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Sustainable Financial Markets: Financial Transaction Tax and High Capital Buffers Indispensable

by Dorothea Schäfer

The sustainability of the financial markets is a requirement that has only appeared on the economic policy agenda very recently, whereas a stable financial system has been a declared goal for decades. The relationship between sustainability and stability is, however, still unclear. The two terms are often used synonymously but stability is only one part of sustainability. The following outlines the requirements for sustainable financial markets based on the current general principles of environmental sustainability. Financial stability is considered a public good. The prerequisites for the sustainability of financial markets include internalizing costs of use, financial institutions forming adequate buffers in order to restore stability autonomously and without the help of the taxpayer, diversity, a long-term outlook, and credibility. Financial transaction tax and a higher leverage ratio meet the requirements for sustainability of financial markets; both are cornerstones of the planned restructuring of the financial markets.

The German government's progress report for 2012 states that without a reliable and stable financial market, creating a sustainable economy is being pushed further into the distant future. Unfortunately, on the financial markets, we are experiencing the opposite of what is sustainable.¹ The report was adopted in February 2012. It was written under the impression that the near collapse of the financial system in the fall of 2008 could be repeated because the Greek crisis reached its climax in October 2011.² The banks' capital base was again threatened with erosion, but this time, not as a result of dubious securitizations but because of a wave of devaluations of European government bonds. Banks are traditionally very heavily involved in this class of assets for liquidity reasons and due to a lack of compulsory capital adequacy directives. Market participants were again questioning the soundness of banks and the interbank market, i.e., mutual lending, was heavily disrupted once again. The return of symptoms of acute crisis showed that financial markets still lack stability and sustainability despite the many regulatory initiatives already implemented.

Sustainability Is More Than Stability

The call for sustainable financial markets has only emerged on the economic policy agenda very recently, whereas the stability of the financial system has been an aspired goal for decades. The relationship between sustainability and stability is, however, still unclear. The two terms are often used synonymously. Nevertheless, sustainability encompasses more than just stability. Sustainability can also be compatible with short-term instability if

¹ German Federal Government, Nationale Nachhaltigkeitsstrategie – Fortschrittsbericht 2012. www.bundesregierung.de/Content/DE/Publikation/Bestellservice/2012-05-08-fortschrittsbericht-2012.pdf?__blob=publicationFile.

² F. Fichtner, S. Junker, and D. Schäfer, EU-Gipfelbeschlüsse: Erste wichtige Schritte, aber keineswegs eine endgültige Lösung, Wochenbericht des DIW Berlin, no. 44 (2011).

the financial system is independently able to return to stability in the longer term.

Conversely, a stable financial system may not necessarily be sustainable. Imagine a private banking and financial system with a comprehensive government guarantee. A system of this kind can be very stable over a long period of time but it is not sustainable. US real estate financing companies Fannie Mae and Freddie Mac are good examples of this. These two wholesale banks were nationalized in 2008, shortly before the collapse of Lehman Brothers. Before nationalization the banks were private, for-profit financial service providers with an implicit government guarantee.³ A set-up of this kind not only leads to a lack of diligence when selecting investment projects and contractors. Even private insurance on credit risk is not rational with its background of implicit and free government guarantees. This situation creates incentives to operate highly risky, but if successful, highly profitable business models. Since this appetite for risk due to the government guarantee on refinancing markets is not penalized by appropriate risk premiums, risk-adjusted business models are displaced by high-risk ones. If this displacement is allowed to progress far enough, a system of this kind will easily collapse if external framework conditions change. The bailout and subsequent winding up of Fannie Mae and Freddie Mac alone have required funding from the US federal budget of more than USD 180 billion to date.⁴

Sustainability, therefore, requires that private financial service providers are excluded from government guarantees, although explicit and implicit government guarantees for short-term crisis management certainly appear to be compatible with the aim of a sustainable financial system.

Financial Market Stability as a Public Good

Financial markets do not have clear ownership rights. In principle, anyone is free to use them. No one can be excluded, and players cannot dispute the mutual exclusivity of the »good.«⁵ Financial stability is considered to be a public good. Financial markets are infrastructure facilities belonging to public services and must, there-

fore, be available for all of us to use. As long as there is stability, there is no exclusivity and no rivalry in the use of public goods. As with any public good, there is also an inherent incentive for private players to overuse the financial markets. As in commercial fishing, where the unbridled self-interest of fishermen leads to an endangering of flora and fauna in the world's oceans and the ultimate consequence is the eradication of edible fish,⁶ overuse of the financial markets causes stability to be slowly eroded. Since functioning financial markets are an essential part of public services, overuse and endangering financial stability also compromise prosperity and quality of life.

In the financial industry, as in the commercial fishing industry, the stability of the system can only be assured through consistent government intervention. Either the government restricts its use directly or it forces private players to internalize the costs they cause. In the case of fisheries, international fishing quotas are the means of choice with which the international community has attempted to achieve species stability and sustainability in the oceans. However, it is still hotly debated what steps policy-makers must take to prevent overuse of the financial markets, even five years after the start of the major financial crisis.

Requirements For Sustainability

The concept of sustainability has gained awareness in connection with the debate on environmental protection and climate change. Following this debate, it is possible to formulate certain requirements for sustainable financial markets.

Internalizing Costs

The characteristic of a public good implies that external effects arising from the use of financial markets are not considered by the perpetrator or »polluter«. Consequently, the more usage costs are internalized which then influence the behavior of market participants, the more financial markets are likely to satisfy the model of sustainability. In particular, this means that polluters must be made to bear the consequences of their decisions. Government guarantees for private-sector financial institutions, for example, undermine this principle whether they are given explicitly or implicitly.

³ Fannie Mae was founded in 1938 and privatized in 1968. Freddie Mac was established in 1968 and privatized in 1989. www.time.com/time/business/article/0,8599,1822766,00.html.

⁴ US-Regierung drückt bei Abwicklung aufs Tempo, Handelsblatt online, August 17, 2012, www.handelsblatt.com/unternehmen/banken/fannie-mae-freddie-mac-us-regierung-drueckt-bei-abwicklung-aufs-tempo/7015854.html.

⁵ D. Schäfer and B. Young, Von wegen privat (2012). www.fortschrittsforum.de/debattieren/wirtschaftswachstum/artikel/artikel/von-wegen-privat.html.

⁶ J.B.C. Jackson et al, Historical Overfishing and the Recent Collapse of Coastal Ecosystems, *Science* 293 (5530) (2001): 629-637.

Ability To Self-Regenerate

Sustainability requires that a system can regain balance by itself if it becomes unbalanced due to some shock that causes it to lose its stability. In the case of the financial system, for example, this means that banks must be able to absorb losses on securitizations and government bonds without any help from the taxpayer. It must also be possible for a bank to leave the market without any significant systemic consequences.

To retain the ability to self-regenerate, sufficiently comprehensive safety buffers are needed, i.e., a large distance to default is necessary. The prerequisites for this are high capital and liquidity reserves. If banks are considered as too big to fail, then the principle of a sufficient safety buffer requires financial institutions to become smaller again and remain at a size which is still manageable according to the applicable restructuring legislation. There should no longer be any system-relevant banks. The realization of a system in which investment and commercial banks are separated would contribute to sustainability if the financial institutions were thereby reduced to a manageable size.

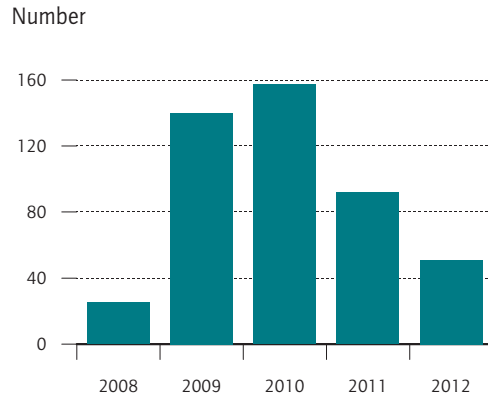
The extent of systemic relevance may vary from country to country. For example, since 2008, slightly more than 450 banks have closed in the US without direct government intervention. Customer deposits were usually transferred to other banks. The largest of them, the Washington Mutual Bank, had total assets of over USD 300 billion. The Federal Deposit Insurance Corporation (FDIC) directed JP Morgan Chase to take over all their operations and deposits, worth approximately USD 188 billion. The second largest bank, the Indymac Bank, had assets of almost USD 31 billion. None of the other banks restructured by the FDIC had total assets worth more than ten billion dollars. The vast majority of banks that closed had less than one billion dollars in total assets (see Figure 1).⁷

Diversity

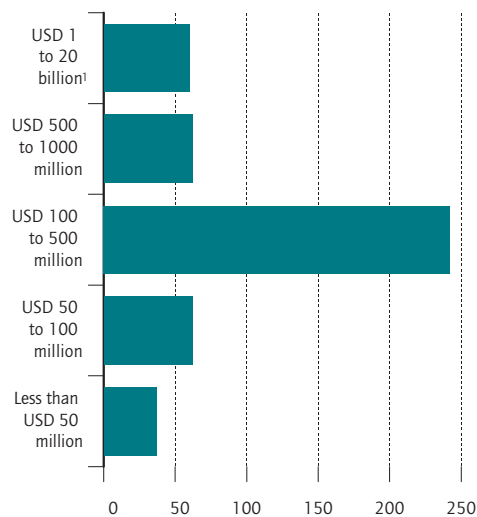
Monocultures are less resilient. System diversity actually increases the probability of successfully absorbing shocks and independently being able to return to a state of stability. Just as a nation with a more diverse economic structure has a better chance of surviving an industry crisis unscathed than a nation highly specialized in the industry in crisis, financial systems are more re-

Figure 1

US Bank Closures



According to total assets



¹ In addition, two banks with more than USD 20 billion dollars in total assets.

Sources: Federal Deposit Insurance Corporation (failed banks), calculations by DIW Berlin.

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The highest number of bank closures came at the climax of the crisis. The vast majority of closed US banks were not systemically important.

silient when they have diverse business models, types, and company sizes.

Accordingly, if a financial system tailored to just a few »national champions« with predominantly capital market financing experiences a capital market crisis, it will probably tend to be more at the taxpayers' expense than a system in which capital market oriented financial institutions share the market with many small- to medium-sized banks whose funding is based largely on deposits.

⁷ www.fdic.gov/bank/historical/bank/2008/index.html.

In financial markets important decisions have to be taken under uncertainty on a daily basis. The herd instinct and resulting bubbles formed make financial markets particularly vulnerable to crises. Decision-making bodies comprised of like-minded people are more susceptible to the herd instinct than those with diverse opinions. Workforce diversity in terms of gender, age, nationality, race, and conviction increases the likelihood that key decisions are examined with open and unbiased modes of thinking and quick solutions are critically examined.

Long-Term Orientation

The word sustainability itself implies that the benchmark for a sustainable financial system is a long-term one and, therefore, incompatible with short-term thinking. Ideally, a sustainable financial system will guarantee that it will not collapse for generations to come. Long-term orientation requires appropriate incentives to be set as part of regulation. The practice of excessively financing long-term investments with favorable short-term loans (excessive term transformation), immediate payouts on accounting profits as bonuses for traders and managers, the absence of penalties, increasingly shorter holding periods for securities, the spread of high-frequency trading and the immediate and full removal of credit risks from the bank's balance sheet are as incompatible with long-term orientation as outsourcing credit risks through off-balance sheet special purpose entities fully financed by third-party capital.⁸ A financial system can, therefore, only be called sustainable if long-term orientation is enforced either by law, for example, through the introduction of multi-year bonuses/penalty systems, or when short-term orientation loses its attractiveness due to cost increases.

Credibility

Sustainability requires people to trust the institutions of the financial system. As a result, the credibility of players and institutions is an essential prerequisite for building trust. Transparency contributes to that credibility if it is not seen as an end in itself but as a means to achieving a higher goal such as avoiding coordination failures. In addition, fair and conflict-free incentives, independent ratings' assessments, and an independent and strong banking regulator and supervisor are also crucial for the credibility of the financial markets. So, for

⁸ D. Schäfer, *Agenda für eine neue Finanzmarktarchitektur*, Wochenbericht des DIW Berlin, no. 51-52 (2008) and D. Schäfer, D. (2009), *Agenda for a New Financial Market Architecture*, Weekly Report 7, 41-49.

example, a banking supervising agency is not credible if the financial conglomerates it regulates are internationally active but the supervising agency itself is organized nationally.⁹

Financial Transaction Tax as a Building Block for More Sustainability

Trading in financial products could be interpreted as using a public good, the »stability of the financial markets«. Excessive financial innovation and the resulting increase in tradable contracts and products, as well as the shortening of holding periods and increased stock turn rates has led to an overuse of this public good. A financial transaction tax would not only help curb this overuse but it would also contribute to financing this public good.

The financial transaction tax applies directly to the trading activity and, will therefore, curb the use of the public good financial market stability. The tax is levied according to the principle of implementing a low taxation rate but a broad taxation base. For example, in its draft Directive, the EU Commission has proposed a tax rate of 0.1 percent on regular securities and 0.01 percent on derivatives. This tax rate is applied to both the buyer and the seller.¹⁰ The tax burden is high, if—and only if—trading activity (use) is high.¹¹ This corresponds to the principle of internalizing external costs. With a financial transaction tax, the trading of derivatives based on US subprime loans would have been immediately subject to the tax. The more derivatives financial institutions develop and trade, the higher the taxation burden on the system. Consequently, the taxation burden is a stumbling block to generating financial products and restricts excessive financial innovation. For a given number of instruments, the increased transaction costs resulting from the tax tend to result in lower turnover rates and increased holding periods. Both promote a long-term orientation.

⁹ D. Schäfer, *Nachhaltige Finanzmärkte – Eine Bestandsaufnahme nach fünf Jahren Finanzkrise*, Politikberatung kompakt, no. 69, (Berlin: DIW Berlin, 2012). Accompanying document for the Sustainable Regulatory Policy Group of the German Bundestag's Study Committee on Enquiry on Growth, Wellbeing and Quality of Life.

¹⁰ European Commission, *Proposal for a Council Directive on a common system of financial transaction tax and amending Directive 2008/7/EC of September 28, 2011 (RiLi)*. ec.europa.eu/taxation_customs/taxation/other_taxes/financial_sector/index_en.htm; and European Commission (2013): *Proposal for a Council Directive implementing enhanced cooperation in the area of financial transaction tax*. ec.europa.eu/taxation_customs/resources/documents/taxation/com_2013_71_en.pdf.

¹¹ D. Schäfer, *Finanztransaktionssteuer: kurzfristigen Handel verteuern, Finanzmärkte stabilisieren*, Wochenbericht des DIW Berlin, no. 8 (2012).

The tax makes transactions such as the established practice of closing a contract simply by creating a new one that goes in the opposite direction more expensive and less attractive, thereby reducing the interdependence of financial institutions. In principle, the technique is used to neutralize risks. But financial institutions also use this technology when they no longer need certain contracts (loan insurance, for example). The contract is not rescinded but neutralized by a counter contract with third parties.

In times of crisis, the European Securities and Markets Authority (ESMA) may indeed prohibit naked selling and trading of unsecured credit default swaps. A financial transaction tax would, however, reduce the attractiveness of introducing such instruments to the market long term, and thereby curb all activities by financial institutions in this segment.

The financial transaction tax would also have a curbing effect on transactions implemented solely for regulatory reasons. Financial institutions with large balance sheets but limited capital have, in the past, been able to use REPO transactions (sales transactions with a repurchase agreement) for creative accounting purposes.¹² A financial transaction tax would make such transactions more expensive, thus making them less attractive. Further, the financial transaction tax would prevent asset values and transactions from being outsourced to off-balance sheet special purpose entities, since internal transactions would otherwise be subject to taxation. Consequently, a financial transaction tax would reward internalization and combat shadow banking. Finally, it would also inhibit high-frequency trading. Transactions that promise large profits with minimal per-unit margins but high volumes and that are conducted purely to skim excess profits (»rent seeking«) would lose their economic viability as a result of the financial transaction tax. In summary, it can be concluded that the financial transaction tax would promote cost internalization, diminish the risk of overuse, and target long-term orientation. It would promote transparency and prevent rent seeking. Since financial transactions primarily affect upper income groups, it will have a progressive and therefore tempering effect on income inequality. As a result, the financial transaction tax would also make a contribution to social sustainability.¹³

A True Capital Ratio Related to Total Assets for More Sustainability.

The vulnerability of financial institutions to external shocks is, not least, a result of their capital inadequacy. Narrow equity ceilings mean a poor ability to absorb losses since capital is quickly used up. As a result, under these circumstances, the institutions are closer to insolvency and the risk of contagion to other creditors is high, leading to the threat of government intervention at the cost of the taxpayer. In contrast, with adequate capital reserves, financial institutions are better able to absorb shocks, increasing the probability of them being able to find their own way back to stability.

The total assets of major German banks are highly leveraged. The 2011 summer stress test, implemented by the European Banking Authority (EBA), revealed an average core capital ratio of 9.25 percent among the ten largest German banks. With this parameter, loss-bearing capital, primarily share capital plus retained earnings is set directly against risk-weighted assets. Since the risk-weighted assets, however, on average, amounted to only about a quarter of total assets, this resulted in a "core" leverage ratio (core Tier one capital to total assets) of less than two and a half percent.¹⁴ In October 2012, the extreme leverage at German financial institutions was reaffirmed in the International Monetary Fund's stability report. The authors estimated the leverage ratio of German banks at 2.2 percent. This represents more than 40-fold leverage. German financial institutions are therefore worse off than French (2.5 percent), Swiss (2.9 percent), and Japanese (2.8 percent) banks in terms of capital related to total assets.¹⁵

This extreme leverage is made possible by the risk weighting in Basel II/III which major banks generally calculate themselves using internal risk models. Risk weighting is the instrument through which a systematic underestimation of bank asset risk can be converted directly into capital savings and therefore into undercapitalization.

The fatal effects of the introduction of risk weighting are illustrated by the following quote, »When Basel II 2007 came into force, the Swedish Financial Supervisory Authority allowed most lenders to use internal models to calculate the risk weighting of their exposures. The result of introducing these models was that the risk

¹² For example, for some years before going bankrupt, investment bank Lehman Brothers was able to make its equity base relative to total assets appear better than it really was with the aid of some creative accounting.

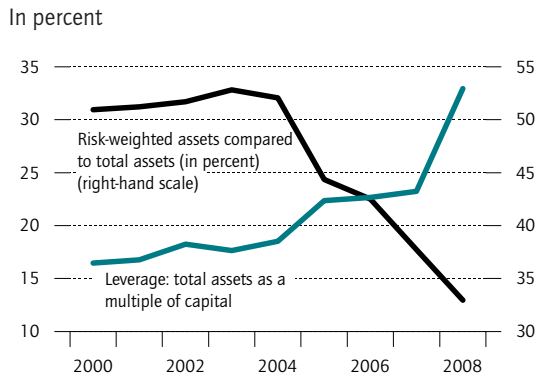
¹³ D. Schäfer and M. Karl, Finanztransaktionssteuer: ökonomische und fiskalische Effekte der Einführung einer Finanztransaktionssteuer für Deutschland, Politikberatung kompakt no. 64 (Berlin: DIW Berlin, 2012). Research project on behalf of the SPD parliamentary group in the Bundestag.

¹⁴ D. Schäfer, Banken: Leverage Ratio ist das bessere Risikomaß, Wochenbericht des DIW Berlin, no. 46 (2011); S. Binder and D. Schäfer, Banken werden immer größer, Wochenbericht des DIW Berlin, no. 32 (2011).

¹⁵ IMF, Global Financial Stability Report – A Report by the Monetary and Capital Markets Department on Market Developments and Issues (2012). www.imf.org/External/Pubs/FT/GFSR/2012/02/pdf/text.pdf.

Figure 2

Leverage and Risk-Weighted Assets of the Four Largest Banks in the United Kingdom



Source: Independent Banking Commission.

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The the proportion of risk-weighted assets to total assets has fallen and leverage has increased dramatically since the introduction of risk weighting under Basel II.

weights for Swedish mortgages dropped sharply. Many of the largest lenders only assigned these debts an average risk weighting of five percent. This was extremely low compared to the risk weighting of 50 percent contained in the 2007 regulations (Basel I).¹⁶ The Vickers report also noted for British banks that, under the regime of risk weighting, the ratio of risk-weighted assets to total assets consistently decreased, but the leverage continued to increase (Figure 2).¹⁷

The extreme leverage on the total assets of major banks contradicts the goal of sustainability. Since the major banks have no buffer with which to survive during »hard times«, modern banking systems have little capacity to self-regenerate. The consequence is that external costs are not being sufficiently internalized. In case of shocks, the taxpayer will generally have to bailout the banks' entire assets and not just the part of that debt supported by risk-weighted assets.

In principle, the absence of a buffer at the major banks has led to a high risk of loss for lenders and, therefore, should have triggered higher borrowing costs. But cur-

rently, the implicit government guarantee means that debt financing is artificially subsidized.¹⁸

There is yet another reason why risk weighting is not sustainable. It provides a channel for interest groups trying to achieve lower risk weighting for certain investments to exercise political influence with the aim of reducing their costs. Lobbying for lower risk weights from a microeconomic perspective is understandable, for example, banks' investments in renewable energies, for SME loans, or lending for house purchases, but it results in an overall weakening of the system because it makes debt financing cheaper for banks, thus reducing the leverage ratio and bringing them closer to insolvency. In contrast to the risk-weighted equity ratio, setting a real capital ratio (leverage ratio) related to total assets as a compulsory figure in Basel III is consistent with the goal of sustainability—provided it is set high enough.

DIW Berlin has variously proposed a leverage ratio of five percent plus a surcharge of one percent that could be reduced in a crisis.¹⁹ The proposed leverage ratio in the Basel framework is too low at only three percent. It uses a broader definition of capital which not only refers to core capital. In addition, it will not take effect until 2019 and that will be too late.

Conclusion

Self-interested financial market players tend to overuse the public good of financial market stability. In order to effectively stem this overuse, it would be necessary to regulate its use according to a model of sustainability. Sustainability is not entirely congruent with stability. Rather, the concept of sustainability leaves room for short-term instabilities that financial market players are able to overcome on their own. In a sustainable financial system, there are no systemically-relevant banks as this is contrary to principle of internalizing costs. Instead, bank size and restructuring legislation and/or procedures must be coordinated in such a way that the need for implicit government guarantees for private financial service providers can be eliminated. Equally, holding securities for fractions of a second and »rent-seeking« are also incompatible with sustainability. Moreover, diversity in the financial system, a wide range of diversification opportunities, and the credibility of financial market players are also indispensable elements of sustainability. A financial transaction tax and setting real

¹⁶ Finansinspektionen, Risk weight floor for Swedish mortgages. Memorandum, November 26, 2012, www.fi.se/upload/90_English/20_Publications/20_Miscellaneous/2012/riskvikt_eng.pdf.

¹⁷ The Independent Commission on Banking, Final report – Recommendations (2012). www.hm-treasury.gov.uk/fin_stability_regreform_icb.htm.

¹⁸ K. Ueda and B. Weder di Mauro, Quantifying the Value of the Subsidy for Systemically Important Financial Institutions, IMF Working Paper, WP 12/128(2012). www.imf.org/external/pubs/ft/wp/2012/wp12128.pdf.

¹⁹ For example, Binder and Schäfer, Banken werden immer größer¹⁹ (2011).

capital ratios (leverage ratios) related to total assets are among the cornerstones of a sustainable development strategy for financial markets.

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