Blue-eyed investors?
Norwegian foreign direct investments and political systems in host countries

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1. Introduction: A political economy view of FDI

The literature on foreign direct investments (FDI) is dominated by economists, particularly business economists. This is only natural; after all these investments have to a large extent been driven by economic factors. The bulk of the economics literature on FDI also privileges rationalist accounts of investment decisions, emphasizing efficiency and planning operations according to the logic of expected outcomes, for example in terms of maximization of expected profits. Again we find such emphasis mostly rather appropriate and therefore quite natural.

It may, however, prevent important elements in non-rationalist perspectives and a different logic from being considered when one attempts to explain or understand investment behaviour. More specifically and more importantly for our case, it may overlook the role of political, institutional and broad societal factors when FDI is considered and consideration moreover is oriented towards maintaining or expanding investments done. Political and institutional factors are among others the type and legitimacy of the national governance system, the status of human rights including the rights of labour, corruption, property rights and the rule of law. Social factors relate mainly to distributive issues, but they might also both affect and be affected by geographical localisation of FDI within the host country.

We submit that such factors are important, in some areas and respects perhaps increasingly so as Norwegian FDI have become more diversified. They can of course also be

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1 We refer to the distinction made by Max Weber by which the ambition to explain a social phenomenon is reduced from one of demonstrating causality to one of ‘Verstehen’; Weber, xxxx
of crucial importance to rational choice based explanations, since political and social factors affect expected profits for investors. The negative effect on expected profits from corruption and political instability are two examples. But the matters that shape the context within which FDI takes place are often cultural and psychological and have to do with perceptions, identity and culture-specific norms and values.

In his presidential address to the American Economic Association Nobel laureate George Akerlof made a thorough analysis of five important ‘neutralities’ that the economics profession established to counter Keynesian economics and that are solidly based in the rationalist tradition (Akerlof, 2007). While only one of these ‘neutralities’ possibly relate indirectly to FDI behaviour, the general point observed by Akerlof is relevant and perhaps particularly relevant for FDI decisions: the finding that these neutralities represent missing motivation. They no longer occur if decision-makers have natural norms for how they should behave.

As we just pointed out such norms do not necessarily represent a non-rationalist approach to decisions, but they may. Decision-makers may for example emphasize the kind of purposes that are associated with sustainable development, and Corporate Social Responsibility (for instance through the United Nations’ Global Compact), or assuming the extra costs associated with shifting to reduced or no emission standards in order to save the world from global warming. And it may lead to a decision not to invest in a foreign location because it is run by a dictatorial regime, or to make FDI contingent on there being no corruption, or the like.

The economic theory of FDI is summarized in Dunning’s eclectic paradigm which identifies three types of factors that lead to FDI: owner-specific advantages, internalization advantages, and location-specific advantages. The motivation to invest abroad is either to seek resources, market outlets, increased efficiency, or strategic assets (Dunning, 1998). In addition, the internalization component seeks to explain why the firm invests and keeps control of the foreign affiliate within the larger firm, rather than pursuing traditional trade with partners in foreign locations. One particular contribution is the one presented by Coase (1937), further developed by Williamson (1975) and which relates to reduction of transaction costs. Economic theory distinguishes between two main categories of FDI: “Horizontal” FDI (HFDI) and “vertical” (VFDI). HFDI means duplicating a stage in the production process

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2 These are: the independence of consumption and current income; the independence of investment and finance decisions; inflation stability only at the natural rate of unemployment; the ineffectiveness of macro stabilization policy with rational expectations; and Ricardian equivalence.
abroad, and reflects mainly the motivation of avoiding trade costs such as transport costs and tariffs. VFDI occurs in order to exploit differences in factor costs across locations, by dividing up the production chain and locating different stages in different countries. The most well-known example is outsourcing low-skill operations to low-wage countries, but it may also involve investing to gain access to particular skills. Empirically, most FDI is still horizontal, but vertical FDI appears to be on the rise (Hummels et al, 2001).

Dunning’s framework aimed at accounting for FDI strategies at the firm level. Dunning expanded his perspective to account for processes at the national level when he suggested the International Development Path theory (IDP). It relates the net outward investment of a country to its level of development, measured by its income level. According to his theory Norway may be said to have reached the fourth out of five stages of development identified in the IDP scheme (Dunning and Narula, 1994). At this stage the ownership advantages that its firms possess have grown and the incentive and the ability to internationalize their operations have also increased.

Both Dunning’s perspective and the other mainstream perspective, the Product Cycle Model introduced by Vernon (1966), have been criticized for reflecting a developed country perspective, for not being sufficiently dynamic and thus for underestimating the importance of contextual, structural change as well as agency by countries that catch up with the more developed ones.\(^3\) Even though these theories may still be at least partly relevant for the case of Norway, they should be supplemented and partly revised. In Norway’s case the fact that she is a relative newcomer to outward FDI may imply that a perspective that emphasises catch up behaviour is relevant. One possible source of insight into the case of Norway thus is the so-called Uppsala model (Johanson and Weidersheim, 1975) which emphasizes cultural and psychical closeness, or the Linking-Leverage-Learning approach proposed more recently (Mathews, 2002). Both these contributions may be considered particularly helpful in trying to understanding newcomers in the FDI field. Most important, theorizing should take into account not only global structural change but also political and institutional factors at the country level. These factors may not represent pull forces in the way mineral resources or market size do, but they may nevertheless be important in decision-making calculations of possible barriers, stumbling blocks and the like that FDI must address to be successful. Or, as is more often the case these days, they may represent criteria on which an investor may be evaluated and because of which her reputation be seriously affected.

\(^3\) Vernon took such criticism into account and revised his original theory, see Vernon (1979).
The present paper introduces such a broad approach, but does so by employing a restrictive method. It thus leaves to forthcoming reports to follow it up with a more eclectic theoretical and methodological approach and in more depth and detail.

The lack, or perhaps even impossibility of a single, coherent theoretical framework on the determinants of FDI allocation, implies that one needs to continue to complement deductive theory construction with inductive analysis when investigating the factors that influence decision-making on FDI. Such a complementary type of work is what is reported in the present paper. The case that we present is that of Norwegian outward FDI with an emphasis on the last few years. The question that we wish to explore is whether Norwegian investments abroad, and particularly those made in developing and transition countries, do in fact appear to take political, institutional and social factors into account. If contemporary globalization is mostly ‘hard’ economic rationality or even represents ‘turbo’ capitalism, investors who take such factors into account may be termed ‘blue-eyed’ or ‘soft capitalists’, even though their physiological characteristics are not necessarily blue eyes (which is often the case with Norwegians).

After offering a brief description of patterns of Norwegian FDI we present the results of a statistical analysis based on a complete set of data on reported Norwegian investments abroad, initially broken down at the level of investment object abroad. The analysis that we present is conducted at the country level, after aggregating the initial data, relating Norwegian FDI patterns to characteristics of host countries. Needless to say, it is only when the analysis is moved to the level of the individual firm and focuses on its location in the host country that we will be able to analyse decision-making in a more concrete and definite sense. We plan to do so at later stages using the results of the analysis presented here as a background.

2. Data and method

We have aggregated Norwegian FDI (dependent variable) data on a country-year level; country-year is the unit of analysis in the following section. The data-set used is a cross-country panel dataset which includes several hundred political, social and economic indicators for more than 200 countries and relatively autonomous regions, compiled by Knutsen from a vast set of sources (Knutsen, 2007). The independent variables utilized in this article are gross domestic product (GDP), GDP per capita, taxes on international trade,

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4 A more thorough description of the patterns of Norwegian FDI is given in Hveem et al (2008)
5 Asmund Rygh has contributed to expanding the database for the purpose of this study.
geographical distance from Norway, bilateral trade with Norway, investment-shares, school enrolment rates, energy production, degree of democracy, corruption, existence of rule of law, protection of labour rights, as well as dummies for EU/EEA membership, being a Nordic country, having a bilateral investment treaty with Norway, and being a tax haven. All variables are described in more detail in Appendix B.

We analyze possible factors affecting FDI allocation, by using a version of Pooled Cross Sectional – Time Series (PCSTS) analysis called ordinary least squares (OLS) with panel corrected standard errors. By using such an approach, rather than using OLS on average FDI-levels over the period, we strongly expand the number of data points, and we utilize not only cross-national variation but also variation within nations over a period of time. This allows us to make better inferences about factors affecting the allocation of Norwegian FDI than if we were only to utilize cross-national variation. Beck and Katz (1995) argue that in situations where the data structure is one of many cross-sectional units with short panels, the proper PCSTS methodology is OLS with panel corrected standard errors, as other alternatives tend to give artificially low standard errors. The method allows us to take into account both that standard errors are heterogeneous across panels, autocorrelation (AR1) and contemporaneous correlation between error terms.

The recognition that several studies in the social sciences are affected by bi-directional causality has led researchers to increasingly question OLS-based techniques, and adopt other strategies such as Instrumental Variable analysis. In our case, this is not necessary, since Norwegian FDI in general arguably is insignificant when it comes to affecting social, economic and political variables in the host country. Even when Norwegian FDI is modestly high relative to the host country’s GDP, such as in Angola and Azerbaijan, the effect is probably small because of the substitution options for the host countries. In these cases, oil-related investments dominate, and it is not far-fetched to claim that other international oil companies would have invested in relatively equal amounts if Norwegian companies had not invested. These considerations indicate that the effects estimated in our analysis are decent estimates of the causal effects of host-country structural variables on FDI decisions by Norwegian companies. One possible exception might be bilateral investment treaties, since a negotiated investment treaty might reflect an already existing high level of Norwegian FDI. Another problematic exception is bilateral trade between Norway and host country, since Norwegian FDI most likely will affect trade patterns between the host country and Norway. This is an issue we will come back to.
But even after having argued that reverse causality is not a big problem for the most important variables in this study, we are up against other troublesome methodological questions. In general, we face three problems: The first problem is that the causal relationships between the independent variables are often complex and unsettled. Therefore, one has to remember that the coefficients should be interpreted as direct effects from variable X on the dependent variable. In some cases, incorporating several variables is unproblematic, since it reduces the risk of omitted variable bias. In other cases, throwing in everything but the kitchen sink in a model is problematic, since one risks controlling away important indirect effects. Take for example corruption. If one adds investment level to a model also containing corruption, the estimated effect of corruption on Norwegian FDI is only a direct effect. The estimate leaves out the possible indirect effect of corruption on Norwegian FDI through its influence on the general investment level in the country. This problem cannot be fully solved without a theoretical model specifying a causal hierarchy. Here in this study, we try to circumvent the problem by using many different model specifications and thereafter interpreting the robustness of estimated effects. However, since our mission in the present context is exploratory, we are often leaving it to the reader to evaluate which of the models that is more valid. We will make an effort ourselves to test this in more depth in case studies to follow.

The second problem is that many of the independent variables have data available for a limited number of country-years only, and that we therefore exclude a large amount of data in some of the analyses. This is especially problematic if we have systematic selection on some of the variables (large and more developed countries have more available data). We therefore often highlight models that leave out some interesting variables, but that operate with a relatively extensive data-sample. Another disturbing element when it comes to the certainty of the estimates, is that there are some missing values for the reported amount of FDI, the dependent variable.

The third problem is that of multi-collinearity. Several of the independent variables are highly correlated. One of the most extreme bivariate correlation coefficients is 0,94, between “Rule of Law” and “Control of Corruption”. This causes problems for estimating effects in the most extensive models that incorporate several variables, and we can expect large

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6 Omitted variable bias means that we get biased estimates of causal effects because we leave out important control variables from the equation. One typical example could be that we overestimate the importance of schooling for FDI-allocation if we leave out GDP-level (which is positively correlated with schooling) from the regression.

7 See appendix B for a closer description of how this issue is dealt with.
standard errors and changing coefficient-signs between different model specifications. Our solution is often to leave out some variables that are highly correlated with other independent variables in the models.

3. A brief description of Norwegian FDI

Contrary to what was the case with Sweden and the Netherlands, two of the other open economies in Northern Europe, Norway was overwhelmingly a net importer of FDI until quite recently (Nordisk Råd, 1979; Swedenborg, 1979). It was only during the latter part of the 1980s that outward FDI started to grow. The historical practice in Norway of inviting foreign investors to develop herits natural resource base started around 1900. It was turned in the 1980s and the 1990s towards investing abroad as natural resource extraction, mainly in offshore oil industry, produced a growing capital surplus and the industry became prepared for internationalization. Before the 1980s, outward FDI was mainly done by shipping companies and some selected industrial and services firms. The Federation of Labour Unions and the Association of Industries in a joint study reported that in 1983 there were 1389 affiliates of Norwegian investors abroad (LO and Norges Industriforbund, 1984). From around 1985 on outward investment volumes and the number of affiliates grew radically, almost exponentially. Thus in 1995 the outward FDI stock overtook inward FDI stock, and it has continued to become relatively more voluminous during the years after. From 1998 to 2005 only, the stock of outward FDI grew by 179 percent to reach NOK 665 billion (USD 98 billion evaluated at the exchange rate as of 30 December 2005) in 2005. This is roughly twice the stock of inward FDI that year and represents 36 percent of gross domestic product (UNCTAD, 2007). The total number of affiliates abroad in 2005 is more than 5200.\(^8\) Still, Norway ranked as number 18 among the world’s home countries of FDI according to UNCTAD’s Outward FDI Performance Index for 2006, below Sweden and well below Iceland and the Benelux countries.\(^9\)

The Norwegian state formally controls a large share of the assets of some of the companies doing outward FDI. In a separate paper, we study whether there are any differences in the investment behaviour of Norwegian state-owned (majority-owned)

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\(^8\) The total number as of 2005 could be 5308, if the number of recorded ‘objects’ of outward FDI in the statistics collected by Statistics Norway is used as an indicator, but since these objects in some cases represent holding companies, the real figure could be higher.

\(^9\) The index is calculated as the share of a country’s outward FDI in total FDI outflows as a ratio of its share in world GDP.
enterprises and privately owned enterprises. But arguably the most likely channel of ‘blue-eyed’ investments is that of portfolio investments abroad made by a sovereign investor, the Norwegian Government Pension Fund – Global, a state-owned fund under the political direction of the Ministry of Finance and administered by the Norwegian Central Bank. It is made up of surpluses produced by petroleum exports and its total capital stock at the end of 2007 stood at around NOK 2000 billion, or some USD 370 billion. With continued high oil prices, no losses on investments made and a national economy that does not require large parts of new income to balance budgets (but rather continues to curb public spending in order to keep strictly to a low-inflation target) the stock is expected to rise to close to USD 500 billion by 2009. Fund management is bound by the mandate that the government has given it to invest its capital abroad, spread it widely to reduce risk (so far favouring companies based in OECD countries), and apply CSR, human and labour rights and similar standards on its investments. 60 percent are in interest-carrying bonds, 40 percent in shares. With regard to the latter the fund managers are not to take more than 3 percent of total shares in any one company, which is a major part of the reason why the fund currently has portfolio investments in about 7000 companies. The fund is ranked as the world’s second largest sovereign fund and is considered the most risk averse and also the most transparent of the sovereign funds, a “gold standard” for investment funds. It is thus a potential source of political as well as financial influence.

About 1/3 of Norwegian FDI in the period we study was in the areas of oil and gas exploration and production. Oil and gas production are very special areas of production, and the factors determining investment in oil and gas are probably to a certain degree different from those determining investment in other sectors. Naturally, the existence of oil and gas resources in the host countries is crucial to investment allocation. Because of the high value

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10 A new Norwegian government policy document on public ownership states among other things that Norwegian state-owned companies should develop ethical guidelines in line with the UN Global Compact and the OECD Guidelines on Multinational Enterprises (St.meld.nr.13 (2006-2007), pp. 54-55).

11 According to the ethical guidelines, the fund “should not make investments which constitute an unacceptable risk that the Fund may contribute to unethical acts or omissions, such as violations of fundamental humanitarian principles, serious violations of human rights, gross corruption or severe environmental damages.” (Norwegian Ministry of Finance, n.d.). The ethical basis for the Fund is promoted through three measures: Exercise of ownership rights, negative screening of companies, and exclusion of companies that have been found to violate the guidelines. As of February 2007, 25 companies have been excluded from the Fund’s portfolio. The majority are producers of nuclear weapons, cluster munitions and anti-personnel land mines, but firms have also been excluded from other human rights as well as environmental criteria. In addition, Parliament has allowed the Fund to exclude government bonds from Burma (Myanmar) from the investment universe (Halvorsen, 2007 and 2008).


13 We plan to do a comparison of these investments with the ones reported here, but the value of comparison is bounded as statistics on the fund’s investments mostly are given at the level of the home country company.
added in the sector, factors such as wage costs might not influence FDI in oil to the same degree as in manufacturing and services. Moreover the sector is strongly influenced by political factors including a strong position by state companies pursuing national interests. Investment projects are generally very large, and one or two projects might actually influence the overall results in the analysis. The largest Norwegian companies in the period were also engaged in oil-production, and company-specific characteristics might therefore drive the results. We therefore estimate most of our models twice: The “A-version” uses total FDI as a dependent variable, whereas the “B-version” excludes oil- and gas-related investments from the FDI total.\(^\text{14}\)

4. **Analysis**

There exists no single theoretical framework that can be used as a framework for selecting the variables that should be included in empirical work on the determinants of FDI-allocation. This is due to the real world complexity of the phenomenon: There is an enormous amount of variables that could affect allocation of FDI and investment decisions in general. Different authors often focus on different variables, and the interplay between economic and political factors, as well as geographic considerations and even cultural factors makes the search for one single “best” model impossible. We try to remedy this problem by using several different regression models, some more parsimonious than others, and we look for robust explanatory variables that survive as a significant explanatory factor when we use different model specifications.\(^\text{15}\)

The regression models chosen structure the presentation of the results that follows. In presenting the results of the empirical analysis we start with discussing economic factors, but beyond the Dunning scheme. For instance several authors have emphasized that geography is not dead; distance matters not only for trade but for FDI as well. As we will see below, however, how distance matters depends on what type of investment we are looking at. As

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\(^\text{14}\) Oil-and gas-related investments are defined as those belonging to the following categories in the 2002 Standard Industrial Classification (SIC 2002): 11 Extraction of crude petroleum and natural gas, service activities incidental to oil and gas extraction excluding surveying; and 74.203 Geological surveying, which includes exploration of oil and gas fields. Some other categories were also considered, but did not contain observations.

\(^\text{15}\) The results described in this study are based on a linear specification. In the literature, it is also common to use a logarithmic specification, where the dependent variable is the logarithm of FDI (usually FDI + 1, in order not to exclude observations of zero). We also checked whether the results from the linear specification carried over to a logarithmic specification. For the most part, the results were the same, but there were also certain differences which are described in a separate section below.
described in the introduction, there are two main types of FDI, horizontal FDI (HFDI) and vertical FDI (VFDI), which represent different motivations for investing. Though we have not made any attempt to distinguish between the two forms of investment in our data for this study, the distinction is useful conceptually. For distance, but also for some other variables, the effect on total FDI should therefore be taken as the empirical net effect on the weighted sum of actual Norwegian HFDI and VFDI.

Returning to the main question of this paper, we then move on to look at models representing various political and institutional factors. The analysis is then rounded off with some robustness checks, as well as a comparison of the determinants of FDI with the determinants of trade.

**Market size and distance**

The two variables that occur in all the models are market size, measured by total GDP (constant 2000 US$) in the country, and distance to Norway. Total GDP is a proxy for the size of the home market in the country of investment. A common hypothesis is that a large market will positively affect the probability of foreign businesses investing in order to compete in that market, due to the large potential revenues. Market size is predicted to be of large importance for FDI in plants producing for that particular national market; i.e. HFDI. A large GDP, in addition to a large product market, also often means larger and more diversified factor markets. As we just mentioned, the overall impact of geographical distance depends on the type of investment we are dealing with. For HFDI the expected effect is positive. If we assume increasing returns to scale at the plant level, it might be economically rational to serve markets that are close to you by expanding domestic plants and export to these markets instead of investing abroad. For long distances however, transport costs might induce businesses to set up plants in the host country to serve that market rather than to perform relatively expensive trade (Brainard, 1997). In contrast, for VFDI, a short distance is economically beneficial, because of lower transport costs for inputs. The expected effect of distance is then negative.\(^{16}\)

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\(^{16}\) See e.g. Barba Navaretti and Venables (2004) for further discussion.
The first model, Model 1, is based on 1392 country-year observations from a total of 182 countries and territories. When we enter GDP and distance in model 1A, these two factors alone yield an $R^2$ for the model of 0.71. This extremely parsimonious model has a decent amount of explanatory power, and both variables have estimated effects that are significantly different from zero at the 0.01% level. The sign of the GDP-coefficient is positive and the distance-coefficient has a negative sign. Norwegian firms will according to the model invest more in large economies closer to home. The results are qualitatively the same when we drop oil-investments in the B-version of the model.

**Factors of production**

The second step is to include different proxies that reflect conditions in the most important factor markets in the host country. We add a proxy for average wage, GDP per capita, a proxy for capital density, gross fixed investments as a share of GDP, and a proxy for human capital, the gross enrolment rate in primary school, to the model presented above. In most sectors, and on aggregate, labour is the most important factor of production. Labour expenses therefore contribute with a significant share to total costs for businesses, with oil-production being an important exception. A high wage level, or high labour costs more generally, will therefore ceteris paribus be expected to lead to less FDI from cost-minimizing companies. However, the wage level is also a strong indicator of labour productivity in a country, and this might lead to a positive effect on inward FDI. Capital density in host country could affect investment decisions by Norwegian businesses. One hypothesis, related to the “decreasing returns to capital” argument (Solow, 1956), claims that a high level of capital stock in a country, ceteris paribus, reduces the marginal returns to investment, and thereby willingness to invest. Another hypothesis claims that investments are complementary goods, where investments for example in infrastructure or plants that produce intermediary inputs, increase the returns to new investments, and therefore “crowds in” new investment from abroad (Krugman, 1991, Murphy et al., 1989). The knowledge and other characteristics of the workforce might also be important factors in investment allocation decisions. It is therefore relevant to investigate whether a country’s “human capital” affects investment decisions made by Norwegian investors. Different aspects of human capital might affect different types of sectors differently when it comes to FDI-decisions. High-tech sectors might for example be sensitive to quality and quantity of highly skilled labour, and enrolment rates in tertiary education might be a decent proxy here. However, firms in labour intensive manufacturing sectors might be more
interested in the basic skills of the labour force, and for these sectors enrolment rates in primary education might be a more relevant variable.

In Model 2A total GDP and distance keep their signs and remain significant on all conventional levels. GDP per capita and investment level are also significant at the 1%-level. GDP per capita has a positive coefficient, indicating that a higher wage rate implies more investment, and the investment variable is negative, indicating that a denser investment climate reduces Norwegian FDI to a country. This latter estimate indicates that the traditional neo-classical prediction that there are decreasing returns to investment might be at work. Before such a conclusion is safely drawn, however, we need to check whether Norwegian companies are generally dependent on raising capital locally.

The primary school enrolment variable is positive, but insignificant even at the 10%-level. It might look like basic skills in the workforce are not very important for aggregate Norwegian FDI. When we expand the model however, by adding the gross enrolment ratio in tertiary education, the latter variable is highly significant with a t-value of 5.6. This indicates that the existence of highly skilled workers is important to the allocation of Norwegian FDI. In this model, investment level becomes insignificant at conventional levels, but this does not hold true if we look at FDI excluding oil investments, where a higher investment level still implies less Norwegian FDI.

We then add the host country’s energy production in oil-equivalents to the regression, and surprisingly this variable does not become a significant explanatory factor even at the 10%-level, even though the sign is positive. One might suspect that there is some omitted variable bias at work here, since a large part of the Norwegian investments are in energy production, and in oil more particularly. We will come back to this later.

**Trade, and trade and investment policy**

We move on to estimate the effects of trade and investment *policy* in different models. The literature in economics suggests that the relationship between trade and FDI is not unilinear, and several factors are at work (Feenstra, 2004:371-407). One common notion is that HFDI is a substitute to trade, while VFDI is positively correlated with trade, as tasks along the production chain are split up between different countries and intermediate goods are then traded. The type of investment we are looking at therefore probably influences the relationship between FDI and trade. It follows then that how *trade policies* affect FDI also

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17 Unfortunately, the World Bank data on energy production are only updated until 2004, and observations for 2005 are therefore not incorporated in regressions where this variable is included.
depends on what type of FDI we are dealing with. If a country’s firms only invest horizontally, high trade taxes would for example encourage setting up of plants in the other country, since it is expensive to engage in traditional trade. The opposite is true for VFDI, where high trade taxes make it costly to split up the production chain between countries. The empirical literature has usually found an overall relationship of complementarity; i.e. that more trade means more FDI, and vice versa, though there seems to be less complementarity between trade and FDI stocks than between trade and FDI flows, at least at the macroeconomic level (Fontagné, 1999).18

A problem here is determining causality, which makes it problematic to include trade as an explanatory variable. Outward FDI may cause imports if it represents backward vertical integration, and/or relocation of labour-intensive production tasks from a capital-abundant country. Outward FDI can also increase exports if it increases efficiency at home, as this leads to increased competitiveness on foreign markets (Fontagné, 1999). It may also lead to export of intermediate goods to foreign affiliates. On the other hand, exports may be the first stage in a firm’s internationalization process, leading later to outward FDI. Several studies have attempted to take into account the endogeneity between FDI and trade, among other things with the use of instrumental variables techniques (Brainard, 1997; Blomström et al, 1988; Clausing, 2000; Grubert and Mutti, 1991). Generally, the result of complementarity remains.19

In Model 6, we enter a set of dummies that do not restrict the number of observations we can use from Model 1. The first dummy is an EU/EEA-dummy (not including current Central and Eastern European member states since our time series is from 1998-200520). The EU is Norway’s main trading partner, and Norway is a member of the Single Market through the EEC-treaty. This dummy could be relevant because of the Single Market’s promotion of free flow of capital between member countries. The prior expectation is that all kinds of fiscal and transaction cost reductions stemming from the creation of the Single Market would lead to a positive sign of the regression coefficient. Close political, economic and even cultural relations between EU-states and Norway might also affect FDI-flows positively in other ways. For many of the same reasons a positive sign is also expected for the second dummy, namely

18 The relationship also seems to depend on the level of aggregation. In general, studies at the country, industry or even firm level find complementary relationship, while Blonigen’s (2001) study at the product level finds a relationship of substitution. While the theory of the multinational firm usually takes a single product as its starting point, multinational firms are often producing many different products at the same time, which may hide substitution effects (Blonigen, 2001).
20 It might be argued that one should include the EU-newcomers, if Norwegian firms invested in Central and Eastern European countries before their accession into the EU because of the knowledge that these countries in the future would join the EU.
a dummy scoring 1 on countries (country-years) that had signed a bilateral investment treaty with Norway. A bilateral investment treaty can reduce transaction costs and other costs for investors in one of the countries seeking to invest in the other. Clear guidelines and rules might reduce uncertainty, and establish a political-economic climate that might be beneficial for FDI. The effect of such a treaty on FDI-levels is therefore expected to be positive.21

We also enter a dummy for countries classified as tax-havens by the OECD. The role of tax havens and offshore financial centres (OFCs) has received increased attention in the last years. Universally accepted definitions of these do not exist, but according to Tax Justice Network (2007:1) “the central feature of a haven is that its laws and other measures can be used to evade or avoid the tax laws or regulations of other jurisdictions”.22 In general, they offer advantages to non-residents such as zero or low tax rates; and are based on secrecy. Beneficial tax rules could lead certain types of firms (for example shipping companies) to register their businesses, or at least certain functions of their businesses, in these countries in order to increase their after-tax profits. The effect of corporate taxes on FDI is well documented (Barba Navaretti and Venables, 2004). According to Statistics Norway (2007), Norwegian FDI going to countries characterised as OFCs has increased almost tenfold in the period covered by our sample, from some NOK 6.5 billion in 1998 to nearly NOK 64 billion in 2005. Hveem et al. (2008) showed that small Caribbean islands like Cayman Islands had a large bulk of Norwegian FDI, and Norwegian FDI in shipping activities is sizeable in traditional ‘convenience flag countries’ such as Liberia. Besides possible tax competition between countries, the tax haven-dummy is hoped to allow us to account for the fact that financial centres serve as “platforms” for further investment. While Norwegian investors have reported their investments as going to these countries, the ultimate destination is often other countries, which may systematically bias our results.23

In Model 6A the signs of the GDP and distance variables are similar to those in earlier models, and GDP is significant at all conventional levels whereas distance is significant at the 5%-level. The only variable that is significant among the new dummies is the EU-dummy, which has a t-value of more than 6. According to the model, EU membership increases Norwegian FDI-stock with 13 500 million NOK, ceteris paribus. The coefficients of the

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21 Similar effects have been found for bilateral tax treaties (Blonigen and Davies, 2004), but we do not include these here.
22 Tax havens and OFCs are closely related, though a given jurisdiction will not necessarily fall into both categories. See e.g. Tax Justice Network (2007) for an overview and discussion. See also Barba Navaretti and Venables (2004:248).
23 See also appendix B. Daude and Fratzscher (2008) address this problem by leaving financial centres out of the analysis altogether.
bilateral investment treaty- and the tax haven-dummy are negative, but insignificant at conventional levels. The negative signs go contrary to the a priori predictions. For the interpretation of the tax haven-dummy, it is however important to know that several of the smaller tax havens, like for example Cayman Islands that has a large amount of Norwegian FDI, are dropped out of the analysis because they lack data on many of the independent variables. This might explain the negative sign of our empirical estimate. The qualitative results from Model 6A remain when we exclude FDI in oil-activities in Model 6B, even if most of the coefficients decrease in size. However, the distance variable is now insignificant even at the 10%-level. The bilateral investment treaty-dummy changes sign to being positive, but it is still statistically insignificant.

In Model 7, we include taxes on international trade as share of government revenue. Unfortunately, because of lacking data, the number of observations is reduced from 1392 to 595, which casts some doubt on the validity of the results from the model. The trade-tax variable is negative, and significant on the lenient 10%-level, indicating that high trade taxes might actually harm Norwegian FDI, casting some doubt on the relevance here of the FDI as substitute for trade-argument. The tax-haven dummy is now significant at the 10%-level, and still negative. The model therefore indicates that being a tax haven reduces the expected amount of Norwegian FDI, contrary to our prior beliefs. Methodological explanations might be that the OECD-classification either does not capture the relevant set of countries, or that it is too broad. There exist other classifications of tax-havens than the one constructed by the OECD.24 It should be emphasized that our results do not imply that taxes do not matter for Norwegian FDI. However, it appears from the model that the extreme form of tax competition represented by tax havens does not have an important influence. We do however have to remind the reader that the results might be driven by the lack of data, and subsequent exclusion from the analysis, for some of the smaller tax-havens.

One major change in Model 7 when including the trade tax variable is that the distance variable changes sign to positive. It is also significant at the 5%-level when oil-investments are excluded. We have to remember that the number of observations is limited for this model, and that we might have systematic selection of observations, but this finding does in any case undermine the robustness of the negative effect of distance found in the earlier models. The positive sign of the distance variable in this model indicates that there might be some room for a substitution-effect between trade and FDI after all (contrary to the interpretation of the

24 See e.g. Tax Justice Network (2007).
trade-tax variable), since long distances imply high transportation costs, which again leads to an advantage of investing in production plants in far-away markets rather than exporting. Only a less aggregated investigation of FDI-allocation, separating out HFDI, could better evaluate whether this transportation cost-hypothesis is true.

We have already mentioned the problem of incorporating trade as an independent variable in our study. As indicated already there are very good reasons to believe that FDI causes trade, as much as trade causes FDI, and trade as an independent variable is therefore endogenous. When it comes to exports, there are reasons to believe that extensive trade with a country reduces the need to invest in production plants for home market-production in the other country. However, the splitting up of production chains and creation of a more fine-tuned division of labour through vertical investment clearly causes trade. If Norwegian plants are downstream in the production chain, we would expect FDI to be correlated with imports, and equivalently with exports if Norwegian plants are generally upstream. If we now neglect the problem of endogeneity and enter Norwegian export to and import from the country as independent variables, we see that both of these variables are estimated to have a positive effect on FDI, but that the effect from one krone of Norwegian imports is estimated to be far more sizeable than a krone of export. The export effect is only significant on the 5%-level in one of four model specifications, as can be seen from table 2, whereas the effect from import is significant in all four cases. In general, a higher level of trade with Norway induces more Norwegian FDI, but there are exceptions. The models that include the trade variables are however problematic in the sense that the results for some other variables change dramatically, and this is probably due to the problem of interpreting the effects in the model as causal effects since the causal hierarchy is poorly specified. EU membership is actually estimated to have a negative effect on FDI in models 8B, 9A and 9B. GDP is still estimated to have a significant positive effect, in all models but 8B where its t-value is -0.06. Due to the methodological problems related to including trade in the model as independent variable, we drop the import and export variables in all the following models. Political, cultural and cognitive factors could lead Norwegian firms to invest a disproportionately large amount of capital into other Nordic countries. If Norwegian investors are boundedly rational or have limited information, both of which are very plausible assumptions to make, Norwegian FDI might disproportionately be allocated to neighbouring countries. Here the political regulatory, socio-economic and cultural landscapes are relatively familiar for Norwegian investors, and this might ease the costs in a wide sense of investing abroad. The statistical data show that
there are more than 1000 affiliates of Norwegian firms operating in Sweden, the large majority being SMEs. Investors, maybe particularly in small firms with limited organizational capabilities will rather invest in familiar environments, where uncertainty is low, information is easily obtained and where one is generally better able to maneuver. This would appear to be consistent with the L-L-L theory referred to above. Fagerberg (1986) has for example proposed that Norwegian companies use Sweden as a stepping stone for further European and global investments. The similarity of languages between Norway, Sweden and Denmark might ease communication between parent and affiliate. In Model 10 we enter a Nordic dummy into a model also incorporating total GDP, distance, and EU-, bilateral investment treaty and tax haven-dummies. As predicted the Nordic-dummy is positive and significant at the 0.01%-level. The effect is also estimated to be very large, and far more sizeable than the EU-effect. The EU-effect is nevertheless still large and significant,. The other difference from many of the previous models is that the distance variable now becomes insignificant, indicating that this variable as well suffered from omitted variable bias in earlier models. As is well known, the other Nordic countries are relatively close to Norway in geographic distance. Bilateral investment treaties and tax-haven status are insignificant in the model, whereas the effect of market size is still large, significant and positive. Again, whether we include or exclude oil and gas investments makes little difference to the results, qualitatively, even if there are some discrepancies in the quantitative sizes of the point-estimates.

**Political institutions and national politics**

Traditional economic literature on trade and FDI has to a large extent focused on economic factors like availability of production factors or alternatively on economic policy factors like taxes and tariffs. It has also focused on geographic and physical factors like distance and transport costs. These are however not the only factors affecting allocation of FDI. The political system and socio-political climate in a country clearly also affect economic relations between countries and also the profitability of FDI. Political institutions and political-economic structures outside of trade policies have been the focus of institutional and development economics and political economy, rather than of trade economists, although there are some exceptions (Lim and Decker, 2007; Bénassy-Quéré et al 2005; Méon and Sekkat, 2006). We investigate the potential effect of democracy, control of corruption, rule of law and labour standards (total number of International Labour Organization (ILO) conventions ratified) on the allocation of Norwegian FDI. A high level of corruption and weak protection of rule of law and property rights will tend to reduce the expected returns
from investments and make investment projects more risky. If we assume risk averse investors, both of these factors will tend to act as a disincentive for businesses wanting to invest in a country. When it comes to democracy, several of the other variables entered into the regressions, like investment, human capital, corruption and rule of law, are argued to be affected in certain ways by democracy as a regime type (Knutsen 2006 and 2007), and one could therefore argue that the direct effect of democracy on FDI in a model incorporating all these variables might be close to zero. However, there might be other systematic effects from regular elections, freedom of speech and egalitarian political power distribution in a country on FDI-allocation, for example through political stability or technological efficiency in the country. One argument often proposed by sceptics to TNC’s activities is that these companies often invest in countries that do not protect labour rights sufficiently, and where they therefore do not have to pay the many different costs of following strict labour standards. Longer working hours, less investment in costly safety requirements and less opportunity for labour to negotiate or strike means lower costs for the individual company investing, even if the macroeconomic effects from labour protection might be positive on aggregate in the longer run. One additional mechanism that is relevant for all the institutional variables treated here is a possible “reputation-effect” for the TNC as a whole from particular investment decisions. If investments in authoritarian, corrupt regimes that do not protect labour rights hurt the overall reputation of the TNC in the home country and in other large Western markets and possibly reduces the demand for its products, the TNC might not undertake investments in say Burma or Sudan, even if these prospects in isolation are viewed as profitable. Statoil-Hydro has for example recently received negative publicity in Norwegian media because of its ventures in Libya, Azerbaijan and Angola. If investors are driven not only by profit-maximizing motives, but also by norms and moral considerations that reflect the common norms in their home-country (Norway), it might be that some investors also because of these reasons are less inclined to invest in authoritarian or corrupt regimes.

The main result from all the models when entering one of these variables separately together with distance and GDP, is that a high degree of democracy, lack of corruption, a high degree of rule of law and high labour standards are estimated to have a positive and significant impact on the allocation of FDI. Unfortunately, the corruption and rule of law indicators lack data for 1999 and 2001, and these years will therefore be excluded from the analysis whenever at least one of these variables is entered.

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25 See also van Tulder with van der Zwart (2007).
The fact that a higher number of ratified ILO conventions seems to attract more Norwegian FDI is interesting. This measure of the protection of labour rights is widely used in the literature, with mixed results. Cooke and Noble (1998), for instance, find the number of ratified ILO conventions to be significantly and positively related to US FDI, while Rodrik (1996), also looking at US FDI, finds no relationship. One can argue that a formal measure such as ratification of ILO conventions may not capture the actual implementation of labour rights. However, at least for certain conventions, countries that have ratified are empirically more likely to have higher domestic standards (Chau and Kanbur, 2001). Some studies using other measures of labour rights have also found a positive relationship (Rodrik, 1996; Daude et al, 2003). On the other hand, Bénassy-Quéré et al (2005) find that the existence and enforcement of labour laws tend to reduce the amounts of FDI received. Later in this paper we check the robustness of the result by using an alternative measure.

Ideally, one would like to separate the effects of these different institutional structures, but this is problematic in our analysis, due to the high correlation between many of these structures. Institutional structures often come in packages, and there are causal links between them. Knutsen (2007) has for example argued that democracy on average promotes a higher degree of property rights protection and rule of law, and there are also reasons to believe that a high degree of rule of law reduces corruption in an economy. When we enter all the four abovementioned political variables into Model 15, control of corruption and number of ILO standards are still positive and significant, whereas the democracy variable becomes insignificant but still positive. The rule of law variable now actually becomes significantly

26 See also appendix B. The main advantage of using ILO conventions as a measure is its coverage, as it only to a very small extent reduces the number of observations we can utilize.

27 Using the total number of ratified conventions as our measure might be problematic, as the different conventions cover many different areas, which may not all be equally relevant, and which may have different effects on costs and FDI decisions (see e.g. OECD, 2000; Maskus, 1997). Some studies have looked at more limited sets of conventions, covering certain “core” issues such as child labour or freedom of association (Rodrik, 1996; Chau and Kanbur, 2001). We wanted at this stage to retain a broad perspective on labour standards, which will be refined in future work.

28 A positive relationship between labour standards and FDI could also be interpreted as evidence that the activities of transnational firms are leading to improved working conditions (see e.g. Moran, 2002). In this case, labour standards are themselves endogenous to FDI. As noted in the introduction, it is unlikely that Norwegian FDI alone can affect social, economic and political variables in the host country, including labour rights. Nevertheless, the role of TNCs is interesting in general, not least because of the proliferation of corporate codes of conduct to improve conditions for workers in global production systems. For a recent study on the complex effects of Nike’s code of conduct, see Locke et al (2007). See also a survey and discussion of several recent studies in Rygh (2007).

29 There are some important differences between the studies mentioned. Rodrik (1996) and Cooke and Noble (1998) look only at majority-owned FDI. Bénassy-Quéré et al (2005) study bilateral FDI stocks, so that FDI is not limited to a particular source country such as the US or Norway. Finally, Daude et al (2003) look at the allocation of inward FDI within the Latin American and Caribbean Region.
negative. However, instead of claiming that a high degree of rule of law negatively influences Norwegian FDI, we have to acknowledge the problem of causal interpretation and estimated effects from the model, as well as the fact that we have an analysis plagued by multi-colinearity, which makes it difficult to distribute the “correct” effects between the variables. Control of corruption and rule of law for example have a bivariate correlation of 0.94! The proper solution is therefore to leave out one or more of the institutional categories from the analysis, and acknowledge that the institutional structures remaining stand as a proxy for broader complexes of institutions linked together.30

5. Collecting the different threads: Eclectic models

The previous models have been partial in the sense that they have incorporated only a specific set of factors influencing FDI. In order to avoid omitted variable bias when estimating effects, we need to construct models that incorporate variables from the whole range of economic, cultural and political factors. Doing this does, however, come at a cost. As mentioned above the models presented here only estimate direct effects, and this is problematic since for example some of the political variables both influence and are influenced by economic factors like investment level and GDP. A more elaborate model structure is needed if one wants to conduct more valid analysis than in this explorative study, but there is no consensus on what such a model would look like. In addition we exclude many observations by entering several variables. Two criteria have been followed when selecting the final variables that are to be included in the eclectic models of this section: First, we leave out those variables that were consistently insignificant in the above analysis. Second, we have to leave out those variables restricting the number of observations to a very large degree. We have tried to strike a balance between being inclusive when it comes to independent variables on the one hand and parsimony as well as reducing problems of multi-colinearity and obtaining enough observations on the other.

Model 16 is the most parsimonious of the eclectic models. It includes total GDP, distance, GDP per capita, the EU- and Nordic-dummies as well as the control of corruption variable. The results build on 1020 observations from a total of 175 countries. In general, the results correspond very well with the most of the results obtained from the partial models. The following factors contribute to increasing the amount of Norwegian FDI allocated, according to the model: A large total GDP, membership in the EU/EEA, being a Nordic country, being

30 Another solution would have been to construct indexes that incorporated several institutional structures, for example through principal component analysis.
close to Norway in geographical distance and having a low level of corruption (which could be interpreted as a wider proxy for the institutional complex of a country being democratic - rule of law-based- and exhibiting strong rights for labour). The absolute t-values of the abovementioned variables all range between 4,6 and 12,0. The R-squared of the model is 0,57, implying that our model “explains” more than half of the variation in Norwegian FDI allocation. There is however one discrepancy in the results from the partial models: GDP per capita now becomes negative and significant at the 10%-level, but insignificant at the 5%-level. In the partial model, a high GDP per capita level was estimated to have a positive effect on Norwegian FDI. However, we intended GDP per capita to be a proxy for wage level. GDP per capita is not only correlated with the wage level, but also with a whole range of factors spanning from economic development related factors to political structures to geographic location. In model 16 we control for EU-membership, being Nordic and for the level of corruption. GDP per capita in this model does not capture effects on FDI due to “better institutional structures” or being in the EU or Nordic, but stand as a proxy for the effect on FDI through higher wages in the labour market\(^{31}\).

In Model 17, we add energy production as a proxy for energy resource base to the variables in Model 16. The GDP per capita variable is now significant at the 0,1%-level, and still negative. The model therefore indicates that a high wage level reduces Norwegian investments, ceteris paribus. The estimated effect of energy production is positive as in the partial models, but it is now highly significant with a t-value of 6,7. The estimated effect has increased substantially as well. One possible explanation is that especially oil production tends to take place in relatively corrupt countries, and that this tends to reduce the willingness of investors to invest in these countries. When we control for corruption, the more “pure” energy-effect becomes clearer, and as we would expect, Norwegian FDI, much of it in energy production, is positively linked to the level of energy production in a country.

Model 18 is the least parsimonious model, but also the model where the risk of omitted variable bias is smallest. Therefore, significant effects from this model have a high

\(^{31}\) Many economists in particular tend to focus on how the amount of public spending and the overall level of taxation affect economic factors, like private investments. We have not gone into the potential theoretical rationale for including these variables nor made any thorough empirical investigation of these factors here. We intend to come back to these questions in later work. Nevertheless, when we enter the amount of final government consumption expenditure as a percentage of GDP (from WDI) into Model 16, its coefficient is negative, but the p-value is 0,29. If we enter total taxes as a percentage share of GDP (also from WDI) however, this variable has an estimated positive sign, but the p-value is only 0,14. This quick investigation might therefore indicate that we have to be more nuanced than relying purely on size of the public sector, when investigating its potential impact on FDI. What are the role of the structuring of tax-systems and public expenditure might be more fruitful questions.
degree of credibility when it comes to the claim that these estimated effects represent real causal effects. We include investment as a share of GDP, gross enrolment rate in tertiary schooling, the Freedom House Index as an indicator of degree of democracy and the number of ILO-conventions signed, in addition to all the variables entered into model 17. All the variables from model 17 keep their signs, and among these variables GDP per capita is significant at the 5%-level, and all the other variables at least at the 0,1%-level. In other words, the effects found in model 17 are relatively robust, even when the sample size is reduced to only 401 observations from 107 countries. Of the new variables, only the democracy-variable is insignificant at the 5%-level. A large number of ILO-conventions signed is estimated to increase the amount of Norwegian FDI, and the effect is significant at the 1%-level. The investment and tertiary schooling variables are significant at the 0,1%-level, with t-values of -4,1 and 3,4 respectively. As in the partial model, a large number of students in higher education attracts more Norwegian FDI. Also corresponding to the results from the partial model, a high investment-share of GDP reduces the influx of Norwegian FDI. The interpretation is that Norwegian capital in general moves to countries where capital is relatively scarce. We have to remember that this is an estimated direct effect, and that we have controlled for example for GDP per capita and corruption.

In Model 20, we have controlled for a potential time trend by adding a linear time trend-variable to Model 18, in case some of the independent variables are correlated with the time dimension. Hveem et al. (2008) showed that the Norwegian FDI-stock had increased substantially from 1998 to 2005. If for example the number of ILO-conventions signed has increased over time as well, it might be that such a variable picks up some of the effect that should be assigned to a more general time trend (for example due to the general internationalisation of Norwegian firms). The time trend-variable is as expected positive, but only significant at the 10%-level. What is most important to us however, is that none of the results from model 18 change substantially, and all variables except the FHI are significant at least at the 5%-level, and most are significant even at the very restrictive 0,1%-level.

6. Extensions
One of the most interesting findings from the analysis is that protection of labour rights is estimated to have a positive impact on Norwegian FDI-allocation. As discussed above, however, the number of ILO conventions ratified by a given country may not be an accurate measure of the implementation of labour standards. Unfortunately, there is a lack of extensive
data-sets on labour rights, but a detailed database from the Centre d’Études Prospectives et d’Informations Internationales (CEPII) covers more than 80 countries on several dimensions related to the labour market for 2006.\textsuperscript{32} As a robustness check on our results, we use the 2006-values as a proxy for 2005-values and perform a cross-section analysis for 2005. We run OLS on a model which includes one of the many labour market institutional indexes as well as total GDP, distance to Norway, GDP per capita, EU-membership and control of corruption as independent variables. The labour market institutional indexes are entered in turn, one by one, into the model.\textsuperscript{33} The analyses are unfortunately only able to draw on 80 observations, and the number of degrees of freedom in the model is therefore very limited. We do not find any of the tested indexes to be significant on the 5%-level. This indicates that our finding of a positive effect from labour rights on FDI is not completely robust, though we again remind the reader of the limited number of observations on which this latter analysis is based. Total GDP, distance, control of corruption and the EU-dummy are generally also insignificant on the 5%-level in these regressions, but they generally have the same estimated signs as in the eclectic models described above. The index for adult vocational training has a positive sign and a p-value of 0.09, supporting our finding above on the importance of human capital for Norwegian FDI. The index for informal labour markets is negatively signed (high values indicate a low share of informal labour), and has a p-value of 0.08. All other indexes tested, like for example wage bargaining, protection against child labour and existence of social dialogue have far higher p-values, and the indexes enter the regressions with varying signs.

Our next robustness check concerns the functional form chosen for the regression. This study is based on a linear specification. However, in the literature it is common to see a logarithmic specification, and we also tested a logarithmic version of the model, with the log of FDI as the dependent variable.\textsuperscript{34} Among the independent variables, GDP, GDP per capita,

\begin{itemize}
\item \textsuperscript{32} Profils Institutionnels Database of the CEPII at \url{http://www.cepii.fr/ProfilsInstitutionnelsDatabase.htm}. The 2001 version of the database was used in the abovementioned study by Bénassy-Quéré et al (2005) who found a negative relationship between FDI and labour rights. The database also contains many other institutional variables. An introduction to the database, with some analysis on the basis of the data, is given by Berthelier et al (2003).
\item \textsuperscript{33} The labour market variables tested were: “Freedom of association”, “Trade union plurality and autonomy”, “Rigidity of the formal labour market (private and public)”, “Have there been reforms to make the formal labour market more flexible in the past 3 years?”, “Adult vocational training”, “Informal labour market”, “Existence and observance of labour legislation and measures”, “Employment contract protection”, “Labour inspectorate”, labour courts, etc”, “Wage bargaining for non-managerial staff”, “Social dialogue”, “Openness to employment of foreign executives”, “Segmentation of the labour market”, “Social mobility: recruitment and promotion in the public and private sectors”, “Child labour”, “Have there been reforms aimed at de-segmentation of the labour market in the past three years?”
\item \textsuperscript{34} See also footnote 14 above. The log of (FDI +1) is used in order to retain observations of zero. One advantage of using logs is the interpretation of the coefficients (Grüenfeld, 2005). For example, a one percent increase in the
\end{itemize}
energy production and distance are transformed into logs, while the other independent variables are not transformed, but enter linearly. The results (available upon request) are for the most part qualitatively similar, but there were certain differences. Some of the variables are generally very robust, and this goes especially for total GDP, and the EU- and Nordic dummies, even if the EU-dummy becomes insignificant at the 5%-level with a p-value of 0.10 in the revised Model 18. The energy production variable is also robust. Among the economic production factor variables, however, tertiary schooling regularly becomes insignificant, and the sign is often negative. The investment share of GDP also changes signs in several of the models where it is entered, to positive, but is generally not significant on conventional levels. When it comes to the economic policy variables, bilateral investment treaties often turn significant and positive in the log specifications, indicating that we might have been too quick to declare the empirical insignificance of this type of treaties for Norwegian FDI. The same also goes for the tax-haven dummy, which now often comes out as positive and significant, despite the fact mentioned above that some smaller tax havens are excluded from the analysis due to missing data. When it comes to the political-institutional variables, we noted the problem of colinearity and distribution of effects among them. In some logarithmic models, the corruption variable becomes insignificant, but the slack is often taken up by the democracy variable and the rule of law variable; in some of these models democracy and rule of law contribute significantly and positively to Norwegian FDI. The ILO-variable is often insignificant as well, both when using the actual number of conventions and when using the log of the number of conventions.\(^{35}\) The results from our alternative measure of labour standards, the CEPII measures, did not change with a logarithmic specification, with all variables except the corruption and labour indexes entered in logs. The p-values were generally low for the labour market indexes also in this case.

Finally, we wanted to take an indicative check on whether the factors that determine Norwegian FDI-flows are different from the ones that determine bilateral trade-flows with Norway. A very crude way of investigating this is to use the same empirical models in terms of independent variables, but substitute Norwegian import and export respectively for Norwegian FDI as the dependent variable. This is only a rough exercise that will be followed

\[ \text{distance (entered logarithmically) or a unit increase in the FHI index (not entered logarithmically) lead to a } \beta_i \text{ percent increase in Norwegian FDI, where } \beta_i \text{ are the respective regression-coefficients. Another advantage of a logarithmic specification is that it gives less weight to outliers (Daude et al, 2003). A logarithmic specification also means that one has to drop negative observations.} \]

\[ \text{We use the log of (signed conventions+1) in order to retain observations of zero. Since the original variable can take values of over 150, it is in many ways closer to a cardinal measure (like e.g. distance) than an ordinal measure (like the various political and institutional indexes).} \]
up by more stringent analysis in later work. We first use Model 18, the relatively extensive eclectic model. The model is based on 401 observations from 107 countries.

A striking result when it comes to Norwegian imports is that all the independent variables keep their signs from the FDI-analysis. Imports increase when a country is close to Norway, has a large GDP, has a high degree of tertiary schooling for its citizens, has substantial energy production, controls corruption, protects labour rights, when the country is an EU-member, and also when it is Nordic. Imports decrease with GDP per capita (wage-level), investment share and with degree of democracy. That Norwegian imports increase in market size of the exporter and decrease in distance conforms well with gravity models on trade. That capital-intensive Norway imports from relatively capital-scarce countries could have been predicted from for example the Heckscher-Ohlin theory of trade, but the fact that Norway imports relatively more from energy-rich countries is harder to predict from standard trade theory. All coefficients are significant at least on the 1%-level, except for GDP per capita and tertiary schooling (p-values of 0.06 and 0.07 respectively).36

Again, the positive relationship between Norwegian imports from a country and the number of ILO conventions it has ratified is interesting. The mentioned article by Rodrik (1996), for example, finds no statistically significant relationship between ILO-conventions and a measure of comparative advantage in labour-intensive products. On the other hand, Rodrik identifies a negative relationship for some other measures of labour rights, though the results are not very strong.37 From the opposite results for FDI and trade, Rodrik (1997) hypothesizes that low labour standards lead to outsourcing and subcontracting, but not majority-owned FDI. One argument, based on the “reputation mechanism” discussed above, could be that firms may be more easily held publicly accountable for the conditions in majority-owned affiliates than for the conditions in firms where they are only one of many owners, or in suppliers where they have no ownership. However, we find positive

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36 Again, some of the results are not robust when we switch to a partial log-log specification (the EU and Nordic dummies, the corruption and FHI indexes as well as the GDP-share of investment and tertiary school enrollment ratio are entered linearly). The EU dummy and the log of energy production now become negative and significant at the 1%-level. The democracy variable is significant at the 1%-level (more democracy implies more imports). The investment variable switches signs, and is now positive and significant at the 5%-level, whereas the tertiary schooling variable is insignificant. The Nordic-dummy, total GDP (log), distance (log), corruption and ILO conventions (log) keep their signs and are all significant at the 1%-level. GDP per capita (log) is still negative and significant at the 5%-level.

37 Most early studies of this question found no significant results (see OECD, 2000). A recent study which found a negative relationship is Granger (2005). Again, the studies often differ both in their methodology and country coverage, as well as the labour standards studied.
relationships both for trade and FDI, suggesting that investment and trade decisions are both subject to moral concerns and public scrutiny.\footnote{Norwegian firms have, for instance, been criticized for importing goods produced in Burma (Myanmar). See Gaarder (2007).}

When it comes to Norwegian exports, the picture is once again strikingly similar: All the variables, except the Nordic-dummy, enter with the same signs. The Nordic-dummy is now estimated to have a negative effect on export-levels, but we have to remember that distance and EU-membership is controlled for. Could it be that the large Norwegian investments in other Nordic countries act as a substitute for Norwegian exports? We will not seek to answer this question here. All variables, except tertiary schooling (p-value of 0.16) are significant at least on the 1%-level.\footnote{For the logarithmic specification, when it comes to (log of) exports, the main divergence from the linear model is that the Nordic-dummy again becomes positive and significant at the 1%-level, the investment share is now positive and significant at the 1%-level, and democracy is also a significant explanatory variable at the 1%-level. GDP per capita (in logs), corruption and ILO-conventions (in logs) are now insignificant at the 5%-level. Otherwise, the results are the same as in the linear specification of determinants of Norwegian imports. Once again, some of the results from the linear specification are not robust, while others are.}

We have to remember that the variables collected in Model 18 were used partially because they had a relatively robust effect on FDI in the more specific models. It is interesting to check whether some of the variables left out, especially in the models on trade and investment policy, have significant impacts on trade, and we run Model 7 to investigate this matter. For both imports and exports, GDP and the EU-dummy are positive and significant on the 1%-level, whereas distance is negative and significant on the 10%-level for imports and on the 1%-level for exports. Taxes on international trade as percentage of GDP is surprisingly not a significant determinant of Norwegian exports (it actually enters with a positive sign in the regression), but when it comes to Norwegian imports international trade taxes are estimated to have a negative effect, and the variable is significantly different from zero on the 1%-level. Norway, according to the model, also imports more from countries with which it has a bilateral investment treaty, and the effect is significant at the 1%-level.

\section*{7. A brief summary of the empirical results.}

What have we learned from investigating this very large set of model specifications? As is often the case for quantitative studies in general, we have seen that only some variables are robust in the sense that they keep their sign and are significant independently of model specification. However, several strong and relatively robust results emerged from this exercise.
There are good reasons to believe that a large domestic market is affecting allocation of Norwegian FDI positively. The same is true for some of the political institutional variables, especially control of corruption. Labour rights protection, measured by number of ILO-conventions signed, also seems to be positively associated with Norwegian investment in a country. However, this result did not carry over to a logarithmic specification, and an alternative measure of labour rights produced insignificant results. Democracy and rule of law do not come out as equally robust variables, but we have argued that it is hard to know anything specific about the causal effects of these different institutional variables since they often go together in systematic ways. This is illustrated by the results from the logarithmic specifications of the models where democracy and rule of law are often estimated to have a positive and significant impact, and where the corruption variable often becomes insignificant. There is a very sizeable positive effect from being a Nordic country, and also from belonging to the EU area. When it comes to geographical distance, there were some discrepancies between the models, but in general Norwegian firms invest more in countries closer to home, even when we control for the Nordic and EU-dummies. As regards production factors and factor markets, having a large share of highly educated individuals in the population seems to increase the amount of Norwegian FDI received, even if this was not always supported by logarithmic specifications of the models. It is also likely that having a relatively low level of investment, that is being relatively capital scarce, attracts Norwegian FDI. But as was the case for tertiary schooling, this result does not survive when we use logarithmic specifications. When it comes to the wage level, with GDP per capita being the proxy, different models showed different results. However, the models with the most extensive controls indicated that a low wage level, everything else being equal, attracted Norwegian investors. Primary education levels were not found to have a significant effect on allocation of Norwegian FDI. If we move on to trade and investment related policies, for bilateral investment agreements with Norway, linear models showed no significant effect, but logarithmic specifications sometimes showed a positive and significant effect. Being a tax haven did not seem to have a positive effect on the stock of Norwegian capital invested in the linear models, where the estimated effects for this dummy-variable were often negative, but insignificant. On the other hand, there was often a positive significant tax-haven effect in the logarithmic models. There were reasons to believe that a high share of public revenues stemming from taxes on trade adversely affects the amount of Norwegian FDI. However, there were few country-years with observations on the variable, and trade taxes are highly
correlated with other institutional structures. Countries with weak administrative capacity tend to have a high share of trade taxes, since these are relatively easy to collect compared to for example income tax. African countries in general have relatively high trade taxes. Therefore, the abovementioned results might be due to omitted variable bias. We saw that Norwegian imports were positively linked to FDI. The sign of the Norwegian export-variable was also positive, but not always significant. However, due to the possibility of strong endogeneity here, we could not claim that imports or exports caused FDI. More elaborate studies need to be performed, for example using Instrumental Variables, or by filtering out all trade between affiliates belonging to a Norwegian firm. The relationship between Norwegian trade and FDI is a topic for future research. We also detected a positive time trend, as was expected from the descriptive statistics in Hveem et al. (2008), indicating that Norwegian firms have increasingly gone international over the period from the late 90s to 2005. The time dimension and also the possible change in factors (relative strength) affecting Norwegian FDI over the time interval is also a topic for future research. When it comes to the dependent variable, there were surprisingly small differences in results when oil and gas related activities were respectively included and excluded. The results for most variables remained the same qualitatively. Finally, we performed a rough examination of whether the determinants of bilateral trade with Norway were different from those of FDI. Generally, there were not great differences.

We have seen that certain economic, political and cultural/geographic variables had significant explanatory power when it came to explaining the allocation of the Norwegian FDI-stock in the period from 1998 to 2005. A good understanding of what moves Norwegian investors’ decision making therefore requires an understanding of both how national and international politics, economics and other social factors influence these actors. Some of the variables we tested had more uncertain effects, or were likely to have at least only small effects on the aggregated amount of Norwegian capital invested in a foreign country. Different Norwegian investment decisions are likely to have been affected by different concerns, depending on sector, firm specific factors and other characteristics related to the decision makers. However, we have identified some general factors that are likely to have been of significance to many of these decision makers in many instances.
## Appendix A: Results from the regression models; point estimates and t-values

Table 1 Models focusing on product and factor markets: Coefficients and t-values. * indicates variable significant on 5%-level.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1A</th>
<th>Model 1B</th>
<th>Model 2A</th>
<th>Model 2B</th>
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<td>0.40</td>
<td>0.42</td>
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</tbody>
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equivalents
| R-squared                              | 182          | 182          | 161         | 148         | 148         | 113         | 113         | 123         | 123        |
| Countries                              | 1392         | 1392         | 1010        | 760         | 760         | 569         | 569         | 844         | 844        |
| Observations                           |              |              |             |             |             |             |             |             |            |
Table 2 Models focusing on trade, geography and trade and investment policies: Coefficients and t-values. * indicates variable significant on 5% level.

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<th>Model 8A</th>
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Table 3 Models focusing on national politics and national political institutions: Coefficients and t-values. * indicates variable significant on 5%-level.

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Table 4 Eclectic models: Coefficients and t-values. * indicates variable significant on 5%-level.

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<td>Imports Norway</td>
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<td></td>
</tr>
<tr>
<td>Taxes on international trade as % of revenue</td>
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Appendix B: Operationalization of variables

Stock of Foreign Direct Investment

FDI-stocks are calculated by the formula: \( \text{FDI} = \text{Capital stock affiliate} \times (\text{indirect} + \text{direct share of ownership for Norwegian parent}) + \text{net loans from parent to affiliate} \).

FDI-numbers are only calculated for investment objects where either the ownership share (direct+indirect) is more than 10\% or where the voting share (direct+indirect) is above 10\%, in accordance with the OECD standard benchmark for defining FDI. One thereby excludes portfolio investments, where the investing company is assumed to have little actual control over the investment object. The FDI-data have been collected by Statistics Norway, and the time-dimension is relatively short: 1998-2005. The data are collected by using a survey-format where companies report financial and other characteristics related to their foreign investment objects. There are several reliability and validity issues that can affect the analysis. One is that missing values on the surveys are coded as zero by Statistics Norway, which will give true results in some of the cases, but obviously not all. Statistics Norway alleviates this problem to a certain degree by utilizing information from other sources like public annual reports, when survey-information is missing. The other issue is that the survey format might lead to systematic biases in reporting. One possible example could be underreporting of investment in tax-havens. The most crucial issue is however related to the “chains” of investments. Norwegian companies report their investments in “intermediary” affiliates that further channel investment to their final location. This will systematically bias our results and is an area which could be improved upon in future research if better data becomes available (see also discussion in main text).

GDP

Since we want to estimate market size from the viewpoint of Norwegian investors, and not welfare in the host country, we use exchange-weighted GDP and not PPP-weighted GDP as our operationalization. One validity problem with this measure is that we do not take into account the fact that affiliates might be invested in, in order to sell to neighbouring markets, for example if transport costs and the tariff on imports between neighbouring countries are low. A plant in Belgium might serve also the French, German and Dutch markets.

Energy production

Energy production is measured as kilotons of oil-equivalents produced, and the data come from the WDI. Unfortunately, we do not have data that discriminate between production of oil and gas and other energy production.

Wage level and labour costs

Because of lack of data on average wage levels, we use GDP per capita (constant 2000 US$, exchange rate adjusted) as a proxy. A source of bias for this proxy is that the share of income going to labour varies somewhat from country to country. Another problem is that average levels might not be representative for the wage level in the sectors which Norwegian firms invest.

Gross fixed capital formation

We use gross fixed investments as a share of GDP as a proxy for capital density in a country. An improvement would of course be to possess estimates of total capital stocks in the country, rather than investment levels, so the data here should only be viewed as a proxy for capital density in the country. The measure is taken from the WDI. One problem with using investment shares as an independent variable is that it is endogenous with respect to the dependent variable. Norwegian FDI increases the investment share in a country. However, Norwegian FDI is relatively small compared to the investment level in most host countries, and even in countries such as Angola and Azerbaijan where the Norwegian oil-investments...
are relatively sizeable, one could argue that if Norwegian companies had not won contracts for oil production, other international oil-companies would have undertaken approximately the same amount of investment.

**Human capital**
Several proxies for human capital have been proposed over the last fifteen years, and all of them can be heavily criticized. We choose a simple proxy, for which we can obtain data from the WDI, namely gross school enrolment rate. We use two separate measures, one for enrolment in primary and one for tertiary education.

**Distance**
Our data for weighted bilateral distances from Norway are taken from the CEPII.\(^{40}\)

**Tariff levels**
Tariff levels are operationalized by using the WDI’s measure of taxes on international trade as percentage of government revenue. This is clearly only a proxy, and it is affected by the size of government revenues in a country. Additionally, it does not take into account other trade restrictions than taxes and tariffs, such as for example quotas. We do not separate taxes on exports from taxes on imports, and we do not take into account that tariffs charged to Norwegian businesses might be different from the average tariff-level.

**Trade**
The data for Norwegian bilateral imports from and exports to the different countries in the period 1998-2005 are from Statistics Norway.

**Labour rights**
Our first measure of the respect of labour rights is the total number of International Labour Organization (ILO) conventions ratified by each country for each of the years 1998-2005.

As discussed by Maskus (1997), when a country ratifies an ILO convention, it commits to making its laws consistent with the convention (though in practice most countries that ratify conventions already have labour laws that are consistent). However, the conventions have no power of enforcement. On the other hand, the fact that a country has not ratified a convention does not mean that it does not fulfil the standards. Some countries with strong national labour laws refuse conventions which they consider incompatible with national labour law.\(^{41}\) Even countries that consider their laws to be in conformity with the conventions may choose not to incur the cost of ratification. Even a quick glance at the measure casts doubt on its appropriateness: For example, it implies that Azerbaijan and Algeria had better labour standards than Austria and Australia in 2007. In a dynamic perspective, countries often ratify many conventions at the same time, but this is unlikely to translate into an immediate improvement in working conditions of equal magnitude; though it could be taken as a sign of increased awareness of labour issues. Countries may also denounce conventions they have earlier ratified, so that some countries have a lower number of ratified conventions in later years.\(^{42}\)

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\(^{40}\) See Mayer and Zignago (2006) for an introduction to CEPII’s distance measures. In the CEPII database, the bilateral distance is the same for Belgium and Luxembourg. For Christmas Islands, the Cocos Islands, Macao, Montserrat and Pitcairn, weighted distances are not available. The unweighted distance is then used as a proxy. The bilateral distance for British Virgin Islands is used to proxy the distance for the American Virgin Islands, both being located in the Virgin Islands archipelago. Similarly, the distance for Samoa is used as a proxy for American Samoa. The distance for Congo (Democratic Republic of Congo) is used also for Congo-Brazzaville (Republic of Congo).

\(^{41}\) For example, the laws of Canada and the US allow wider exclusions of collective bargaining rights and the right to strike than foreseen in ILO conventions.

\(^{42}\) Sometimes, conventions are replaced with newer versions.
Our alternative measure of labour rights is taken from the \textit{Profils Institutionnels} Database of the CEPII. The database was built by researchers based at the French Ministry of the Economy, Finance and Industry and the French Development Agency, based on a survey conducted by their agencies in the countries covered. It was then calibrated with the leading existing indicators such as the Transparency International corruption indicator (CPI) and the World Bank Institute governance indicators where they covered common subjects. It was also compared with the opinions of experts. The panel database covers 51 countries for the two years of 2001 and 2006, while the 2006 database covers 85 countries. On each of the subjects, the countries are graded from 1 to 4 when the question concerned the assessment of a \textit{phenomenon} (e.g. the level of corruption), and from 0 to 4 when the question concerned the existence of an \textit{arrangement} (absence = zero) and the quality of its application (if so, graded from 1 = low quality of application to 4 = high quality of application). See Berthelier et al (2003) for details.

\textit{Corruption and rule of law}

We draw on two indexes constructed in the WGI-programme under the World Bank for “Corruption” and “Rule of Law”. These indexes are constructed by using a version of principal component analysis, building on a vast array of indicators related to these phenomena. The importance of the individual indexes in the formation of the principal components is arrived at through a specific weighting procedure (Kaufman et al., 2006). Most of the observed country-years are given a score between -2 and 2 on both indexes, with a high score indicating a high level of rule of law and a low level of corruption (good control of corruption).

\textit{Democracy}

Democracy as a political regime type is operationalized by using the average score on Freedom House’s Political Rights and Civil Liberties indexes. Note that high values on the index indicate a low degree of democracy, with the index ranging from 1 to 7.

\textit{Bilateral investment treaty with Norway}


\textit{Tax-haven dummy}

The “tax haven” dummy is based on OECD’s classification (Table 1, Tax Justice Network 2007:8-9).

\textit{EU-membership dummy}

We include an EU-dummy, for the fifteen pre-2005 EU Member States plus Iceland (EEC-signatory).

\textit{Nordic countries dummy}

We code Sweden, Denmark, Finland Iceland and the Faroe Islands with a 1 on a “Nordic-dummy”.
Literature


Clausing, Kimberley A. (2000)” Does multinational activity displace trade?” Economic Inquiry, 38/2, 190-205.


