Report of the Responsible Investment Working Group 2017

WILFRID LAURIER UNIVERSITY

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Executive Summary

In February 2016, Laurier received a letter from a group of faculty members recommending that the university divest from fossil fuels. The university presented the letter to the Board of Governors, and recommended the establishment of a working group. The Board approved the formation of the Responsible Investment Working Group (RIWG) at the September 2016 Board meeting.

Laurier is not alone in this respect. Several Canadian universities have or are in the process of reviewing their RI (Responsible Investing) practices. Recent discussions with other universities indicate that more than 30 Canadian universities have received divestment campaign requests and are at various stages of review and discussion.

In formulating the recommendations contained in this report, the RIWG investigated and researched responsible investment practices, reviewed Laurier's legal and fiduciary obligations, assessed existing policies and procedures, and studied other Canadian universities' approaches to responsible investing and divestment. The working group also engaged in consultations, including: two public consultations; presentations from various campus experts on investments, climate change and sustainability; and the receipt of 47 written submissions. The RIWG's investigations also included a discussion with Dr. William McNally of Laurier's Lazaridis School of Business and Economics, who is conducting research into divestment strategy.

The working group carefully studied the proposed policy of divestment and its goal of reducing carbon emissions, as well as alternatives to this proposed policy. While most experts agree on the effects of climate change, there is not a similar consensus among experts on the impact of divestment from fossil fuels on climate change. It is also not clear that the Board of Governors could achieve divestment without jeopardizing their legal and fiduciary obligations to the pension plan members, beneficiaries of and donors to endowment funds, and the university.

As such, the RIWG has concluded that it cannot recommend divesting from fossils fuels. The RIWG is concerned that this action would not achieve the desired goal of impacting climate change and would also put the university at risk of compromising its fiduciary duties. However, the RIWG does recommend that the university take the following actions:

1. Enhance Environmental, Social, and Governance (ESG) risk management strategies.
2. Develop a responsible investment annual report.
3. Develop a fossil free/impact investing endowment fund.
4. Seek out and create collaborative relationships with other institutions to advance RI/ESG strategies.
5. Continue to support research into the effects of climate change, the sustainability of ecosystems and ESG related issues.
6. Continue to implement strategies to reduce carbon emissions on campus and promote the principles of sustainability.

The RIWG believes that the recommendations outlined in this report will allow the Board to meet its fiduciary duties while at the same time support meaningful actions to reduce climate change, and address other issues of importance to the Laurier community.

Background

Introduction

More than 30 Canadian universities have received divestment campaign requests and are at various stages of review and discussing responses to those requests (underway, completed or re-initiated). RI concerns are not unique to Canadian universities. The 2016 NACUBO-Commonfund Study of Endowments[1], a comprehensive study of financial, investment and governance policies and practises of over 800 American college and universities, has been tracking responsible investing practises for several years. The study found that 17% of U.S academic institutions are looking for investments for their endowment funds that rank high on environmental, social, and governance criteria.

In February 2016, Laurier received a letter from a group of faculty members recommending that the university divest from fossil fuels. University administration presented the letter to the Board of Governors, and recommended the establishment of a working group to review the Board's existing policies, including ESG statements, related to pension and endowment fund investments to determine whether changes are required. Over the course of the next several months, administrative staff consulted with relevant Board committees, senior administration and stakeholder groups regarding the appropriate composition and mandate for the working group. In September 2016, the Board approved the establishment of the Responsible Investment Working Group (RIWG).

The Working Group – Membership, Mandate and Methodology

The RIWG is an ad hoc working group of the Board of Governors Pension and Finance & Investments Committees (the Committees), comprised of members drawn from the Committees and the broader Laurier community. The membership includes faculty, staff, students, alumni and external Board members. See Appendix A for the full membership and regular, internal resources. The university's external investment advisor attended every meeting; other resources were consulted as necessary.

Although the petition from faculty spoke specifically to the need to divest from fossil fuel investments, the Board agreed that a more comprehensive review of the university's investment policies, including current ESG statements, through the wider lens of responsible investment would be beneficial. Beyond the practicality of taking a broader view, the Board wanted to ensure that the policies were consistent with Laurier's values, vision, mission and guiding principles[2], as well as its reputation for environmental excellence[3] and social innovation[4].

Thus, the RIWG was established with a mandate to make a recommendation to the Committees on whether and how to revise existing investment policies and procedures for university managed investment funds to incorporate additional requirements relating to environmental, social and governance and socially responsible investment factors in investment decisions. If the RIWG's

[1] National Association of College and University Business Officers and Commonfund Institute, "2016 NACUBO – Commonfund Study of Endowments, 2017.

[2] https://www.wlu.ca/about/values-vision-mission/index.html

[3] https://www.wlu.ca/news/spotlights/2017/june/laurier-receives-prestigious-environmental-award.html

[4] https://www.wlu.ca/news/spotlights/2016/winter/changing-the-world-laurier-makes-a-difference-as-an-ashoka-changemaker-campus.html

recommendations are accepted by the Committees and the Board of Governors, the Working Group will have fulfilled its mandate and be dissolved. See Appendix B for the working group's full mandate.

Current State of Laurier's Pension and Endowment Funds

The policies under review govern the investment and management of the pension fund and endowment funds. The pension fund is invested on behalf of university employees and retirees who have contributed to the pension plan during the course of their employment. The endowment funds are established using donated funds, and the income is used primarily to support student scholarships, faculty appointments, and research. The pension and endowment funds and their investments are governed by legislative, common law and contractual requirements, as well as university policies, and cannot be used for anything other than their designated purposes. The Board through its Committees and the Investment Oversight Sub-Committee (IOC) are responsible for overseeing the management of these funds.

Each investment fund has a Statement of Investment Policies & Procedures (SIPP) (See WLU Policy Website for links). The SIPPs contain explicit directions on how the funds are to be managed, permitted categories of investments, fund objectives, portfolio diversification parameters and risk/return expectations. Each Laurier SIPP contains a statement on ESG as follows: "The Plan's active investment managers may consider all qualitative and quantitative factors affecting financial performance of existing and potential investments, including environmental, social and governance (ESG) factors. An investment manager's ability and desire to incorporate ESG factors into their investment selection process may be used as part of the decision criteria when evaluating investment opportunities." IOC has also adopted a Statement on Socially Responsible Investing. (See Appendix C)

The funds are invested on behalf of the university by external investment management firms chosen in accordance with the university's policies and provincial legislation. Because the university's investment funds have long-term objectives, the university has predominantly invested with managers who have a long-term view for their investments. It should be noted that these funds are a pooled fund type, meaning that the individual investment manager selects the specific investments and Laurier, along with other investors, purchases units within the pooled fund. The university does not currently invest in individual equities. This is the most economical option for an investor of Laurier's size to achieve the return required to support the purposes of the pension and endowment funds at an appropriate level of risk. See Appendix D for a more detailed breakdown.

To understand the university investment funds' exposure to Carbon Underground 200 (CU200) companies, administration and external advisors undertook an analysis by fund, which shows that the average exposure as at December 31, 2016 is under 5%. See Appendix E for a more detailed breakdown, as well as a breakdown by investment manager.

Key Findings from Research and Consultations

Meeting monthly, and sometimes more frequently, RIWG followed an education, research and consultation process, which included: receiving presentations on the university's investment funds and managers; reviewing existing university policies and practices related to ESG; hearing from legal counsel on the responsibilities of the Board with respect to investments; reviewing reports and articles on responsible investment; studying the policies, practices and responses to divestment campaigns at other universities and large pension funds in Canada; commissioning research from the university's

investment advisors on responsible investment products that might fit the university's portfolio requirements; requesting and reviewing research on portfolio impacts of divestment and investing in responsible investment products; soliciting feedback through written submissions and oral presentations by community members; and discussing the implications and options for Laurier's pension and endowment funds. See Appendices F - H for key definitions and concepts related to responsible investment, reference material consulted, a description of the consultation process and names of consultees.

Community Submissions

The RIWG interviewed the authors of the petition and other experts from within and outside the Laurier community; received 47 written submissions; and hosted public consultations at each of Laurier's Waterloo and Brantford campuses with members of the Working Group in attendance. RIWG heard from faculty, staff, students, alumni and broader community members. The submissions and public consultations were very helpful to the Working Group and emphasized the importance of this issue to the Laurier community. The RIWG sincerely appreciates the time, effort and passion brought forth by Laurier's community members.

The majority of Laurier community members recognize global warming and the associated effects on climate change as one of the biggest issues facing society today. The information presented in the submissions provides compelling evidence of the effects of burning fossil fuels on our environment, the impact of resource extraction on surrounding lands and inhabitants, the particular harm to Indigenous communities, and the need for society to act to ensure we mitigate these potential effects into the future. Other members of the community suggested other industries that the university's responsible investment policies should contemplate, including the weapons industry, fast fashion and industries known for human rights and other abuses.

Although there was general consensus on issues of importance to community members, there was a diversity of opinion on whether and how to reflect these issues in the investment policies for the pension and endowment fund. There were also many questions and misunderstandings about these funds, pointing to the benefit of providing more transparency and education.

Other Canadian Universities' Approaches

The RIWG reviewed reports from other Canadian universities that responded to requests for divestment. Please see Appendix G – Documents Consulted for the university reports reviewed.

The universities reviewed concluded that the primary responsibility of their Boards is to abide by their fiduciary duty to maximize returns within an acceptable level of risk. There was consensus that divestment is not an effective approach to responding to the issue of climate change, and that ESG policies would naturally deselect the companies for which the injurious impacts of their activities outweigh the societal benefits.

Several of the universities committed to engagement strategies that will enable their institution to work with fund managers and other investors. They further proposed to interact with industries and sectors through direct and indirect channels to encourage positive ESG policies, procedures and practices. Some universities have proposed to research or implement endowment funds that are sustainable or fossil-free endowment investment funds. This includes a commitment of seed money to initiate the fund. In most cases, the universities discussed or implemented mechanisms or processes by which universities will receive or consider future petitions or expressions of concern.

The University of British Columbia, University of Toronto and the University of Guelph also emphasized the bigger picture of sustainability and ways in which universities can address climate change through research, education and energy conservation. This emphasis is linked back to their vision, mission and strategic priorities.

Legal Responsibilities Related to Investments

The RIWG met with the university's legal counsel on two separate occasions and also received a written report. Consistent with the advice provided to other Canadian universities, the Board of Governors has the legal obligation to maximize financial returns to the investment funds over the long term within a reasonable risk profile. The Board may consider ESG factors in investment decisions, but not to the detriment of the long-term investment returns to the funds. The Board may also choose to hold securities directly rather than through pooled funds; however, the additional administrative costs and management fees must be weighed against the long-term returns to determine where there will be a negative impact on overall returns. Beyond statutory and common law duties, the Board must also take into account contractual obligations related to the endowments, for example, if there are agreed upon investment targets or asset mixes for those funds. These legal obligations and the potential for legal liability place constraints on options available to the Board to respond to requests for divestment or related alternatives.

Financial Considerations & the University's Fiduciary Duty

As noted in the summary above, the university invests the pension and endowment funds with third-party managers rather than directly, which is the most economical strategy for an investor of Laurier's size. In order for the Board to consider divestment of fossil fuels, it would have to identify pooled fund investments that do not and will not invest in fossil fuels. In order to meet its fiduciary obligations, the Board would need to assure itself that these funds could be expected to achieve the same or better long-term returns as the existing portfolio with a similar risk profile.

Several community members pointed to research that fossil-free funds are producing similar returns to non-fossil-free funds and therefore the university could shift its investments to these fossil-free funds and continue to meet the university's fiduciary obligations. Upon researching fossil-free funds, RIWG found it difficult to conclude that financial performance would not suffer from divestment of fossil fuels. There is a lack of robust, long-term data on fossil-free funds, because many are relatively new. Most of the studies referenced by consultation participants involved companies with strong ESG practices and sustainable investment practises. ESG practices and sustainable investment practises are often correlated with positive returns because they signal well-run companies; however, strong ESG practices and sustainable investment do not always mean divestment has occurred.

Laurier's investment consultant performed a search of the fund universe to identify non-CU200 funds that could possibly replace Laurier's existing pooled funds. Out of a fund universe of 727 funds, the investment consultant was able to identify 15 that fit into Laurier's investment asset classes and were also non-CU200. The investment consultant analyzed these funds based on Laurier's standard risk/return guidelines. These non-CU200 Funds underperformed as compared to Laurier's current funds on a risk and a return perspective. Therefore, RIWG expressed concerns that Laurier would compromise its fiduciary obligations if it replaced Laurier's existing funds with non-CU200 funds. Another and perhaps more significant concern arising from this analysis was the limited number of funds that would meet this criterion (15 of 727). This would raise Laurier's diversification risk level for achieving fund balance.

The RIWG also consulted with many on-campus and industry experts about the financial impacts of divestment[5]. A number of challenges were raised with the concept, including: the difficulty of determining where to draw the line, i.e., should the university divest of companies extracting fossil fuels or should this extend to their suppliers, financiers and customers; the downstream impacts of divestment on companies not intended to be targeted; the low likelihood that the company from which an investor has divested will be negatively impacted by the divestment; the difficulty of assessing stranded asset risk on a portfolio taking into account the potential downstream impacts on many different holdings and the uncertainty around timing; the importance of portfolio diversification and the impact of divestment from an entire sector or choosing funds from a very narrow investment universe (see above); and, managing responsible investment concerns for a portfolio comprised mainly of pooled funds.

Recommendations

The Working Group carefully studied the proposed policy of divestment and its goal of reducing carbon emissions. While most experts agree on the effects of climate change, there is not a similar consensus among experts on the impact of divestment from fossil fuels on climate change. It was also not clear that the Board of Governors could achieve divestment without jeopardizing its legal and fiduciary obligations to the pension plan members and the university. However, the RIWG does recommend that the university take the following actions to achieve many of the desired goals expressed during consultations:

Enhance ESG risk management strategies.

It was suggested that investment results from companies that do not follow robust environmental, social and governance (ESG) practices may be weaker over time, with lower returns and higher volatility. This idea may be especially relevant for fossil fuel companies because of the risk of stranded assets. As the fiduciary for the university's investment funds, the Board's responsibility includes prudent oversight of investments with the aim of maximizing returns and minimizing risk. The Investment Oversight Sub-Committee (IOC), acting on behalf of the Board, reviews investment managers, assessing their holdings and the potential for good performance. As part of this process, the IOC should ensure that managers monitor ESG practices, especially where the absence of such practices are a threat to long-term returns. Unless the Board is made aware of these risks, it cannot be in a position to mitigate them.

With the foregoing in mind, the RIWG recommends that the university:

a. Commence an ESG training and education program for responsible administrators, the Board, the Joint F&I and Pension Committee and Investment Oversight Sub-Committee, which covers, among other things, practices for monitoring and accountability along with ESG risk analysis methodologies.

[5] The RIWG would like to acknowledge particularly the contributions of Dr. William McNally (a member of the Board's Pension Committee), who with the assistance of Dr. Brian Smith (a member of the Board's Investment Oversight Sub-Committee) and Dr. Fabricio Perez, prepared a research note that addresses several concerns with engaging in a fossil fuel divestment strategy. The research note is included in Appendix I.

b. Investigate methods for conducting an ESG risk analysis on the university's investment funds. This would include looking at how ESG factors affect growth and sustainability in various asset classes. If a reasonable, reliable and cost-effective method is available, conduct an ESG risk analysis.
c. Revise the ESG sections in the statements of investment policies and procedures to reflect the university's mission, vision and values, a more robust statement on the consideration of ESG factors in decision-making, and revised practices for measuring, monitoring and mitigating ESG risk in the investment funds.
d. Incorporate any revised policies, practices and processes into the terms of reference of Joint F&I and Pension Committee and Investment Oversight Sub-Committee.
e. When looking for new investment opportunities, consider impact-investing and other ESG opportunities that align with our investment policies, practices, asset classes and risk/return requirements.[6]

Develop a responsible investing annual report.

Stakeholders requested greater transparency with respect to the university's ESG policies and exposure to ESG risk, in particular funds invested in the CU200. RIWG recommends that the university develop and make publicly available an annual report that includes the follow elements:

a. Allocations by asset class for each investment manager.
b. Percentage of funds invested in CU200 and percentage of CU200 for each investment manager.
c. Assessment of progress on recommendations from this report
d. Reports on ESG policies and risk assessment methodologies of each Investment Manager including:
    i. Rationale for investing CU200 stocks (if they are part of their current investment portfolio);
    ii. Policies on proxy voting that support ESG practices;
    iii. ESG initiatives such as UNPRI membership or rationale for not being a signatory.
e. Where available, Scope 1, 2 and 3 greenhouse gas emissions data (on gross and per dollar of revenue basis) for the largest 10 public securities holdings of the university. This would help members of the university community better understand the extent to which greenhouse gases are emitted throughout the life cycle of an investee company's production and product usage.

Develop a fossil-free/impact-investing endowment fund.

Seek funding to create an alternative fossil-free/impact-investing endowment investment fund that is available to university donors. The IOC would provide oversight for this fund consistent with other university funds. This would also support the Board's continual monitoring of ESG practices and ESG risk.

[6] It should be noted that the university invests in pooled funds, meaning that the individual investment manager selects the specific companies and Laurier purchases units within the pooled fund. So, these type of investments decisions would be made within the pooled fund level and not at the individual stock or bond level.

Seek out and create collaborative relationships with other institutions to advance RI/ESG strategies.

Continue to monitor and discuss with other universities RI and ESG strategies and concepts. Become a member of the Responsible Investing Association of Canada. Measures of success could range from the development of proxy voting policies and guidelines to the development of sustainable investment funds that meet the risk/return requirements of our investment funds.

Continue to support research into the effects of climate change, the sustainability of ecosystems and ESG related issues.

Laurier's 2014-2019 Strategic Research Plan is organized into five thematic clusters of excellence. Three of the five thematic clusters that are particularly relevant to ESG are environment; governance & policy; and economics, markets & management. RIWG supports the advancement of research into the environment, climate change and sustainability as a way to make a significant impact on the reduction of carbon emissions and the advancement of clean renewable energy. RIWG also supports research into improving the GHG emissions data and investigating the efficacy and tradeoffs involved in using portfolio management to address climate change.

Continue to implement strategies to reduce carbon emissions on campus and promote the principles of sustainability.

Laurier has put significant effort into researching and implementing sustainable practices for several years. The university's Sustainability Action Plan 2012-2016 and the university's underlying sustainability policy have specific goals related to infrastructure and operations, education and community partnerships. The RIWG fully supports the work done by Laurier's sustainability office and recommends that the university put more emphasis on educating the Laurier community in an effort to reduce carbon emissions both on and off campus. Since consumers create the demand for energy, by educating our community on conservation and the use of renewables we can set the example for our broader community.

Conclusion

The RIWG thanks the authors of the divestment letter for drawing attention to the issue of climate change and how the university can play a greater part in addressing this and other issues important to our community. RIWG believes that the recommendations outlined in this report will allow the Board to meet its fiduciary duties while at the same time support meaningful actions to reduce climate change.

Appendix A – RIWG Membership

Name	Constituency
Lynda Kitamura (co-chair)	External Board of Governors Member
Alastair Robertson	Retiree Representative to Pension Committee
Marc Kilgour	Faculty Representative to Pension Committee
Tom Berczi (co-chair)	External Board of Governors Member
Bill Muirhead	External Board of Governors Member
Niru Philip	Staff Representative to Board of Governors
Marley Wildish	Undergraduate Student
Marc Richardson	Alumni
Gautam Khanna	Graduate Student
Donna Kotsopoulos	Faculty

Resource Staff	
Wayne Steffler	AVP, Administration
Rebecca Wickens	University Secretary
Nic Wright	Manager- Treasury and Cash Mgm't
Mary Anne Banks	AVP: Financial Resources

Appendix B – Terms of Reference

Purpose

To advise the Pension Committee and the Finance & Investments Committee (the "Committees") on whether and how to revise existing investment policies and procedures (the "SIPPs") for University-managed investment funds (the "Investment Funds") to incorporate additional requirements around the consideration of environmental, social and governance ("ESG") and socially responsible investment ("SRI") factors in investment decisions.

Role of the Working Group:

To make recommendations to the Committees consistent with the purpose above, after having conducted appropriate research and consultation, including:

- Investigate and research SRI, ESG, Fossil Fuel Divestment and Impact Investing concepts and practises within the public sector and higher education environment;
- Review of the purposes and goals of the Investment Funds;
- Review of the legal and regulatory requirements, including contractual commitments, fiduciary and trust responsibilities, and legislation related to pension plans;
- Review of existing University policies, procedures and governance related to Investment Funds, and existing University policies, procedures and governance related to Sustainability and Environmental Responsibility;
- Review of other Canadian universities' approaches to incorporating ESG factors into decision-making;
- Researching different ways to incorporate ESG factors into investment decisions and modelling the impact of different models on the Investment Funds' returns and the ability to fulfill commitments to donors, plan members and other beneficiaries of the Investment Funds;
- Consulting University stakeholders, including pension plan members, retirees, donors and students;
- Consulting legal, actuarial and investment advisors, as appropriate; and
- Conducting other appropriate and reasonable research and consultation required in order to provide advice within the mandate of the working group.

Meetings:

Monthly or more frequently as determined by the working group, with the goal of completing its work in early to mid-2017.

Reporting Structure:

The Working Group will report on its progress at each regularly scheduled joint meeting of the Committees. The final report will include recommended amendments to the SIPPs and an analysis of the financial impact, risks and benefits associated with the recommendations. If the Committees accept the recommendations of the working group, the Committees will recommend the revised SIPPs to the Board of Governors for approval.

Membership Criteria:

Must be financially literate and have proven strong knowledge of investment and pension concepts.

Membership:

Members will be appointed by the Chairs of the Pension Committee and the Finance & Investments Committee.

Voting Members:

- 3 Members of the Pension Committee, at least one of whom is a pension plan member and one of whom is a retiree
- 3 Members of the Finance & Investments Committee
- A Chair or Co-chairs selected by the Committees, who is/are amember(s) of the Finance & Investments and/or Pension Committees
- Three other working group members may be appointed on the recommendation of the Nomination Committee in order to add expertise and/or representation from affected stakeholder groups, provided that at least one of these members is a Laurier faculty member.

If there is no Committee member available to serve on the Working Group who meets the membership criteria (above), on the recommendation of the Nomination Committee, one of the Pension Committee or Finance & Investment Committee positions may be filled by a member of the Laurier community (faculty, staff, student, alumni, Board member) who is not also a Committee member, provided that individual meets the membership criteria.

Resources:

- A minimum of 3 resource people as appointed by the VP: Finance & Administration

Appendix C – Statement on Socially Responsible Investing & ESG Statement

The IOC reviewed the issues pertaining to responsible investing and developed a statement regarding socially responsible investing (Appendix A). The Statement on Socially Responsible Investing is the actual statement that was developed in October of 2014. This statement emphasized the IOC's fiduciary responsibility to the Pension Plan and Endowment Funds. The IOC also recognised that the application of ESG principles can contribute to the long-term financial returns of the funds. As a result, the IOC committed to understanding the university's investment managers' ESG practises and keeping up to date on the trends in the industry.

In November of 2015, as per changes to the Federal and Provincial Pensions Acts/Regulations, Laurier included its position on ESG within the Pension Statement of Investment Policies and Procedures as follows: "*The Plan's active investment managers may consider all qualitative and quantitative factors affecting financial performance of existing and potential investments, including environmental, social and governance (ESG) factors. An investment manager's ability and desire to incorporate ESG factors into their investment selection process may be used as part of the decision criteria when evaluating investment opportunities."* This policy statement was also included in the university's endowment statements of investment policies and procedures.

Statement on Socially Responsible Investing

The IOC's mandate is to assist the Pension and Finance/Investment Committee in meeting its investment fiduciary obligations for the Pension Plan and other University investments including the Endowment Fund, Sinking Fund and the Balsillie Fund.

This fiduciary responsibility requires the Committee to be prudent and use good judgment when making investment decisions. The most common test for this responsibility is taken from Section 27 of the

Trustee Act (Ontario), commonly known as the "Prudent Investor Rule". The Prudent Investor Rule suggests that overall portfolio performance should be accepted as one of the core measurements as to whether or not the trustees have acted in accordance with the required standard of care and prudence. Thus, any position that is adopted with respect to socially responsible investing must not conflict with this primary responsibility.

Arguments have been put forward that the application of environmental, social and corporate governance (ESG) principles to investment selection can contribute to long-term financial returns.

Recognizing the primary responsibility of overall portfolio performance, the IOC has developed the following list of practices relating to the University's investment portfolios. The IOC will:

1. Develop an understanding of how / if the current portfolio managers incorporate ESG principles into their investment process.
2. Have prospective managers articulate how they integrate ESG relevant criteria into their investment process are part of the RFP process.
3. Not mandate the exclusion of companies or other investments that operate in certain industries or geographical areas.
4. Continue to review, on a periodic basis, changes in the practices of other Canadian pension funds and University endowed investments with respect to responsible investing to identify changes in trends and best practices.

Appendix D - Analysis of Laurier's Current Investments:

Table 1 is a listing of Laurier's Investment Managers' invested balances as of December 31, 2016. The invested funds are distributed among 10 investment managers through an extensive analysis process. The investment managers specialize in certain asset classes (i.e., fixed income, equity, alternative). These firms were selected following an extensive request-for-proposal process that considers criteria such as experience of staff, strength of investment process and long-term investment performance. The types of funds are the pension fund, the general endowment fund, the Balsillie endowment funds and the Lazaridis Gift. It should be noted that all of these funds are a pooled fund type meaning that the individual investment manager selects the specific investments and Laurier purchases units within the pooled fund.

Table 1

Laurier's Investment Manager Mix as at 12/31/16 (% Allocations)					
	Pension	**Endowment**	**Balsillie**	**Lazaridis Gift**	**Total**
Addenda		11.1%	19.3%	20.8%	2.2%
Brandywine	6.1%	5.7%		5.2%	5.9%
Cash	0.6%	0.5%			0.6%
CGOV	5.1%				4.3%
CI	27.2%	27.2%			26.1%
First Eagle	12.8%	6.6%	16.3%		11.9%
IFM	2.2%				1.8%
Polar	2.0%	2.1%	8.1%		2.1%
QV	21.5%	24.8%	35.6%	38.6%	22.5%
Romspen	9.7%	15.2%	20.7%	21.1%	10.28%
Walter Scott	12.8%	6.8%		14.3%	11.9%
Total	**542,920**	**75,716**	**12,999**	**14,310**	**645,491**

Appendix E - Analysis of Laurier's Level of Investments in CU200 Companies

The university analyzed the underlying fund investments in order to determine the level of investments within the Carbon Underground 200 companies. Table 2 is a percentage calculation of the Carbon Underground 200 companies within the Laurier investment funds which shows that the percentage is under 5%.

Table 2

Laurier's Investments Currently Invested in the Carbon Underground 200 List				
As at 12/13/16				
	Pension	**Endowment**	**Balsillie**	**Lazaridis Gift**
Carbon Underground 200	4.1%	3.2%	1.5%	2.0%

The Responsible Investment Working Group also reviewed the percentage of Carbon Underground 200 companies by each of Laurier investment manager holdings. The results of that analysis is in Table 3.

Table 3[7]

Laurier's Investments Currently Invested in the Carbon Underground 200 List		
As at 12/13/16		
Manager	Type of Investment	%
Addenda	Mortgages Pooled Fund	0.0%
Brandywine	Global Bond Fund	0.7%
CGOV	Canadian Separately Managed	5.1%
CI	Signature Balanced Fund	6.1%
First Eagle	Global Value LP	3.4%
IFM	Global Infrastructure LP	0.0%
QV	QV Balanced Account	3.3%
QV	QV Balanced Equity Account	5.9%
Romspen	Commercial Mortgage Pool	0.0%
Walter Scott	Global Pooled Fund	8.4%

[7] Polar was not included in this analysis as their account was liquidated at the end of December 2016.

Appendix F – Key Concepts

The following is listing of the key definitions RIWG agreed upon and referenced during their deliberations, and as they relate to this report:

Responsible Investing:

"Investing that integrates environmental, social and governance (ESG) factors. Responsible investing is related to but distinct from ethical investing, socially-responsibly investing, impact investing and green investing, and is increasingly driven by a business case rationale rather than moral rationale. RI encompasses a range of strategies, including ESG integration, positive screening, and best-of-sector screening."[8]

Socially Responsible Investing:

"Investing that considers environmental, social and governance (ESG) factors but typically driven by a moral case rather than a business case. May be more likely than mainstream responsible investing to include negative screens on entire sectors, such as tobacco, gambling, alcohol, or weapons."[9]

Environmental, Social and Governance (ESG) Investing:

"An investment practice that involves integrating the three ESG factors into fundamental investment analysis to the extent that they are material to investment performance."[10]

Fossil Fuel Divestment or Fossil Fuel Free:

"An investment strategy based on the exclusion of fossil fuel companies from a portfolio. Advocates of this strategy state that there are 200 publicly-traded companies that hold the vast majority of the world's proven coal, oil and gas reserves. They're asking universities, charitable foundations, pension funds and other institutions to divest from these companies, as well as pipeline companies responsible for the expansion of fossil fuel projects."[11]

Impact Investing:

"Impact investments are investments made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return. Impact investments can be made in both emerging and developed markets, and target a range of returns from below market to market rate, depending on investors' strategic goals."[12]

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[8] Canadian Association of University Business Officers, "Building a Toolkit for Effective, Ethical and Responsible Reponses to Divestment Campaigns", page 7, Feb, 2017.
[9] Canadian Association of University Business Officers, "Building a Toolkit for Effective, Ethical and Responsible Reponses to Divestment Campaigns", page 7, Feb, 2017.
[10] Commonfund Institute, "Commonfund Study of Responsible Investing", page 2, April 2015.
[11] Responsible Investment Association, "Glossary", https://riacanada.ca/glossary/
[12] Global Impact Investing Network, "What is impact investing", https://thegiin.org/impact-investing/need-to-know/#s1

Carbon Underground 200 (CU200)

The Carbon Underground 200 represents the top publicly-traded coal, oil, and gas reserve-owning companies globally, ranked by the carbon emission potential of their reported fossil fuel reserves.[13]

[13] Fossil Free Indexes, http://fossilfreeindexes.com/research/the-carbon-underground/

Appendix G - Documents Consulted

Beyond Divestment: Taking Decisive Action on Climate Change, Administrative Response to the Report of the President's Advisory Committee on Divestment from Fossil-Fuels, Meric S. Gertler

The Case for Queen's University Divestment of the Pooled Endowment Fund from the Fossil Fuel Industry, Contributors: Ryan Broe, Vincent Hanlon, Colin Burns, Victoria Denney, Erin Keenan, Miriam Sabzevari, Emily Graham, Adrian Parlow, Courtney Jacklin, Phil Anderson, Ellen MacAskill, Catherine Haft, Olga Khuskivadze, Tegan McWhirter

Divestment and Climate Change, William J. McNally

Fossil Free Campaign Orientation Paper for University of Ottawa, Dr. Tessa Hebb

Fossil Fuel Divestment: Review and Analysis of Options for McMaster University, President's Advisory Committee on Fossil Fuels Divestment

The Proposal to Divest Dalhousie's holdings in 'carbon-holding' companies, Dalhousie University Board Investment Committee, Report to the Board of Governors

Queen's University Statement on Responsible Investing

Responsible Investing Policy, Queen's University Report to the Board on Divest McGill Submission of February 2015, issued March 17, 2016

The Rise of Divestment Campaigns across Canadian Universities, Deirdre (Dee) Henne, April 2016

UBC Divestment Proposal, Prepared by Koskie Minsky LLP

University of British Columbia Endowment Responsible Investment Policy version 2.0

University of Guelph, Ad Hoc Working Group on Responsible Investing, Final Report, July 2015
Various articles from http://www.ubcc350.org/divestment-at-ubc/

Additional Resources referenced in the Submissions:

- "Divesting and Re-investing into a Greener Future for Canada," 2016 thesis by University of Waterloo graduate student Chelsie Hunt. Chapters 2.5 Socially Responsible Investing and 2.6 Environmental SRI Approaches are of particular interest
- SHARE: Shareholder Association for Research & Education
- Responsible Investment Association Canada
- Forum for Sustainable and Responsible Investment
- Responsible Investment Association (RIA| https://riacanada.ca)
- The Shareholder Association for Research and Education (SHARE|share.ca) which facilitates shareholder action and representation with management etc.

Appendix H - Consultation Process

RIWG placed a high priority on consultations and interviews with members of the university community and industry experts to assist working group members with understanding different perspectives on the ethical, legal, moral and financial aspects of investing of the pension and endowment funds. Consultations were conducted in the following ways:

- public call for written submissions,
- interviews with industry and on-campus experts, and
- public forums on Waterloo campus (March 7) and Brantford campus (March 8).

To help contributors prepare their submissions, they were asked to consider:

1. What does “Responsible Investing” mean to you?
2. Is Responsible Investing important to you and/or the university? Why?
3. Beyond legal requirements, what key principles or factors should guide the university’s investment policies and procedures related to Responsible Investing?
4. What assessment criteria should the university use to determine if its approach to Responsible Investing has been effective?

Industry and on-campus experts were also asked questions specific to their areas of expertise.

The working group did not track the names of those who presented at the public forums. The following are members of the university community and community at large who submitted written feedback to the Responsible Investment Working Group:

Alex Latta, Faculty, Wilfrid Laurier University

Amy Neufeld, Staff, Wilfrid Laurier University

Ann Marie Beals, Student, Wilfrid Laurier University

Anne Wilson, Faculty, Wilfrid Laurier University

Bogdan Zadorozhny, community member

Brent Zorgdrager, Chief Executive Officer, Kindred Credit Union

Brett Cox, Student, Wilfrid Laurier University

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Chelsey Bouchard, Student, Wilfrid Laurier University

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Laura Hamilton, Community member

Marc Henein, Community member

Mark Harris, Principal-Dean, Waterloo Lutheran Seminary

Michael Peters, Student, Wilfrid Laurier University

Oleg Kodolov, Faculty, Wilfrid Laurier University

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Rohan Chen, Student, Wilfrid Laurier University

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Sarah Fries, Student, Wilfrid Laurier University

Appendix I – Dr. William McNally's Research Note

Divestment and Climate Change

William J. McNally

April 2017

Keywords: Divestment.

J.E.L. Classification:

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Introduction

In January of 2016, a number of Laurier faculty signed a letter (hereafter "The Letter") urging the University to divest from fossil fuel companies in all endowment funds and the employee pension.[14] This research note addresses a number of issues related to the divestment strategy—in particular, the stranded asset thesis, financial strategy alternatives, implementation challenges and the financial effects of divestment strategies. This note does not consider alternative strategies for decarbonizing the economy. The Letter itself does not explain why divestment is superior to alternatives like promoting research into clean energy generation, renewable energy sources, climate science, and environmental economics.

The Letter articulates two goals. The first part of The Letter argues that, "Sooner or later, the world is going to get serious about regulating carbon emissions and when it does assets will likely be stranded." This argument supports a risk management goal: that portfolio managers should hedge the risk of stranded assets. The second goal, articulated later in The Letter, is more revolutionary. In particular, that "the present generation…have a duty to help decarbonize the global economy as rapidly as possible."

Establishing the goal is important because the goal informs the optimal financial strategy. If the goal is to hedge stranded asset risk, then the best risk management strategies are: 1) diversification; or 2) portfolio reweighting. If the goal is to decarbonize the economy, then diversification and reweighting will have little effect. The financial strategy with the most potential to influence corporate behavior is full divestment.

The remainder of this note is organized as follows. The second section defines the stranded asset thesis and contrasts it to another thesis. The third section defines two alternative financial strategies: divestment and reweighting. The fourth section discusses the challenge of using GHG emissions data to implement divestment or reweighting. The fifth section presents the financial theory of divestment and empirical evidence on the impact of divestment on risk and return. The sixth section concludes.

The Stranded Asset Thesis

In this section we define the stranded asset thesis and contrast it to an alternative thesis.

"Carbon stranded assets are assets that may lose economic value before the end of their expected life primarily driven by changes in regulation and technology...."[15] There are a number of potential strategies to manage this risk (reweighting, diversification or divestment) but each requires a precise articulation of the economic scenario so as to identify the set of companies to be reweighted or avoided.

A Stranded Asset Scenario

The stranded asset thesis envisions the imposition of severe and sudden environmental regulations (or very rapid technology changes) which render reserves of oil, gas and coal worthless. But it isn't just extraction firms that would be harmed in this scenario. Service firms would also be hurt. Consider

[14] Letter from Simon Dalby, Shohini Ghose and Byron Williston (Feb 1, 2016) to Max Blouw, Deborah MacLatchy, Robert Gordon and Jim Butler.

[15] Briand, R., L. Lee, S. Lieblich, V. Menou and A. Singh. (2015) Beyond Divestment: Using Low Carbon Indexes. Working Paper from MSCI ESG Research Inc. p. 6.

AirBoss of America, which manufactures rubber conveyor belts for mining (based in Kitchener Ontario). A reduction in coal mining would reduce demand for AirBoss' products and its stock would fall. Companies up the supply chain--that use oil, gas and coal as inputs--would also be hurt. Steel companies, such as ArcelorMittal Dofasco in Hamilton, use coal as an input to its manufacture of steel and would be harmed by rising input costs. Indeed, over 60% of the electricity generated in North America is from fossil fuels. Regulations which reduce the amount (or raise the price) of oil, gas and coal will increase the cost of electricity, raise the cost of anything made with electricity and reduce the value of any company that substantially relies on electricity. The increased cost of fossil fuels and electricity would have a profound negative effect on the value of companies in the industrial, automotive and transportation sectors of the economy.

From this example, it is clear that fossil fuel extraction and energy generation are inextricably linked to many other companies in the economy. These connections have risk and portfolio implications that we will discuss later. The larger point of the example is that it is difficult (perhaps impossible) to identifying *a priori* the companies that should be targeted for divestment or reduced weighting.

An Alternate Thesis

The stranded asset thesis is only one possible future economic scenario. To build a portfolio around one thesis, an investor would have to be very confident of the scenario's likelihood. Here we present an alternative scenario that can be used to gauge the likelihood of stranded assets.

The stranded asset thesis predicts regulatory and technology changes that are sufficiently sudden and severe that proven fossil fuel reserves are written off and associated assets are reduced in value. Mark Jaccard, a sustainable energy economist, predicts a smoother transition. He writes that "our vast fossil fuel resources, perhaps especially coal, are likely to remain among the cheapest sources of clean energy for the next century and perhaps longer, which is critical for the economic and social development of the world's poorer countries. By buying time for increasing energy efficiency, developing renewable energy technologies and making nuclear power more attractive, fossil fuels will play a key role in humanity's quest for a sustainable energy system."[16]

Under Jaccard's thesis, we should expect a slow decline of fossil fuel energy and a slow adjustment of the economy to alternative sources. Under this scenario, the optimal financial strategy is wide diversification with frequent portfolio rebalancing based on market values. As the demand for certain products declines (i.e., oil, gas, coal and derived products) the stock of companies producing those goods will decline. At the same time, the stock of companies producing alternative energy will rise in value. A portfolio that is based on market value weights will gradually shift away from fossil fuels and carbon intensive products. The diversification strategy does not involve the analytical complexity and foresight of divestment.

The asset stranding scenario is but one possible economic scenario. The authors of The Letter are confident of its likelihood. Investors who are confident of a scenario can use strategies to hedge the risk or, depending on risk tolerance, speculate. If an investor is uncertain about the likelihood, magnitude

[16] Mark Jaccard, (2007). Fossil fuels and clean, plentiful energy in the 21st century: The example of coal. EIB Papers, 12(1), 80-104.

and timing of a thesis, then the optimal risk management strategy is simple diversification, which is the management strategy currently employed by the University.

Financial Strategies: Divestment and Reweighting

If one accepts the stranded asset thesis, then there are two available financial risk management strategies: 1) divestment, or 2) portfolio reweighting. In this section we briefly describe the two financial strategies.

Divestment

The divestment strategy involves not holding certain stocks in the portfolio. The identity of the avoided stocks depends on the goal and circumstances. Divestment is touted as a mechanism for placing economic pressure on companies to change their behavior. Divestment is an alternative to more direct tactics such as boycotts and demonstrations. A classic example is the South African divestment movement which sought to force the end of apartheid by avoiding investment in the shares of companies that did business in South Africa. More recently, some investors avoid sin stocks (tobacco and guns) or the shares of companies that are not socially responsible. We will have more to say about the potential financial (and economic) impact of divestment in Section 5. Here we focus on the challenges to implementing a divestment strategy.

The Letter demands divestment of "fossil fuels". This is imprecise and not sufficient for achieving the stated goal of "decarbonizing" the economy. Imprecise, because the University does not invest in commodities. Not sufficient, because the scope is too narrow. Whether the goal is risk management or to decarbonize the economy, all carbon intensive companies should be divested. As we noted above, fossil fuels are inextricably linked to many other companies in the economy. *A priori* identification of all carbon intensive companies is difficult. An alternative approach is to obtain a measure of the carbon footprint of each public company and diversify from the worst offenders. Section 4 discusses this approach.

The divestment approach has both costs and benefits. The costs are: reduced diversification, potentially reduced returns, increased tracking error relative to market baskets, and increased exposure to systematic risk factors. The benefit of divestment is twofold: 1) it best hedges stranded asset risk; and 2) it is highly visible and so clearly signals virtue to stakeholder groups. In Section 5 we present a theoretical model of the consequences of divestment.

Reweighting

Reweighting means reducing the proportionate investment in particular assets. In the case of mitigating stranded asset risk, a reweighting strategy would invest a smaller proportion of a portfolio in companies that are 'at risk' compared to a value-weighted market basket of stocks. At-risk stocks, are those that are likely to lose value under the stranded asset thesis. As with the divestment strategy, *a priori* identification of 'at risk' stocks is complicated and an alternative is to reweight based on measures of carbon footprint (described in Section 4).

Portfolio reweighting has both costs and benefits. The costs are: it is not as effective (as divestment) in pressuring companies to decarbonize; it does not mitigate stranded asset risk as effectively as divestment (because the portfolio still contains 'at risk' assets); and it does not signal climate virtue as

effectively as divestment. The benefits are that it (largely) maintains diversification; it maintains exposure to the boycott systematic risk factor (described below), it minimizes the deleterious impact on returns and it reduces tracking error relative to market baskets.

Measuring Carbon Intensity

The diversification and reweighting strategies both depend on identifying carbon intensive companies. A priori identification from economic first principles is difficult. An alternative approach is to identify based on greenhouse gas (GHG) emissions.

Two companies sell measures of GHG emissions of publicly listed companies: MSCI and TruCost. The MSCI data set covers 8,500 globally-listed companies going back to 2008. The TruCost data goes back to 2005 and includes approximately 6,000 global companies including the S&P 500 in full and 98-99% of the Russell 1000. Neither dataset includes all North American public companies, particularly Canadian companies. Both are quite recent. Thus, neither dataset is an instant solution to the problem of identifying the emissions of every stock in the public markets.

Another problem with MSCI and TruCost data is that it does not measure all of the emissions of each company, and so rankings of companies by their measures will produce identification errors. Both sources measure the carbon imbedded in the reserves of oil, gas and coal extraction companies, and there is relatively little error expected in those measures. The errors occur in the measurement of greenhouse gas (GHG) emissions from non-extraction companies.

Both MSCI and TruCost measure GHG emissions using the Greenhouse Gas Protocol standards.[17] The standards define three levels of GHG emissions: Scope 1 includes all direct greenhouse gases (GHG) emissions from company sources, Scope 2 includes all indirect GHG emissions associated from the consumption of purchased electricity while Scope 3 includes other indirect GHG emissions. Scope 3 includes GHG emissions from the extraction and production of materials and services that are inputs to a company's production. In the case of technology companies which represent a growing proportion of publicly listed companies, Scope 3 is likely the most important source of GHG emissions. Unfortunately few companies report Scope 3 emissions and the measurement of Scope 3 across these companies is highly inconsistent.

Let us take the example of Apple Inc. Only 1% of the corporation's GHG emissions are Scope 1 and Scope 2. This is because the company is mainly a marketing and sales enterprise that outsources the manufacturing and delivery of its own products. 80% of Apple Inc.'s GHG emissions are Scope 3 associated with outsourced manufacturing and transportation of its product with most of the remaining Scope 3 emissions (17%) associated with product use. Many of Apple's subcontracted manufacturing activities through subsidiaries like Foxconn are in Asia in which the use of coal-powered energy is common. Thus, a focus on Scope 1 and Scope 2 GHG emissions will give a very incomplete picture of the carbon intensity of a particular company's activities.

Until GHG emissions reporting including that of Scope 3 is performed by much larger numbers of publicly listed companies, the data on GHG emissions will not be a valid tool with which to make portfolio decisions. There are too few companies with comprehensive emissions data to properly

[17] http://ghgprotocol.org/standards

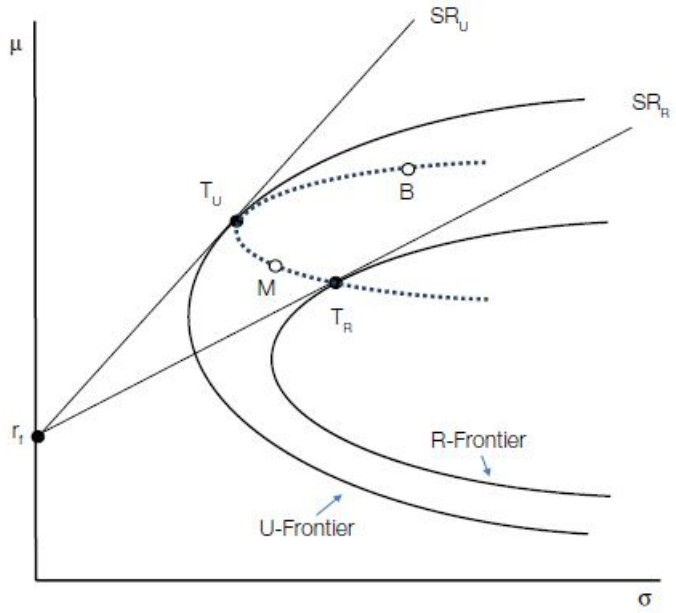
implement either a divestment or reweighting strategy. In fact, the current approach by some investors to limit their exposure to high carbon intensity companies by relying on Scope 1 and 2 GHG emissions data only, may in fact be tilting their portfolios to companies that emit low quantities of Scope 1 and 2 GHG emissions but large quantities of Scope 3 emissions. Given Laurier's pension and endowment exposure to Canadian and U.S. companies, an initiative to reduce the Scope 1 and 2 GHG emissions of the portfolio (without attention to Scope 3 emissions) may in fact lead to more outsourcing by these companies to high GHG emitting suppliers in Asia and more GHG emissions associated with long distance transportation.

The Effect of Divestment on Risk and Return: Theory and Evidence

Financial Theory of Divestment

If investors divest from a set of stocks, then they select from a smaller feasible set, as shown in Figure 1. The U-frontier shows the unrestricted feasible set and the R-frontier shows the set of risk and return combinations available from the divested (restricted) set of assets.

Figure 1
Risk and Return for Restricted and Unrestricted Assets



If the restricted frontier is sufficiently different from the unrestricted frontier, then divestment can reduce return and increase risk which would harm the utility of restricted investors.

In the context of the Capital Asset Pricing Model, a divested portfolio would have unnecessary diversifiable risk and would therefore plot below the security market line, with a lower return. Much of the empirical research (surveyed below) on socially responsible investing (SRI) use the CAPM (and other

factor models) to estimate whether the returns to socially responsible (restricted) portfolios are below the return estimated by the CAPM.

Merton (1987) as one of the first used to tackle effect of neglecting stocks in an equilibrium setting. Under the Merton model idiosyncratic risk is priced because investors have limited diversification opportunities when they neglect to invest in a given set of stocks. Also, neglected stocks have higher idiosyncratic risk since their risk is split over a smaller set of investors. Fama and French (2007) present a different analysis, arguing that investors may have nonpecuniary preferences for holding assets. For example, investors may derive a disutility from holding fossil fuel stocks, and, in that case, the Capital Asset Pricing Model (CAPM) fails to hold.

More recently, using Merton 1987 and Fama and French (2007) intuition, Luo and Balvers (2017) propose a general equilibrium model to explain the asset prices when a set of stocks is boycotted by socially responsible investors. An immediate implication is that two types of investors no longer have identical investment opportunity sets and choose different portfolios. The standard CAPM is no longer valid, and additional to the market factor, a second systematic risk factor emerges, which they refer to as the investor boycott risk factor or simply the boycott factor.

In the Luo and Balvers model, the unrestricted investors hold all neglected stocks so they are overweighted in neglected stocks relative to the market portfolio.. The lower demand for neglected stocks lowers their price and makes them more attractive for unrestricted investors. In equilibrium, unrestricted investors require an additional risk premium to hold the surplus of neglected stocks. The returns to all stocks, not only the rejected ones, are affected by their return covariances with the boycott risk factor. Thus, neglecting some stocks affects the neglected stocks and other stocks whose returns are correlated with those of the neglected stocks (i.e., any company in a related business). Their model also predicts that the boycott risk premium will rise with the intensity of socially responsible investing and fall during recessions when restricted investors may be less willing to sacrifice for their principles.

Lou and Balvers conclude that if the goal of SRI is to increase the cost of capital of socially objectionable businesses and, consequently, reduce their presence, then divestment can achieve that goal. The boycott accomplishes the restricted investors' desired objective to lower values of objectionable businesses, reducing their incentive to expand. However, the boycott also raises the cost of equity for stocks that are correlated with boycotted stocks. If those correlated stocks are not sin stocks, then the boycott is a "somewhat blunt instrument for discouraging morally or socially objectionable activity."

In the case of a fossil fuels boycott, there are many companies in the economy that use fossil fuels as an input and many others that service the fossil fuel extraction firms. In addition, fossil fuels are the primary source of electricity in North America (>60%) and so any impact on fossil fuels will also have an impact on any energy intensive business. Thus, there are many companies that are correlated with fossil fuels companies. If a divestment campaign focussed on fossil fuels were even somewhat effective, Lou and Balvers predict that the fossil fuel companies would experience higher returns (and a higher cost of capital) and so would the returns on any company correlated with fossil fuels. The divestment campaign would hurt many other companies in the economy.

Empirical Evidence

Investments based on social, ethical and environmental criteria are a significant segment of the international capital markets. In 2016, about $8.7 trillion dollars were invested in socially screened portfolios in the United States which is over 20% of all investment assets under management.[18] Empirical analysis of SRI funds dates back as early as 1972 (Moskowitz, 1972). Since then numerous studies have investigated the performance of SRI investments and compared the findings to the performance of conventional assets. The growing consensus in the literature is that SRI screens and constraints do not negatively affect investment returns. Hamilton, Jo, and Statman (1993) measure Jensen's alpha for a sample of 32 socially responsible mutual funds over the period from 1981 to 1990. They find that socially responsible funds do not earn statistically significant excess returns and that the performance of such funds is not statistically different from the performance of conventional mutual funds. Guerard (1997), Goldreyer, Ahmed, and Diltz (1999), and Bauer, Koedijk, and Otten (2005) provide similar evidence. Geczy, Stambaugh, and Levin (2003) do find screening has the potential to impose significant penalties, conditional on the beliefs of the investor about the ability of the fund manager to outperform the market through active management.

More recently, a number of studies have documented that "Sin" stocks earn significant positive abnormal returns after controlling for risk (i.e., Fabozzi, Ma, and Oliphant (2008), Hong and Kacperczyk (2009), and Statman and Glushkov (2009)). Sin stocks are issued by firms engaged in socially or morally objectionable activities, such as alcohol, adult services, gaming, tobacco and weapons. Sin stocks are the stocks that are avoided by the SRI screens mentioned above. Those studies attributed the return premium as a return for litigation risk, illiquidity, and neglect. In contrast, Luo and Balvers (2017) explain the sin stock premium to as a systematic risk premium arising as a consequence of the successful SRI divestment campaign.

To the best of our knowledge, there are no published studies of the long-term performance of portfolios that divest from fossil fuel producers or carbon intensive stocks more generally. We are at the early stages of studying this issue. Over the spring we plan to purchase the MSCI and TruCost GHG emissions data and use that to form low carbon portfolios. During the summer, we will estimate the abnormal returns of such portfolios using a variety of financial models and empirical techniques. We hope to have preliminary results by the late summer and would be willing to share those results with the Working Group.

Conclusions

The stranded asset thesis is one thesis of many. Only a very confident investor tailors their entire investment strategy around hedging one thesis. Investors who are uncertain about future risks use broad diversification as the optimal risk management strategy.

Even if one accepts the thesis and decides to hedge, implementing a divestment or reweighting strategy is fraught with problems. Selecting firms for divestment on a theoretical basis is conceptually difficult, and doing so on an empirical basis using GHG emissions data is complicated by misleading data. The current GHG emissions data incorrectly ranks companies.

[18] The Forum for Sustainable and Responsible Investment. < http://www.ussif.org/index.asp>

Finance theory predicts that a divested portfolio will earn reduced returns and experience greater unsystematic risk. Divested portfolios would be expected to earn lower returns than predicted by equilibrium models like the Capital Asset Pricing Model. Lou and Balvers (2017) derive an equilibrium model of divestment which predicts that the stocks of divested (boycott) companies will earn higher returns. This raises the cost of capital to those companies and so should put economic pressure on them, however it also does the same thing to any company correlated with the object of divestment. Lou and Balvers refer to divestment as a blunt instrument.

The empirical evidence is that portfolios which divested from socially irresponsible companies (sin stocks) performed the same as unrestricted portfolios. However, portfolios of sin stocks have earned abnormally high returns, which is consistent with Lou and Balvers (2017) predictions. There is no published evidence about the performance of portfolios divested from fossil fuel stocks, but Professors McNally, Perez and Smith propose to research that topic over the next year.

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