Environment: Science and Policy for Sustainable Development
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/venv20

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Published online: 30 Mar 2010.

To cite this article: Bernd Kasemir , Andrea Süess & Alexander J. B. Zehnder (2001) The Next Unseen Revolution Pension Fund Investment and Sustainability, Environment: Science and Policy for Sustainable Development, 43:9, 8-19, DOI: 10.1080/00139150109604511

To link to this article: http://dx.doi.org/10.1080/00139150109604511

The Next Unseen Revolution

Pension Fund Investment and Sustainability

by
Bernd Kasemir, Andrea Süess, and Alexander J. B. Zehnder

In 1976, Peter Drucker's provocative book *The Unseen Revolution: How Pension Fund Socialism Came to America* pointed out that, through investments made by their pension funds, U.S. employees had become controlling shareholders in most major corporations.[1] (Pension funds invest contributions from the current generation of employees so that they can draw retirement benefits in the future.) Another "revolution" is now under way, and it, like the fundamental change in U.S. business ownership structure that Drucker illuminated, has gone unnoticed. Although rarely seen as radical, pension funds are beginning to take a leading role in putting sustainability onto corporate agendas. This article discusses several questions relevant to understanding, encouraging, and strengthening this trend:

- What motivates pension funds to consider sustainability in managing their assets, and what are the tools they use to accomplish this?
- How do U.S. and European approaches to and experiences with these investment strategies compare?
- How can sustainability science help to guide pension investors and corporations?

Although rarely seen as radical, pension funds are beginning to take a leading role in putting sustainability onto corporate agendas.

The conclusions drawn in this article are based on information obtained through interviews and questionnaire responses from representatives of pension funds with collective assets exceeding $600 billion (U.S. dollars) and from external investment consultants who work with these funds to help include sustainability criteria in asset management.

The new trend toward the inclusion of sustainability criteria in pension asset management should be seen in the broader context of debates on corporate responsibility. Today's major corporations are increasingly expected not only to maximize profits but also to consider the environmental and social impacts of their actions. For example, in the October 2000 issue of *Environment*, United Nations Secretary-General Kofi Annan stressed the positive role that the private sector can play in environmental protection.[2] Nongovernmental organizations (NGOs) play a central role in such calls for corporate responsibility. Thilo Bode, executive director of Greenpeace International, has emphasized the idea that today's large, environmental NGOs do not see themselves as natural enemies of business. Although they accept the reality that the priority of companies is to make profits, they expect corporations to decrease the negative environmental impacts of their activities. Under the watchful eyes of NGOs like Greenpeace, public proclamations of corporate responsibility that are not fulfilled in practice can be quite embarrassing for companies.[3] Also, voices supporting sustainable development are increasingly being heard from within the business community. As Anita Roddick, founder of The Body Shop International (a skin and hair care retailer that stresses its environmental and social responsibility), put it, "We can't afford for business to so limit its ambition [to the economic bottom line] when it is faster, wealthier and more creative than governments."[4] Such opinions seem to contradict the traditional view that "the business of business is business," which does not take into account an important question—*whose* business is it?

The first revolution in pension fund investment described by Drucker changed the ownership structure so radically that today in the United States and in many other developed economies, corporations are, to a large extent, owned by all employees and should therefore be accountable to them. More precisely, these large businesses are owned by the employees' pension trusts. Consequently, pension funds can now play an important role in making business accountable to the public.[5] And, increasingly, they are beginning to pressure corporate management into considering long-term sustainability issues. These funds are exerting their power through selective investments in companies that have such a long-term view and by voicing their concerns to the management of companies that do not. Pension funds receive support in these activities by collaborating with NGOs, and they have begun to work with a growing industry of "sustainability investment consultants" that offer pure information services or a combination of information and asset management services. Currently, only limited cooperation exists between pension fund managers and their consultants on the one hand and researchers at the forefront of sustainability science on the other. Increased dialogue between these related fields is much needed. Before discussing how to improve cooperation among these fields, an understanding of pension funds and their powerful role in financial markets is required.

Pension Funds and Their Market Influence

There has been a recent boom of discussions about the financial industry's responsibility for environmental and social conditions. For example, the industrialist and author Stephan Schmidheiny has stressed the need to understand how the actors in the financial sector support or undermine sustainable development. Schmidheiny focuses on financial markets and the investment decisions made therein because they play a key role in determining how all sectors of developed economies operate.[6] Accordingly, the environmental and sustainability strategies of banks, insurance companies, and, to a lesser extent, venture-capital investors, are beginning to be scrutinized.[7] In addition, this trend is being seen in pension funds, which already perform an extremely significant role in the financial sector and which have a growing influence on global investment decisions.

Most developed economies have a multipillar pension system.[8] The first pillar, a government-run system, is usually managed in a pay-as-you-go manner. This means that current contributions are directly transferred to current pensioners, rather than invested to build up resources for future pension needs. Such government-run systems are coming under pressure because they may be not be sustainable under the current demographics in many Organization for Economic Co-operation and Development (OECD) countries, where the populations are aging. This weakness in the first pillar increases the importance of the second pillar—occupational pension funds that are cofinanced by contributions from employees and employers. In contrast to the first pillar, these pension schemes are at least partly "funded"; that is, the contributions of the current generation of employees are accumulated and invested to allow these employees to draw pension benefits in decades to come. Occupational pension plans can come in the form of "defined benefit plans" in which a company pays employees a pension related to their career earnings or as "defined contribution plans" in which contributions are fixed but pension benefits vary with market returns of the investments. Private retirement provisions, often supported by some form of tax breaks and always fully funded, are the third pillar of most retirement provision systems. (For an example of the pillars of pension provisions, see the box on this page, which provides an overview of the U.S. pension system.)

Enormous amounts of resources are accumulated and invested in the funded parts of the retirement provision system. In the United States alone, $9 trillion of funded pension assets had been accumulated by 1998. In Europe, pension systems vary considerably between countries, and major changes of these systems are currently underway or being planned. The bulk of funded pension assets in Europe is held in the United Kingdom, the Netherlands, and Switzerland. In 2000, the pension assets held in these three countries were estimated to exceed $2.3 trillion (see Figure 1 on page 12).

As in the United States, the majority of pension assets in the United Kingdom is invested in the stock market. On the other extreme, more than half of the pension funds held in Switzerland were invested in bonds and real estate, but, reflecting the current global trend toward increasing stock market investment of pension assets, this is changing rapidly at the moment. Other European countries are still debating the wisdom of funded pension schemes making major investments in the stock market. For example, in France, plans for the introduction of funded occupational pension schemes were put on hold after the election of the current Jospin government. In Germany, where accumulated pension assets roughly equal those of the much smaller Switzerland, employers and labor unions have just begun discussing new types of occupational pension funds that include stock market investments.[9] Overall, funded pension schemes are less mature in Europe than in the United States and thus have a significant potential for growth there.

The Three Pillars of the U.S. Pension System

In the United States, the first pillar of the pension system is Social Security. Its Old Age, Survivor, and Disability Insurance (OASDI) covers employees and self-employed persons in all states. It is financed via payroll taxes mainly in a pay-as-you-go manner, with partial pre-funding currently invested in government bonds.

The second pillar, occupational pension plans, covers most U.S. employees in the public sector and about half of those in the private sector. These can be defined benefit plans (where usually only the employer contributes), defined contribution plans co-financed by employees and employers like 401(k) plans, or a mix of both.

The third pillar of the U.S. pension system is private retirement provisions, mainly individual retirement accounts (IRAs). These are supported by tax deductions dependent on income levels.

On average, in the United States, Social Security currently provides around 40 percent of senior citizens' incomes; occupational pension schemes and private retirement provisions provide another 40 percent; and the remaining 20 percent comes from other sources of income.[1]

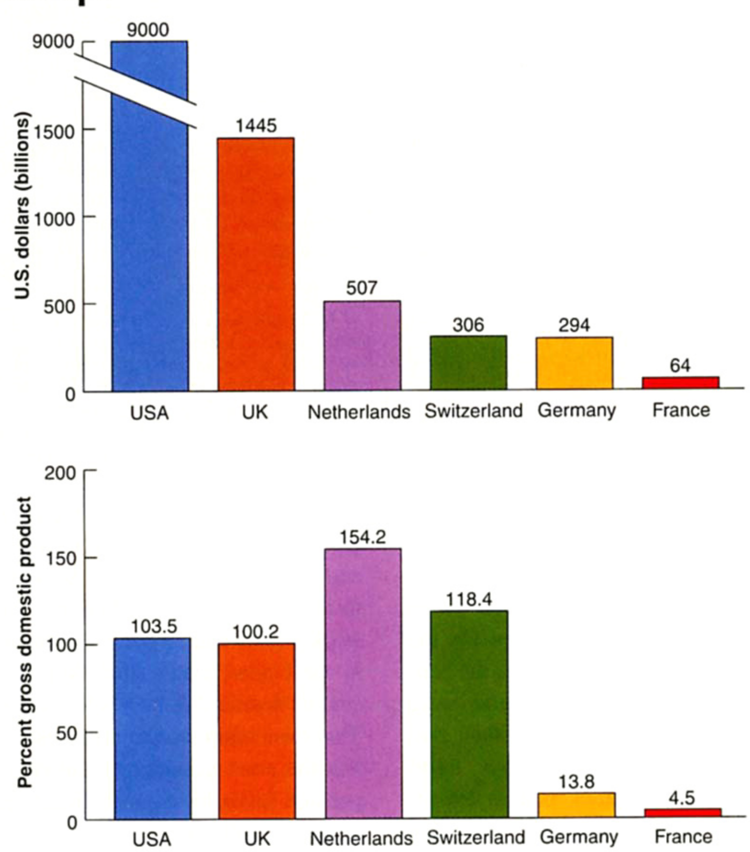
1. The discussion of U.S. pension funds is mainly based on S. Bacouel-Jentjens, D. Fach, R. Finke and J. Stanowsky, *Pension Fund Systems in the World* (Frankfurt: Dresdner Bank AG, 2000).

Pension funds are major players in global stock markets. For example, as early as 1991, they owned around one-third of the assets traded on the London stock market and 25 percent of all stocks in the United States (including 60 percent of Standard & Poor's 500 stocks).[10] This ownership structure makes it clear that the asset management strategies of pension funds have a significant impact on the overall financial market; in addition, these strategies increasingly have begun to include social and environmental criteria.

Asset management strategies that include more than "pure" economic criteria have a long history. The terms used to designate such approaches include "ethical investment," "green investment," "socially responsible investment," and, more recently, "sustainability investment."[11] The historical roots of such strategies can, in principle, be traced back to activities of Quakers in the 17th century who refused to profit from war or slave trade. But in its current form, socially responsible investment, today a more than $2 trillion market in the United States alone, can be said to have begun with the development of specialized "responsible" stock market funds in Sweden in the mid-1960s and in the United States in the early 1970s.[12]

In the past, "ethical" investment strategies have often been predicated on the notion that some profits would be sacrificed for the sake of morality. Pension fund managers are responsible for large assets and are thus usually constrained by law to put the financial protection of their members first and to develop "fiduciary responsible" investment policies accordingly. Because the managers are always under pressure not to sacrifice profits, many of them at this early stage in socially responsible investment were wary of linking investment decisions to ideals of social responsibility. However, a new argument is currently being used to convince pension fund managers to become active in this field: Social and environmental criteria, by serving as proxy measures for well-managed companies, can help to select high-performing investments.

Figure 1. Pension assets in the United States and Europe



NOTE: U.S. numbers are from 1998; European numbers are from 2000.

SOURCE: S. Bacouel-Jentjens, D. Fach, R. Finke and J. Stanowsky, *Pension Fund Systems in the World* (Frankfurt: Dresdner Bank AG, 2000); R. Pulli and R. Iten, *Pension Funds in Europe* (VISIONS project working paper, available at http://www.icis.unimaas.nl/visions, 2000); and World Bank, World Development Indicators, accessed via http://devdata.worldbank.org/data-query.

Because the amount of money involved in pension fund investment is tremendous, even a moderate shift in their asset management practices could have a large impact. To put the potential influence of pension funds in perspective, consider the following comparison: Pension funds hold more than $11 trillion worldwide, while, on average, the Global Environmental Facility (GEF) (set up as an international initiative to finance protection of the global environment), spent less than $300 million annually in the first years of its existence.[13] It is plausible, then, that the increasing use of sustainability criteria in pension fund investment will become a major factor in managing global change issues. Current trends in the field of socially responsible or sustainable pension fund management discussed here are extrapolated from interviews with and questionnaire responses from pension fund managers and external asset managers working for them. The data were collected from eight sample areas on both sides of the Atlantic—the United Kingdom, the Netherlands, Switzerland, France, California, the northeastern United States, Ontario, and Quebec. This article summarizes the motivations of these managers for including social and environmental criteria in pension asset management, as well as the tools and information sources they rely on.

Incorporating Sustainability Criteria in Pension Fund Management

Motivations, past and present

Because employees contributing to pension funds today expect to draw from them after retirement, pension funds have liabilities for decades into the future. For this reason, they must take a long-term view of asset management. Although this does not mean that they will necessarily hold individual stocks for successive decades, it does mean that pension funds must consider the long-term viability of corporations and the economy in general.[14] Some managers are beginning to see the connection between long-term profitability and sustainability. For example, one U.K. pension fund manager commented that his fund considers it essential for each generation to protect the global life-support system for future generations.[15] Recognizing this connection is the first hurdle; the next and perhaps more difficult hurdle is explained by a pension fund representative from Quebec, who expressed uncertainty about whether socially responsible investment is compatible with the goal of many pension funds—i.e., to get roughly a seven-percent return on their investment. Given this tension, how did pension funds become involved in social and environmentally responsible investment in the first place?

Many funds, especially in the United States, took first steps in "responsible" investment as part of the anti-apartheid movement, urging corporations they invested in to follow the "Sullivan principles" on avoiding economic ties with South Africa and withdrawing their investments from companies that ignored that request. The Reverend Leon Sullivan drew up these principles after he joined the Board of Directors of General Motors in the early 1970s, which was at that time the largest employer of blacks in South Africa. His aim was to persuade U.S. companies to discontinue their activities in South Africa until its government would respect basic human rights.[16] Divestment in South Africa was not motivated by profit but by the desire to avoid being seen as accomplices of an undemocratic and inhumane regime. Later examples of socially responsible investment can be traced to this experience. A key component of socially responsible investment is nondiscrimination within the corporate workforce; typically, the motivation for beginning such policies has been ethical. Today, however, the rationale for nondiscrimination has shifted toward an emphasis on the economic benefits. According to one pension fund representative from the northeastern United States, "When we oppose discrimination on the basis of race here in the United States . . . all of this activity is bottom-line related," done to avoid bad publicity and a narrowing of the talent pool through the use of economically irrational hiring criteria. This shift of emphasis from the ethical to the economic benefits of socially responsible asset management allows pension funds to bring their responsible investment activities in line with their fiduciary duties.

Some managers are beginning to see the connection between long-term profitability and sustainability.

The inclusion of environmental criteria in U.S. pension fund investment can also be understood as evolving from the experience with the Sullivan principles. For example, the *Exxon Valdez* oil spill in 1989 sparked the creation of the "Valdez principles," a ten-point code of corporate environmental conduct developed by the Coalition for Environmentally Responsible Economies (CERES), an alliance forged between socially responsible investment firms, public pension funds, and leading environmentalists. As a result, pension investors who already had experience with the Sullivan principles began considering these *Valdez* principles. Because the *Valdez* oil spill had cost Exxon so much (in direct monetary losses and in damages to the brand image) and because pension funds with large holdings in the company were hurt by these losses, the economic argument for these funds to push for environmentally sound business operations followed naturally. About a decade later, in 1997, the CERES coalition worked together with United Nations Environment Programme (UNEP) to launch the Global Reporting Initiative (GRI).[17] GRI aims at developing global standards for corporate sustainability reporting based on the "triple bottom line" approach—the combination of economic, environmental, and social aspects to provide stakeholders, including investors, a more complete picture of corporate activities. For this reason, from the point of view of U.S. investors, it is plausible that the involvement of pension funds in responsible asset management followed a direct thread from anti-apartheid actions to the inclusion of broad sustainability criteria in "responsible" asset management. This may explain why U.S. investors commonly speak of "socially responsible investment" even when referring to approaches that today explicitly include environmental as well as social aspects.

In contrast, pension fund managers in continental Europe speak more often of "sustainability" in investment when referring to approaches that balance environmental, social, and economic goals. This difference in terminology may reflect differences in political cultures of the United States and Europe. The European perspective can be said to focus more on finding a consensus that represents the general public interest. The U.S. focus, on the other hand, stresses negotiated agreement between competing interest groups. For these reasons, the concept of "sustainability" (as a general public good for future as well as current generations) may be more deeply ingrained in Europe, while "social responsibility" (including the environment mainly via the advocacy of special-interest groups) may be a more natural term in the United States.[18] Another reason for the differences in terminology may be that U.S. pension funds had worked as active shareholders with corporate management for many years before the term "sustainability" became widespread in environmental research. By the time European pension funds became more active in the stock market, the more holistic approach of "sustainable development," which goes beyond the consideration of isolated instances of environmental degradation and focuses on how different environmental factors interact as well as on the social causes and impacts of environmental conditions, was already more developed.[19]

Interviews with pension fund managers and investment experts working for them on "socially responsible investment" and "sustainability investment" revealed that the difference between the two is more in name than in substance. Today, both approaches often include economic, social, and environmental criteria when judging corporate strategies. Subtle differences include the fact that the environmental component might be slightly less important in "socially responsible investment" as practiced in the United States.[20] Also, considerations of future generations are more explicitly incorporated into European approaches. A Dutch investment expert believes that the concepts of "ethical," "environmental," and "socially responsible" practices have evolved into the more inclusive "sustainability" investment.

Considerations of future generations are more explicitly incorporated into European approaches.

One more relevant difference, however, is that "socially responsible investment," as practiced in the United States, still covers the whole range of historical approaches to this issue. This term can mean anything from purely negative screening to exclude ethically problematic investments (like tobacco or alcohol stocks), up to the more modern positive screening methods that try to select corporations likely to profit from their sustainability strategies. For European pension investors, on the other hand, "sustainability investment" usually involves positive screening with the aim of supporting returns on investment as well as social and environmental goals. In this respect, European pension fund managers may actually be leap-frogging their U.S. counterparts to adopt practices based on the most recent developments in responsible investment, without having had much experience in earlier stages of this concept. For example, as part of the recent transition of a Swiss fund from bond to stock investment, the fund's trustees demanded that sustainability criteria be considered in these investments. The fund manager described his reaction to this request and the results that followed:

Let me be frank. ... I thought, we'll do this once and ... we'll see that it was worthless. ... And with this I went and looked at the [sustainability] funds which are around, compared them to one another, and bought the one or other. And then: Surprise, surprise, the performance was quite positive! ... And then it began to interest me.

Tools for sustainable pension fund management

There are two main groups of tools for incorporating sustainability criteria into pension asset management. The first group is called selective investment, often referred to within the industry as "screening." As discussed above, screened portfolios sometimes exclude specific groups of corporations because they are active in areas such as nuclear energy or military production (negative screening). Alternatively, they include only corporations that are believed to be leaders in sustainability or social responsibility (positive screening). In the case of negative screening, whole industry sectors may be excluded. In the case of positive screening, often a "best-of-class" approach is taken; that is, most industry sectors are included in the array of investments, but in each sector only those companies judged to have the best management approach on environmental and social issues are selected.

For pension funds active in selective investment, such strategies as yet only correspond to a minor part of their overall investments. In the case of a Swiss pension fund, selective investment made up roughly 5 percent of its stock market investment. In the case of a Dutch pension fund, the corresponding number was only 0.5 percent (but still amounting to 200 million Euros, which is comparable to the annual budget of GEF). A Californian asset management company providing services to pension funds reported that of the overall $10 billion under its management, currently $500 million (5 percent) was selected with a focus on social responsibility criteria. This company began using selective investment when a religious organization asked it to invest for them using specific screens. After this experience, the firm began offering other clients such services; the company now has set the goal to double its activities in this field so that socially responsible investments will make up 10 percent of its assets under management in a few years.

Selective investment for environmental and social reasons is a comparatively newer approach to pension fund investment than a second group of tools—"engagement" or "corporate governance." With engagement practices, pension funds exercise their influence as major shareholders by putting sustainability issues on corporate agendas through the introduction of shareholder resolutions or through participation in informal discussions with top management. "Pure" engagement policies that consider environmental and social issues when working with corporate management but don't include special screening of investments are more common in the United States and the United Kingdom than in continental Europe. A representative of a northeastern U.S. pension fund offers one view of the effect of engagement policies:

We have over a billion dollars invested in Exxon Mobil. And you remember, some years ago they had this oil spill. We, as major investors, got on the company's case after that ... and got them to agree to put in an environmentalist on their board of directors.

Such an approach ensures that the board of directors will include someone with the technical competence to evaluate the potential environmental impacts of projects when they come up for board approval.

While there is growing evidence that screening can lead to higher returns on investment, there is an open debate as to how much this practice of concentrating investments on "sustainability leaders" actually supports the transition to sustainability. The opposite approach has been used, for example, by a religious organization that conducts "antiscreening" to buy stock of corporations with problematic policies and then engages with corporate management as a shareholder. Reactions to this practice among investors are rather mixed. For example, a Swiss asset manager currently focusing exclusively on selective investment thought this might be a useful way to discourage unsustainable practices. In contrast, a Canadian participant at a recent conference on responsible investment likened this to the (not often successful) Victorian idea of marrying an alcoholic to reform him. Despite different judgments of the relative merits of pure engagement and selective investment, a mix of both approaches is used today by many pension funds to put sustainability on corporate agendas. As engagement has a longer tradition, it is still more widely used than selective investment. For example, a Dutch pension fund with overall assets of 50 billion Euros reported that it recently invested 4 billion Euros using pure engagement policies and 200 million Euros in screened portfolios.

Although pure engagement, as defined above, usually excludes active stock selection for environmental and social reasons, firms practicing selective investment often use elements of engagement policies. For example, an asset management company active in selective investment reported that it helped to convince The Home Depot to switch from old-growth forest products to those approved by the Forest Stewardship Council. Screened funds may have greater ability to produce sustainability benefits because they are directed toward those results and their fund managers thus tend to have more resources (e.g., time, information, and expertise) to participate in engagement policies than the fund-management industry in general.

Overall, academic sustainability science is still only a minor source of information for the sustainability investment community.

Current sources of information

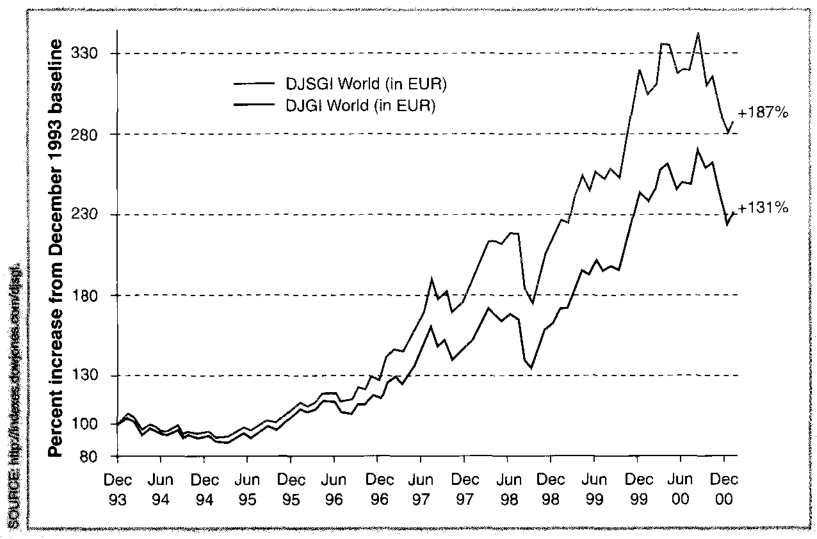
As most pension funds do not have the in-house capacity to develop or apply sustainability investment criteria themselves, they often rely on information provided by external asset managers or specialized investment consultants. Some of these commercial investment service providers offer the same standardized information and services to a number of different pension funds and other clients. Pooled sustainability funds or stock indexes focusing specifically on environmental and social criteria provide information for selective investment approaches (see the box on this page). For engagement approaches, information may be in the form of published lists of publicly listed companies that "need a little bit of talking to," as a U.K. pension fund manager phrased it, because, for example, they neglect to produce environmental reports.

Apart from such standardized services, investment consultants offer customized products like investment portfolios that are managed for individual pension funds, or they offer support in engagement activities with the companies held by such an individual fund.

In addition, pension funds also work together with NGOs to assist them in pressing corporate management toward sustainability. This can be a mutually beneficial collaboration, as one U.S. pension fund representative explained—sometimes NGOs would ask him for support in their causes, while at other times he would reach out to NGOs for help. Academic work in the field of sustainability science could provide valuable information to sustainability investors, but compared to the role played by commercial sustainability investment consultants and NGOs, the sustainability science community is currently only a minor source of information for sustainable asset management.

There are cases where sustainability investment professionals are in direct contact with the academic sustainability science community. For example, a Dutch pension fund representative explained that she benefited from discussions with academics at a sustainability research program co-sponsored by universities and industry, while a U.S. asset manager relies on networking with "thought-leaders" in academia in the more informal setting of lunch meetings. However, overall, academic sustainability science is still only a minor source of information for the sustainability investment community. This failure to use sustainability science as a resource may be explained by the belief that academic research focuses on individual environmental and social problems rather than on providing an integrated overview directed toward helping investors set their priorities in this investment field. A French asset manager offered some instructive remarks on the usefulness of academic information in making investment decisions and engaging with corporations: "Academic research is fine and excellent for criteria

Sustainability or Socially Responsible Stock Indexes



Today, a number of specialized stock indexes that track the share price of corporations seen as leaders in sustainability or social and environmental issues are available. Examples of such indexes include the Domini 400 Social Index in the United States, the NPI Social Index of U.K. equities, and the Jantzi Social Index, which screens Canadian equities.[1] Another high-profile example is the Dow Jones Sustainability Group Indexes (DJSGI), published by a joint venture of Dow Jones and the Swiss Sustainable Asset Management (SAM). The companies in the DJSGI are a subset of those represented in the Dow Jones Global Indexes (DJGI), with the aim to include the top 10 percent of "leading sustainability companies." This selection is partly based on information gathered from corporations via questionnaires concerning economic, social, and environmental issues. For the environment, the focus is on environmental management and reporting, with a minor consideration of environmental performance.[2]

According to the index providers, the companies included in the DJSGI overall have had a higher share value performance than the general universe of DJGI corporations.[3] This is clearly an important argument for pension funds, which have to balance sustainability considerations with fiduciary duties, to get involved in this field.

1. For information on these indexes, see http://www.domini.com, http://www.npi.co.uk, and http://www.mjra-jsi.com.

2. While parts of the questionnaire specific to the various industry sectors are proprietary knowledge of the index providers, the general part of the questionnaire is publicly accessible at http://www.sam-group.ch/d/PDF/LR_Questionnaire_E.pdf.

3. It should be noted that the DJSGI was introduced in September 1999 and that index values reported for earlier periods represent backtracking of how the mix of corporations included at that date were valued on the stock market in the time before. That leaves open how the index would actually have been composed at these earlier times, given the information available then. Information based on backtracking should therefore be taken with at least a grain of salt. For more information on the DJSGI, see http://indexes.dowjones.com/djsgi.

by criteria, but then you have to give a ... direction, and you have to put weightings on your criteria."

But even in a case for which a single-issue focus might suffice, the information investors would need is often not available in a format that meets their needs. The experience of a Swiss investment expert during the recent effort of his company to launch an investment vehicle focused on energy innovation provides an informative example. It was his view that it would have been useful to have an integrated overview of probable market developments of major energy innovations under different scenarios. Although he was convinced that such information was available in different university research programs, he could find no compilation that was useful for his purposes. He was therefore forced to rely on a study conducted by an in-house research team. One of the reasons why he found existing academic research insufficient for his purposes was that, in his view, the technical side of academic sustainability research has too little contact with the social sciences, and thus, in-depth knowledge of impacts of social developments on the diffusion of new technologies is often not available.

However, progress is currently being made in academic studies on understanding the major obstacles to sustainable development. For example, a whole suite of international research programs is studying broad sustainability issues in a highly interdisciplinary manner. These programs—namely, the World Climate Research Programme (WCRP), the International Geosphere-Biosphere Programme (IGBP), and the International Human Dimensions Programme on Global Environmental Change (IHDP)—are working together to better understand, for example, threats such as food and water scarcity as well as changes in the global carbon cycles.[21] But the types of reports coming out of such programs do not yet adequately address the concerns of sustainability investors. For example, researchers from these programs have participated extensively in the Intergovernmental Panel on Climate Change (IPCC) assessments on global climatic change. Although IPCC had the potential to help investors understand the challenges climate change poses for corporations, IPCC's framing of sustainability issues is geared for the information needs of international diplomacy rather than the needs of investors. According to one pension fund investor, those in his field "are not trying to win a legal case, necessarily," when expressing their concerns about sustainability to corporations. Their information needs are therefore different from the ones of international diplomacy and could be satisfied more easily with creative scenarios of sustainability threats and opportunities for action at the company level. A representative from a U.S. pension fund responded concerning the importance of climate change information for his fund: "It depends on what ... specific information we can get about what companies in our portfolio are doing that may have a harmful impact." And a pension fund manager from the United Kingdom thought that sustainability science would be really useful for him if it could provide "a systematic approach to say, 'These are the key areas that you have to look at ... can you as owners of these companies do something by bringing pressure on the management?'" To provide more information with such an explicit link to the company level, it would be useful if research approaches typically conducted at business schools were increasingly integrated into interdisciplinary sustainability science programs.

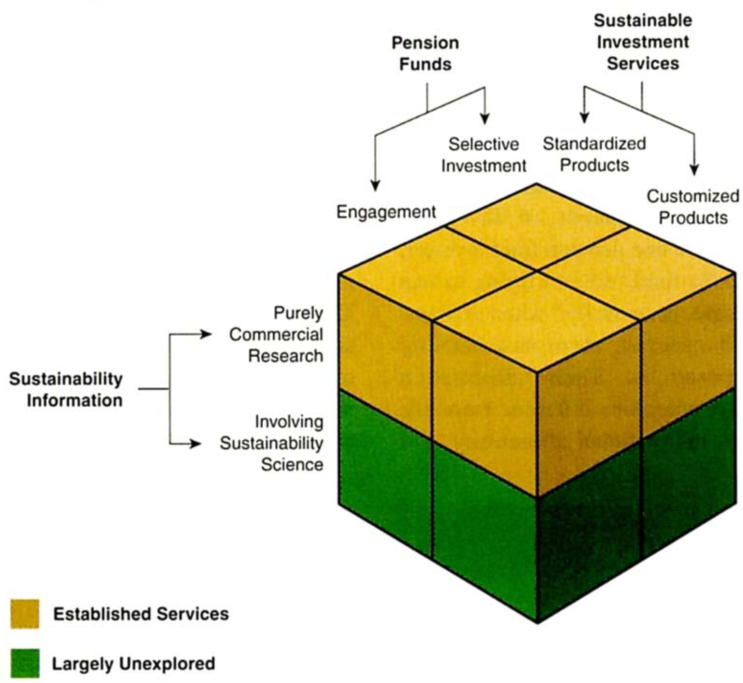
The information investors would need is often not available in a format that meets their needs.

Opportunities for the Future

The first revolution in pension fund investment gave employees control, albeit indirect, of most large companies. This revolution was "unseen" in the sense that it was not widely perceived as the fundamental change in ownership structures it later turned out to be. The emerging activities of pension funds in sustainability investment have the potential to cause another radical shift in financial markets, with large implications for a sustainable future. This development has just begun to be registered in the financial industry as a relevant trend, while as yet there are not many discussions among sustainability scientists about this development and their potential to make a useful contribution.

As discussed, pension funds become active in sustainable asset management either through selective investment or pure engagement approaches. And external consultants support these funds with standardized or customized sustainability investment services. (Figure 2 on page 18 presents different combi-

Figure 2. Strategies in sustainable pension fund management



SOURCE: B. Kasemir and R. Schaub.

nations of these strategies, together with the information sources on which they are based.) Most of the information currently used for these activities comes from purely commercial research, while information from sustainability science is integrated only to a limited extent.

The limited utilization of sustainability science may be sufficient at the present "niche market" stage of sustainability investment; however, a continued lack of involvement could seriously impede its significant potential for growth.

In the early stages of sustainability investment, the presence of an environmental management structure or a formal sustainability strategy may have been sufficient to judge whether a company was a sustainability leader or laggard. As similar instruments become part of the corporate mainstream, sustainability investors will have to progress to assessing the actual content of such corporate efforts toward sustainability, rather than their purely organizational aspects. This increased level of scrutiny will not be possible without more support from the sustainability science community.

In addition, transparency will play an increasing role in determining the growth of sustainability investment. For example, a recent U.K. regulation requests all pension funds to disclose the extent to which environmental and social issues influence their investment policies.[22] The key element here is transparency of information, rather than government-imposed standards. It is only a matter of time before similar regulations will also increase the ability of pension funds to obtain transparent information on the sustainable practices of the companies in which they invest. A Swiss pension fund manager reported that he might manage all of his shares with a sustainability focus if he had more transparent information. Transparency and quality control will both require a greater degree of involvement from the sustainability science community. As one step in this direction, a group of researchers and consultants are currently starting a program to provide the sustainability investment community with knowledge from sustainability science in the form of "sustainability business cases," which are easily accessible and directly relevant to investors.[23] If more such bridges between sustainability investment and sustainability science are built, there is a real chance that sustainability investment will enter the core of pension fund investment. If this happens, then this vision of a Dutch investment expert could be realized: In the future "we won't be talking about sustainability investing, because everybody will just be doing it."

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The authors are grateful to William Clark, Nancy Dickson, Hadi Dowlatabadi, Ottmar Edenhofer, Matt Gardner, Jill Jäger, Carlo Jaeger, Sheila Jasanoff, Don Kennedy, Stephan Lienin, Pam Matson, Werner Nussbaum, Steve Rayner, Jan Rotmans, Richard Sandor, Marjolein van Asselt, and Alexander Wokaun for valuable discussions. This article is based on research supported in part by grants from the European Commission (contract ENV4-CT97-0462), the Swiss Federal Office for Education and Science (contract BBW-97.0425), and the National Science Foundation (Award No. SBR-9521910) for the "Global Environmental Assessment Team." The authors also want to acknowledge support from the Belfer Center for Science and International Affairs at Harvard University's Kennedy School of Government. They are deeply indebted to the pension fund managers and external investment experts who shared their experiences in interviews and questionnaire responses.

NOTES

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2. K. A. Annan, "Sustaining the Earth in the New Millenium: The UN Secretary-General Speaks Out," *Environment*, October 2000, 20–30.

3. T. Bode, "Public Expectations Toward Private Industry: Greenpeace's Expectations of Companies with Regard to Their Ethical and Political Responsibilities," in P. Ulrich and C. Sarasin, eds., *Facing Public Interest: The Ethical Challenges to Business Policy and Corporate Communications* (Dodrecht: Kluwer, 1995) 33–40.

4. A. Roddick, "Foreword," in J. Bendell, ed., *Terms for Endearment: Business, NGOs and Sustainable Development* (Sheffield: Greenleaf, 2000), 8–9.

5. J. P. Hawley and A. T. Williams, *The Rise of Fiduciary Capitalism: How Institutional Investors Can Make Corporate America More Democratic* (University of Pennsylvania Press, 2000).

6. S. Schmidheiny and F. Zorraquin, *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development* (Cambridge, Mass.: The MIT Press, 1996).

7. For a discussion on sustainability and banking, see J. J. Bouma, M. Jeucken, and L. Klinkers, eds., *Sustainable Banking: The Greening of Finance* (Sheffield: Greenleaf, 2001). Concerning the insurance industry, see, for example, I. Knoepfel, J. E. Salt, A. Bode, and W. Jacobi, *The Kyoto Protocol and Beyond: Potential Implications for the Insurance Industry* (Geneva: UNEP Insurance Industry Initiative, 1999). The relationship between venture capital investment and global change has been discussed in B. Kasemir, F. Toth, and V. Masing, "Climate Policy, Venture Capital, and European Integration," *Journal of Common Market Studies* 38, no. 5 (2000): 891–903.

8. The discussion of pension funds is mainly based on S. Bacouel-Jentjens, D. Fach, R. Finke and J. Stanowsky, *Pension Fund Systems in the World* (Frankfurt: Dresdner Bank AG, 2000); M. Queisser and D. Vittas, *The Swiss Multi-Pillar System: Triumph of Common Sense?* (Washington: World Bank, 2000); and R. Pulli and R. Iten, *Pension Funds in Europe* (VISIONS project working paper, available at http://www.icis.unimaas.nl/visions, 2000).

9. See M. Brost and E. Niejahr, "Kapitalisten im Blaumann," (Blue-Collar Capitalists) *Die Zeit*, 8 March, 2001, 25–26.

10. A. Simpson, *The Greening of Global Investment: How the Environment, Ethics and Politics Are Reshaping Strategy* (London: The Economist Publications, 1991).

11. A good overview up to the early 1990s has been given by Anne Simpson, founder of Pensions and Investment Research Consultants (PIRC) in the United Kingdom. See Simpson, note 10 above.

12. S. Beloe, *A Responsible Investment?* (London: Environmental Finance, 2000).

13. It has been estimated that in the five-year period between 1992 and 1996, the Global Environmental Facility (GEF) has made commitments of approximately $1.33 billion, which translate to an annual average of $266 million. See for example http://www.ecouncil.ac.cr/rio/focus/report/english/gef.htm.

14. The typical period for pension funds and external money managers to hold individual shares seems to be up to four years.

15. Throughout the text, interview participants from pension funds and external asset management companies are identified by sample area rather than by company for reasons of confidentiality.

16. For more on the Sullivan Principles, see http://www.revleonsullivan.org/principled/principles.htm.

17. See http://www.globalreporting.org and http://www.ceres.org. For a detailed discussion on the Global Reporting Initiative, see A. L. White, "Sustainability and the Accountable Corporation: Society's Rising Expectations of Business," *Environment*, October 1999, 30–43.

18. Sheila Jasanoff, private communication with author, spring 2001. These differences in political cultures correspond to a European focus on accountability of corporations toward a general public, compared to a U.S. focus of accountability toward specific stakeholders. For a discussion of how these differences may be connected to the influence of the eighteenth-century philosopher Immanuel Kant in continental Europe, and of the seventeenth-century political philosophy of Thomas Hobbes in the Anglo-Saxon tradition, see P. Ulrich, "Business in the Nineties: Facing Public Interest," in Ulrich and Sarasin, eds., note 3 above.

19. W. C. Clark, "America's National Interests in Promoting a Transition to Sustainability: Issues for the New U.S. Administration," *Environment*, January/February 2001, 18–27.

20. However, in contrast, a pension fund manager from Ontario explained that in Canada, "socially responsible investment" used to mean mainly environmental criteria, while social criteria like labor issues are only now beginning to be included.

21. For more information, see the web sites of the World Climate Research Programme, (http://www.wmo.ch/web/wcrp/wcrp-home.html), the International Geosphere-Biosphere Programme (http://www.igbp.kva.se), the International Human Dimensions Programme on Global Environmental Change (http://www.uni-bonn.de/ihdp), and the umbrella organization under which they work—the International Council for Science (http://www.icsu.org).

22. Since July 2000, U.K. pension funds are required to disclose in their Statement of Investment Principles (SIP) "the extent (if at all) to which social, environmental or ethical considerations are taken into account in the selection, retention and realization of investments," and "their [the trustees'] policy (if any) in relation to the exercise of the rights (including voting rights) attaching to investments." See http://www.hmso.gov.U.K./si/si1999/19991849.htm.

23. For more information on this program, contact author Bernd Kasemir at bernd_kasemir@harvard.edu.