Baunsgaard, 2001). Mining royalties are usually project-based, and many countries aim to secure CIT revenues from the natural resources industry with a ‘ring fencing’ system that prohibits offsetting profits from one mine with losses from another mine belonging to the same enterprise (Guj, 2012: 4; Barma et al., 2012: 125). In addition to CIT and *ad valorem* royalty systems, presumptive income taxes, resource rent taxes, and property taxes are also common as well as other taxes such as value-added tax and import and export duties (Barma et al., 2012: 125). Recently, Clausing and Durst (2015: 12) have initiated discussion on gross revenue based royalty taxes that vary ‘with changes in product prices in a way that is intended to approximate the performance of a net income tax’.

Surging demand and the commodity price boom of the early 2000s contributed to a revival of exploration activities and new mining projects (Kaldany, 2006: xi). Illustratively, over 110 nations either replaced their mining laws or amended them significantly in 1986–2006 (Otto et al., 2006), often addressing mining taxation in addition to environmental and social issues. Nations with relatively high mining tax rates have lowered their taxes, and those with low taxes have increased theirs (Otto et al., 2006: xii). The development has reversed the general trend whereby countries have lowered their CIT rates due to tax “competition” (Hampton & Christensen, 2002; Ring, 2000), or tax wars, as Christensen and Shaxson (2016) have labeled this phenomenon. Scholars have pointed to various reasons behind this development, such as the austerity policies that have motivated states to seek new sources of revenue (Ericsson & Farooki, 2012: 11).

4. Regulation and the Finnish Mining Industry

This section begins with a short introduction on the role of the mining industry in the Finnish society. We then provide an overview of the Finnish mining legislation with a special focus on tax issues.¹¹ Finland has a notably long history with its mining industry as the first mines were established in the sixteenth century (Puustinen, 2003). Since then, minerals have been extracted from over 1,000 mine sites. After a surge in new mines in the post-war decades, the significance of the mining industry

¹¹ For an in-depth study on international corporate taxation in Finland, see Helminen (2015).

declined in the 1980s. In the following decade, the training of mining professionals was downsized (Lindborg, 1996: 180). Technical development and the commodity price boom of the early 2000s led to the revival of mine exploration and the opening of 10 new metallic ore mines in this millennium (Kaldany, 2006: xi). There were 12 operational metallic ore mines at the end of 2013 (Finnish Safety and Chemicals Agency, 2013). In addition, there was extraction of other minerals at 34 mines. The industry's total turnover was around €1.5 billion in 2013 out of which metal mines accounted for €1.1 billion, and the mines employed directly approximately 3,000 people, with some 27,000 indirectly employed (Kokko, 2014; Ministry of Employment and the Economy, 2014). Notwithstanding, the GDP share of the mining industry in Finland was estimated at only 0.3 percent in 2014 (Official Statistics of Finland, 2016). With falling market prices, six mines were closed in 2014. In September 2015, there were no pending mine projects. Investments in mine exploration slumped to €40 million in 2014 from nearly €90 million in the peak year of 2012, and the downward trend is expected to continue (Finnish Safety and Chemicals Agency, 2015).

Finland began revising its mining legislation in 2009. The government proposal briefly discussed different mining royalty systems (Government of Finland, 2009). However, the idea of introducing specific mining taxes was abandoned. In 2012, the Ministry of Employment and the Economy commissioned a consultancy study to review a large number of tax regimes. This study concluded that regions with a large market share and other stable regions (e.g., South Africa) were increasing their resource taxes while mainly developing countries with unstable regimes were looking to expand their market share with lower tax rates (Ericsson & Farooki, 2012). Curiously, the study was never published, and the issue dropped from salience.¹²

The new Mining Act (621/2011) came into effect in 2011. It allowed exploration without a permit in most cases and granted the explorer an exclusive right to exploit deposits. The required permits are relatively cheap and are denoted to cover only the immediate costs for the authorities (Government of Finland, 2009). Moreover, whereas in the past compensation was negotiable, the mining company must now compensate the landowner 0.15% of the value of the extracted minerals annually. The National Geological Survey of Finland (GTK) has also been involved in exploration. The Finnish government sells the rights to mine sites discovered by the GTK. In at least one case, the sale has resulted in a royalty agreement (see Section 5.3). These royalties are not taxes since they are contract-based.

¹² We only received the study after an official information request.

According to the Finland State Budget, the total amount of royalties is expected to be €3 million in the year 2015.

Mining companies pay the general CIT for their taxable profits, which is calculated according to the Business Tax Act (360/1968). Calculations are based on financial statements prepared according to the Finnish Accounting Act (1336/1997). In 2014, the tax rate was reduced from 24.5% to 20%, the sixth lowest among OECD countries (OECD, 2016). All intra-group transactions should be at arm's length and the OECD (2010) Transfer Pricing Guidelines are used to interpret the arm's length principle (Finnish Tax Administration, 2009, Act on Assessment Procedure, 1558/1995, §31). However, there are a few exceptions to the general principle. According to case law (KHO:2014:119), the general anti-avoidance rule (Act on Assessment Procedure, §28) provides the only legal basis for the authorities to re-classify interest-carrying loans as equity, which significantly reduces the possibilities for re-characterizations. The Finnish group relief system also allows intra-border group contributions that enable local subsidiaries and permanent establishments to offset profits and losses (Contributions between Affiliated Companies Act, 21.11.1986/825). Losses can be carried forward for ten years (The Income Tax Act, 30.12.1992/1535, section V). With certain limitations, companies can exploit previous losses after mergers and acquisitions. There is no withholding tax for interest paid abroad, and generally, all intra-group payments to other EU countries are exempt from withholding tax (see directives 2011/96/EU and 2003/49/EC). Finland has a wide tax treaty network that usually ensures a low withholding tax on intra-group dividends paid directly outside the EU, which is five percent in most treaties (Finnish Tax Administration, 2014b). In addition, mining companies are liable for a wide range of other taxes, with energy taxation as the most significant in the mining sector (Government of Finland, 2014).

Most countries limit cross-border tax avoidance with specific regulations such as the controlled foreign company (CFC) rules, thin capitalization rules and general anti-avoidance rule (GAAR). Finland has GAAR and CFC legislation in place, but the EU case law limits their application on low-tax subsidiaries registered in the EU area (Finnish Tax Administration, 2014a; C-196/04 — Cadbury Schweppes and Cadbury Schweppes Overseas). In 2014, the government also introduced a new rule limiting the intra-group interest deductions (Business Tax Act §18a). Despite its proportional coverage, a study commissioned by the EU Commission pointed out 12 loopholes in Finnish tax legislation that facilitate tax avoidance (European Commission, 2016). The study demonstrates how loopholes in several countries typically make tax avoidance possible, as our case studies in the next section also

demonstrate (see also e.g. Altshuler & Grubert, 2005; Killian, 2006).¹³

5. The Case Studies

5.1 How to read the case studies

The following sections discuss each of the case studies in three parts. We begin discussing each case by describing the history of the operations at the mines, treating the MNE as a single unit. After this, we discuss those arrangements consisting of tax effects. Finally, we proceed to analyze how these arrangements impacted on tax liabilities. Our main focus is on the CIT losses of the Finnish government as these ores are sourced from Finland. However, we also briefly discuss how the tax arrangements affect subsidiaries in countries where profits are shifted, namely Barbados, Luxembourg, the Netherlands, and Sweden. Unless otherwise stated, all financial information and information on activities are from consolidated annual reports (AR), annual information forms (AIF), and public financial statements (FS) of the local subsidiaries at issue. The complete list of the research material and other data used in the screening and research is in Annex 1. Depending on the currency in the original source, the financial figures are presented in either euros (€) or United States dollars (\$). The local financial statements have been prepared according to the local accounting laws and the consolidated accounts according to the IFRS standard.

5.2 FQM Kevitsa mine: Tax planning by intra-group loans and holdings companies

FQM is a Canadian mining and metals enterprise producing copper, nickel, gold, zinc, and platinum group elements. Incorporated in 1983, the enterprise is publicly listed on the Toronto, London, and Lusaka stock exchanges. The parent company, First Quantum Minerals Ltd, is incorporated in the Canadian province of British Columbia and has headquarters in Vancouver. At the end of 2013, it

¹³ In January 2016, the European Commission presented a proposal for an anti-avoidance directive that would incorporate rules proposed in the OECD BEPS action plan to the legislation of the EU member states (COM/2016/26). In addition to the rules discussed above, the directive would include a switchover clause to prevent double non-taxation of certain income, an exit taxation rule to prevent companies from avoiding tax when re-locating assets and a hybrid rule to prevent companies from exploiting national mismatches to avoid taxation. These rules are not explicitly incorporated in the Finnish legislation, but other rules such as the GAAR might limit the use of such arrangements in some cases. Adoption of the directive would set a minimum legislation standard that would close some of the loopholes deliberately offered by some member states.

directly or indirectly owned around 100 subsidiaries (FQM, AIF, 2013).¹⁴ FQM operates the Pyhäsalmi and Kevitsa mines in Finland. Its five other mines are located in Zambia, Mauritania, Spain, Australia, and Turkey. In addition, FQM has four mine development projects in South America and Africa (FQM, 2015).

Kevitsa is an open-pit mine in northern Finland with large deposits of nickel, copper, cobalt, and platinum group elements. The National Geological Survey of Finland first discovered the deposits in 1987. After a short-lived development attempt by the Finnish-based Outokumpu Plc., the Canadian-based Scandinavian Minerals Ltd¹⁵ claimed the deposit in July 2000. Consequently, in June 2008, FQM bought the mine development project by acquiring Scandinavian Minerals with a total purchase price of \$278 million (FQM AR, 2008). FQM then launched commercial ore production in August 2012. The mine employed 345 people in December 2014, and the total sales revenue for 2014 was €164 million. The mine is expected to deplete by 2042 (FQM, AR 2014).

When FQM acquired the mining concessions in 2008, they were held by Kevitsa Mining AB¹⁶, a Swedish holding company with no employees, directly owned by Scandinavian Minerals Ltd (see Figure 1). In 2010, FQM transferred the concessions, assets, and loans related to the mining business to a newfound Finnish subsidiary, FQM Kevitsa Mining Oy. Kevitsa Mining AB received shares from FQM Kevitsa Mining Oy in return but paid no income tax in Sweden for the capital gains of €285 million (Kevitsa Mining AB, FS, 2010).¹⁷ Around the same time, FQM rearranged the corporate structure of Kevitsa business by adding three holding companies to the group structure. Under the new structure, Swedish-based FQM Kevitsa Sweden Holdings AB was made the owner of Finnish-based FQM Kevitsa Holding No. 1 Oy, which owned the shares of FQM Kevitsa Holding No. 2 Oy, which owned Kevitsa Mining AB. The Finnish exploration company, FQM FinnEx Oy, was also set up (see Figure 2).

Figure 1. FQM Kevitsa corporate structure before the restructurings as of December 31, 2008 (FQM, AIF 2008)

¹⁴ Of these, 20 were fully owned subsidiaries incorporated in traditional tax havens (IMF, 2000), such as the British Virgin Islands, where FQM has no significant business activity.

¹⁵ Then named Scandinavian Gold Ltd.

¹⁶ Named Scandinavian Gold Prospecting AB before the acquisition.

¹⁷ The EU Merger Directive (90/434/EEC) may possibly provide a legal basis for this, as it exempts certain intra-group restructurings from tax. However, we were not able to confirm this from the public accounts.

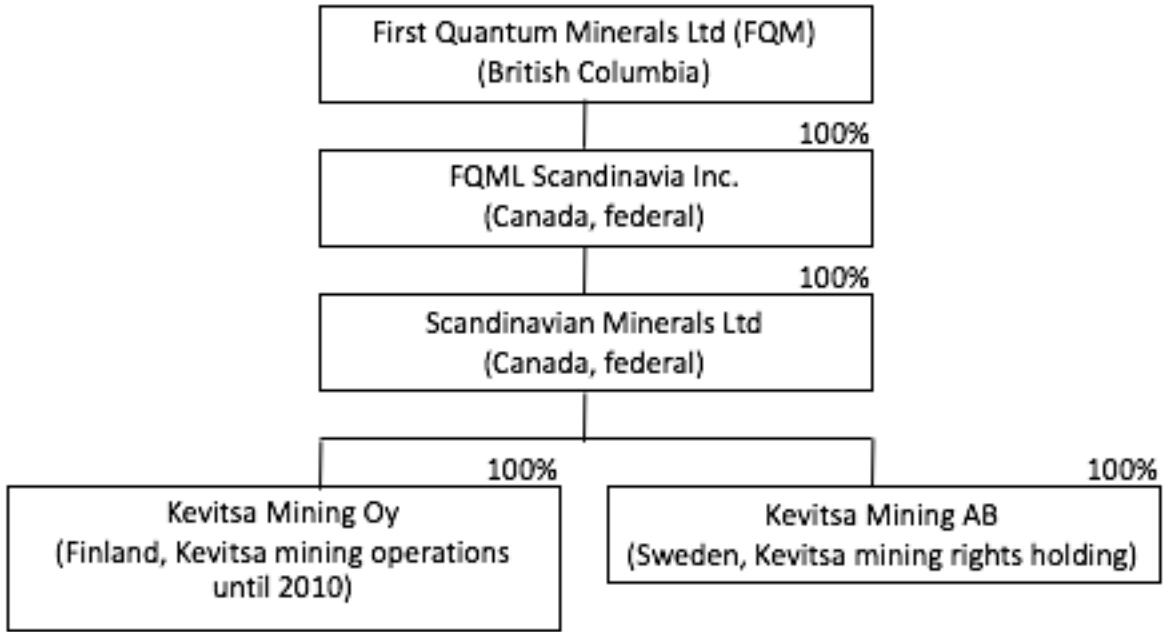
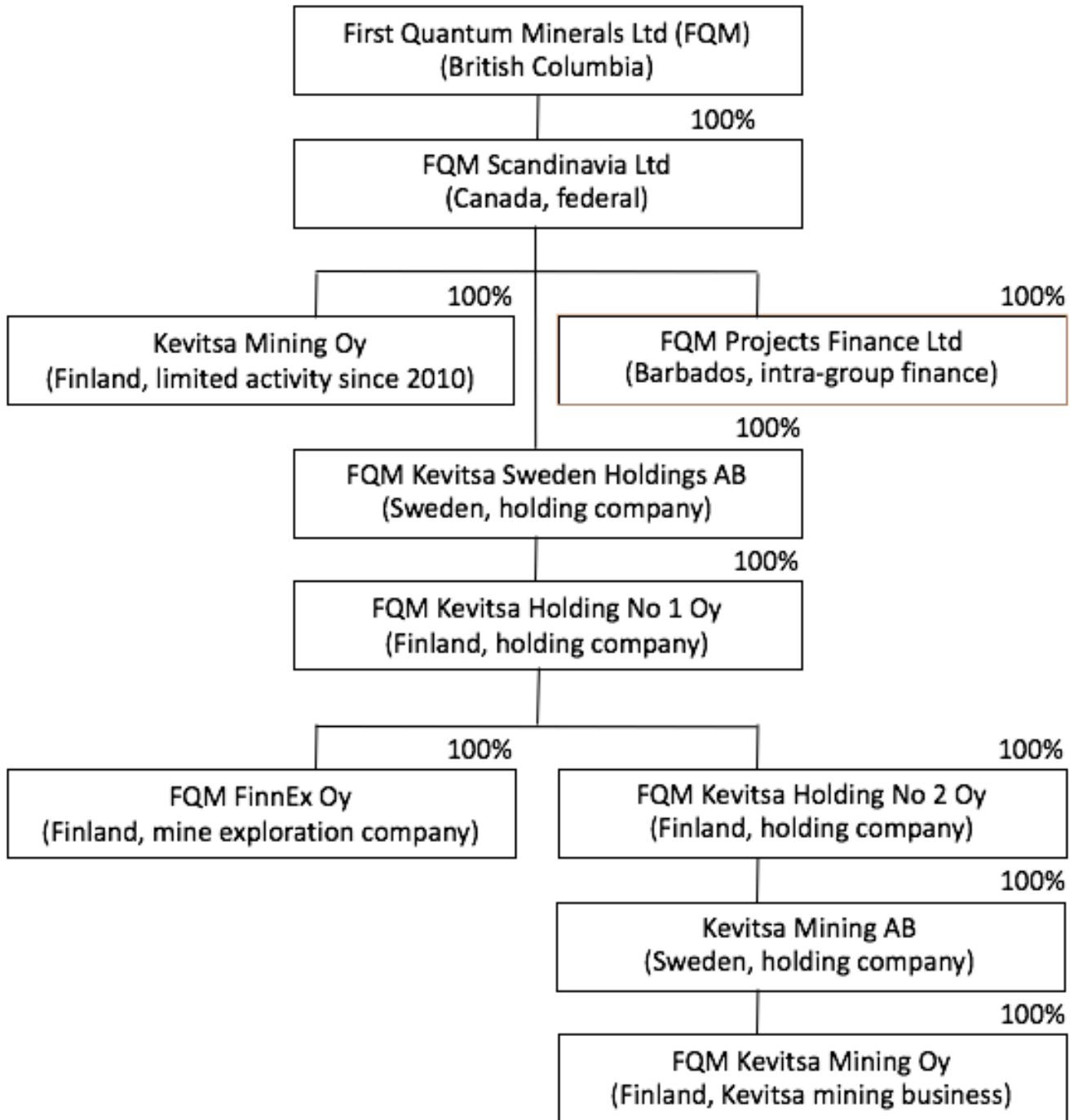


Figure 2. FQM Kevitsa corporate structure as of March 31, 2011 (FQM, AIF 2010)¹⁸

¹⁸ FQM had over 50 other subsidiaries related to mines in other countries in 2011. The above structure of Kevitsa was again amended at the end of 2014 when the number of subsidiaries in Sweden and Finland was reduced to three due to mergers (FQM, AIF 2014).



The arrangement generated three types of future tax benefits in Finland. First, FQM Kevitsa Mining Oy was entitled to deduct the depreciations and amortizations of transferred assets from its taxable income. These assets amounted to a total of €379 million at the end of 2010, out of which €287 million came

from mining concessions. However, it is impossible to estimate the total benefits from the depreciations and amortizations because the financial statements do not specify their tax-deductible proportion.¹⁹ Second, FQM inserted a Swedish holding company, FQM Kevitsa Sweden Holdings AB, between its Finnish subsidiaries and the Canadian parent. This created tax consequences as well, demonstrating the ability of FQM to exploit the separate entity doctrine of corporate taxation (see section 6). Had a Canadian company become a direct owner of the Finnish subsidiaries, Finland would have levied a five percent withholding tax on dividends paid to the Canadian parent company (Finnish Tax Administration, 2014b). However, both Finland and Sweden are members of the EU, and intra-group dividends paid to other EU member states are tax-exempt. The dividends paid from Sweden to Canada could again be free from the Swedish withholding tax if they qualify for the Swedish participation exemption regime (Deloitte, 2014: 6). The use of a Swedish holding company could mean an exemption from the Finnish transfer tax in the event the business is sold to a new owner (Finnish Tax Administration, 2015a).

Third, FQM was able to thin capitalize, or more precisely un-capitalize, the capital structure of its Finnish subsidiaries with intra-group loans. There were two reasons for this. First, FQM Kevitsa Mining Oy received not only assets but also debts in the rearrangement, most of them from intra-group companies. These were worth €87 million at the end of 2010. Since then, the company has financed its mining investments with similar loans, thus increasing the total amount of loans to €547 million in 2014. Second, FQM Kevitsa Holding No. 1 Oy used intra-group loans of €275 million to purchase shares in its subsidiary FQM Kevitsa Holding No. 2 Oy in the intra-group restructuring. The interest costs have increased these debts to €394 million by the end of 2014, with the company assuming a consolidated negative equity of €134 million with its Finnish subsidiaries (see next paragraph). These un-capitalization arrangements exemplify the separation of *fictional* intra-firm wealth chains from the *actual* value chains, as well as the ways MNEs can re-organize their property for withstanding demands from the governments of the countries where they operate (see section 6).

FQM has had five subsidiaries in Finland, four of which are related to the Kevitsa mine, with the fifth engaged in unprofitable exploration activities. Considering that the Finnish group contribution system allows FQM to consolidate the taxable results of the subsidiaries, we maintain that the

¹⁹ The mining concession depreciations may not be entirely tax deductible if the transfer of assets to FQM Kevitsa Mining Oy was performed according to the EU Merger Directive (90/434/EEC). In that case, the appreciation of the assets' realized worth of approximately €287 would not be deductible as the principle of continuity would be applied on a tax-deductible depreciation basis (The Business Tax Act, §52d).

subsidiaries should be viewed together when analyzing their capital structure and tax implications.²⁰ Moreover, FQM Kevitsa Holding No. 1 Oy consolidates its sub-group accounts in its financial statements. These consolidated accounts include all the other Finnish subsidiaries in Finland with the exception of Kevitsa Mining Oy (see Figure 2). The consolidated accounts also include the Swedish-based Kevitsa Mining AB, but this has no significant effect on the consolidated figures as it is essentially a sub-group holding company with no significant transactions or assets outside the group. Both the FQM Kevitsa Holding No. 1 Oy sub-group and Kevitsa Mining Oy have had negative equity in the period 2011–2014. Both of them are also financed entirely by intra-group loans. The loans of FQM Kevitsa Holding No. 1 Oy sub-group totaled at €924 million at the end of 2014, and €36 million for Kevitsa Mining Oy. In comparison, the FQM group relied much less on debt financing, with a rather high equity ratio between 50–71% in the same period.²¹

While it seems evident that the Finnish subsidiaries were un-capitalized, the great annual variation in the intra-group financing costs of Kevitsa Holding No. 1 Oy complicates an assessment of the tax losses (see Table 2). Moreover, some subsidiaries have substantial intra-group financial income with no financial assets. We were unable to find an explanation for this from the financial statements, but the net effect of varying financial costs and income seems to stabilize over time. Acknowledging the limitations, we estimate that Kevitsa's thin capitalization arrangements has resulted in CIT loss of €13 million for Finland by the end of 2014 (see Table 2 for calculations). We also maintain that the arrangements have significantly decreased the overall tax costs for FQM.²² At the time of writing, Kevitsa had not generated any tax income for Finland even though the consolidated accounts show that the business has been profitable from the beginning of commercial production in 2012. In 2014, sales revenue from Kevitsa increased to \$271.4 million from \$197.6 the year before. Meanwhile, earnings before interests, taxes, depreciation, and amortization increased from \$56 million to \$93 million (FQM, AR 2013–2014). Should the Kevitsa operations remain profitable, the total net tax effects of the arrangement could mean dozens or even hundreds of millions of euros over the mine's lifetime. The

²⁰ Finland has limited the deductibility of certain intra-group interests from 2014 onwards (The Business Tax Act, §18a). This might have resulted in a corporate restructuring as four of FQM's subsidiaries in Finland merged into one at the end of 2014. The economic effects of the limitation are included in the 2014 figures.

²¹ The ratio was calculated with balance sheet figures by dividing total shareholder equity with total liabilities and equity.

²² Shifting profits abroad with interests will consequently lower the effective tax rate for FQM as a whole in case the interests are paid to a lower tax jurisdiction. We were not able to track the recipient company of the intra-group interests. However, the finance company closest in the group structure is incorporated in Barbados, which offers 0.25–2.5% tax rate for some MNEs (Deloitte, 2015).

future tax decrease is naturally subject to any major changes in tax legislations.

The mining concessions were initially entitled to a Swedish subsidiary and were classified as intangible rights for tax purposes. Therefore, the Finnish Income Tax Act (§9 & §10) and the Nordic Tax Convention (Art. 6 & 13) would have most likely restrained Finland from taxing capital gains of roughly €287 million from rights even though the gains arose from the mine development in Finland.²³ The conclusion is subject to a condition that the rights did not belong to a permanent establishment in Finland, which seems unlikely in the given situation. Notably, these power-related aspects of intangible rights were discussed already in the first decades of the 20th century (e.g., Commons, 1957 [1924]; Commons, 1934), a theme that we will address further in section 6.

5.3 FQM (Inmet) Pyhäsalmi mine: Tax planning by structuring foreign investments

Located in central Finland, Pyhäsalmi is a copper and zinc mine originally founded by Outokumpu Plc, which had exploited the upper part of the deposit from 1962 until its depletion in 2001. In 1996, Outokumpu discovered another deeper deposit and began mining operations there in July 2001. The lower part is expected to deplete by 2019. In March 2002, Outokumpu sold the mine to the Canadian Inmet Mining Corporation (Inmet) for €63 million. Out of this sum, €45 million was paid in cash, €14 million with a promissory note, and €4 million in Inmet shares (Inmet, AR 2002). Finally, FQM acquired Inmet in a hostile takeover in March 2013. With a total purchase price of \$4,818 million, FQM also gained ownership of two other mines in Spain and Turkey and a mine development project in Panama (FQM, AR 2013). After the acquisition, FQM is able to offset losses in Kevitsa against the profits in Pyhäsalmi. The Pyhäsalmi mine employed 232 people in 2014, and the total sales revenue for the year was €148 million. The operating profit varied between €56 and €98 million, with an operating margin of 38–57% in 2011–2014. Annual ore production and sales have remained relatively stable (see Table 3).

In July 2001 when Outokumpu began exploiting the lower deposit, the operations started under a newly established subsidiary, Pyhäsalmi Mine Oy. When Inmet acquired the mine in March 2002, the shares of Pyhäsalmi Mine Oy were entitled to FQM's new Finnish subsidiary, Inmet Finland Oy, directly owned by the Canadian parent company (see Figure 3). Pyhäsalmi Mine Oy's shares were

²³ See footnote 19 on the merger directive.

valued at €33 million on the 2002 balance sheet of Inmet Finland Oy. Initially, most of the financing needs of Inmet Finland Oy were served by an intra-group loan worth €46 million. The annual intra-group interest costs were €3–6 million until 2005 (see Table 3). Moreover, in August 2005, Inmet acquired a 70% interest in the Spanish Cobre las Cruces mining project from MK Resources Company (Inmet Finland, FS 2006). From a business perspective, the acquisition was separate from the Pyhäsalmi project. However, the way in which Inmet structured the acquisitions had significant effects on the Finnish CIT paid from Pyhäsalmi’s mining profits (see Figure 4).

Figure 3. Inmet Pyhäsalmi corporate structure before the restructurings in 2005 (Inmet Finland Oy, FS 2005; Inmet, AR 2002)

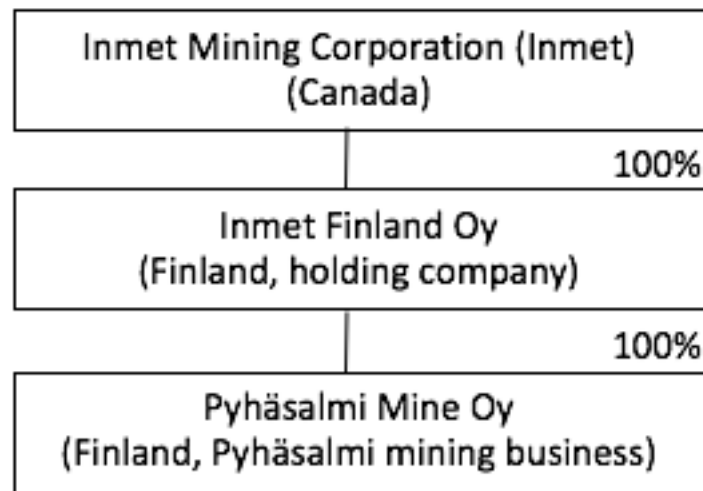
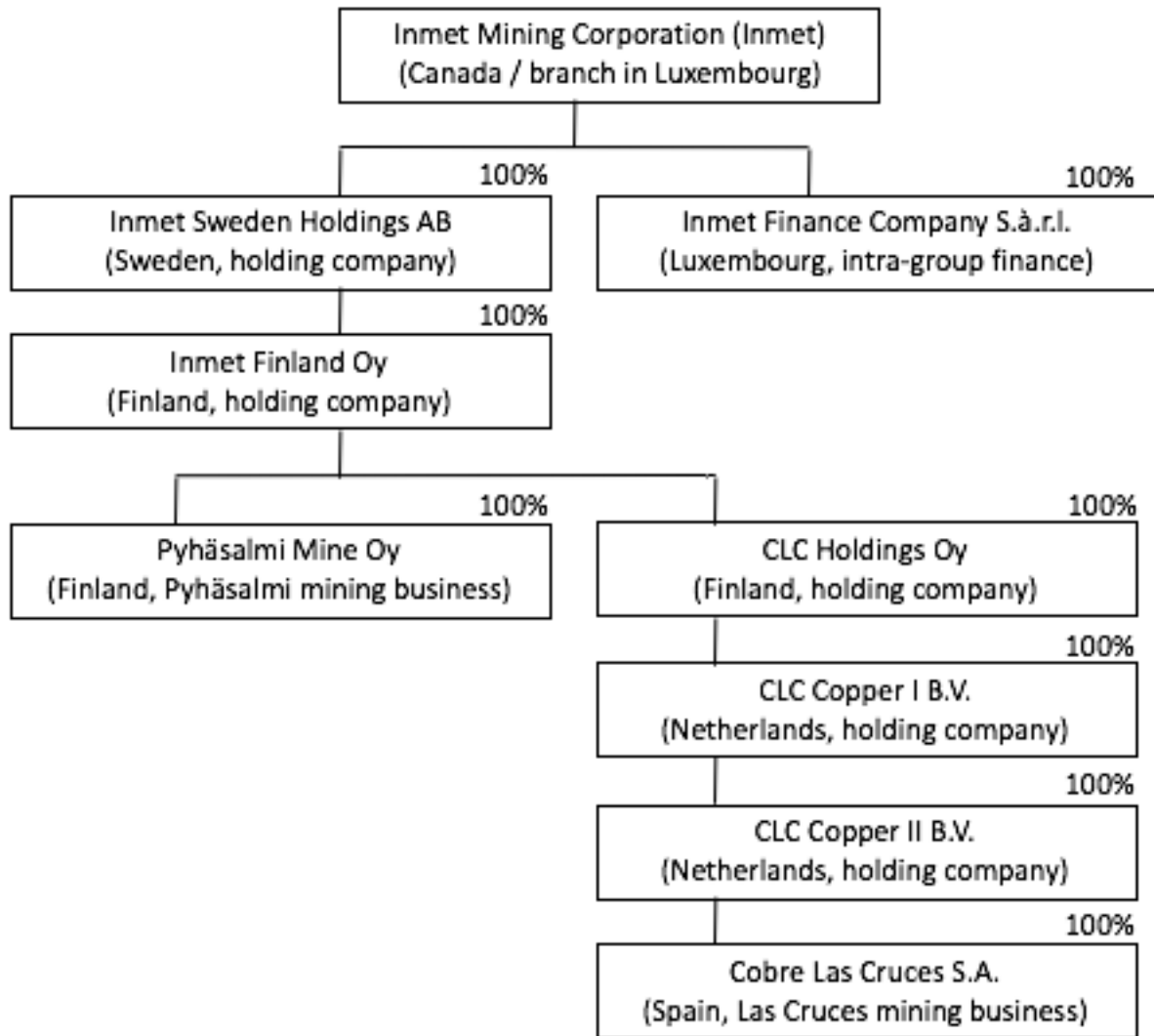


Figure 4. Inmet Pyhäsalmi corporate structure mine after the restructurings as of December 31, 2011 (Inmet Sweden Holdings AB, FS 2011; Inmet Luxembourg, FS 2011)²⁴

²⁴ The structure remained unchanged two years after FQM’s acquisition (FQM, AIF 2014). Inmet Sweden Holdings AB also held shares in the Çayeli mine in Turkey through a Spanish holding company. Inmet’s consolidated accounts did not provide information on the total number of subsidiaries in 2011.



First, Inmet incorporated a Swedish holding company, Inmet Sweden Holdings AB, which acquired Inmet Finland Oy’s shares from its Canadian parent in 2006. The Swedish participation exemption regime allows Inmet to repatriate the Finnish mining profits to Canada with no withholding tax (see Section 5.2). Second, the Finnish interest costs rose dramatically as the shares of the Cobre las Cruces project were transferred to Inmet Finland Oy. This was done indirectly through two Dutch subsidiaries in 2005 and 2006, respectively (Inmet Finland Oy, AR 2006). Again, the acquisitions were funded primarily with intra-group loans. As a result, the total amount of Inmet Finland Oy’s loans increased to €116 million in 2006, which generated yearly tax-deductible intra-group interest costs in Finland up to €10–15 million between 2006 and 2010 (see Table 3).

In the meantime, the mining operations at Pyhäsalmi remained extremely profitable, and Pyhäsalmi Mine Oy transferred these profits to Inmet Finland Oy as group contributions (see Table 3). However, the profits were not used for investments or loan repayments. Instead, each year, Inmet Finland Oy paid out nearly all profits as dividends, thus maintaining its poor solvency and high interest costs. Between 2006 and 2010, the total amount of dividends was €204 million, almost twice as much as the value of the intra-group loans (see Table 3). The Inmet group as a whole was mostly funded with equity instead of loans. The group's year-end equity ratio was between 56 and 90% in 2002–2012. In December 2010, Inmet acquired the remaining 30% of shares in the Cobre las Cruces project from MK Resources. The shares were initially assets of Inmet Sweden Holdings AB through a Dutch holding company. In early 2011, the shares were again sold to a newly established Finnish subsidiary, CLC Holdings Oy. The restructuring doubled Inmet Finland Oy's intra-group loans to €268 million (Inmet Finland Oy, AR 2011).

All intra-group loans after 2011 were issued by a Luxembourg finance company, Inmet Finance Company S.à.r.l., which received a total of €37 million in interest income from Inmet Finland Oy in 2011–2014. Interest costs have been declining because of partial loan repayments and decreasing interest rates.²⁵ Inmet Finance Company S.à.r.l. was also used to finance the Cobre las Cruces project in Spain with loans arranged through two Dutch holding companies. The interest income helped the company generate total profits of €116 million in 2010–2013, and it paid no income tax from the profits. Inmet Finance Company S.à.r.l. is in fiscal unity with a Luxembourg branch of Inmet called Inmet Luxembourg that has no significant business activity. Its total corporate income tax expenses were below €1 million in 2010–2013. Therefore, Inmet paid less than one percent income tax from the profits it generated in Luxembourg. What is more, Inmet managed to gain these tax benefits with no employees in the country (Inmet Finance Company S.à.r.l., FS 2010–2013; Inmet Luxembourg, FS 2010–2013).

The acquisition of the Pyhäsalmi mine turned out to be a major success. In 2002–2014, its sales were €1,554 million, with an operating profit of €764 million, which can be compared to the acquisition cost of less than €70 million (see Table 3). During the same period, Inmet Finland Oy paid out €594 million in dividends and €116 million in intra-group interests. The total CIT paid in Finland was €170 million. The interest costs reduced Finland's tax income by roughly €20 million (see Table

²⁵ The interest rate was fixed to Euribor for 3 months.

3). Moreover, Finland received no withholding tax income from dividends since these were paid through the Swedish holding company. Had the dividends been paid directly to the Canadian parent instead, Finland would have received a withholding tax income of €30 million according to the five percent rate in the tax convention (Art. 10) between the two countries (see Table 3).

We maintain that the majority of the tax losses resulted from artificial arrangements since Inmet had no employees in Sweden and the cash flow from mineral sales would have sufficed to finance the Pyhäsalmi mining operations. Because of the interest expenses, the aggregated effective tax rate from the Pyhäsalmi operations was just 22% in 2002–2014, a period in which the Finnish tax rate was gradually lowered from 29% to 2% in 2014 (see Table 3). Inmet's 2011 Annual Report (p. 31) supports this observation by stating that in Pyhäsalmi, 'tax recovery from intergroup loans' has lowered its effective tax rate to three percent below the Finnish statutory rate in 2010 and 2011. Similar arrangements at the Cobre las Cruces mine have resulted in even more dramatic results as the effective tax rate in Spain decreased by 15% in 2011 and by 22% in the previous year. Out of the variety of tax arrangements employed by FQM, the thin capitalization structure at the Pyhäsalmi mine is the closest to a textbook example on how large enterprises are able to differentiate their value chains from their wealth chains, not least because the questionable tax incentives granted by Luxembourg (European Commission, 2015).

In its response, FQM did not question any of the interpretations we presented in sections 5.2 and 5.3.²⁶ The enterprise stated that 'the funding of the FQM Group's Finnish operations is consistent with its overall funding policy' and 'the FQM Group structures its business in an efficient but responsible manner'. FQM also declared that it 'is committed to complying with the laws and regulations' and 'paying the correct and fair amount of tax'. Moreover, FQM stated 'its arrangements have a clear business and commercial purpose'. We maintain that by doing this, the enterprise extends the meaning of 'commercial purpose' to tax-driven wealth chains that have little to do with the actual value chains of the company.²⁷ In addition, FQM emphasized indirect benefits to the Finnish economy, such as the investments and jobs it has generated, a gesture that is similar to the ways other enterprises have attempted to address controversial tax issues (Ylönen & Laine, 2015).

²⁶ The FQM's original response is available in full as an annex of the referred report published by Finnwatch.

²⁷ We also find it likely that emphasizing the un-defined commercial purpose is a way of denying illegality of the arrangements, since according to the Finnish general anti-avoidance rule, tax arrangements are not artificial, if a business purpose can be identified.

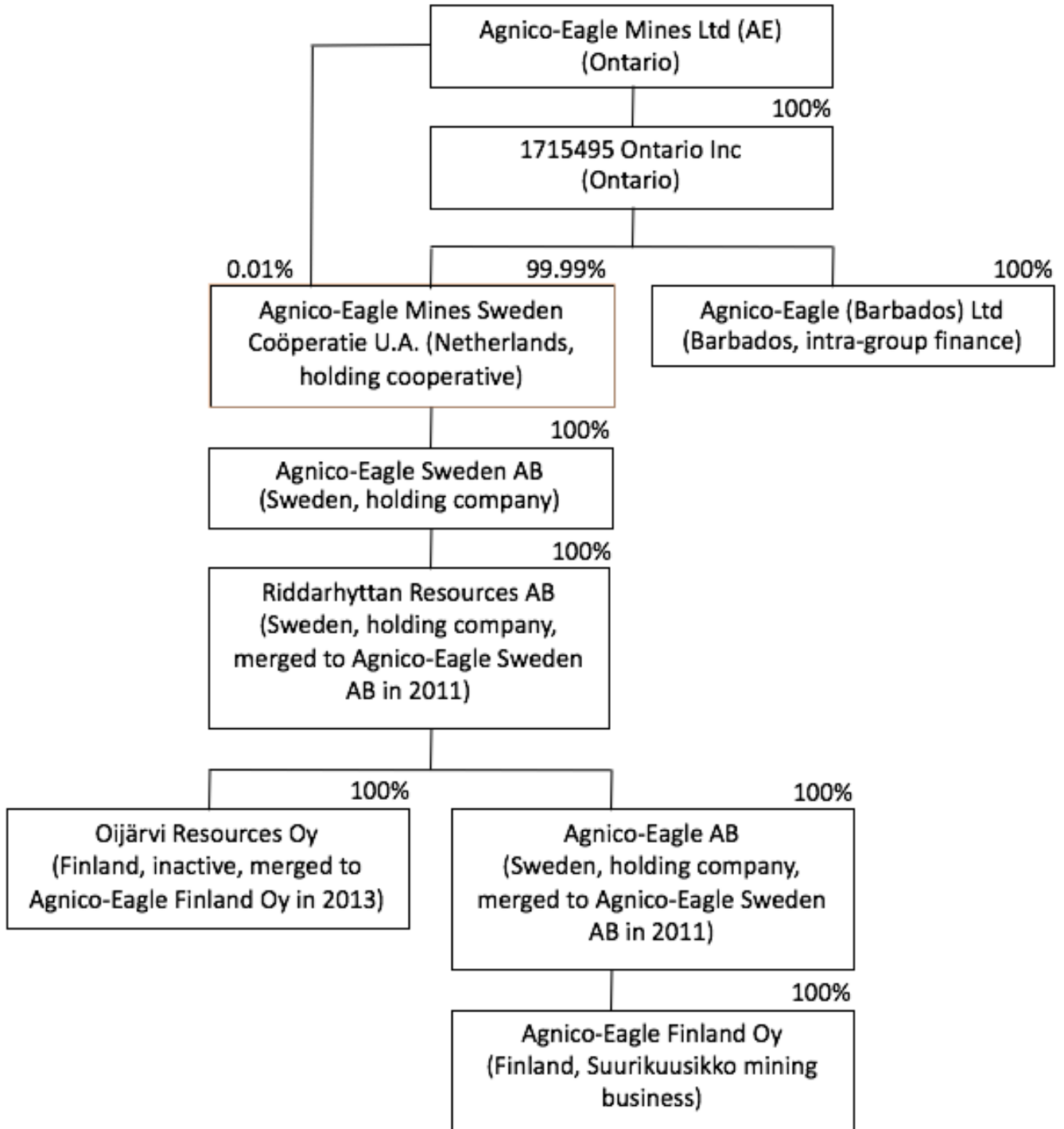
5.4 AE Suurikuusikko mine: Tax planning by thin capitalization and a Swedish holding company

Agnico Eagle Mines Ltd. (AE) is a Canadian-based gold and silver company listed in Toronto and New York stock exchanges. It operates eight mines in Canada, Finland, and Mexico. The Suurikuusikko gold deposit was discovered in 1986 by the National Geological Survey of Finland, which began developing the project. In 1997, the Finnish government held an international auction for the mining rights. Riddarhyttan Resources AB, a newly established exploration company listed in the Stockholm Stock Exchange, won the auction and continued developing the project. The sale price was €0.2 million, and Riddarhyttan Resources AB agreed to pay two percent royalty based on revenue less processing costs (AE, AR 2013). The royalty agreement also binds Riddarhyttan Resources AB's successors in Suurikuusikko after the first year of production. Suurikuusikko was the only significant asset of Riddarhyttan Resources AB when AE purchased a 14% minority share in the company in 2004. In 2005 and 2006, AE completed its first foreign acquisition by acquiring the remainder of the Riddarhyttan Resources AB shares with 10,023,882 of its own shares and \$5 million in cash. AE finalized the development and began commercial production at Suurikuusikko in 2009. The mine is expected to operate until 2036.

The Canadian parent company initially owned the shares in Riddarhyttan Resources. However, in November 2005, AE set up a Swedish holding company, Agnico-Eagle Sweden AB, which purchased the shares from its parent for SEK 1,335 million (€145 million). Simultaneously, Riddarhyttan was delisted from Stockholm stock exchange. At the time of the acquisition, Riddarhyttan Resources AB's Swedish subsidiary Agnico-Eagle AB owned the Suurikuusikko mining rights, and its permanent establishment in Finland began the mining activities in 2009. In early 2010, AE transferred the mining business to a new Finnish subsidiary called Agnico-Eagle Finland Oy. Moreover, the corporate and finance structures went through a major reorganization (see Figure 5). Agnico-Eagle Sweden AB's shares were transferred to a Dutch cooperative, Agnico-Eagle Mines Sweden Coöperatie U.A., which was founded in late 2009. Since then, the cooperative has granted intra-group loans to fund mining investments in Finland. In addition, AE established a finance subsidiary in Barbados, which lends the cooperative funds to finance business in Finland (Agnico-Eagle Mines Sweden Coöperatie U.A., FS 2011–2013). These restructurings created two tax consequences.

Figure 5. AE Suurikuusikko corporate structure of the Suurikuusikko mine as of March 18, 2011 (AE, Form 20-F 2010)²⁸

²⁸ Oijärvi Resources Oy was an exploration company half owned by Australian Troy Resources. Later, AE acquired 100% ownership, which enabled it to exploit its tax losses of €4.3 million in 2012, using the Finnish group contribution system, before deregistering the company. AE had 13 other subsidiaries related to mines in other countries in 2011. That number increased to 35 by March 2015. There have been minor changes in group structure since 2010 with no major tax implications (AE, FORM 40-F 2014).



First, the Swedish participation exemption regime enables AE to repatriate profits from Finland to Canada without withholding tax (see Section 5.2). Because of this, AE was able to avoid €3 million of dividend withholding tax in Finland. Second, since 2010, Agnico-Eagle Finland Oy has been financed

primarily with loans from the Dutch cooperative. The loans totaled €224 million at the end of 2010 and increased to €318 million by 2014. In the same year, Agnico-Eagle Finland Oy paid out €46 million in dividends. In the period 2011–2014, the yearly intra-group interest costs amounted to €18–22 million (Agnico-Eagle Finland Oy, FS 2011–2014).²⁹ According to Dutch law, cooperatives are not entitled to pay taxes on interest income (Blom & Viëtor, 2009). The equity ratio of Agnico-Eagle Finland Oy was 32% in the end of 2014. In comparison, the AE group relied on equity financing with a rather high consolidated equity ratio of 59% at the end of 2014 (AE, AR 2013). The situation has remained similar since 2009 (see Table 4). Therefore, we maintain that the arrangement aimed to lower AE's tax burden. We estimate that the thin capitalization-related tax savings totaled €10 million in the period 2009–2014. Without financial records from Barbados, we could not assess whether AE paid taxes there. However, in case it has, the tax rate has likely been low due to the tax incentives (see footnote 22).

Since the beginning of 2009, Agnico-Eagle Finland Oy's operations in Suurikuusikko have been highly profitable. The total sales revenue was at its peak of €190 million in 2013, decreasing to €138 million a year later. In 2011–2014, the operating profit varied between €14–96 million while the operating margin was 10–42%. However, loan arrangements, depreciations and amortizations from initial investments exempted the company from paying taxes in Finland until 2012. Altogether, AE has paid a CIT of €18 million in Finland out of an operating profit of €265 million in the period 2010–2014 (see Table 4).

In its response, AE admitted that the arrangements were tax-driven and stated that 'it is in agreement with much of the content' (Finér & Ylönen, 2016).³⁰ Moreover, they argued that the low equity ratio in Finland resulted from the mine's financing needs. However, the separate entity doctrine grants MNEs much freedom to design the capital structure of their individual investments. They can do this regardless of the external funding needs and consolidated group capital structure by using internal finance companies to channel the funding (Feld, Heckemeyer & Overesch, 2013). AE used a low tax

²⁹ The interest rate of the loans has been fixed at 7.42%, which can be compared to the rates of 4.87–6.67% in unsecured bonds that the AE group has offered to third parties.

³⁰ The AE's original response is available in full as an annex of the quoted report. AE argued that the formation of the Swedish holding company 'Agnico-Eagle AB Sweden was not primarily tax motivated' since the Swedish applicable takeover legislation (the Swedish Companies Act of 1975) required the use of a Swedish company to acquire the remaining 2.7% minority shares (takeover rule in chapter 14, section 31). However, the Swedish Companies Act (chapter 1, section 5) did not explicitly state that the acquiring parent company should be Swedish. Riddarhyttan was also listed in Stockholm Stock Exchange and the applicable takeover rules in Sweden namely allowed takeovers for foreign parents as well (Näringslivets Börskommittee, 2003: 26–27). AE did further reply to our interpretation and argue why the law required the use of a Swedish holding company.

Dutch cooperative and a Barbados finance company to fund the Finnish operations – not external debts. Nevertheless, the AE group companies were in joint liability for the group's external funding (e.g. Agnico-Eagle Finland Oy, FS 2011–2013), but the equity ratio in Finland was approximately half compared to the ratio of the AR group in the period 2009–2014. In its response, AE admitted that an independent mining company in Finland could not have been leveraged this much.

6. Discussion and Implications for Further Research

Having introduced the three case studies, we now turn to discussing their significance. By combining financial data from various sources, we have answered calls to overcome the lack of information on tax shelters (Graham & Tucker, 2006: 565) and the creative use of data sources (Hanlon & Heitzman, 2010: 157) in order to examine how accounting techniques re-allocate wealth (Sikka & Willmott, 2010: 353). To the best of our knowledge, our article presents the first multiple case study on corporate tax planning that draws from an extensive industry-wide screening to select the MNEs for closer examination. Moreover, we believe that the findings open up new methodological avenues for further research. The initial screening of financial statements of all mining companies operating in Finland gave us a clear indication for choosing the mines for closer examination. Furthermore, the closer analysis of three Finnish mines operated by First Quantum Minerals Ltd and Agnico Eagle Ltd revealed seven different tax arrangements the Canadian MNEs utilized to lower their taxes in Finland.

Buettner, Overesch, Schreiber and Wamser (2012: 930) maintain that the lack of studies on the effectiveness of thin capitalization rules is surprising. We share this sentiment and believe that our case studies can help to steer future research on thin capitalization.³¹ The case enterprises all resorted to thin capitalization, although with substantial differences in techniques. AE financed its investments in the Suurikuusikko mine with a rather typical intra-group debt arrangement from a low-tax jurisdiction. FQM employed a similar structure in its Kevitsa mine but was also able to un-capitalize its Finnish subsidiaries with a holding company that used intra-group debts to purchase shares in the mining business. In the Pyhäsalmi mine, Inmet and FQM were able to shift profits abroad using a Finnish holding company for a separate mine investment in Spain. This calls for greater sensitivity toward

³¹ As for example, we believe that Finland would be an interesting case for quantitative studies as it introduced limitations on the deductibility of intra-group interests in 2014 (Business Tax Act, §18a). This did not affect our study since the material used was only up to the end of 2013.

nuances of thin capitalization arrangements in research. The same applies to intellectual property rights, which have been mostly discussed in the context of ‘research and development activity’ (Dharmapala, 2008: 667) in the form of patents (Graham & Tucker, 2006: 573), trademarks (Rixen, 2010: 18), and other R&D related rights (Grubert, 2003). To the best of our knowledge, no one has previously discussed the use of mining concessions in the context of intellectual property rights for tax planning purposes.

In the Kevitsa case study, we demonstrated how FQM could avoid Finnish capital gains tax by entitling immaterial mining rights to a foreign subsidiary. The issue is relevant as mine exploration is often performed by separate enterprises that sell the rights to mining enterprises for further development, as demonstrated by our case studies. The location country of the mine might not tax the capital gain if the ownership of the mining rights was entitled to a foreign company.³² However, the purchasing enterprise is usually able to deduct amortizations of the rights, e.g., in Finland, if they are entitled to a Finnish subsidiary (OECD, 2014, Model Tax Convention, Art. 9; Business Tax Act, §24). In our opinion, this issue has not received sufficient attention in the legislation or tax treaties. Effectively, mining rights allow mining companies to separate their production chains (i.e., the mining and processing activities) from their wealth chains (i.e., where the concessions are booked).

This finding questions the traditional commodity-chain approaches where the ‘relative distribution of wealth within a commodity chain often has been portrayed in the social sciences as reflective of levels in a hierarchy of production’ (Gereffi & Korzeniewicz, 1994: 4). According to the commodity-chain research tradition, production hierarchies became outdated with the rise of new export-oriented and technology-intensive forms of production (Gereffi & Korzeniewicz, 1994: 4). However, our case studies portray a very traditional extractive industry operation where the ‘value’ seemingly produced in Finland is being transferred artificially to locations that have little or nothing to do with the production process.³³ As such, our case studies support the nascent research agenda around wealth chains within the ‘decentralized corporations’ (Desai, 2008) that may have separate ‘homes’ for their talent, financial operations and legal headquarters.

³² See Section 5.2 concerning Finland and the Nordic Tax Convention. However, a tax convention based on the OECD Model Tax Convention (Art. 6 & 13) could grant the taxing right to the location country, assuming that its national legislation permits this (du Toit, 1999: 37).

³³ These findings also undermine simplistic ideas of efficient international allocation of resources by reducing national and international regulation (Dorn, 1993). While this sort of ‘trickle-down economics’ is no longer in the academic mainstream, it still has a considerable influence in public discussion.

While value chains and production networks are characterized by relative transparency and coordination, actors in wealth chains thrive by secrecy of the arrangements (Seabrooke & Wigan, 2014a: 257). Seabrooke and Wigan (2014a) have called for ‘a clearer picture of how wealth chains have an impact on developed and developing countries’ and have similarly pressed for investigations into how far financial innovations characterize transfers through wealth chains. Noting how value chain research has focused on the disaggregation of production processes across space, they (2014b) have called for more attention to the legal and financial disaggregation of enterprises. Our case studies are a prime example of this. Traditional value chain analysis of the Finnish mining industry would fail to highlight the important role played by Barbados, the Netherlands, Luxembourg and Sweden in the channeling of profits.

Moreover, Seabrooke and Wigan have noted how tax avoidance ‘occurs at the intersection between variegated national tax systems’ (2014a: 258). While agreeing on the importance of these intersections, we propose more attention should be paid to the legal principles and frameworks of international taxation. Seabrooke and Wigan notice this aspect by underlining the importance of ‘commercialized sovereignty’ (Palan, 2002) of tax havens as an enabler for the tax-avoiding wealth chains. Moreover, the separate entity doctrine and the arm’s length principle play key roles as the underlying structure that enables multinational enterprises to benefit from commercialized sovereignty (Avi-Yonah, 1995; Durst, 2010; Eden, 2016; Picciotto, 1992; Rixen, 2010).

Our case studies illustrate how many of the tax-avoidance related distortions in the global wealth chains can be traced back to the conflict between the separate entity doctrine on the one hand and the unitary nature of MNEs’ business operations on the other (Picciotto, 2016). Based on this, we argue that additional focus should be paid to the effects that the power to apply the doctrine has on international tax avoidance. Indeed, many of the tax arrangements we described are made possible by the separate entity doctrine that allows MNEs to use its individual subsidiaries as tax avoidance vehicles (Ting, 2014: 71; see also Avi-Yonah & Benshalom, 2011; Cockfield, 2004). However, we also highlighted how enterprises can offset one subsidiary’s profits with losses from another using group reliefs, thus effectively overriding the separate entity principle for their own purposes. An obverse example is the ‘ring fencing’ legislation adopted in some other jurisdictions that restricts offsetting the profits and losses of separate mines even within an entity. Essentially, this legislation extends the states’ capabilities to tax separate businesses separately. These different applications result in very different divisions in tax revenues. In other words, the enterprises have excessive powers to operate as

separate entities when it suits them for tax purposes, while planning their operational supply chains as an integrated entity.

Separate entities within an MNE are fictional, underlined by the fact that professional investors or analysts view a corporate group under one parent company as a single enterprise (Graham, 2003; Commons, 1957).³⁴ To illustrate this, all the Finnish subsidiaries analyzed in the case studies were in joint liability for debts that foreign group companies had taken from outside lenders (see, e.g., FQM Kevitsa Holding No. 1 Oy, FS 2013; Agnico-Eagle Finland Oy, FS 2013; Pyhäsalmi Mine Oy, FS 2013). We argue that the main reason for this was that these arrangements reduced the MNEs' overall financial costs. Many of these group companies were holding companies with no real business activity. In other words, MNEs can greatly benefit from their ability to plan their operations as a single entity, while operating as a set of separate entities from the legal viewpoint.

Holding companies enable MNEs to benefit from a favorable legal environment with only a limited actual presence. The role of the holding companies has mostly been discussed in the context of tax havens (e.g. Desai, Foley & Hines, 2006). However, we illustrated how Sweden is used as a hub for repatriating profits to avoid dividend tax at source. This also illustrates how global wealth chains often differ significantly from the global value chains or production networks. The key discrepancy that gives MNEs this power is that whereas legal corporation exists only in law, 'an economic going concerning existing wherever it does business' (Commons, 1934: 55).

In the introduction, we noted how the separate entity principle is closely connected to another key principle of the international tax governance, namely the arm's length principle. The concept is highly ideological (Ylönen & Teivainen, 2015), because of the false impression it conveys on the possibilities of finding 'markets' inside large enterprises. Our case studies highlight how the application of the arm's length principle in pricing of finance and intangible mining rights can result in substantially different portioning of profits even in an industry where the business itself is highly tangible.

The growth of corporate power can be conceptualized using the distinction between voluntary and volitional freedom. Originally developed by an evolutionary economist and legal scholar John Lee Hale in the early 20th century (Hale, 1935; Hale, 1952; Samuels, 1973: 277; Fried, 1998), the voluntary-

³⁴ Another factor behind the failure of the separate entity doctrine is more methodological. There are no methods to determine equivocal transfer prices because there are no decent benchmarks available. Business-to-business transactions are dealt in confidence and are not usually available for benchmark purposes. Intra-group transactions are also often performed in conditions that do not occur between independent enterprises, and therefore, benchmarks could not exist even theoretically (see also Avi-Yonah & Benshalom, 2011: 378–380; Ylönen & Teivainen, 2015).

volitional continuum distinguishes between circumstantially limited exercise of choice between alternatives or behavior (i.e., voluntary freedom) and complete autonomy with the absence of constrained choice or limits to choice or behavior (i.e., volitional freedom). While volitional freedom is commonly associated with governmental use of power, Hale noted already in the 1920s how private enterprises could also enjoy this kind of freedom. Our case studies are illustrative examples of this. Viewed from this angle, property can be conceptualized as something that ‘provides the capacity to exercise coercive³⁵ impact upon others and the correlative ability to withstand the coercive capacity of others’ (Samuelson, 1973: 305; Hale, 1935: 150). This can be illustrated, for instance, with the case where FQM was able to treat the mining concessions in Finland as immaterial rights and transfer them to Sweden, effectively withstanding the capacity of Finland to tax its future income.

Finally, our case studies point to the institutional factors behind tax avoidance. The aggregated data collected from the 12 Finnish metallic ore mines showed that the mines generated only €92 million of tax income for Finland in the period 2011–2014, all of which was paid by the Kevitsa, Pyhäsalmi and Suurikuusikko mines, the focus of the case studies (see Table 1). This amounted to 0.5% of the total CIT revenue of €18.5 billion (Finnish Tax Administration, 2015b). Alternatively, the taxes accounted for 2.4% of the companies’ total mineral ore sales of €3,861 million in 2011–2014. Conversely, the direct state support to the mining enterprises was €22 million in the period 2000–2011. In the period, government agencies also invested roughly €300 million in the mining business (Ministry of Employment and the Economy, 2012, pp. 34–35). Since then, the troubles of the now bankrupt Talvivaara mine have accounted for a few hundred million euros owing to the government (Kankare, 2015).

As a conclusion of these figures, we argue that subsidizing the mining industry with a favorable legislation has generated only negligible revenues for Finland despite the substantial ore volumes worth billions of euros. While it is difficult to pinpoint the exact reasons for this failure, it is evident that Finland failed to ensure contributions for local communities when it amended its mining laws in 2011. The tax avoidance concerns were not discussed during the legislative process. As a result, the decision to abstain from establishing a mining royalty legislation likened Finland to developing countries that aim to compensate their unstable business environment by lowering their mining taxes (Ericsson & Farooki, 2012). We find three possible (but not necessarily mutually exclusive) reasons for this failure.

³⁵ Hale and Samuels use the word ‘coercive’ in a non-pejorative sense.

First, the new Mining Act clearly favored the mining industry (Frazer Institute, 2015), and even the minister responsible for the drafting process admitted the strong impact of corporate lobbying in the final wordings of the law (YLE, 2009). This factor calls for additional interdisciplinary research on the *politics* of tax planning (Sikka & Willmot, 2010: 353).

Second, the corporate sector attracts some of the best tax professionals, giving the lobbyists an upper hand over civil servants and politicians. Specifically, the ‘complexity of the calculative practices that institutions undertake to enable transformative action’ enables mining enterprises to influence the tax system, especially when the parliamentarians generally have limited knowledge on accounting details and fundamentals of an individual industry (Stoianoff & Kaidonis, 2005). This factor requires more research on the role of professionals in facilitating tax-avoidance driven wealth chains (Seabrooke & Wigan, 2014a). The accounting and tax systems should serve society, but in practice some tend to benefit over others (Johnston, 2015: 99). Third, the general lack of research on best practices in mining tax policy also hinders fact-based discussions on how to design mining sector taxes. As Clausen and Durst have noted, ‘there appears to be no literature comparing the administrative success of different kinds of fiscal regimes in practice’ (2015: 13; see also Laporte & De Quatrebarbes, 2015: 11–12).

All of these factors highlight the need to question the straightforward comparisons between developing and developed countries when it comes to taxing multinationals.³⁶ They illustrate how the low mining sector taxes resulted from legislative deficiencies and not from inadequate administrative resources. This challenges the idea that adequate resources would ensure the appropriate collection of taxes and hints that there is much potential in the recent turn from Washington Consensus policies toward renewed ‘resource nationalism’ in many developing countries (Haslam & Heidrich, 2016). Indeed, Finland was ranked as the most attractive jurisdiction for mining investment in the world in 2014 precisely because of its mineral policy and political climate, which placed it ahead of more mineral-rich nations (Frazer Institute, 2015: 8–13). In his article on tax avoidance in Nigeria, Otusanya noted that the citizens ‘should constantly remind their politicians that they have obligations to their electorates, not just to local and international capitalists’. According to our research, this is important in Finland as well.

Turning to more policy-related recommendations, we argue that the main tax attraction of Finland for mining enterprises is not a low corporate tax rate but opportunities for avoiding taxes. This

³⁶ The long tradition of this kind of critique in development studies should also be noted. See, e.g., Summer and Tribe (2008).

avoidance is facilitated not only by interplay between legislation of Finland and the host country Canada of the MNEs, but also by third countries that offer incentives for holding and finance subsidiaries.³⁷ Introducing a mining royalty regime would be the most straightforward option since individual countries have to secure their rents when ores are being mined (Guj, 2012). *Ad valorem* mining royalties are generally regarded as effective to administer as they are based on sales prices, and there is no need to calculate and attribute costs (Guj, 2012: 14). The royalty legislation would also encourage companies to prefer potentially more profitable projects, thus decreasing the risk of loss-making projects where ores are mined without any CIT left in the country (for further discussion, see e.g., Guj, 2012).

This article is not without limitations. Much of the details about corporate tax practices are outside of the public domain, both because of commonly accepted business secrecy as well as the fact that much of the tax planning thrives from additional layers of secrecy granted by tax havens. For an example, we were not able to obtain financial accounts from secrecy jurisdictions, such as Barbados. Moreover, the gap between taxable and financial income is not explicitly expressed in Finnish financial statements, which made assessing the exact tax implications impossible. This limitation mainly involved depreciations and amortizations that are often calculated differently in taxation and accounting in Finland (Business Tax Act, Section 3). Furthermore, the mines were in different stages of production, which limited possibilities to assess tax planning. Estimating the impact of tax planning for the Kevitsa mine was particularly difficult as it had not generated any CIT before 2014. In contrast, Pyhäsalmi was already in a stable phase of production, which made it relatively easy to calculate the impacts of tax planning.³⁸

While we were able to create a rather reliable picture of the tax structures employed at Finnish mines, we could not assess the division of risk between related companies and other contractual provisions. These factors affect arm's length transfer prices and could have been used in profit-shifting since there were substantial intra-group ore sales and interest costs (OECD, 2010). However, information of this kind is confidential and was therefore out of the scope of this study.

There are also two broader issues that weaken the reliability of the research data, thus potentially affecting the conclusions made. First, we do not know for sure whether the Finnish Tax Administration

³⁷ E.g. Altshuler and Grubert (2003) and Killian (2006) have discussed the interplay between home and host governments' laws.

³⁸ With Pyhäsalmi and Suurikuusikko, we could also double-check our calculations as the total amount of taxable income and tax are public information in Finland. This does not reflect the tax losses.

has challenged the legality of the arrangements in the case studies.³⁹ However, we found no evidence of this, and major disputes would have been reported in the financial accounts (See, e.g., FQM, AIF 2014: 117–119). Second, a third country could have taxed the income discussed in the case studies when resident or source countries failed at this. This could happen, e.g., based on the parent company's resident country's controlled foreign company regime (see, e.g., Lang *et al.*, 2004). Alternatively, a subsidiary registered in, e.g., Luxembourg could be deemed a resident in another country for CIT purposes (OECD, 2014, Model Tax Convention, Art. 4). However, there was not sufficient financial information available to assess this because only consolidated accounts of listed companies were available from Canada.

These limitations highlight the need for the provision of more transparent and comprehensive financial information, e.g., by introducing country-by-country reporting in accounting standards (Australia Senate Economics References Committee, 2015: 80; Murphy, 2016). Moreover, considering the considerable volitional freedoms that large enterprises enjoy in designing their wealth chains, there is a need for a wider discussion on the role of corporate secrecy in 21st century capitalism. Corporations exert financial power over states with their tax planning arrangements, and both governments and large enterprises should be transparent on the details of these arrangements. Despite the recent policy-level interest toward tackling corporate tax avoidance, these considerations have not received enough attention.

7. Concluding Remarks

Our article has made a step in analyzing the wealth chains and their underlying principles 'in the real world', thus addressing gaps in the existing body of literature on mining taxation, corporate tax avoidance and its societal impacts (Golden-Bibble & Locke, 2007: 6). Regarding further research along these lines, we maintain that information leaks, such as the 'Lux Leaks', could provide useful material for tax and accounting research. Another option might be to turn to enterprises or tax authorities and ask them to provide confidential, anonymized data (see, e.g., Ali-Yrkkö & Rouvinen, 2014). Presently, it is clear that the separate entity principle based on arm's length transfer pricing is broken and needs to

³⁹ The tax administration could challenge arrangements within six years after the financial year, if it is considered that they were not conducted on an arm's length basis or that they should be classified as tax avoidance as defined in the Finnish general anti-avoidance rule (Act on Assessment Procedure, 18.12.1995/1558, §28, 31 and 55–56).

be fixed. We doubt that the ongoing policy efforts by the OECD will be able to fix the underlying problems as they continue to rely on the arm's length principle and the separate entity doctrine (OECD, 2015b). A well-designed formulary approach could help remedy these problems (Avi-Yonah & Benshalom, 2011), as the European Commission (EC) has suggested in its Common Consolidated Corporate Tax Base directive proposal (COM/2011/121).⁴⁰

We want to underline that the division of potential tax incomes is one of the most fundamental questions in contemporary capitalism. We maintain that the governments of countries where value creation actually takes place should be the ones to decide how much taxes corporations pay for the business conducted there. The adoption of a common formula would subordinate much of the volitional power currently enjoyed by MNEs to intergovernmental negotiations whose results would necessarily be some kind of a political compromise. Moreover, it should be noted that all the existing models of international corporate taxation already rely more or less on the use of formulas (Avi-Yonah, 1995; Ylönen & Teivainen, 2015). As John Commons noted in the opening quote of this article, the 'system of prices is like the system of words or the system of numbers', and just like words, 'prices and numbers are nominal and not real'. Therefore, the rules that dictate these prices and their geographical division in corporate wealth chains are of utmost importance to any scholar of accounting, international political economy, tax law or related fields.

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⁴⁰ According to the EC proposal, the consolidated taxable profits of a corporate group would be split between countries based on the location of its assets, labor and sales.

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Table 1. Collected figures from all Finnish mines 2011–2014 (€ million)

Mine / Parent company (country)	Mining company and other Finnish subsidiaries*	First year of production	Total ore revenue	Aggregate operating result	Total CIT costs Finland**	Equity (2014)***	Liabilities (2014)****	Equity ratio*****	Thin capitalized*****	Main ore	Additional information
Hitura / Belvedere Resources Ltd (Canada)	Belvedere Mining Oy	1970	54,3	-1,6	0,0	-0,8	3,9	negative	no	nickel	Production shutdown since 2013 due to low nickel price. Two other subsidiaries in Finland. Negative equity due to losses.
Jokisivu and Orivesi / Dragon Mining Ltd (Australia)	Dragon Mining Oy	2009 / 2007	103,7	-27,6	0,0	-17,6	32,5	negative	no	gold	Same company operates two mines and also a processing plant in Sastamala. Negative equity due to losses.
Kemi / Outokumpu Plc (Finland)	Outokumpu Chrome Oy	1966	1213,7	195,0	0,0	120,7	534,3	18 %	no	chrome	Has offset profits with loss-making group companies in Finland. Stainless steel production is Outokumpu Plc's main business.
Kevitsa / First Quantum Minerals Ltd (Canada)	FQM KH No. 1 Oy Kevitsa Mining Oy	2012	379,3	7,5	2,6	-133,9	954,3	negative	yes	copper	See section 5.2 and table 2.
Kylylahti / Altona Mining Ltd (Australia)	Kylylahti Copper Oy *****	2010	115,8	22,2	0,0	-27,4	95,7	negative	yes	copper	Swedish Boliden AB acquired the mine in 2014. Four other subsidiaries in Finland. Former Boliden subsidiaries not accounted.
Laiva / Nordic Mines AB (Sweden)	Nordic Mines Oy	2011	81,4	-111,4	0,0	12,7	30,7	29 %	no	gold	Production shutdown since 2014 due to low profitability. Negative equity due to losses.
Pahtavaara /Lapland Goldminers AB (Sweden)	Lapland Goldminers Oy	2008	61,1	n/a	0,0	n/a	n/a	n/a	no	gold	Figures from Finnish subsidiary missing, because of bankruptcy early in 2014. Sales based on parent company annual reports 2011-2013.
Pampalo / Endomines AB (Sweden)	Endomines Oy	2011	82,0	-3,5	0,0	17,4	14,5	55 %	no	gold	One other subsidiary in Finland.
Pyhäsalmi (First Quantum Minerals Ltd (Canada)	Pyhäsalmi Mine Oy Inmet Finland Oy	2001	629,7	303,7	71,5	118,5	49,8	70 %	yes	copper	See section 5.3 and table 3.
Suurikuusikko / Agnico-Eagle Mines Ltd (Canada)	Agnico-Eagle Finland Oy	2009	676,2	244,9	18,1	181,8	365,8	33 %	yes	gold	See section 5.4 and table 4.
Talvivaara / Talvivaaran Kaivosos. Plc (Finland)	Talvivaaran Kaivososakeyhtiö Plc	2008	464,1	-895,4	0,0	-729,9	741,2	negative	no	nickel	Figures are based on consolidated IFRS accounts. The group has one other company in Finland. Bankrupt in 2014.
Total sales			3861,4								
		Total CIT		92,2							
					Total CIT / Sales						2,4 %

The figures are based on financial accounts according to the Finnish GAAP with an exception of Talvivaara. The data is sourced from Orbis, financial statements and the Finnish Tax Administration.

* Only significant subsidiaries listed.

** Includes all Finnish subsidiaries. Figures based on Finnish tax administration figures. Kevitsa has paid no tax according to its financial statements.

*** Total additional depreciations are included in equity

**** Provisions are included in liabilities.

***** The ratio was calculated by dividing equity with total liabilities and equity.

***** Thin capitalized due to tax planning. Some companies were thin capitalized at least partially due to losses. See section 4.1.

***** Kylylahti Copper Oy's accounting period ends in June. Its name was changed to Boliden Kylylahti Oy in 2014.

Table 2. Essential Kevitsa figures 2011–2014**2011 (€ million)**

FQM Finnish subsidiary	Revenue	Mining rights depreciation	Operating profit/loss*	Intra-gr. financial income**	Intra-group financial costs	Other financial costs	Group contribution	CIJ costs	Profit / loss	Financial liabilities	Intra-group financial liabilities	Total equity	Total liabilities	Finnish tax loss estimate***	FQM Group equity ratio****
Kevitsa Mining Oy	3,7	0,0	2,0	1,7	2,3	0,0	0,0	0,0	1,3	34,3	34,3	-1,4	34,6	0,1	69 %
FQM Kevitsa Holding No 1 Oy (consolidated)*****	0,0	0,0	-13,8	37,1	60,9	35,0	0,0	0,0	-56,1	653,9	653,9	-59,7	696,8	3,3	

2012 (€ million)

FQM Finnish subsidiary	Revenue	Mining rights depreciation	Operating profit/loss*	Intra-gr. financial income**	Intra-group financial costs	Other financial costs	Group contribution	CIJ costs	Profit / loss	Financial liabilities	Intra-group financial liabilities	Total equity	Total liabilities	Finnish tax loss estimate***	FQM Group equity ratio****
Kevitsa Mining Oy	1,3	0,0	0,9	0,4	0,0	0,0	0,0	0,0	1,3	34,7	34,7	-0,2	34,8	-0,1	71 %
FQM Kevitsa Holding No 1 Oy (consolidated)*****	84,3	4,5	6,6	13,5	30,9	1,5	0,0	0,0	-16,8	837,2	837,2	-76,5	867,9	2,5	

2013 (€ million)

FQM Finnish subsidiary	Revenue	Mining rights depreciation	Operating profit/loss*	Intra-gr. financial income**	Intra-group financial costs	Other financial costs	Group contribution	CIJ costs	Profit / loss	Financial liabilities	Intra-group financial liabilities	Total equity	Total liabilities	Finnish tax loss estimate***	FQM Group equity ratio****
Kevitsa Mining Oy	1,2	0,0	0,5	0,8	0,7	0,0	-0,8	0,0	-0,2	33,5	33,5	-0,3	33,8	0,0	52 %
FQM Kevitsa Holding No 1 Oy (consolidated)*****	130,6	9,3	2,5	50,6	38,8	5,7	0,8	0,0	2,1	865,7	865,7	-74,5	897,7	-1,2	

2014 (€ million)

FQM Finnish subsidiary	Revenue	Mining rights depreciation	Operating profit/loss*	Intra-gr. financial income**	Intra-group financial costs	Other financial costs	Group contribution	CIT costs	Profit / loss	Financial liabilities	Intra-group financial liabilities	Total equity	Total liabilities	Finnish tax loss estimate***	FQM Group equity ratio****
Kevitsa Mining Oy	1,2	0,0	0,5	0,0	2,6	0,0	2,2	0,0	0,1	30,1	30,1	-0,3	36,2	0,3	50 %
FQM Kevitsa Holding No 1 Oy (consolidated)*****	164,4	11,7	37,7	67,7	148,8	2,1	-2,2	0,0	-59,4	924,1	924,1	-133,9	954,3	8,1	
Total	386,8	36,8	171,7	284,9	44,3	0,0	0,0	-127,7					12,9		

Notes to Table 2.

The figures are based on Finnish financial accounts prepared according to the Finnish GAAP (but see ****). The Finnish CIT is calculated according to the Finnish GAAP.

* Mining rights depreciation not included, since not necessarily tax deductible (see section 4.3).

** The source of financial income is not specified on the accounts. There are no financial assets in Finland, which indicates the income should not be interest.

Nearly all of the financial income is intra-group since 2012. FQM Kevitsa Holding No 1 Oy other financial income €16.5 million in 2011.

*** Includes only estimated tax losses due to thin capitalization due to insecurity of other tax effects (see section 4.3). The estimate is based on net intra-group finance costs, Finnish 20% tax rate in 2014 and difference between equity ratio (negative each year = 0%) in Finland and FQM consolidated equity ratio. The 2014 tax rate is used for all years since FQM was not liable for tax before 2014. Formula: intra-group financial costs less financial income x equity ratio difference (%) x Finnish CIT rate 2014 (20%)

**** The ratio was calculated based on FQM consolidated annual reports' figures by dividing total shareholder's equity with total liabilities and equity.

***** FQM Kevitsa Holding No 1 Oy figures are based on consolidated sub-group accounts (see figure 2.). They include Finnish FQM Kevitsa Holding No 1 Oy, FQM Kevitsa Holding No 2 Oy, FQM Kevitsa Mining Oy, FQM FinnEX Oy and a Swedish Kevitsa Mining AB. The Swedish subsidiary has no significant effect on the consolidated figures as it is a sub-group holding company with no significant transactions or assets outside the group. The revenue represents ore sales of Kevitsa. Commercial production began only in August 2012.

FQM Kevitsa Holding No 1 Oy income tax €2,6 million according to the Finnish Tax Administration data base. No income tax costs on financial statements.

Table 3. Essential Pyhäsalmi figures 2002–2014 (€ million)

Year	Revenue (PM Oy)	Operating profit (PM Oy)	Group contribution to Inmet Finland Oy (PM Oy)	CIT costs Finland (PM Oy)	Net profit (PM Oy)**	Intra group interest costs (IF Oy)**	CIT costs Finland (IF Oy)***	Net profit / loss (IF Oy)***	Dividend paid (IF Oy)****	Finnish tax loss due to interest costs*****	Finnish tax loss due to no withholding tax on dividend*****	CIT / Revenue (%)	CIT / PM Oy operating profit (%)	Equity ratio of Inmet/FQM*****	CIT rate Finland
2002	51,8	8,1	0,0	0,3	0,0	3,5	0,0	-1,2	0,0	0,7	0,0	0,5 %	3,2 %	69 %	29,0 %
2003	54,7	11,4	4,9	1,0	2,4	4,3	1,4	4,7	0,0	0,8	0,0	4,4 %	21,2 %	64 %	29,0 %
2004	72,1	26,2	19,6	0,1	0,6	4,3	5,3	12,9	1,9	0,7	0,1	7,5 %	20,6 %	59 %	29,0 %
2005	87,9	43,3	36,0	0,6	1,1	5,7	8,7	24,7	0,0	1,0	0,0	10,5 %	21,4 %	67 %	26,0 %
2006	146,6	96,8	91,0	0,5	1,0	12,2	21,3	60,5	28,0	2,2	1,4	14,9 %	22,5 %	70 %	26,0 %
2007	143,7	93,3	92,0	0,5	0,8	15,1	20,1	57,2	70,0	2,7	3,5	14,3 %	22,1 %	68 %	26,0 %
2008	121,1	58,5	55,0	1,4	3,4	13,5	10,8	30,5	58,0	2,3	2,9	10,1 %	20,8 %	66 %	26,0 %
2009	93,5	36,5	32,0	1,0	2,4	10,5	5,4	15,4	30,0	2,1	1,5	6,9 %	17,6 %	77 %	26,0 %
2010	152,5	86,4	82,0	0,9	1,9	9,2	18,7	53,3	16,7	2,0	0,8	12,8 %	22,7 %	84 %	26,0 %
2011	169,9	97,1	95,0	2,5	2,9	13,6	21,0	59,7	53,3	3,2	2,7	13,8 %	24,2 %	90 %	26,0 %
2012	159,4	82,9	79,0	1,9	2,3	10,3	17,0	52,3	25,0	1,4	1,3	11,8 %	22,8 %	56 %	24,5 %
2013	152,9	67,1	63,0	1,9	2,1	6,8	13,9	42,8	181,4	0,9	9,1	10,3 %	23,5 %	52 %	24,5 %
2014	147,6	56,6	65,0	1,5	2,3	6,7	12,2	48,8	129,9	0,7	6,5	9,3 %	24,2 %	50 %	20,0 %
Total	1553,8	764,2	714,5	14,0	23,3	115,6	155,7	461,6	594,2	20,7	29,7	10,9 %	22,2 %		

Notes to Table 3.

The Pyhäsalmi Mine Oy (PM Oy) and Inmet Finland Oy (IF Oy) figures are based on Finnish financial accounts prepared according to the Finnish GAAP. The figures from 2002–2003 are from original financial statements. Other figures are sourced from Orbis database. Inmet/FQM has had a third subsidiary CLC Holdings Oy in Finland since 2011. The subsidiary has not had significant income or costs.

* Total net finance costs of PM Oy in 2002–2014 were €9.4 million. There are also minor differences between tax and accounting depreciations.

** Most of financial costs are intra-group interests. No significant financial income.

*** IF Oy was a holding company with no operating business activity (total net operating profit €0.1 million in 2011–2014).

**** Tax losses calculation formula: IF Oy intra-group interest costs x Finnish CIT % x Inmet/FQM equity ratio even though Pyhäsalmi Mine Oy cash flow would have been sufficient to finance the business without loans.

***** The withholding tax had been five percent, if it had been paid directly to a Canadian parent company. (see chapter 4.4)

***** The ratio was calculated by dividing total shareholder's equity with total liabilities and equity. The 2003–2012 figures are based on Orbis. The 2002 figure was calculated based on Inmet annual report and the 2013–2014 based on FQM annual report as FQM acquired Inmet in 2013.

Table 4. Essential Suurikuusikko figures 2009–2014 (€ million)

Year	Revenue	Operating profit	Additional depreciation*	Net finance costs**	Group contribution to Oijärvi Resources Oy***	CIT costs Finland	Net profit	Dividend paid	Finnish tax loss due to interest costs****	Finnish tax loss due to no withholding tax on dividend*****	CIT / Revenue (%)	CIT / Operating profit (%)	Equity ratio Finland*****	Equity ratio of AE*****	CIT rate Finland
2009	44,0	0,9	10,6	10,4	0,0	0,0	-20,1	0,0	1,4	0,0	0,0 %	0,0 %	28 %	65 %	26,0 %
2010	68,8	19,6	12,9	8,8	0,0	0,0	-2,1	0,0	1,2	0,0	0,0 %	0,0 %	30 %	67 %	26,0 %
2011	163,2	57,2	18,6	18,3	0,0	0,0	20,3	0,0	2,2	0,0	0,0 %	0,0 %	34 %	64 %	26,0 %
2012	184,4	96,3	20,3	18,8	4,3	6,5	46,4	0,0	2,0	0,0	3,5 %	6,7 %	38 %	65 %	24,5 %
2013	190,2	76,9	13,9	16,7	0,0	11,7	34,5	46,0	1,4	2,3	6,2 %	15,2 %	39 %	60 %	24,5 %
2014	138,3	14,5	22,9	21,9	0,0	-0,1	-30,2	8,9	1,7	0,4	-0,1 %	-0,7 %	32 %	59 %	20,0 %
Total	788,7	265,4	99,3	94,9	4,3	18,1	48,8	54,9	10,0	2,7	2,3 %	6,8 %			

Notes to Table 4.

The figures from 2010–2014 are based on Agnico-Eagle Finland Oy financial accounts prepared according to the Finnish GAAP. The figures from 2009 are based on Agnico-Eagle AB financial accounts as the Swedish company began the mining operations in 2009. (see section 4.5) The original figures in SEK have been converted to EUR according to the year-end average exchange rate (1 EUR = 10.2520 SEK).

* The additional depreciation to accounting depreciation is made according to Finnish tax legislation.

** Finance costs less finance income. Most of the costs are intra-group interests.

*** Oijärvi Resources Oy offset its losses from exploration activities against Agnico-Eagle Finland Oy taxable mining profits before the companies merged in 2013.

**** Tax losses calculated based on net finance costs, Finnish tax rate and difference between AE equity ratio in Finland and AE consolidated equity ratio.

***** The withholding tax had been five percent, if it had been paid directly to a Canadian parent company. (see section 4.5)

***** The ratio was calculated by dividing total shareholder's equity with total liabilities and equity. The total additional depreciations were included in equity.

***** The ratio was calculated by dividing total shareholder's equity with total liabilities and equity. The figures are based on AE consolidated annual reports.

Annex 1. List of financial data used in the research

Kevitsa case study

First Quantum Minerals Limited (consolidated), Canada

Annual information form (CSA), 2008, 2009, 2010, 2012, 2013, 2014

Annual report (CSA), 2008, 2012, 2013, 2014

FQM Finnex Oy (2345662-5), Finland

Financial statements (PRH), 2010, 2011, 2012, 2013, 2014

Orbis financial data, 2010–2014

FQM Kevitsa Holding No 1 Oy (2345699-1), Finland

Financial statements (PRH), 2010, 2011, 2012, 2013, 2014

Orbis financial data, 2010–2014

FQM Kevitsa Holding No 2 Oy (2345706-2), Finland

Financial statements (PRH), 2010, 2011, 2012, 2013, 2014

Orbis financial data, 2010–2014

FQM Kevitsa Mining Oy (2345703-8), Finland

Financial statements (PRH), 2010, 2011, 2012, 2013, 2014

Orbis financial data, 2010–2014

FQM Kevitsa Sweden Holdings AB (556814-4041), Sweden

Financial statements (EBR), 2011, 2013

Orbis financial data, 2010–2014

Kevitsa Mining AB (556530-2717), Sweden

Financial statements (EBR), 2002, 2008, 2010, 2013

Orbis financial data, 2004–2014

Kevitsa Mining Oy (2062575-3), Finland

Financial statements (PRH), 2008, 2009, 2010, 2011, 2012, 2013, 2014

Pyhäsalmi case study

Inmet Mining Corporation (consolidated), Canada

Annual information form (CSA), 2010, 2011, 2012

Annual report (CSA), 2001, 2002, 2011

Orbis financial data, 2003–2012

CLC Copper I B.V. (34241191), the Netherlands

Financial statements (EBR), 2011, 2012

Orbis financial data, 2004–2013

CLC Copper II B.V. (34129494), the Netherlands

Financial statements (EBR), 2011, 2012

Orbis financial data, 2004–2013

CLC Holdings Oy (2389092-3), Finland

Financial statements (PRH), 2011, 2012, 2013, 2014

Cobre las Cruces SA (ESA28814135)

Orbis financial data, 2004–2013

Inmet Finance Company S.à.r.l. (155174), Luxembourg

Financial statements (RCSL), 2010, 2011, 2012, 2013

Inmet Finland Oy (1635992-3), Finland

Financial statements (PRH), 2002, 2003, 2005, 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014

Orbis financial data, 2004–2014

Inmet Luxembourg (155271), Luxembourg (branch of Inmet Mining Corporation)

Financial statements (RCSL), 2010, 2011, 2012, 2013

Inmet Mining Sweden AB (556588-3179), Sweden

Financial statements (EBR), 2002, 2006, 2013

Orbis financial data, 2004–2013

Inmet Sweden Holdings AB (556693-7131), Sweden

Financial statements (EBR), 2006, 2011, 2013

Orbis financial data, 2006–2013

Pyhäsalmi Mine Oy (1712341-0), Finland

Financial statements (PRH), 2001, 2002, 2003, 2008, 2009, 2010, 2011, 2012, 2013, 2014

Orbis financial data, 2004–2014

Scandinavian Minerals Limited

Annual information form (CSA), 2007

Annual report (CSA), 2007

Suurikuusikko case study

Agnico-Eagle Mines Limited, Canada

Annual report (SEC), 2008, 2011, 2012, 2013, 2014

Form 20-F (SEC), 2005, 2006, 2009, 2011

Form 40-F (SEC), 2014

Agnico-Eagle AB (556599-9751), Sweden

Financial statements (EBR), 2005, 2009

Orbis financial data, 2004–2011

Agnico-Eagle Finland Oy (2311020-2), Finland

Financial statements (PRH), 2010, 2011, 2012, 2013, 2014

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