

# **WTO/GATS and Economic Development: Key to "the new economy"**

**An Institute Program  
Chr. Michelsen Institute**

**Final Report for  
the Research Council of Norway**

**Project: 139945/V20**

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**The major objective of the Programme WTO/GATS and Economic Development: Key to "the new economy" is to produce new theoretical and empirical insights on how changes in technology and liberalisation of services (financial services, telecommunications and energy services) change production systems, investment- and trade patterns in the world economy. Empirical studies of the adoption of information technology in Ghana, several SADC countries, Russia and Norway have been undertaken. The theoretical part of the programme incorporates the economics of information and networks into trade and investment theory.**

# 1 Introduction

The programme WTO/GATS and Economic Development represents the core project in a Strategic Institute Programme at CMI on Producer Services.<sup>1</sup> Services are in many ways the glue that holds an economy together. Production of goods for the market would not be possible without transport, storage and marketing services. Investment and international trade would be ineffective without financial services, and social and technological conditions would have been static without education and research. Finally, ideas and technology would not spread without information services.

The WTO/GATS programme covers three main issues:

- A. the adoption of information technology and its impact on supply chain management.
- B. the impact of trade liberalisation (financial services, telecommunications and energy services in particular) on economic growth and global investment patterns.
- C. the impact of trade liberalisation on the use of producer services and on vertical specialisation.

The report is organised as follows: Section 2 summarises the programme activities and experiences with the Research Council of Norway (NFR). In section 3, findings from the main research projects of the core research team are summarised ('populærvitenskapelig framstilling'). Section 4 provides a list of publications from the programme. Other forms of research dissemination and networking are presented in section 5. In section 6, names of affiliated researchers are listed.

## 2. Progress, projects and research outputs

*(Oppnådde faglige resultater)*

Since 2001, the WTO/GATS programme has generated a number of projects and attracted several researchers from outside the 'core' group. New projects have been generated with funding from the World Bank during 2003.

Publishing has been a focus within the individual projects. Participation in seminars and conferences has been considered an important tool to strengthen existing and build new professional networks. One PhD-student has been affiliated with the programme during most of the period, while another PhD candidate has been affiliated with the program for shorter periods.

The contact and routines for reporting to the Research Council of Norway (NFR) have worked well. NFR has not intervened in the implementation of the research, nor in changes in the use of manpower due to changes of the staff situation at CMI. Dr. Arne Wiig took over as project leader in December 2002, when Dr. Hildegunn Nordås left for a position at the Research Department of the World Trade Organisation in Geneva, working mainly on GATS related issues.

Annual reports have been submitted to the Research Council. Publishing, networking and generating new projects have been integrated parts of the design of the programme, as have the organisation of and participation in workshops, seminars, conferences, etc.

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<sup>1</sup> A final report of this broader programme has already been accepted by NFR. The final report can be derived from <http://www.cmi.no/research/wtogats/SIP-ProducerServices.pdf>

### 3. Findings

*(Populærvitenskapelig framstilling av de viktigste FoU-resultatene)*

The purpose of this section is to give an overview of the main findings of the main research projects. A summary of our general findings is provided on each of the three main issues covered by the programme. Thereafter we provide a summary of the main findings from each project with an emphasis on work done by CMI researchers. More detailed presentations of findings are made in the various publications written by the involved researchers since the inauguration of the programme. Downloading of our most recent publications can be done from our web page([www.cmi.no/areapubs.cfm?resarea=1](http://www.cmi.no/areapubs.cfm?resarea=1)).

#### **3.1 Summary of the results of the three main issues covered by the Institute Programme:**

- A. *the adoption of information technology and its impact on supply chain management.* Development of telecommunication services has facilitated cross-border trade over the internet. There are online possibilities even in the remotest part of the world. Through cross country analysis as well as case studies, particularly in Namibia and Ghana, we show that developing countries often lack complementary factors such as competence, infrastructure and well-functioning institutions to be able to make the most of the technological opportunities. At the same time, there are huge savings in transaction costs (such as transportation, time and costs of using intermediaries) by using new technology such as internet or mobile phones.
- B. *the impact of trade liberalisation (financial services, telecommunications and energy services in particular) on economic growth and global investment patterns.* Our studies of services and growth confirm the importance of finance and telecommunications for economic growth, and suggest that their impact is greater in developing countries. Moreover, the foreign component in these types of sectors, in terms of foreign direct investment (FDI), might have a positive effect on growth potential. Generating foreign investment in key service industries, is therefore an important task for growth-oriented governments. Our results suggest that market size, a solid manufacturing base, and institutional quality, are important attractors of FDI in key service industries.
- C. *the impact of trade liberalisation on the use of producer services and on vertical specialisation.* Developments in communication, transport, logistics and supply chain management technologies have reduced trade costs substantially over recent years and trade volumes relative to output have increased accordingly. However, an individual country's ability to integrate into international production networks depends on its *relative* trade costs. Our studies find that high to moderate tariffs, poor port facilities, corruption and poor telecommunication infrastructure are substantial obstacles to the participation in production networks. Further, it is found that small and/or poor countries can gain substantially from participating in such networks. The gains are in the form of access to a broader variety of intermediate and final goods and services, higher productivity and in the case of trade in skills-intensive intermediate services, a more equal distribution both within poor countries and between rich and poor countries. Finally it is suggested that trade liberalization in key infrastructure services improve the quality and lowers the cost of such services.

## **3.2 Summary of individual project results issue A: The adoption of ICT and its impact on supply chain management**

### ***A1 Trust, trade networks and telecommunication development (Overaa)***

This project studies how traders in Ghana make use of better access to telephones, which came about as a result of liberalization of the telecom sector in 1995. By 2003 Ghana's tele-density had increased from 0.3 to 1.3 mainlines per 100 persons and four mobile phone companies had 600,000 subscribers. Prepaid GSM services are slowly becoming more affordable and thousands of small communication centers and public phone booths have been established. Nevertheless, access to telecom services is still markedly biased in favor of urban areas and higher income groups.

Based on qualitative fieldwork in Accra in 2001 and 2003 – a time span over which considerable change could be observed – the impact of access to new communication tools on the business practices of traders in cloth, fish and agricultural produce was investigated. Focus was on the extent to which the use of telecommunication technology reduces traders' time and transportation costs, and its impact on the way in which relationships of trust in trade networks are initiated and maintained. Approximately 10 key informants (managers of telecom companies, mobile phone dealers, truck drivers, etc.) and 100 small- and large scale traders (with and without phones) were interviewed. The data are presented as case studies of individual traders and trade networks. The points below summarize the main findings:

- Substitution of travel with calls in order to exchange information (i.e. on prices, supply and demand) considerably reduces traders' time and transportation costs.
- Particularly benefiting are traders, who a) co-ordinate large networks, b) operate over long distances and c) trade in commodities where detailed information on quality and design is required.
- Mobile phones enable traders to provide their customers with better services (i.e. information on quality, quantities, prices, supplies, timing and availability around the clock). These major competitive advantages are only effective in relation to trade partners and customers who also have phones
- Limited mobile phone coverage and fixed line network in rural areas severely limits the returns for traders in agricultural produce of investing in mobile phones. Traders in cloth, whose customers are often urban and middle/high income earners, are therefore more likely to actively use phones than traders in agricultural produce.
- Traveling traders, who frequently experience crime and accidents while on the road, find that mobile phones are good security investments – reducing transaction costs in a risky economic environment.
- Risks of theft, payment default and embezzlement can be reduced when large money transactions, hitherto handed over in large piles of cash, are replaced with bank transfers monitored through phone calls. This new mode of transacting – clearly enhancing trust between exchange partners – is generally still not common, but was found to be institutionalized between wholesalers and importers of frozen fish.
- Monitoring intermediaries' movements and transactions can be improved through frequent long-distance mobile phone calls. But for initial contact and elaborate contract negotiations, face-to-face communication and observation of behavior is required before trust can be established.

In conclusion, the effects of traders' access to telecommunication technology in terms of improving efficiency and reducing costs and risks are overwhelmingly positive. The opportunity for long-distance communication also enhance trust between trade partners. However, talking on the phone is not in itself a trust-building mechanism. Rather it is a tool to improve already existing trust-building mechanisms – exchange of information, observation of behavior and sanctions against dishonest action –, enabling traders to engage in transactions that may otherwise have been too hazardous in this type of economic environment.

With regards to methodological limitations, this study is based upon a small sample and is limited to traders. On the other hand, it is one among few studies that gives in-depth insight into the societal effect of the telecommunications revolution that is currently going on in Africa. The message to policy makers is that investments directed towards making telecommunications universally accessible and affordable is of crucial importance for economic development.

*Main publications:*

Overå, Ragnhild (2004) *Networks, distance and trust: telecommunications and changing trading practices in Ghana*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 15:2004). The article has also been submitted to *World Development*.

## **A2 Tourism, the internet and intermediaries**

UNCTAD claims that the development of tourism may be one of the most valuable avenues for reducing the marginalisation of least developed countries (LDCs) in the global economy and that the use of internet technology and e-commerce represent opportunities for developing countries to improve their economic position relative to the developed world.

One project analyses to what extent the use of information and communication technology (ICT) in the tourist industry facilitates growth in tourism services in developing countries. The project also seeks to outline the conditions under which the local industry might bypass intermediaries such as overseas travel agents and tour operators, thereby reducing transaction costs (commissions for instance). A particular emphasis is put on two important roles played by the intermediaries. They possess wide-ranging information that operators may lack and may therefore offer the consumer a bundle (package) of different goods. Secondly, they act as certifiers (guarantors) of the quality of goods and services.

Studies of the Namibian tourist industry confirm that technology alone will not make much of a difference. Overseas travel agents and tour operators at home play an important role in supplying information and ensuring the quality of a trip to an exotic destination. Unless Namibian operators can fulfil these two functions and ensure quality and trust, they will continue to depend on intermediaries to attract tourists.

Service providers in Namibia and representatives from the government and business associations were interviewed about their use of intermediaries and how the Internet has restructured supply chain management. The points below summarize some of the more specific result of the study:

- There is an extensive use of middlemen. 60-80 % of bookings go through intermediaries.
- Distribution costs are high. Commission is in the range between 9-35 % of market price. Making intermediaries redundant may therefore increase the revenue retention rate in Namibia.
- Few service providers are connected to Global Distribution Systems partly due to a thin market and high entry costs. Online booking is not common.
- Service providers need to connect to a network in order to reach a larger market and exploit network externalities. The establishment of a destination marketing organisation is a starting point, although the co-operative efforts so far have not succeeded partly because such an organisation represents a public good.

A second project focuses on the role intermediaries play as certifiers and how complementary factors such as human capital and technology influence the degree of direct marketing on the Internet. Certification is expected to be particular relevant for product or services produced in countries with high risk or low quality reputation. The certification role of intermediaries are explored in more detail through an analysis of marketing on WEB across tourist destinations with different level of risk. Wiig makes a cross country analysis of 122 countries that confirms that direct marketing on the Internet is significant as a marketing tool only in contexts of political stability and mutual trust. Wiig find some evidence that:

- Although new information technology may facilitate direct marketing and a higher retention of revenue (by eliminating the intermediaries), the results of this study indicate that this process will mainly take place in low-risk countries.
- Income level and market size are also significant explanatory variables, while human capital and the structure of the financial sector play an insignificant role on the extent of direct marketing..

From a policy prospective, an appropriate design of an ICT policy requires an identification of complementary assets needed to adopt to the new technology. Changes in ICT, therefore, do not necessarily lead to changes in trade patterns without changing the 'social capital' among the trading partners. The data and the methodology applied have some limitations as they are based on Google search, but represent one of the few attempts in the literature to test empirically the relationship between risk and disintermediation.

Main publications:

Wiig A. 2003 Developing countries and the tourist industry: The case of Namibia. *Forum for Development Studies* (1) 59-88.

Wiig A. 2004. Risk and disintermediation in tourism. Bergen:Chr. Michelsen Institute (CMI Working Paper WP 2004: 6) 19 p. An extensively revised version of this paper is:

Wiig A. 2005. The Internet, risk and the role of intermediaries. Mimeo Bergen:Chr. Michelsen Institute (submitted to the Journal of Development Studies).

### **A3 Trust and trade (Sandelien)**

This project explores the facts behind the buzzwords 'globalisation' and 'the new economy'. In general we associate these concepts with a borderless world where economic transactions are managed through rapid electronic communication. This project questions this notion and presents an overview of investigations that have been conducted on trade flows.

Trade is drastically reduced by distance and borders, contradicting the notion of a borderless world. This phenomenon cannot be explained only by transportation costs. Another barrier to trade has to exist. The project outlines different possible explanations of this phenomenon, but focuses strongly on the significance of trust in transactions. It concludes that there is a range of explanations working together to explain why there is less trade over longer distances. However, the reduced possibility of finding trusting relations at distant locations is presented as a strong argument and a possible solution to the 'mystery of the missing trade'.

Main publications:

Sandelien G. 2003. Trust and trade: Is distance dead? *CMI Report 4:2003*.

## **3.3 Summary of individual project results issue B: *Trade liberalisation of services, economic growth and investments patterns***

### **B1. Determinants of service sector FDI (Kolstad and Villanger)**

Foreign direct investment (FDI) in the service industries has increased substantially in recent decades. For developing countries, service-industry FDI can intensify domestic competition, or provide access to services that domestic producers do not supply. The important research question addressed in this project is how developing countries can attract more foreign investment in service sectors? This project uses industry-level data on FDI inflows to developing countries in order to determine the main host country determinants of FDI in the major service industries.

This study examines the host country determinants of foreign direct investment (FDI) flows in services as a whole and in the major service industries. It is found that FDI in the service industries is attracted to large domestic markets, but unaffected by trade openness. A strong correlation between FDI in manufacturing and FDI in certain producer services (finance and transport) is found. This lends support to the idea that producer services are important in binding together vertically disintegrated chains of production. While political risk does not affect FDI in services overall, socio-political indices are related to FDI in certain service industries. In particular, investment in the transport sector (which in this study includes telecommunications) is sensitive to the level of institutional quality in host countries.

The study is based on panel data of foreign direct investment and a number of potential determinants, for 57 countries over the period 1989-2000. The econometric approach taken, allows for heterogeneity across countries, and thorough tests of robustness to changes in data sample and specifications are performed. As is usually the case, a study of this kind identifies average effects of economic and institutional variables across countries, and further work is needed to assess the applicability to individual regions or countries. Given the limited amount of previous published work on services FDI, there might also be important variables that have been left out, leading to potential omitted variable bias. On the other hand, the paucity of

similar studies makes this groundbreaking work.

Main publications:

Kolstad I. and Espen Villanger, 2004. Determinants of foreign direct investments in services. Bergen:Chr. Michelsen Institute (CMI Working Paper WP 2004: 2) 25 p. (to be submitted to the Journal of International Business Studies)

***B2 Foreign Direct Investment Patterns and the Role of Socioeconomic Development and History. Informal Network Formation in Imperfect Markets (PhD Tøndel)***

There is an ongoing debate as to the benefits and potential disadvantages of globalization in the shape of international trade. Specifically, it has been stipulated that competition among developing countries to attract foreign direct investments is detrimental to the socio-economic development of these countries. The international investor is accused of investing in countries that are undemocratic and that show little respect for their citizens and human rights. However, studies have suggested, and our preliminary results based on panel data from 75 countries for the period 1989-2000, indicate that this is not necessarily the case.

We found a positive relationship between democratization and the inflow of foreign direct investment. Our results indicate that improvements in political rights and civil liberties tend to increase FDI. As a follow up, this project will examine the causality of the relationship and explore potential differences and similarities between different groups of countries. That is between resource rich countries and others, and between countries belonging to different income categories.

Also, globalization and technological development diminish the importance of physical distance. However, historical and cultural distance may prove a more difficult obstacle to overcome. An aim of this project is therefore to look closer at the importance of such bonds in determining the pattern of foreign direct investments relative to other factors. Transnational networks have traditionally been considered means of overcoming international trade barriers, whereas domestic networks have been perceived to be trade barriers. A further aim of this project is analysing the value of belonging to informal networks under varying degrees of insecurity, and the costs firms are willing to incur to participate in these networks.

This is a PhD-project at the Norwegian School of Economics and Business Administration (NHH) undertaken by Line Tøndel Seim. The project started early 2001, with the compulsory Ph.D programme courses, due to maternity leaves this project is postponed and will be completed in 2007.

Main Publications:

Kolstad, Ivar and Line Tøndel. 2002. Social development and foreign direct investments in developing countries. Bergen:Chr. Michelsen Institute (CMI Report R 2002:11)

### **B3 The importance of the financial sector and telecommunication for economic growth (Jacobsen and Andersen)**

One project explores the relationship between telecommunications development and economic growth while another project explores the relationship between financial sector development and economic growth. Both projects perform econometric analyses.

An econometric study analysing the relationship between telecommunication development and economic growth show that there seems to be larger growth effects from telecommunication development in developing countries than in developed countries, a result that contradicts earlier findings. The result stems from a larger indirect impact of telecommunications in other sectors.

A second study analyses the role the financial sector plays in economic growth. It can reduce the cost of acquiring information, conducting transactions and facilitating saving mobilisation. An econometric study shows that there is a positive statistical relationship between financial development and economic growth. It is also found that financial sector developments seem to have at least the same importance on economic growth in developing countries as in industrialised countries.

Main publications:

Andersen, Susanne 2003. *The influence and effects of financial development on economic growth. An empirical approach*. Bergen: Chr. Michelsen Institute (CMI Report R 2003:14).

Jacobsen, Karen Frederikke Lomeland 2003. *Telecommunications – a means to economic growth in developing countries?* Bergen: Chr. Michelsen Institute (CMI Report R 2003:13).

## **3.4 Summary of individual project results issue C: the impact of trade liberalisation on the use of producer services and on vertical specialisation**

### **C1 Producer services and vertical specialization (Nordaas)**

Vertical specialisation (VS) and outsourcing have gained prominence in international trade recently and are viewed as channels for technology transfer, market access and integration into the world economy for developing countries. However, due to just-in-time management systems and the expectation of quality control at source, delays on delivery and faulty components are not tolerated. Our study analyses empirically the importance of infrastructure and quality of institutions for the extent to which industries in a country participates in international vertical supply chains. It is found that tariff protection has a strong anti-VS bias and that market size, the effectiveness of ports, time for customs clearance, telephone density and control of corruption are the most important determinants of VS. The larger the market, the lower is the import content in a country's exports, simply because more parts and components are produced locally in a large economy. By the same token, in small and poor countries, being able to import parts and components for export processing in a cost-effective way is crucial for entering into international supply chains. Policy implications are that liberalization of key logistics services and relaxation of rules of origin for preferential access to developed markets are important for poor countries' integration into vertical supply chains.

A second study combines a case study and theory development. The case study is of a small multinational naval designer firm located in rural Western Norway (Fitjar). The firm trades its designer and engineering services through a combination of face-to-face interaction with customers and electronic transmission of drawings and documentation. Inspired by the case study, a model of spatial division of labour between fabrication and design is developed. It predicts that the reach of designer service firms depends on the wage rate for professional workers, the cost of fabrication and investment in ICT. It is argued that the model is useful for analysing restructuring following de-industrialisation in rich countries. The interesting and hotly debated question is whether de-industrialised regions will thrive on trade in industrial design and engineering in the information economy, or stagnate and decline. The case study and the model indicate that industrial design and engineering are more likely to be retained in the region when the physical or cultural distance to the new location of fabrication is moderate and the fabrication costs in the emerging market are significantly lower than in the rich country. These two conditions are usually not satisfied at the same time, since neighbouring countries tend to have similar income and cost levels. Nevertheless, relocation from Western to Eastern Europe could probably satisfy these conditions; so would relocation from Western Europe to China, but probably not from Western Europe to South Korea. Retaining designer and engineering services would also be more likely if the opportunity cost of entrepreneurship is not too high in the rich-country region, and if the region has good access to low-cost and effective telecommunications. In particular, ICT investments allow for spatial separation of CAD services and CAM fabrication over large distances, but complementary direct communication is necessary and this limits the reach of designer and engineering services. Thus, there probably exists a distance beyond which outsourcing will not take place and a wage rate above which entrepreneurs will prefer to join the labour force.

A third study focuses on internationalization of services such as education and health. These are complex services with extensive specialization and where information content is high and much of the information can be digitized and transmitted over electronic networks. In this respect the services are similar to audiovisual services. This paper discusses how ICT-enabled trade affects the diversity of content of such services in small economies with shallow domestic markets. It is assumed that the services need to be provided locally, but some of the content can be sourced from abroad. The study analyzes trade in such services between a small/poor and a large/rich country. Trade broadens the variety of content in the small country, but exporters of services need to incur significant costs in order to set up the technology and enter foreign markets. As a result the average size of producers of content increases and the diversity may decline in large countries. Trade further leads to a more equal distribution of income both between the small and the large country and within the small country.

Main publications:

Nordås, Hildegunn Kyvik. 2004, "Location of Engineering and Designer Services in the Space Economy", in Henri L.F. de Groot, Peter Nijkamp and Roger Stough (eds), *Rising Entrepreneurship in a Shrinking World A Spatial Perspective*, Edward Elgar.

Nordås, Hildegunn Kyvik. 2003, "Vertical specialization and the quality of infrastructure", World Trade Organization ERSD Working Paper no 2003-04.

Nordås, Hildegunn Kyvik. 2003 "ICT, access to services and wage inequality", World Trade Organization ERSD Working Paper no 2003-02.

Nordås, Hildegunn Kyvik. 2003 "Fragmented production: regionalization of trade?" World Trade Organization ERSD Working Paper no 2003-01.

Nordås, Hildegunn Kyvik. 2003 "Fragmented production – a curb on China's export growth?" SNF Working paper A36/03.

#### 4. Publications and other forms of research dissemination

*(Vitenskapelige utgivelser og annen publisering)*

Table 1 summarises the written outputs of the programme by April 2005. A detailed account of publications, conference papers and work in progress are presented in the following sections.

**Table 1: Types and number of publications of the GATS-programme (by April 2005)**

<i>Type of publication</i>	<i>Number</i>
Articles published or forthcoming in international journals and edited books	14
Articles published in journals and books in the Nordic countries	2
Articles submitted for publication in international journals	6
External Reports and Working papers	10
Internal Reports and Working papers	17
Papers presented at international conferences, workshops and seminars	40
Papers under preparation (including working and conference papers)	2
<i>Total</i>	91

##### 1. Articles in journals and book chapters (listed alphabetically by authors)

Bjorvatn, K. and C. Eckel (2005). Technical spillovers and export platform FDI, Chapter 4 in E.M. Graham, ed. (2005). *Multinationals and foreign investment in economic development*, Palgrave Macmillan.

De Groot, Henry, G. M. Linders and P. Nijkamp (forthcoming). Economic development, institutions and trust. In C R. Boschma and R. Kloosterman (eds) *Learning from clusters: a critical assessment*. Boston: Kluwer Academic Publishers.

De Groot, Henry, G. M Linders and P. Nijkamp 2004. Locality Matters: Myths and Facts on the New Economy. In *On the Edge of the Global Economy* by J. Poot (ed.). Cheltenham: Edward Elgar.

De Groot, Henry, G. M. Linders, P. Rietveld and U. Subramanian 2004. The institutional determinants of bilateral trade patterns. *Kyklos*, Vol. 57, No. 1, pp. 103-123.

De Groot, Henry, S. Beugelsdijk and A. B. T. M. van Schaik) 2001. The macroeconomic consequences of outsourcing. *De Economist*, Vol. 146, No. 1, pp. 53-79.

Hagen, Rune Jansen, Ottar Mæstad and Arne Wiig 2003. *Assessing the economic gains of free market access for the least developed countries in the QUAD*. Nordic Journal of Political Economy, Vol. 29, No. 1, pp. 3-24.

- Kvaløy, Ola 2005. *The economic organisation of specific assets*. Forthcoming in *The Changing World of Oil: An Analysis of Corporate Change and Adaption* by Davis Jerome (ed.). London: Ashgate
- Nordås, Hildegunn Kyvik, 2004. "Location of Engineering and Designer Services in the Space Economy", in Henri L.F. de Groot, Peter Nijkamp and Roger Stough (eds), *Entrepreneurship and regional economic development: a spatial perspective*, Edward Elgar, 2004.
- Nordås, Hildegunn Kyvik 2002. Patterns of foreign direct investment in poor countries. *Journal of International Trade and Economic Development*, Vol. 11, No. 3, pp. 1-19.
- Nordås, Hildegunn Kyvik, Kjetil Bjorvatn and Hans Jarle Kind 2002. The role of FDI in economic development. *Nordic Journal of Political Economy*, Vol. 28, No. 2, pp. 109-126.
- Nordås, Hildegunn Kyvik and James Hodge 2001. Liberalisation of trade in producer service – the impact on developing countries. *South African Journal of Economics*, Vol. 69, No. 1, pp. 93-122.
- Nordås, Hildegunn Kyvik 2001. Information technology and producer service – a source of economic development. *Trade and Industry Monitor (South Africa)*, Vol. 17, December 2001, pp. 9-11.
- Nordås, Hildegunn Kyvik 2000. Comparative advantage and economies of scale – when does Ricardo dominate Smith? *Review of International Economics*, Vol. 8, No. 4, pp. 667-680.
- Tungodden, Bertil, Nicholas Stern and Ivar Kolstad (eds.), 2004. *Toward pro-poor policies: Aid, institutions, and globalization*. Wash.D.C./Oxford:World Bank / Oxford Univ. Press 355 p.
- Wiig, Arne 2005. Supply chain management in the oil industry: The Norwegian and Angolan case compared. Forthcoming in *The Changing World of Oil: An Analysis of Corporate Change and Adaption* by Davis Jerome (ed.). London: Ashgate.
- Wiig, Arne 2003. Developing countries and the tourist industry in the internet age: case of Namibia. *Forum for Development Studies*, Vol. 30, No. 1, pp. 59-87.

## **2. Reports, working papers and other publications**

- Andersen, Susanne 2003. *The influence and effects of financial development on economic growth. An empirical approach*. Bergen: Chr. Michelsen Institute (CMI Report R 2003:14).
- Aochamub, Albertus, Daniel Motinga and Christoph Stork 2002. *Economic development potential through IP telephony for Namibia*. World Institute for Development Economics Research (WIDER) (Discussion Paper No. 2002/84).
- Bjorvatn, Kjetil and Carsten Eckel 2003. *Winners and losers from an international investment agreement*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2003:11).
- De Groot, Henri L.F. and Hildegunn Kyvik Nordås 2001. *Trade in information services and economic development: On the implications of ICT on less developed countries*. Bergen: Institute for Research in Economics and Business Administration (Working Paper No. 32/2001).
- Hodge, James 2000. *An Overview of the Role of Producer Services in the Petrochemicals Industry in South Africa: A Case Study of Sasol*. Development Policy Research Unit (DPRU) (Working Paper, January 2000).
- Ismail, Mohd Nazari 2001. *Foreign direct investments and development: The Malaysian electronics sector*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2001:4).

- Jacobsen, Karen Frederikke Lomeland 2003. *Telecommunications – a means to economic growth in developing countries?* Bergen: Chr. Michelsen Institute (CMI Report R 2003:13).
- Kolstad, Ivar and Espen Villanger 2004. *Social development and industry level foreign direct investment.* Bergen: Chr. Michelsen Institute (CMI Report R 2004:1).
- Kolstad, Ivar and Espen Villanger 2004. *How does social development affect FDI and domestic investment?* Bergen: Chr. Michelsen Institute (CMI Report R 2004:2).
- Kolstad, Ivar and Espen Villanger, 2004. *Promoting investment in small Caribbean states* Bergen:Chr. Michelsen Institute (CMI Working Paper WP 2004: 9) 31 p.
- Kolstad, I. and Villanger, E. (2004) “*Determinants of foreign direct investment in services*”, CMI working paper 2004:2
- Kolstad, Ivar and Line Tøndel, 2002. *Social development and foreign direct investments in developing countries.* Bergen:Chr. Michelsen Institute (CMI Report R 2002:11)
- Kvaløy, Ola 2000. *The economic organisation of specific assets.* Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2000:14).
- Motinga, Daniel 2003. *Liberalising the telecommunications sector in Namibia: Better regulation is the key.* Windhoek, Namibia, Institute for Public Policy Research (IPPR) (Briefing Paper No. 25, November 2003).
- Nordås, Hildegunn Kyvik. 2003, "Vertical specialization and the quality of infrastructure", World Trade Organization ERSD Working Paper no 2003-04.
- Nordås, Hildegunn Kyvik. 2003 "ICT, access to services and wage inequality", World Trade Organization ERSD Working Paper no 2003-02.
- Nordås, Hildegunn Kyvik 2003. *Fragmented production: regionalization of trade?* World Trade Organization ERSD (Working Paper 2003-01).
- Nordås, Hildegunn Kyvik 2002. *Information technology, richness of services and income distribution. Is ICT after all the great equalizer?* Bergen: Institute for Research in Economics and Business Administration (Working Paper No. 39/2002).
- Nordås, Hildegunn Kyvik 2002. *Location of engineering and designer service in the information economy.* Bergen: Institute for Research in Economics and Business Administration (Working Paper No. 41/2002).
- Nordås, Hildegunn Kyvik 2001. *Information technology and producer service – a source of economic development: The South African case.* South African Trade and Industry Policy Secretariat (TIPS) (Working Paper No. 7). Also published at SNF (Working Paper No. 50/01) and on the South African Trade and Industry Policy Secretariat's web page ([www.tips.org.za/research/papers/getpaper.asp?id=492](http://www.tips.org.za/research/papers/getpaper.asp?id=492)).
- Nordås, Hildegunn Kyvik 2000. *Patterns of foreign direct investment in poor countries.* Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2000:5).
- Nordås, Hildegunn Kyvik 2000. *Liberalization of trade in services and choice of technology in the Norwegian petroleum sector.* Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2000:1).
- Nordås, Hildegunn Kyvik, James Hodge and Line Tøndel 2000. *Diffusion of information technology, SADC and international production.* Oslo: Norwegian Ministry of Foreign Affairs (Studies on foreign policy issues, Report 7:2000).
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- Overå, Ragnhild (2004) *Networks, distance and trust: telecommunications and changing trading practices in Ghana*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 15:2004).
- Sandeliën, Guri 2003. *Trust and Trade... Is distance dead?* Bergen: Chr. Michelsen Institute (CMI Report R 2003:4).
- Søreide, Tina 2001. *Why technology transfer and new industrial structures may accelerate economic development*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2001:3).
- Tøndel, Line 2001. *Foreign direct investment during transition. Determinants and patterns in Central and Eastern Europe and the former Soviet Union*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2001:9).
- Wiig A. 2004. Risk and disintermediation in tourism. Bergen:Chr. Michelsen Institute (CMI Working Paper WP 2004: 6) 19 p.
- Wiig, Arne 2001. *Supply chain management in the oil industry: The Angolan case*. Bergen: Chr. Michelsen Institute (CMI Working Paper WP 2001:6).
- Wiig, Arne and K.A.S. Murshid 2001. *A review of development trends in the energy sector of Bangladesh*. Bergen: Chr. Michelsen Institute (CMI Report R 2001:3).

### **3. Papers presented at conferences, workshops and seminars**

- Andersen, Susanne 2003. The Influences and Effects of Financial Development on Economic Growth. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- De Groot, Henry 2003. Trust and economic growth: A robustness analysis of the macroeconomic literature. Paper presented at workshop on Social Capital and Economic Development, *Tilburg University Anniversary Conference 'Sustainable ties in the information society'*, Tilburg 26-28 March 2003.
- De Groot, Henry 2003. The institutional determinants of bilateral trade patterns. Paper presented at *the GTAP-6 Conference*, The Hague, 12-14 June 2003.
- De Groot, Henri L.F. 2003. "ICT, productivity, economic growth and poverty. What do we know and where is the research frontier?" Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- De Groot, Henri L.F. 2003. Institutions and International Trade: A Gravity Model Approach. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- De Groot, Henry 2002. ICT and outsourcing: An analysis of the implications of the ICT revolution for less developed countries. Paper presented at *the NFU conference on 'Developing Countries and the Network Revolution'*, Trondheim, Norway, 14-15 November 2002.
- De Groot, Henry 2002. The empirical growth literature, robustness, significance and size. Paper presented at *the annual conference of development economists of the Chr. Michelsen Institute and Norwegian Business School*, Bergen, Norway, 18 November 2002.

- De Groot, Henry 2001. Why have some countries grown rich and others remained poor? *Bergen Seminar at CMI*. Chr. Michelsen Institute, Bergen 9 October 2001.
- De Groot, Henry 2001. The Empirics of Economic Growth: How robust are the results? *Guest lecture at Norwegian Business School*, Bergen, Norway, 19 October 2001.
- Jacobsen, Karen Frederikke Lomeland 2003. Telecommunications Development and Economic Growth in Developing Countries- an Empirical Approach. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- Kolstad, I. 2003. "Globalization, liberalization and multinational corporations", Workshop, Wadduwa, Sri Lanka, 13-14 September 2003
- Kolstad, I. and Villanger, E. "Social development, FDI, and domestic investment", Seminar at the World Bank, Washington DC, 5 November 2003
- Kolstad, Ivar and Espen Villanger 2004. "Determinants of foreign direct investment in services." Paper presented at *Det 26. nasjonale forskermøtet for økonomer*, Trondheim, Norway, February 2004.
- Nordås, Hildegunn Kyvik 2005 "Betyr GATS noe?" Presentation at the Norwegian Association of Development Researchers, Bergen 21 April, 2005.
- Nordås, Hildegunn Kyvik 2005 "GATS – facts and myths" presented at a seminar of the Norwegian Association of Public sector workers (LO stat og LO kommune), 7. April 2005.
- Nordås, Hildegunn Kyvik 2004, Participated at the OECD/ECMT roundtable on transport and international trade in Paris 21-22 October 2004.
- Nordås, Hildegunn Kyvik 2004 "Determinants of vertical specialization" Presented at the Ecomod conference in Brussels 04.09.2004.
- Nordås, Hildegunn Kyvik 2004 "Vertical specialization and the quality of infrastructure", presented at the Nordic International Trade Seminars annual conference in Copenhagen 14-15 May 2004.
- Nordås, Hildegunn Kyvik 2004 "Vertical specialization and the quality of infrastructure", presented at the "75 years of development research", an international colloquium at Cornell University organized by the Program for Comparative Economic Development, 7-9. May 2004.
- Nordås, Hildegunn Kyvik 2003. ICT, supply chain management and international trade. What do we know and where is the research frontier? Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- Nordås, Hildegunn Kyvik 2003. Vertical specialization and trade barriers in the services sector. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- Nordås, Hildegunn Kyvik 2002. Information technology, richness of service and income distribution: Is ICT after all the great equalizer? Paper presented at *the Nordic Conference on Development Economics*, Bergen, 28 May 2002.
- Nordås, Hildegunn Kyvik 2002. Reach of engineering and design services in the space economy. Paper presented at *the annual Tinbergen conference*, Amsterdam, Netherlands, 11 June 2002.
- Nordås, Hildegunn Kyvik 2000. Liberalisation of trade in services and choices of technology in the Norwegian petroleum sector. Paper presented at *the Norwegian Economist Society annual conference*, Bergen, Norway, January 2000.

- Nordås, Hildegunn Kyvik 2000. Diffusion of information technology, SADC and international production. Paper presented at a seminar *Ministry of Foreign Affairs*, Oslo, Norway, 2000.
- Nordås, Hildegunn Kyvik 1999. How globalization of trade in services may help conserve natural resources. Paper presented at *the World Service congress*, Atlanta, USA, 3 November 1999.
- Overå, Ragnhild 2003. Networks, trust, and distance: Telecommunications development and changing trading practices in Ghana. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- Villanger, Espen 2003. FDI, services and economic growth: An outline. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003.
- Wiig, Arne 2003. Developing countries and the tourist industry in the internet age: The case of Namibia. Paper presented at *The Nordic conference in Development Economics*. Copenhagen, June 2003. Also presented at *the Norwegian Association for Development Research's Annual Conference*, Trondheim, October 2002 and at Namibian Economic Policy Research Unit (NEPRU) December 2004.
- Wiig, Arne 2003. Trust and disintermediation in the tourism sector. Paper presented at the Workshop on *WTO/GATS and the 'new economy'*. Chr. Michelsen Institute, Bergen 17-18 November 2003. Also presented at *The Nordic conference in Development Economics*. Copenhagen, June 2003
- Wiig, Arne 2003. The failure in Cancun: Was it bad for LDCs? Paper presented at a *World Bank Conference* held at the Manchester Business School, Manchester 5. December
- Wiig, Arne. 2003 "Globalisation, information technology and producer services" Workshop, Wadduwa, Sri Lanka, 13-14 September 2003
- Wiig, Arne 2001 Economic impacts on the least developed countries of the elimination of import tariffs on their products. Paper presented at a seminar at *the Namibian Economic Policy Research Unit* (NEPRU) 2 July.
- Wiig, Arne 2001. Economic and political impacts of the recent initiatives to increase imports from developing countries. Paper presented at seminar at *the Norwegian Ministry of Foreign Affairs* 7 June
- Wiig, Arne 2001. The economic impacts of Norwegian petroleum investments in Angola. New research challenges. Paper presented at a seminar on *Oil and human rights* at the Norske Medisinske Selskap 28 February.

## **Unpublished**

*(Upublisert materiale/work in progress)*

- Efimov, Victor, Georgiy Serebryakov and Oleg Shibalkin 2002. *Producer services and supply networks in the Russian energy and light industry sector*. Mimeo, July 2002.

## 5 Other results

A priority task of the programme has been to strengthening and developing CMI's research networks to other Norwegian institutions and internationally. Throughout the programme-period various forms of contact with the following institutions were carried out:

- *The Foundation for Research in Economics and Business Administration (SNF) in Bergen* (Hildegunn Kyvik Nordaas, Jarle Kind, Ottar Mæstad)
- *Department of spatial economics, Free University of Amsterdam* (Associate Professor, Henri L.F. de Groot)
- *World Trade Organisation* (Councillor Hildegunn Kyvik Nordaas)
- *NHH/Norwegian School of Economics, Bergen, Norway* (Professor Bertil Tungodden, Associate Professor Kjetil Bjorvatn)<sup>2</sup>.
- *University of Bergen, Bergen, Norway* (Professor. Gaute Torsvik and Associate Professor Ishtiaq Jamil; Associate Professor Øyvind Anti Nielsen)
- *Development Policy Research Unit, School of Economic, University of Cape Town* (Lecturer James Hodge)
- *Namibian Economic Policy Research Unit* (Director Dirk Hansohm, Daniel Motinga; Christoph Stork)
- *University of Malaya* (Ismail, Mohd Nazari)
- *Institute of Economic Forecasting, Russian Academy of Sciences* (Georgiy Serebryakov)
- *World Bank, Research Department* (Research Director Bernhard Hoekman) and *Social Development Department* (Director Stein Jorgensen)

The programme has actively used CMI's visiting fellowship programme. During the period 2001 and 2003, two internationally recognised scholars within the area of producer services have occasionally visited CMI for periods lasting from one week till one month (see table 2). These were James Hodge (University of Cape Town) and Henri L.F. de Groot (Free University, Amsterdam). Henri de Groot has played an important role in terms of publishing, organising internal workshops and commenting work in progress. In addition, the previous leader of the programme, Dr. Hildegunn Kyvik Nordaas has continued to play an important role by her occasional visits and contacts with CMI after she moved to her new work at the WTO.

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<sup>2</sup> Also Professor Jan Haaland and Associate Professor Linda Orvedal have provided comments on papers.

**Table 2: Guest researchers involved in the programme (2000-2003)**

Name	Discipline	Job title	E-mail
De Groot, Henry	Economics	Associate professor	<a href="mailto:hgroot@feweb.vu.nl">hgroot@feweb.vu.nl</a>
Hodge, James	Economics	Lecturer	<a href="mailto:jhodge@commerce.uct.ac.za">jhodge@commerce.uct.ac.za</a>

## 5 Names and affiliation of participating researchers

*(Prosjektmedarbeidere som delvis har vært finansiert av NFR)*

Seven CMI-(senior) researchers have been involved in projects within the programme since it started in 1999. None has been working full time and some has only provided a minor inputs (see table 3).

Four researchers at CMI are specialised in the field of international service trade; Arne Wiig (Research Director; economist), Ivar Kolstad (Senior Researcher, economist), Ragnhild Overå (Senior Researcher, geography) and Hildgunn Kyvik Nordås (Nordås has just returned to SNF from her post as Councillor in the Research Department of World Trade Organisation). In addition, Kjetil Bjorvatn (Associate Professor, Norwegian School of Economics and Business Administration) and Espen Villanger (Senior Researcher at CMI, Economist) have been associated to the programme on part time basis (funded by the complementary SIP on producer services). Furthermore, one PhD-students, with funding from the Research Council of Norway (NFR): Line Tøndel Seim (economist) started her PhD-project in January 2001. Junior researchers Guri Sandelien, Karen Nomeland Jacobsen and Susanne Rislå Andersen (all economists) have had shorter assignments related to the programme.

**Table 3: CMI-researchers involved in the programme (2000-2004)**

Name	Discipline	Job title	E-mail
Andersen, Susanne Rislå	Economics	Junior Researcher	<a href="mailto:Susanne.Andersen@student.uib.no">Susanne.Andersen@student.uib.no</a>
Bjorvatn, Kjetil	Economics	Associate professor	<a href="mailto:Kjetil.Bjorvatn@nhh.no">Kjetil.Bjorvatn@nhh.no</a>
Jacobsen, Karen Frederikke Lomeland	Economics	Junior Researcher	<a href="mailto:Karen.Jacobsen@vesta.no">Karen.Jacobsen@vesta.no</a>
Kolstad, Ivar	Economics	Senior researcher	<a href="mailto:Ivar.Kolstad@cmi.no">Ivar.Kolstad@cmi.no</a>
Nordås, Hildegunn Kyvik	Economics	Senior researcher	<a href="mailto:Hildegunn.Nordas@snf.no">Hildegunn.Nordas@snf.no</a>
Overå, Ragnhild	Geography	Senior researcher	<a href="mailto:Ragnhild.Overaa@cmi.no">Ragnhild.Overaa@cmi.no</a>
Sandelien, Guri	Economics	Junior Researcher	<a href="mailto:gsa@lotteritilsynet.no">gsa@lotteritilsynet.no</a>
Tøndel, Line	Economics	PhD-candidate	<a href="mailto:Line.Tondel@cmi.no">Line.Tondel@cmi.no</a>
Villanger, Espen	Economics	Senior Researcher	<a href="mailto:Espen.Villanger@cmi.no">Espen.Villanger@cmi.no</a>
Wiig, Arne	Economics	Research director	<a href="mailto:Arne.Wiig@cmi.no">Arne.Wiig@cmi.no</a>

Bergen 1 May 2005

Arne Wiig

Research Director and Programme leader