Chapter 10
Finance and Sustainability

Olaf Weber

Abstract The connection between the financial industry and sustainable development is indirect. The industry channels financial capital into different industries and therefore has an *indirect* effect on sustainable development through these industries. Depending on which client is financed the impact can be positive or negative. Therefore, the financial industry has developed strategies, products, and services to manage sustainability issues. Most of the products and services focus on risk management connected with risks that are material for financial institutions instead of managing risks for sustainable development. However, sustainability issues are dealt with in internal operations, credit risk management, socially responsible investing, and impact finance. Though products and services connected with sustainability are still marginal, their ratio is increasing and social banks that focus exclusively on sustainable products and services are growing significantly. Key challenges in the field of sustainable finance are to scale up the respective products and services, to focus on the creation of positive impacts on sustainable development through finance, to involve executive management representatives in sustainability issues, and to increase research about the connection between finance and sustainable development.

Keywords Sustainable finance • Sustainable banking • Indirect impact • Social bank • Socially responsible investing • Sustainable credit risk management

1 Sustainability Problems and Finance

Financial institutions are intermediaries. They channel capital into different industries and therefore have an *indirect* effect on sustainable development through these industries. This indirect impact is much more significant than the same industries' direct impact (see Fig. 10.1); for example, studies suggest that the indirect

O. Weber (✉)
School for Environment, Enterprise and Development (SEED), University of Waterloo, 200 University Avenue West, Waterlooo N2L 3G1, Canada
e-mail: oweber@uwaterloo.ca

© Springer Science+Business Media Dordrecht 2016

H. Heinrichs et al. (eds.), *Sustainability Science*, DOI 10.1007/978-94-017-7242-6_10

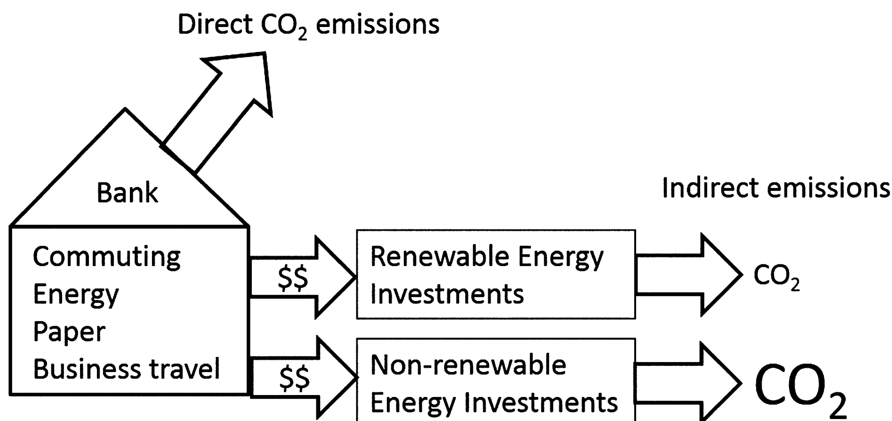

Fig. 10.1 Direct and indirect impacts of the financial sector

emissions created through financing industries are 50 to 200 times higher than direct emissions caused by financial institutions (van Gelder et al. 2008; Weber 2011).

Finance decisions can have negative and/or positive impacts on sustainable development (Wiek and Weber 2014). In the past (and current) financial crisis, it became obvious that the financial sector can have significant negative impacts on the economy (Greider 2011; Herzig and Moon 2013). The same is true for the impact on sustainable development. Currently, sustainability issues do not play a significant role for conventional financial decision-making, with the exception of issues that pose credit or investment risks. Thus, financial institutions invest in a great number of industries and projects with negative effects on society, environment, and the economy, under a long-term perspective. On the other hand, there are positive impacts that are achieved through niche products that proactively seek out loans and capital for industries that support sustainable development, such as renewable energy, health care, or education (see next section below or Jeucken 2004; Vandekerckhove et al. 2011).

2 Solution Options: Sustainable Finance

Classifying financial returns as sustainable conventionally means that they provide long-term, high financial returns. Financial institutions are classified as sustainable if they are able to sustain their business. However, relating sustainable banking to basic concepts of sustainability and sustainable development in a richer sense reveals two complementary perspectives.

Box 10.1: Sustainable Finance Definition

Following the Brundtland Report (1987), *sustainable* finance is finance that meets the social, environmental, and livelihood needs of the present generation without compromising the ability of future generations to meet their own needs and that creates a fair balance between societies in the north and the south.

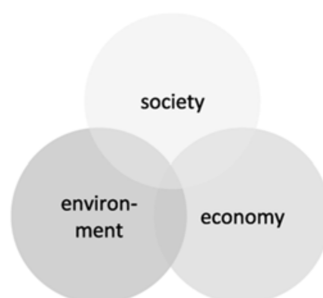

Fig. 10.2 The *triple-bottom-line* (TBL) concept of sustainable business. The triple-bottom-line concept of sustainable business takes environmental, social, and economic issues equally into account in business (see Elkington 1998)

The definition of sustainable finance in Box 10.1 points to a balanced and fair development across generations and nations. It establishes an active role of finance with regard to sustainable development. It emphasizes the need for the contribution to development to be just and sustainable, instead of a one-dimensional (monetary) benefit for the financial sector. This focus on a positive contribution to sustainable development was already discussed in the book *Financing Change* (Schmidheiny and Zorraquin 1996), published in 1996. Since then, sustainable products and services like impact investing (Geobey et al. 2012) or socially responsible investing (Hamilton et al. 1993) have been developed. However, a general strategy as to how the financial sector might contribute to sustainable development is missing, and there is only a small body of literature available for the "sustainability case" of finance.

The second useful perspective is already indicated in the definition above (in the term "needs"), but has more explicitly been developed as the triple-bottom-line (TBL) concept of sustainability (Fig. 10.2).

If we transfer the TBL concept from business to finance, environmental and social criteria should be used as criteria in lending and investment decisions and in other banking operations. To date, these criteria are mostly used to mitigate risks for banks. But they should be used to create a positive impact on sustainable development as well.

The members of the Global Alliance for Banking on Values (GABV), for instance, follow a sustainable finance approach that conducts banking in a way that

fosters sustainable development (Korslund 2012). Though the total balance sheet of these banks is still very small, they could increase the number of lenders by more than 50 % between 2007 and 2011 (Weber and Remer 2011).

A closer look at the industry demonstrates that, in addition to managing direct social and environmental impacts caused by the business operations of financial institutions, the main products and services of sustainable banking are sustainable credit risk management, sustainable project finance, socially responsible investment, responsible investments, impact finance, and social banking. We describe these products and services in the following section.

Financial institutions strive to reduce the environmental impacts of their operations by reducing the use of water, paper, travel impacts, and energy. On the social side, they manage their relationships with employees, communities, and other stakeholders. A standard framework for measuring and reporting direct environmental impacts is integrated into the Global Reporting Initiative's financial sector supplement (the Global Reporting Initiative 2011).

One of the main activities of banks is the loan business, and thus credit risk management is a major activity for guaranteeing the business success of a bank. In order to be successful, lenders must rate those factors that influence the borrower's ability to repay the loan (Saunders 1999a, b; Caouette et al. 1998; Fitch 1997). Recently, in addition to standard criteria that are used to analyze borrowers, environmental and social risks have been analyzed in comprehensive studies (Goss and Roberts 2011). The results suggest that there is a correlation between credit risks and sustainability risks of borrowers and that the integration of indicators that measure sustainability risks improves the predictive validity of credit rating systems (Weber et al. 2010). Therefore, systems that assess sustainability credit risks have become more popular in the financial sector (Weber 2012). The US Security Exchange Commission already demands the disclosure of climate risks being material for the value of securities. Consequently, these risks will become material for the lending and investment portfolios of banks and financial institutions, and sustainability aspects, at least those that are related to climate change, will be taken into account by the financial sector.

Project finance involves large, legally independent projects, often in fields such as natural resources and infrastructure (Esty 2004). This type of financing grew significantly over the last couple of decades, and projects are critically observed by environmental and other civic organizations (Missbach 2004). Key aspects are sustainability impacts (Hadfield-Hill 2007), stakeholder relations (Stern 2004), and international environmental regulations (Ong 2011). As a sustainability guideline for project finance, the Equator Principles, a voluntary code of conduct, were proposed in 2003 for assessing and managing sustainability standards in project finance transactions (Lawrence and Thomas 2004).

Linked to the former two solution options is the internalization of externalities in different industries. Driven by regulations or stakeholder pressure, different industries will internalize sustainability issues, previously treated as externalities. The European Union Emissions Trading Scheme (ETS) (Rogge et al. 2011) is a first step into this direction. Firms involved in the ETS have to integrate the value of CO_2

emissions or offsets into their balance sheet. Hence, these positions have to be taken into account in any lending or investment decision of financial institutions.

Socially responsible investing (SRI) and responsible investing (RI) are business fields in sustainable banking that increased significantly over the last decade. In the USA, the assets of socially responsible investment products and services have increased by about 9 % annually since 2007. Overall, $33.3 trillion in assets were under management in the USA in 2012 (Social Investment Forum Foundation 2013). SRI integrates nonfinancial indicators, such as environmental, social, or sustainability indicators, into investment decisions and management for managing sustainability risks of investing. SRI tries to perform similarly or to outperform conventional benchmarks rather than creating a sustainability impact. Though the impact of SRI on sustainable development is rarely analyzed, it is argued that SRI could be able to push firms in a more sustainable direction to be attractive to investors. However, as long as SRI is relatively small, it might not be able to have a strong impact on the financial market (Weber 2006). Because institutional investors such as pension funds are powerful players, it will be important to enable them to conduct sustainable finance as well. There is already a lively discussion about the relationship between the fiduciary duty of institutional investors and responsible investment, as well as a discussion about the materiality of sustainability risks for institutional portfolios (Bauer et al. 2005). A movement of institutional investors into a sustainable way of finance would influence the majority of corporations significantly because of the significant market power of institutional investors.

A newer development in sustainable finance is impact finance. It uses the concept of blended returns (Emerson 2003; Nicholls 2009) that declares positive social, environmental, and sustainability impacts compatible with financial returns. In contrast to SRI, it uses investments for creating a positive impact on sustainable development instead of applying sustainability criteria for risk management. Impact investing (Bugg-Levine and Emerson 2011), microfinance (Morduch 1999), and social banking (Weber and Remer 2011) can be subsumed under the umbrella of impact finance. In contrast to the financial products described above, impact finance gives societal impacts a higher priority than financial returns.

- ***Task****: Review sustainability reports of banks and financial institutions (e.g.,www.globalreporting.org) and analyze them with respect to sustainability issues. Focus on whether and how the reports present the impact of products and services on sustainability impacts.*

3 Open Issues: Challenges of Sustainable Finance

It is still open as to whether the financial sector is willing to take responsibility for sustainable development. On the one hand, we find involvement in SRI or impact investing, but on the other hand, main representatives of the sector neglect their indirect impacts; and sustainable products and services are implemented reactively rather

Table 10.1 Key figures of SRI and social banking compared with conventional financial institutions

Type of product	Amount in $ billion	Comparison group	Amount in $ billion	Percentage
SRI assets under management in the USA	3,140	Total assets under management in the USA in 2012	33,300	11.3
Social Banking Loans	35	Total loans of members of World Council of Credit Unions in 2011	1,016	3.44

Social Investment Forum Foundation (2013), World Council of Credit Unions, (2012)

than proactively. As could be seen during the financial crisis, the financial industry mainly concentrates on itself and does not take impacts on other industries or the society into account. Furthermore, regulations regarding compliance and responsibility of financial sector representatives were weakened rather than enforced. With the exception of credit unions and cooperative banks, the financial industry lost the role of being an intermediary between financial capital, the economy, and the society and became a ruler of the economy instead of being its servant. Therefore, without accepting responsibility about where financial capital is invested, the conventional financial sector will not integrate sustainable finance into its core business.

A key challenge is scaling up sustainable finance. The percentage of socially responsible investment products in asset management portfolios of conventional banks is usually below 2 %. The total amount of loans of the members of the Global Alliance for Banking on Values has been $35 billion in 2012. Compared to the global multitrillion dollar financial industry, these amounts are small, as Table 10.1 demonstrates. Though conventional banks such as the Royal Bank of Canada (Royal Bank of Canada 2012) started to conduct impact investing, the concept is not perceived as a core financial product by the conventional financial industry.

Another challenge is to assess the impact of sustainable finance. Approaches that measure the indirect impact of the financial sector on sustainable development will be needed to analyze both positive and negative impacts (Wiek and Weber 2014). So far, sustainability reporting mostly concentrates on the internal direct impacts of the financial institutes' operations or on philanthropic engagement and community relations. Even the Global Reporting Initiative's financial sector supplement, which provides a standard for the sector's sustainability reporting, uses only 3 out of 82 indicators to demonstrate the impact of products and services on sustainable development (Weber 2013). Neither the Equator Principles for project finance nor the principles for responsible investment propose how to measure the impact of following the guidelines on the sustainability impact of project finance or institutional investments.

In order to analyze the impact of finance on sustainable development, both academia and industry have to shift their focus away from purely analyzing the business case for sustainability in finance. To date, sustainable finance has mainly been

researched as a business opportunity (Galema et al. 2008), as a way to manage risks (Weber, et al. 2010), and with respect to its connection to corporate social responsibility (Carroll 1999; Matten and Moon 2005; Porter and Kramer 2006). Only a few studies have focused on strategic changes in the financial sector for becoming sustainable (Geobey and Weber 2013; Ingham et al. 2013; Wiek and Weber 2014).

- ***Task**: Compare the missions and visions of social banks that are members of the Global Association for Banking on Values (gabv.org) with those of conventional banks.*

Another challenge is the involvement of executive management representatives in sustainability issues. Though more or less each financial institution of a certain size has some person or department in charge of environmental or sustainability issues, there are only a few cases in which sustainable finance is implemented in the general strategy or the management board of financial institutions, or executive compensation is connected to sustainability performance. However, studies suggest that corporate governance plays an important role for the sustainability of the sector (de Graaf and Stoelhorst 2009).

The success of sustainable finance is strongly related to the success of sustainability industries. In times of high earnings of the renewable energy industry, financial institutions were involved in the success by financing a sector that provided attractive returns. This changed in recent years because of market and regulative issues. It will be important to see whether the financial sector will be able to support the sustainability industry actively in the future through looking for investment opportunities in earnest.

Though they mainly follow a business niche approach, social finance, impact investing, and microfinance are drivers of innovation in sustainable finance (Weber 2005). Successful concepts such as SRI and impact investing are often adopted by conventional banks and support the sustainable business of the big players in the sector. Therefore, the important question is whether social finance and impact investing as the next important sustainability drivers in the sector will be successful in the future.

4 Conclusions

The sustainable finance approach connects sustainability with financial issues. It is beyond dispute that capital is needed to enable sustainable development. The world has become painfully aware of how strong the influence of the financial industry is on all aspects of the economy and society during the recent financial crisis. However, the industry is able to channel capital into activities that benefit society as well. Therefore, the integration of the financial industry and the financial market into the sustainable development discussion will be crucial for the success of sustainable development.

More broadly, the presented perspective throws financial and economic aspects into sustainability science. These aspects, though essential for sustainable development, have not been taken into consideration in sustainability science so far.

- ***Task**: Analyze the sustainability science literature, for instance, papers published in Sustainability Science, with respect to the integration of financial issues.*

References[1]

Bauer R, Koedijk K, Otten R (2005) International evidence on ethical mutual fund performance and investment style. J Bank Financ 29:1751–1767

*Bugg-Levine A, Emerson J (2011) Impact Investing – transforming how we make money while making a difference. Jossey-Bass, San Francisco

Caouette JB et al (1998) Managing credit risk: the next great financial challenge. Wiley, New York

Carroll AB (1999) Corporate social responsibility – evolution of a definitional construct. Bus Soc 38(3):268–295

de Graaf FJ, Stoelhorst JW (2009) The role of governance in corporate social responsibility: lessons from Dutch finance. Bus Soc. doi:10.1177/0007650309336451

Elkington J (1998) Cannibals with forks: the triple bottom line of 21st century business. New Society Publishers, Gabriola Island

*Emerson J (2003) The blended value proposition: integrating social and financial returns. Calif Manag Rev 45(4):35–51

Esty BC (2004) Why study large projects? An introduction to research on project finance. Eur Financ Manage 10(2):213–224. doi:10.1111/j.1354-7798.2004.00247.x

Fitch TP (1997) Dictionary of banking terms. Barron's, Hauppauge

Galema R, Plantinga A, Scholtens B (2008) The stocks at stake: return and risk in socially responsible investment. J Bank Financ 32:2646–2654

Geobey S, Weber O (2013) Lessons in operationalizing social finance: the case of Vancouver City Savings Credit Union. J Sustain Financ Invest 3:124–137

Geobey S, Westley FR, Weber O (2012) Enabling social innovation through developmental social finance. J Soc Entrep 3(2):151–165. doi:10.1080/19420676.2012.726006

Goss A, Roberts GS (2011) The impact of corporate social responsibility on the cost of bank loans. J Bank Financ 35(7):1794–1810

Greider W (2011) Needles in a Haystack, Comment, The Nation

Hadfield-Hill S (2007) The greening of project finance. Geogr Compass 1(5):1058–1075. doi:10.1111/j.1749-8198.2007.00050.x

Hamilton S, Jo H, Statman M (1993) Doing well by doing good? The investment performance of socially responsible mutual funds. Finan Anal J 49:62–66

Herzig C, Moon J (2013) Discourses on corporate social ir/responsibility in the financial sector. J Bus Res (0). doi:http://dx.doi.org/10.1016/j.jbusres.2013.02.008

Ingham M, Grafé-Buckens A, Tihon A (2013) Bank-based microfinance: from peripheral to integrated responsibility toward sustainability. Strateg Chang 22(1–2):107–119. doi:10.1002/jsc.1925

*Jeucken MHA (2004) Sustainability in finance. Eburon, Delft

Korslund D (2012) Strong and straightforward: the business case for sustainable banking. Global Alliance for Banking on Values, Zeist, p 16

Lawrence RF, Thomas WL (2004) The equator principles and project finance: sustainability in practice? Nat Resour Environ 19(2):20

---

[1] *The sources highlighted with an asterisk (*) are recommended as further readings.*

Matten D, Moon J (2005) Corporate social responsibility. J Bus Ethics 54(4):323–337. doi:10.1007/s10551-004-1822-0

Missbach A (2004) The equator principles: drawing the line for socially responsible banks? An interim review from an NGO perspective. Development 47(3):78–84

Morduch J (1999) The microfinance promise. J Econ Lit 37(4):1569–1614. doi:10.2307/2565486

Nicholls A (2009) 'We do good things, don't we?': 'Blended value accounting' in social entrepreneurship. Acc Organ Soc 34(6–7):755–769. doi:10.1016/j.aos.2009.04.008

Ong D (2011) International environmental principles and project finance. In: Leader S, Ong D (eds) Global project finance, human rights and sustainable development. Cambridge University Press, New York, pp 67–104

Porter ME, Kramer MR (2006) Strategy & society: the link between competitive advantage and corporate social responsibility. [Article]. Harv Bus Rev 84(12):78–92

Rogge KS, Schneider M, Hoffmann VH (2011) The innovation impact of the EU emission trading system – findings of company case studies in the German power sector. Ecol Econ 70(3):513–523. doi:10.1016/j.ecolecon.2010.09.032

Royal Bank of Canada (2012) RBC announces $20 million in commitments to new social and environmental initiative. Retrieved 13 Feb 2012, from http://www.rbc.com/newsroom/2012/0124-social-finance.html

Saunders A (1999a) Credit risk measurement: new approaches to value at risk and other paradigms. Wiley, New York

Saunders A (1999b) Credit risk measurement: new approaches to value at risk and other paradigms. Wiley, New York

Schmidheiny S, Zorraquin F (1996) Financing change: the financial community, eco-efficiency, and sustainable development. MIT Press, Cambridge, MA

Social Investment Forum Foundation (2013) Report on socially responsible investing trends in the United States – executive summary. Social Investment Forum Foundation, Washington, DC, p 19

Stern S (2004) International project finance: the Ilisu dam project in 2004 and the development of common guidelines and standards for export credit agencies. [Article]. J Struct Proj Financ 10(1):46–54

The Global Reporting Initiative (2011) Sustainability reporting guidelines & financial services sector supplement. The Global Reporting Initiative, Amsterdam

van Gelder JW, Scheire C, Kroes H, Denie S (2008) Financing of fossil fuels and renewable energy by Canadian banks. Profundo, Amsterdam, p 294

*Vandekerckhove W, Leys J, Alm K, Scholtens B, Signori S, Schäfer H (2011) Responsible investment in times of turmoil. Springer, New York

Weber O (2005) Sustainability benchmarking of European banks and financial service organizations. Corp Soc Responsib Environ Manag 12:73–87

Weber O (2006) Investment and environmental management: the interaction between environmentally responsible investment and environmental management practices. Int J Sustain Dev 9(4):336–354

Weber O (2011) Social banking: products and services. In: Weber O, Remer S (eds) Social banks and the future of sustainable finance. Routledge, London, pp 96–121

Weber O (2012) Environmental credit risk management in banks and financial service institutions. Bus Strateg Environ 21(4):248–263. doi:10.1002/bse.737

Weber O (2013) Measuring the impact of socially responsible investing. Retrieved from http://ssrn.com/abstract=2217784; doi:10.2139/ssrn.2217784

*Weber O, Remer S (eds) (2011) Social banks and the future of sustainable finance. Routledge, London

Weber O, Scholz RW, Michalik G (2010) Incorporating sustainability criteria into credit risk management. Bus Strateg Environ 19(1):39–50. doi:10.1002/bse.636

Wiek A, Weber O (2014) Sustainability challenges and the ambivalent impacts of the financial sector. J Sustain Financ Invest 4(1):9–20

World Council of Credit Unions (2012) 2011 statistical report. World Council of Credit Unions, Madison, p 4