

ab

Why Try to Quantify the Unquantifiable?

Julie Hudson, Shirley Knott
Socially Responsible Investment



UBS Q-Series products reflect our effort to aggressively anticipate and answer key investment questions to help drive better investment recommendations. Q-Series™ is a trademark of UBS AG.

Analyst certification and required disclosures begin on page 24

April 14, 2005

UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Please refer to our Q-Series Report: Corporate Social Responsibilities, Why Try to Quantify the Unquantifiable? 11th April 2005



Definitions

- ◆ SRI = Socially Responsible Investment
- ◆ CSR = Corporate Social Responsibility



UBS SRI Team: the first theme piece

- ◆ In response to client demand for more SRI research, we have formalized our efforts for the first time with the creation of a dedicated UBS team.
- ◆ This is not the first time for UBS to publish on SRI. Examples:
 - Consumer team: obesity
 - Utilities team and cement team: EU Emissions Trading Scheme; nuclear power.
 - US and French teams: corporate governance



UBS Approach to Social Issues

- ◆ Corporate social responsibility can be framed as the management of conflicts of interest between the many stakeholders in the firm – managers, owners, suppliers, the labour force, consumers, the government sector – and all those in any way affected by the activities of the firm with respect to societal, environmental, ethical and economic issues.
- ◆ When conflicts of interest are allowed to play out without constraint, they may give rise to externalised costs, which is just another way of saying that costs may be unfairly distributed.



UBS Definitions

- ◆ A potential corporate social liability is a potential obligation to make a future expenditure due to past or ongoing manufacturing or other commercial activity, which adversely affects any aspect of the environment, the economy, or society.
- ◆ “A ‘potential corporate social liability’ differs from a ‘corporate social liability’ because an organisation may have an opportunity to prevent the liability from occurring by altering its own practices or adopting new practices in order to avoid or reduce adverse environmental, economic or social impacts ”. (cf EPA)



SRI Risk: Business and Financial Risk

- ◆ Corporate social responsibility is about business risk:
- ◆ Firms change their business models to compete.
 - Utilities firms changing operating practices
 - Consumer firms changing advertising practices
 - Pharmaceuticals firms taking socially oriented pricing and patent decisions in developing countries
- ◆ UBS analysts regularly write about them.



Identifying SRI issues

- ◆ What society thinks is important
 - Established frameworks such as the GRI (Global Reporting Initiative) are a useful pointer.
- ◆ How firms compete
 - UBS's global sector research approach, rooted in the global sector research framework inaugurated by Tom Hill and the Global Sector Research team
- ◆ An analysis of the way social costs and benefits are distributed
 - Stakeholder balance sheet

Industry structure drives SRI/CSR issues

	Monopolistic or oligopolistic supplier/owner of resource	Access rights/ownership of finite resources	Essential nature of product or service	Diffuse customer base	Diffuse supplier base	Diffuse Labour force	Relative wealth of customer sub-groups	Relative wealth of supplier location	Relative wealth of labour force	Importance of technology to product differentiation	Asymmetry of information/Product complexity	Potential impact on diffuse community
Basic Materials	Y	Y		AT TIMES		Y		Y	Y			Y
Consumer non-cyclical	AT TIMES		AT TIMES	Y	Y	Y	Y	Y	Y	AT TIMES	AT TIMES	Y
Consumer Cyclical			Y	Y	Y	Y	Y	Y	Y	Y		Y
Energy (Oil)	Y	Y	Y	Y		Y	Y	Y	Y			Y
Financials	Y		Y	Y		Y	Y	Y	Y	Y	Y	Y
Healthcare	Y		Y	Y			Y	Y	Y	Y	Y	Y
Industrial				AT TIMES	AT TIMES	AT TIMES		Y	Y	Y		Y
Technology	Y			Y	Y	Y				Y	Y	Y
Telecommunications	Y		Y	Y	Y	Y	Y		Y	Y	Y	Y
Utilities	Y	Y	Y	Y		Y	Y				Y	Y

Source: UBS

How to use the table: consumer sector example

Necessity+fragmented customer base+large firms+product “complexity” = necessity for “social risk controls”.

Stakeholder balance sheet

An example of a shift in costs between stakeholders.

Climate Change Stakeholder Balance Sheet		No Carbon Tax		With Targeted Carbon Tax	
Stakeholder	Impact	Benefits	Costs	Benefits	Costs
Managers	Compensation is not adjusted for cost of carbon impacts	*****			*****
Owners (shareholders)	Profit accruing to shareholders is higher by the unrecognised costs of carbon emissions	*****			*****
Customers	Goods and services potentially at a lower price than with carbon offsets	*****			*****
Suppliers	Goods and services supplied at lower cost, unadjusted for cost of carbon emissions	*****			*****
Labour force	Compensation not adjusted for cost of carbon impacts	*****			*****
Other firms with a policy of emission reduction	Competition effects		*****	*****	
Government sector	Tax revenues not adjusted for carbon costs	*****			*****
Consumers	Faced with a menu of products which does not include the choice of carbon friendly alternatives (opportunity cost). Given little opportunity to exercise choice with respect to "bequests" to future generations.		*****	*****	
Wider community - short term	Suffering the cost of particulate emissions accompanying carbon dioxide, such as health effects, aesthetic effects		*****	*****	
Environment - short term	Short run impacts of fuel consumption on environment		*****	*****	
Wider community - future generations	Effects of global warming		*****	*****	
Environment - future generations	Effects of global warming and other environmental damage		*****	*****	
	Total Impact	*****	*****	*****	*****

Source: UBS

Stakeholder Balance Sheet - Example

Stakeholder Balance Sheet with WEEE Regulations in Place			
Stakeholder	Impact	Benefits	Costs
Firm - Owners (shareholders)	Depends on where, in the foodchain, costs are absorbed. Possible impact on profit margins may affect equity valuation.		Unclear who absorbs costs
Firm - manufacturer	Larger firms supplying equipment to commercial customers on a replacement basis: easy to establish economies of scale WRT recycling facilities. May even have existing infrastructure in some cases.	Possible competition effects (commercial customers).	Small to zero for large firms. Possibly significant for medium-sized and smaller-sized firms.
Firm - retailer/distributor	Firms supplying equipment to a fragmented commercial client base likely to see an increase in costs. Requirement to provide free in-store take-back or alternative is an added cost.		Increase in costs
Commercial Customers	WEEE may add a marginal incentive to customers to replace rather than move to anything materially different, so that the recycling obligation does not move to the customer.		Unclear who absorbs costs
Households	Households able to dispose of electronic waste responsibly. Whether a benefit depends on how perceived.	Benefit of free waste disposal	
Peers - Other firms	Possible competition effects if firm size varies widely	Competition effects	Competition effects
Wider community	Benefits from proper handling of waste, cleaner environment, if effective (for all but those affected by new recycling facilities).	Cleaner environment	

From 13th Aug 2005, producers (manufacturers, distributors and sellers) will be responsible for financing the collection, treatment, recovery and disposal of Waste Electrical and Electronic Equipment.

Source: UBS



CSR issues are value drivers

- ◆ A firm's enterprise value (EV) is the sum of the market value of all claims on the business, says the UBS Valuation and Accounting Group.
- ◆ Potential corporate social liabilities are just another claim on the business.
- ◆ They are therefore potential value-drivers, and they may compete with shareholders' equity (also of course lenders, pension fund beneficiaries) as a claim on the business.

CSR and Equity Valuation

- ◆ Include CSR liabilities in value analysis
 - Present values – what discount rate?
 - Expected values – what probabilities?
- ◆ Ensure consistent treatment
- ◆ Lessons from existing liabilities
 - Pensions
 - Environmental obligations

CSR: a source of claims on the business

Market ("Observed") EV

	Includes CSR effects	Excludes CSR effects
Calculated EV	Includes CSR effects	No gap between observed and calculated EV When market recognises the liability, equity claims on EV will decline
	Excludes CSR effects	Calculated EV needs to be adjusted No gap between observed and calculated EV

Source: UBS

It is impossible to know whether or not or to what extent the market is already discounting environmental and social issues in valuation. (UBS Valuation and Accounting Group).

Potential CSR liabilities: potential claims

Claims on the business	Rights (contractual agreement, tacit or legal)	NPV of enterprise cash flow
Equity	← Net profit (mix of dividends and capital gain)	
Debt	← Interest	
Off balance sheet pension fund liabilities	← Pension rights	
CSR liabilities	← Cash or payment in kind	

If the market has not recognized a potential corporate social liability it should be understood that when the market does recognize the liability the value of the other claims, in particular, equity's claim, on EV will decline. (Valuation and Accounting Group).

Source: UBS

Modelling

~~Suggested approach, cashflow perspective~~

- ◆ Project EV cash-flows as usual
 - CSR costs can affect margins over time, or EBITDA growth over time, or can be “one off” charges.
 - CSR-related investment (or “insurance”), in this model, can be an increase in fixed investment, depreciated over the appropriate period of time as usual.
 - Apply relevant discount rate to CSR related streams (WACC? Very low “social discount rate?”)
- ◆ Sector examples pp 41-42

Construction and building materials-example

- ◆ If we assume a 5% increase in fixed asset investment to reduce the burning of fossil fuels (in order to reduce the number of ETS contracts purchased), and an equivalent increase in D&A, (all other things being equal) the market capitalisation of the sector falls by 4% in the model.
- ◆ If the investment in fuel efficiency should happen to translate to a 2% improvement in EBITDA in 2005E, we estimate the model market cap. of the sector is unchanged. If EBITDA improves by 5% in 2005E, the market cap. of the sector rises by 6% in the model.
- ◆ According to this analysis, investments in fuel efficiency can add economic value.

Source: UBS SRI Team

Autos - example

- ◆ Assume a hypothetical situation, a large one-off charge to the sector in 30 years time, in respect of environmental damage from carbon emissions.
- ◆ We assume that this write-off in nominal terms is about the same size as global sales for the sector today (about US\$1.6bn).
- ◆ If this potential US\$1.6bn liability is discounted at today's WACC over 30 years, all other things being equal we estimate the sector capitalisation falls by just 5.5% in the model.
- ◆ Discounted at a much lower 'social time preference rate', half today's WACC, the hypothetical liability results in a 33% fall in the sector capitalisation in the model.



Isn't Money a Dirty Word?

- ◆ Putting an absolute monetary value on a clean environment, or an organisation's indirect economic impacts, the quality of life, or life itself, may be regarded as unethical or nonsensical.
- ◆ There is the additional problem of the lack of reference markets for many of the possible environmental or societal costs, or economic externalities.
- ◆ Putting a 'financial value' on something with no definable absolute value is a way of controlling the conditions under which exchange is made.
- ◆ In our opinion, putting a price on something 'priceless' when the aim is to facilitate a mutually beneficial, orderly, and equitable reallocation of resources (or to prevent expropriation) need be neither unethical nor nonsensical.



A Caveat: Sometimes There Just Isn't a “Value”

- ◆ Some things just can't be valued.
- ◆ We do not subscribe to the view that action should only be taken by companies to avoid a “social cost” if it can be valued.
- ◆ Sometimes, it's just a question of doing the right thing.

Finally...

- ◆ The key strength of the framework described in the report published today is that it can be used to capture
 - input from UBS sector analysts
 - Input from UBS valuation specialists
- ◆in such a way as to understand CSR issues, and of course therefore companies and sectors, better.



What are the issues to focus on?

- ◆ Our three-part framework suggests that key issues include:
 - climate change
 - regulatory change for hazardous substances and waste
 - the use of advertising
 - the impact of the arrival of new technology on industry structure
 - human rights
 - product responsibility
 - respect for and risks to privacy
 - bribery and corruption



Analyst Certification and Required Disclosure

Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers; and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Disclaimer

Global Disclaimer

This report was produced by: UBS Limited, an affiliate of UBS AG (UBS).

Head Office: UBS Limited, 1 Finsbury Avenue, London, EC2M 2PP, UK Phone: +44-20-7567 8000

This report has been prepared by UBS AG or an affiliate thereof ("UBS"). In certain countries UBS AG is referred to as "UBS". This report is for distribution only under such circumstances as may be permitted by applicable law. It has no reference to any specific recipient. It is published solely for informational purposes and is not to be construed as a solicitation or offer of any security or financial instrument, or any representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information concerning UBS AG, its subsidiaries and affiliates, nor is it intended to be a complete statement or summary of the information concerning UBS AG, its subsidiaries and affiliates, nor should it be regarded by recipients as a substitute for the exercise of their own judgement. Any opinions expressed herein are only those of the business area or group of UBS as a result of using different assumptions and information contained herein. UBS, its directors, officers and employees (excluding the US broker-dealer unless specifically disclosed under Required Disclosures) may act or have acted in connection with the preparation of this report, and may have or have had a relationship with or may provide or has provided investment banking, securities brokerage, advisory and other financial services to the relevant companies. Employees of UBS may serve or have served as officers or directors of the relevant companies. UBS may rely on information contained in one or more areas within UBS, into other areas, units, groups or affiliates of UBS.

The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. Investment in these instruments is considered risky. Past performance is not necessarily indicative of future results. For investment advice, trade execution or other services, recipients should contact their broker-dealer or agent. UBS nor any of its affiliates, nor any of UBS' or any of its affiliates, directors, employees or agents accepts any liability for the content of this report. Additional information will be made available upon request.

United Kingdom and rest of Europe: Except as otherwise specified herein, this material is communicated by UBS to UK and other European customers (as detailed in the FSA Rules) and is only available to such persons. The information is not intended for distribution to other persons. Switzerland: Distributed by UBS AG to persons who are institutional investors only. Italy: Should persons wish to effect transactions in the relevant securities, they should contact Giubergia UBS SIM SpA, an associate of UBS AG. (Giubergia UBS SIM SpA is a member of the JSE Securities Exchange SA. United States: Distributed to US persons by UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a "non-US broker-dealer"). A US broker-dealer (a "non-US broker-dealer") accepts responsibility for the content of a report prepared by another non-US affiliate with whom the US person has a relationship. All transactions by a US person in the securities mentioned in this report must be effected through UBS Securities Inc. Canada: Distributed by UBS Securities Canada Inc., a subsidiary of UBS AG and a member of the principal group of UBS AG. Its directors and senior officers will be provided upon request. Hong Kong: Distributed by UBS Securities Asia Ltd. Distributed by UBS Securities Japan Ltd to institutional investors only. Australia: Distributed by UBS AG (Holder of Australian Financial Services Licence No. 231098) only to "Wholesale" clients as defined in the Australian Financial Services Act 2008. New Zealand Ltd.

© 2005 UBS. All rights reserved. This report may not be reproduced or redistributed, in whole or in part, without the prior written consent of UBS. UBS and the UBS logo are registered trademarks of UBS AG. All other trademarks are the property of their respective owners. Actions of third parties in this respect.

Disclaimer - slide 1 of 4

Global Disclaimer

This report was produced by: UBS Limited, an affiliate of UBS AG (UBS).

Head office: UBS Limited, 1 Finsbury Avenue, London, EC2M 2PP, UK

Phone: +44-20-7567 8000

This report has been prepared by UBS AG or an affiliate thereof ("UBS"). In certain countries UBS AG is referred to as UBS SA.

This report is for distribution only under such circumstances as may be permitted by applicable law. It has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. It is published solely for informational purposes and is not to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein, except with respect to information concerning UBS AG, its subsidiaries and affiliates, nor is it intended to be a complete statement or summary of the securities, markets or developments referred to in the report

Disclaimer - slide 2 of 4

The report should not be regarded by recipients as a substitute for the exercise of their own judgement. Any opinions expressed in this report are subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS as a result of using different assumptions and criteria. UBS is under no obligation to update or keep current the information contained herein. UBS, its directors, officers and employees (excluding the US broker-dealer unless specifically disclosed under required disclosures) or clients may have or have had interests or long or short positions in the securities or other financial instruments referred to herein, and may at any time make purchases and/or sales in them as principal or agent. UBS (excluding the US broker-dealer unless specifically disclosed under Required Disclosures) may act or have acted as market-maker in the securities or other financial instruments discussed in this report, and may have or have had a relationship with or may provide or has provided investment banking, capital markets and/or other financial services to the relevant companies. Employees of UBS may serve or have served as officers or directors of the relevant companies. UBS may rely on information barriers, such as "Chinese Walls," to control the flow of information contained in one or more areas within UBS, into other areas, units, groups or affiliates of UBS.

Disclaimer - slide 3 of 4

The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Past performance is not necessarily indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative. Neither UBS nor any of its affiliates, nor any of UBS' or any of its affiliates, directors, employees or agents accepts any liability for any loss or damage arising out of the use of all or any part of this report. **Additional information will be made available upon request.**

United Kingdom and rest of Europe: Except as otherwise specified herein, this material is communicated by UBS Limited, a subsidiary of UBS AG, to persons who are market counterparties or intermediate customers (as detailed in the FSA Rules) and is only available to such persons. The information contained herein does not apply to, and should not be relied upon by, private customers. Switzerland: Distributed by UBS AG to persons who are institutional investors only. Italy: Should persons receiving this research in Italy require additional information or wish to effect transactions in the relevant securities, they should contact Giubergia UBS SIM SpA, an associate of UBS SA, in Milan. South Africa: UBS South Africa (Pty) Ltd (incorporating J.D. Anderson & Co.) is a member of the JSE Securities Exchange SA.

Disclaimer - slide 4 of 4

United States: Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a "non-US affiliate"), to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a report prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this report must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. Canada: Distributed by UBS Securities Canada Inc., a subsidiary of UBS AG and a member of the principal Canadian stock exchanges & CIPF. A statement of its financial condition and a list of its directors and senior officers will be provided upon request. Hong Kong: Distributed by UBS Securities Asia Limited. Singapore: Distributed by UBS Securities Singapore Pte. Ltd. Japan: Distributed by UBS Securities Japan Ltd to institutional investors only. Australia: Distributed by UBS AG (Holder of Australian Financial Services Licence No. 231087) and UBS Securities Australia Ltd (Holder of Australian Financial Services Licence No. 231098) only to "Wholesale" clients as defined by s761G of the Corporations Act 2001. New Zealand: Distributed by UBS New Zealand Ltd.

© 2005 UBS. All rights reserved. This report may not be reproduced or redistributed, in whole or in part, without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect.