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Introduction

Smaller units often have certain lustre in comparison with larger and less wieldy units. In economics, however, economies of scale are the order of the day, and the general perception is that enlargement creates opportunities for improved efficiency and lower unit costs. Large operating units, according to this tenet, have an easier time of it, or so it would seem. But the scope for improved efficiency is not infinite, since if this were the case enterprises would grow endlessly. This does not happen, and in fact it appears that the trend is often reversed when a certain size is attained, when lines of communication become too long and complicated, which increases costs with a corresponding rise in the average cost of production. There appears, therefore, to be a maximum efficient size for enterprises, although the optimal size is difficult to pinpoint.

History abounds with examples which fit the above description. Enterprises have been shown to be quite efficient before growing too large, e.g. through diversification, organic growth and/or mergers with other enterprises, and then running into difficulties and even expiring under their own weight. Such stories are not uncommon, but in fact there are all kinds of stories of business trends in the annals of business management.

If there is anything that is absolutely certain in the lessons of science, it is that variety has no limits. Nature has demonstrated this time and again through the centuries and millennia. As a matter of fact, variety secures progress, and therefore there is no such thing as the absolutely most efficient size for enterprises and the same is true of states. Smaller states may be different from other states in many respects, but in other respects they are really quite similar.

Much of the subject matter of this excellent book has to do with research into the special characteristics of smaller states and whether any clear parallels between them can be identified. The research published in this volume is invaluable for our understanding and provides a much needed basis for further discussion among scholars, politicians, stakeholders, and the general public. The successful outcome of this research into an area which has not received much attention is a matter of particular pleasure.

To focus on one aspect of the general discussion, we can look at globalisation, which is having a profound impact on the countries of the world, especially the smaller countries. Globalisation not only results in increased international trade, but also in increased cultural interchange. Principal tools of globalisation, computers and the Internet, have already had a profound impact on business and communications, especially in the industrialised countries where access to computers is most widespread. The advantages of globalisation include a larger market area, lower transaction costs and increased and faster dissemination of knowledge. However, there are many who worry that globalisation primarily entails the free flow of capital, which takes insufficient account of the environment and the living conditions of poorer countries.

Another area which provides endless avenues of discourse is the general trend of world progress. Circumstances in the world have changed profoundly in a relatively short period of time. It has been estimated that only about 300 million people lived on the planet in the time of Christ, but by 1900 the world population had reached 1.3 billion, and now there are six billion people living on the Earth. This number is expected to reach eight billion in the next 30 years, an increase of about 2 billion.

This will foreseeably create significant problems in the supply of food and water and habitable space, apart from the various social difficulties that a population growth of this magnitude is bound to entail. Technological advances in various scientific disciplines, such as the biological sciences, will be valuable for the supply of food, and genetically modified food will become an inseparable part of the human diet within a few years. The implications of all these potential developments represent a fertile field for serious research and academic discourse.

But despite scientific progress the problems we face will be significant, especially in light of the current unequal distribution of wealth in the world. A look at the gross domestic product in the world per capita based on purchasing power parity reveals that the difference between the wealthy countries within the OECD, of which Iceland is a member, and the poor countries, which represent slightly less than half of the world population, is fifteenfold, and the gap is not narrowing.

There are currently some 200 states in the world, and of these 100 fill the ranks of the developing countries. In the latter 100, gross domestic product per capita has actually fallen in about 30 states in the years 1965 – 2000, so that the task that lies ahead of evening out the living standards in the world and creating viable living conditions for all is a daunting one. For a small country like Iceland the question of what we can possibly do to remedy the situation is a legitimate one. We do not have much cause for self-satisfaction in this area. Our contribution to development is the smallest of all the member states of the OECD and totally inconsistent with the wealth of the country, as Iceland has long ranked among the top ten countries in the world as regards standard of living.

Getting back to the process of globalisation, this is particularly relevant to the smaller states in the context of cultural trends. Culture has always flowed between countries, but it is new trend, and peculiar to our times, that culture now flows from everywhere – and the currents are much stronger than ever before. As a result of globalisation, many smaller states are now confronting a new problem as regards their culture. Cultural diversity is the hallmark of the human community, and this diversity has often been preserved as a result of isolation and because cultural communities have had a long time to adapt to foreign influence. This is no longer the case. Now, various cultural influences are borne much faster between countries than before, both because of the Internet, and also because of the spread of the media.

Culture can be seen as a global public good, which needs to meet three specific conditions. These conditions are that cultural events must be accessible in as many countries as possible and to as many individuals as possible within individual countries, since if these conditions are not met, cultural events will be restricted to the privileged classes. Cultural diversity also has to be accessible to subsequent generations, bringing into play the concept of sustainability to secure a place for culture in relations between generations.

Small cultural communities can be placed at risk by globalisation, not because they are passive recipients rather than active contributors to the cultural cornucopia, but simply because their very smallness and lack of resources makes it difficult for them to exert their influence outside their borders and cope effectively with foreign influence at home. If we accept the third condition mentioned above, that of sustainability, we must also recognise our obligation to preserve cultural diversity for the benefit of coming generations and in that respect we have much work to do.

It is interesting to note in this context that the small countries devote a larger proportion of their public expenditures to culture than big countries. Public expenditures reflect the political priorities of the people in power at any time, and

therefore the distribution of public expenditures is a good indication of the weight of these priorities. Smaller states give greater weight to cultural affairs than larger states, and this is understandable because the smaller countries are more conscious of the need to protect their small cultural communities, which are essential to preserve their individual identities. Larger states are less worried about this, as their size guarantees variety and opportunities for expansion, both within and outside their own borders.

Smaller countries tend to group themselves together into large organisations, such as the European Union which has now changed radically following the accession of ten new states, bringing the total membership from 15 to 25 states. In the study of small-state dynamics is interesting to compare the populations of the states of the European Union with the states of the United States of America, which are twice the number of European states, i.e. 50.

Approximately 13% of the states of both the European Union and the United States of America have a population of less than one million. A third of the states of the United States of America have a population of one to four million, while the corresponding ratio for the EU is 20%. About 40% of the states of the United States of America and the states of the European Union have populations between four and fifteen million. The ratio of large states with populations between 15 and 50 million is also similar, at approximately 10%. None of the United States of America have populations over 50 million, while four EU states have populations over 50 million (Germany, the United Kingdom, France and Italy). Notwithstanding the slight variations, there is a striking parallel between these two giant units.

It has been widely maintained that the European Union will eventually develop along the lines of the United States of America, i.e. become a single federal union of a number of relatively independent states. The principal difference is that the European Union has within its boundaries several giant states, by western standards, while none of the States of the United States of America holds such a position. It is a prominent feature of the European Union that the largest states are dominant, whatever the future may hold in store, while the states of the United States of America enjoy much more equality.

In the United States, individual states have never risen to a position of strong power, at least not in recent decades. California is the most populous state, with slightly less than 40 million inhabitants, and it is also the 5th largest economy in the world, but this has never been reflected in its influence on the federal Government of the United States. It is therefore an interesting question whether it is not precisely the fact that there have never been any superstates within the United States that has made it possible to develop such an exceptionally efficient and powerful team as the United States.

One example of a particularly effective partnership of nations which has extended over decades is the Nordic co-operation, which has been going on since the end of the World War II. Even though Iceland is by far the smallest of the states, this has never been an obstacle in the partnership, and in fact the other states are relatively similar in size, although Sweden is clearly the largest. Integrating Greenland, the Faeroe Islands and the Aaland Islands into the Nordic co-operation, territories with far smaller populations than Iceland, has also been smooth and unproblematic. It appears to be a relatively safe hypothesis, in light of all of the above, that partnerships of states will tend to be more effective if the states are small with similar populations than if the states are widely different in population.

For smaller states, it is interesting to look at trends that occurred in a mere 40-year span just over 200 years ago. The period from 1775 to 1815 was probably the

most profound transitional period in Western history. This was the time of the great revolutions, the American in 1776 and the French in 1789. The industrial revolution, with the harnessing of steam power, was in full swing, sovereigns and the noble classes lost their powers, cities grew, trade increased and the middle class rose to a position of power which it has held ever since.

These 40 years also saw the Napoleonic era, which shifted and created borders in Europe and led to permanent changes in many areas. These 40 years represent less than a single lifetime. During this period, smaller states grew in strength, nationalism flourished and major historical trends over the next 200 years were rooted in single nation states that fought fiercely for their own special interests on the basis of national strategies which included colonial expansion. This resulted in struggles for independence among numerous nations in the 19th and 20th centuries, which eventually resulted in the formation of most of the 200 states now in existence in the world.

It is food for thought whether the period from 1985 to 2025, which is also 40 years, will involve a similar change in human history. In 1989, the Berlin Wall came down, marking the collapse of Communism. All of Eastern Europe was transformed in the space of a few years. A new industrial revolution is currently in progress, involving the computer, the Internet, information technology and the knowledge industry. A new threat, international terrorism, has reared its head and progress in the life sciences and genetics have never been more rapid, leaving scientists face to face with new ethical dilemmas which previously existed only in the realm of science fiction. A growing number of people are living in unprecedented prosperity, while at the same time a greater number of people than ever before are dying of hunger. There are still 20 years left of this 40-year period, but if the first twenty years are anything to go by it is not unlikely that in the end the changes will be comparable in scope to those of the earlier 40-year period at the turn of the 18th and 19th centuries.

This represents an opportunity for smaller states. They are in a position to contribute in numerous ways to positive change because their governments are often more conscious of the needs of their constituents than the governments of the larger states. Flexibility is the key to increased efficiency, which is necessary both in trade and in human relations.

Smaller states are more likely than other states to strive for flexibility and to develop a strong ethical ideology which is conducive to the promotion of greater co-operation among the nations of the world. We still lack such a ethical ideology. In the past, co-operation between nations was desirable and advantageous, but now co-operation between nations is vital for Mankind to be able to cope with the problems of the coming decades. In that effort, the smaller states of the world can take the lead.

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Inngangur

Það hefur oft verið bjarmi yfir smærri einingum. Innan hagfræðinnar er þó talað um hagkvæmni stærðarinnar sem þýðir að við stækkun fyrirtækja skapast möguleikar á hagræðingu sem leiða til lægri kostnaðar á hverja framleidda einingu. Stórar rekstrareiningar eiga því auðveldar uppdráttar en minni fyrirtæki. Þó gildir þessi hagkvæmni ekki í hið óendanlega vegna þess að þá myndu fyrirtækin sífellt stækka. Það gerist ekki enda snýst þróunin við eftir að tiltekinni stærð er náð. Þá eru boðleiðir orðnar langar og skipulag flókið og það hefur kostnað í för með sér sem þýðir að meðalkostnaður framleiðslunnar hækkar. Það er því eitthvað til sem telst vera hagkvæmasta stærð fyrirtækis en það er ekki auðvelt að finna hana.

Sagan er full af dæmum þar sem fyrrgreind lýsing á vel við. Fyrirtæki hafa reynst ágætlega hagkvæm þegar þau voru ekki of stór. Þau stækkuðu síðan, t.d. með sameiningu við önnur fyrirtæki, en lentu þá í vandræðum og lögðu jafnvel upp laupana. Slíkar sögur eru ekki óalgengar en reyndar eru til alls konar sögur um þróun viðskipta í lífsreynslubók viðskiptafræðinnar.

Ef eitthvað er alveg öruggt í því sem vísindin kenna okkur þá er það að fjölbreytninni eru engin takmörk sett. Náttúran sýndi manninum fram á þetta fyrir margt löngu. Fjölbreytni tryggir einfaldlega þróun. Það er því ekkert til sem er algild hagkvæmasta stærð á fyrirtæki, hagkerfi eða ríkjum. Smærri ríki eru aðeins að ýmsu leyti öðru vísi en önnur ríki en að öðru leyti svipuð.

Margt í þessari bók um smærri ríki fjallar einmitt um það að rannsaka hvað er sérstakt við smærri ríki og hvort hægt sé að finna skýra samsvörun milli þeirra. Það er mikill fengur að þeim rannsóknum sem birtast í bókinni og þær auka skilning okkar og eru nauðsynlegar fyrir frekari umræðu. Sú umræða fer fram meðal vísindamanna, stjórnmálamanna, hagsmunaaðila og almennings. Það er sérstaklega ánægjulegt að hér tókst vel til með rannsóknir á sviði sem ekki hefur verið fjallað mjög mikið um innan vísinda.

Hnattvæðingin breytir mörgu fyrir ríki heims, ekki hvað síst fyrir smærri ríki. Hnattvæðingin felur ekki aðeins í sér meiri verslun milli landa heldur hefur hún í för með sér aukna menningarstrauma. Helstu verkfæri hnattvæðingarinnar, tölvan og Netið, hafa þegar haft gífurleg áhrif í viðskiptum og samskiptum fólks, einkum í hinum þróuðu löndum þar sem tölvuútbreiðsla er mest. Kostir hnattvæðingarinnar eru m.a. stærri markaðssvæði, lægri viðskiptakostnaður og meiri og hraðari dreifing á þekkingu. Margir hafa hins vegar áhyggjur af því að hnattvæðingin feli fyrst og fremst í sér frjálst flæði fjármagns sem taki ekki nægjanlegt tillit til umhverfisins og lífskjara hinna fátæku landa.

Aðstæður hafa breyst gífurlega í heiminum á tiltölulega stuttum tíma. Það er talið að á dögum Krists hafi um 300 milljónir manns búið á jörðinni. Um aldamótin 1900 voru íbúar jarðarinnar 1,3 milljarður og nú búa um 6 milljarðar manna á jörðinni. Það er talið að þeim fjölgi í 8 milljarða á næstu 30 árum eða um 2 milljarða.

Þetta skapar mjög mikil vandamál varðandi fæðuöflun, vatn og lífvænleg svæði til að búa á auk hinna margvíslegu félagslegu erfiðleika sem slík fólksfjölgun hefur í för með sér. Tækniframfarir í vísindum, eins og í lífvísindum, munu hjálpa til við fæðuöflunina og erfðabreytt matvæli verða óaðskiljanalegur þáttur í matarræði mannsins eftir nokkur ár. Þessi þróun býr til frjósaman jarðveg fyrir stórauknar vísindarannsóknir.

En þrátt fyrir framfarir í vísindum verður vandinn mikill, ekki hvað síst þegar litið er til þeirrar misskiptingar í heiminum sem er nú þegar við lýði. Ef landsframleiðsla á mann á jafnvirðismælikvarða er skoðuð kemur í ljós að munur

milli hinna ríku þjóða innan OECD, sem við Íslendingar tilheyrum, og hinna fátæku þjóða, sem eru tæpur helmingur jarðarbúa, er fimmtánfaldur og fer síst minnkandi.

Nú eru um 200 ríki í heiminum og um 100 þeirra teljast til þróunarlandanna. Af þessum 100 ríkjum varð samdráttur í landsframleiðslu á mann í um 30 ríkjum á árunum 1965 til 2000 þannig að verkefnið sem er framundan að jafna lífskjör í heiminum og búa öllum lífvænleg skilyrði er risavaxið. Fyrir fámenna þjóð eins og Íslendinga er sú spurning réttmæt hvað við getum gert til að bæta þessa stöðu. Ekki getum við stært okkur á þessu sviði. Framlag okkar til þróunarmála er lægst af öllum ríkjum OECD og er ekki í neinu samræmi við ríkidæmi landsins en Ísland hefur lengi verið meðal 10 hæstu þjóða heims hvað varðar lífskjör.

Hnattvæðingin snýr sérstaklega að smærri ríkjum í sambandi við menningarstrauma. Menning hefur alltaf flust milli landa en það er nýtt á okkar dögum að straumarnir koma alls staðar frá og þeir eru miklu stríðari en áður. Vegna hnattvæðingarinnar standa smærri ríki nú frammi fyrir sérstöku vandamáli hvað varðar menningu. Menningarleg fjölbreytni er aðalsmerki samfélags mannsins og hún hefur oft varðveist vegna einangrunar og vegna þess að einstök menningarsamfélög hafa fengið langan tíma til að laga sig að erlendum áhrifum. Það á ekki við lengur. Nú berast ýmis konar menningaráhrif miklu hraðar milli landa en áður, m.a. vegna Netins og aukinnar fjölmiðlunar.

Það er hægt að líta á menningu sem alþjóðleg almannagæði sem verða að uppfylla þrjú tiltekin skilyrði. Þessi skilyrði eru að menningarlegir viðburðir verða að vera aðgengilegir sem flestum löndum og sem flestum einstaklingum innan einstakra landa. Annars verða menningarlegir atburðir einungis fyrir forréttindastéttir. Menningarleg fjölbreytni verður einnig að vera aðgengileg komandi kynslóðum en með því er hugtakið um sjálfbærni nýtt til að tryggja menningu sess í samskiptum kynslóða.

Lítil menningarsamfélög geta verið í hættu vegna hnattvæðingarinnar, ekki vegna þess að þau séu frekar viðtakendur en veitendur í þessum alþjóðlegum straumum heldur vegna þess að þau eru smá. Þau eiga einfaldlega erfitt með að gera sig gildandi á erlendum vettvangi vegna smæðar og fjárskorts og þau standast illa erlend áhrif heima fyrir. Okkur ber samkvæmt fyrrgreindu skilyrði um sjálfbærni að varðveita menningarlega fjölbreytni fyrir komandi kynslóðir. Hér er því verk að vinna.

Það er athyglisvert í þessu samhengi að smærri ríki verja hærra hlutfalli af opinberum útgjöldum til menningarmála en hin stærri. Opinber útgjöld marka stjórnmálalega áherslu valdhafa á hverjum tíma og því er þetta hlutfall góð vísbending um forgangsröðun. Smærri ríki veita menningarmálum meiri forgang en hin stærri. Það er skiljanlegt þar sem hin smærri ríki eru mjög meðvituð um að vernda sín litlu menningarsamfélög sem marka tilvist viðkomandi ríkja meira en flest annað. Stærri ríki hafa ekki svo miklar áhyggjur af þessu þar sem stærð þeirra tryggir fjölbreytni og sóknarfæri, bæði heima fyrir og erlendis.

Smærri ríki eru víða í stórum samtökum. Evrópusambandið breyttist mikið eftir að 10 ríki bættust þar við en þau eru nú 25 talsins. Það er athyglisvert að bera saman íbúafjölda ríkja Evrópusambandsins og fylkja Bandaríkja Norður-Ameríku en þau eru tvöfalt fleiri en ríki ESB eða 50 talsins.

Það eru um 13% af ríkjum ESB og fylkjum Bandaríkjanna sem hafa íbúafjölda sem er minni en ein milljón. Hins vegar er þriðjungur fylkja Bandaríkjanna með íbúafjölda frá einni upp í fjórar milljónir en sambærilegt hlutfall fyrir ESB er 20%. Um 40% fylkja Bandaríkjanna og ríkja ESB er með íbúafjölda milli 4 og 15 milljónir. Hlutfall stórra fylkja og ríkja með íbúa milli 15 og 50 milljónir er líka svipað eða um

10%. Ekkert fylki Bandaríkjanna hefur íbúafjölda yfir 50 milljónir en 4 ríki ESB eru með fleiri íbúa en 50 milljónir (Þýskaland, Bretland, Frakkland og Ítalía). Það er því ótrúlega mikið samræmi milli þessara tveggja risaeininga.

Ýmsir hafa haldið því fram að ESB muni þróast líkt og Bandaríki Norður Ameríku gerðu, þ.e. verða eitt sambandsríki með mörgum tiltölulega sjálfstæðum fylkjum eða ríkjum. Munurinn liggur þó fyrst og fremst í því að ESB hefur innan sinna vébanda risaríki á vestrænan mælikvarða en ekkert fylki Bandaríkjanna hefur slíka stöðu. Það er áberandi innan ESB að stærstu ríkin ráða mestu, hvað sem verður í framtíðinni, en fylkin í Bandaríkjunum hafa mun jafnari stöðu innbyrðis.

Í Bandaríkjunum hefur aldrei þróast mjög sterkt vald einstakra fylkja, a.m.k. ekki á síðustu áratugum. Kalifornía er fjölmennasta fylki Bandaríkjanna með tæplega 40 milljónir íbúa og er jafnframt 5. stærsta efnahagskerfi heimsins en áhrif þess á landsstjórnina í Bandaríkjunum eru ekki í neinu samræmi við það. Það er því áleitin spurning hvort ekki einmitt sú staðreynd að ekki voru til risafylki innan Bandaríkjanna hafi gert það mögulegt að þróa svo einstaklega hagkvæma og öfluga liðsheild sem Bandaríki Norður-Ameríku eru.

Dæmi um sérstaklega árangursríkt samstarf þjóða um áratugaskeið er samvinna Norðurlanda allt frá stríðslokum. Þótt Ísland sé langminnst ríkjanna hefur það aldrei háð því í samstarfinu enda eru hin löndin álíka stór þótt Svíþjóð sé sýnu stærst. Það hefur einnig gengið mjög vel að fella Grænland, Færeyjar og Álandseyjar inn í samstarf Norðurlanda, landssvæði sem eru með mun færri íbúa en Ísland. Líklega er samstarf ríkja árangursríkara ef þau eru smærri og með jafnari íbúatölu en ef um er að ræða ríki með mjög mismunandi íbúafjölda.

Fyrir smærri ríki er athyglisvert að skoða þá þróun sem varð á einungis 40 ára tímabili fyrir rúmum 200 árum. Tímabilið frá 1775 til 1815 er líklega stærsta breytingarskeið í sögu Vesturlanda. Þá urðu stóru byltingarnar, sú bandaríska árið 1776 og hin franska árið 1789. Atvinnuháttabylting með hagnýtingu gufuaflsins var þá á fullri ferð, kóngar og aðalsmenn misstu völdin, borgir stækkuðu, verslun jókst og borgarastéttin efldist og tók völdin sem hún hefur haldið síðan.

Á þessum 40 árum var einnig Napóleonstíminn sem breytti landamærum í Evrópu og hafði í för með sér varanlegar breytingar á mörgum sviðum. Þessi 40 ár eru samt ekki nema tæpur einn mannsaldur. Á þessum tíma efldust smærri ríki og þjóðernishyggja magnaðist enda var þróun næstu 200 árin einkum á grunni einstakra þjóðríkja sem héldu sterkt fram sérhagsmunum sínum, m.a. með sókn í nýlendur. Afleiðing þessa varð sjálfstæðisbarátta mjög margra þjóða á 19. öld og 20. öld sem mótaði flest af þeim 200 ríkjum sem nú eru í heiminum.

Það er vert umhugsunar að spyrja sig hvort tímabilið frá 1985 til 2025, sem eru líka 40 ár, feli í sér álíka breytingar í sögu mannsins. Árið 1989 féll múrinn sem markaði ósigur kommúnismans. Öll Austur-Evrópa gerbreyttist á örfáum árum. Ný atvinnuháttabylting er í fullum gangi með tölvunni, Netinu, upplýsingatækni og þekkingingariðnaði. Ný ógn hefur séð dagsins ljós sem eru alþjóðleg hermdarverk, framfarir í lífvísindum og erfðafræði hafa aldrei verið meiri og vísindamenn standa fyrir nýjum siðferðilegum vandamálum sem áður voru aðeins til í vísindaskáldsögum. Sífellt fleiri lifa í vellystingum á sama tíma og aldrei fleiri deyja úr hungri. Enn eru 20 ár eftir af þessu 40 ára tímabili en miðað við fyrri hluta þess er ekki ólíklegt að breytingarnar séu sambærilegar þeim og voru á fyrrgreindu 40 ára tímabili um aldamótin 1800.

Hér eru því tækifæri fyrir smærri ríki. Þau geta lagt margt fram til jákvæðra breytinga vegna þess að stjórnvöld þeirra eru oft meira meðvituð um þarfir þegnanna

en í hinum stærri ríkjum. Sveigjanleiki er lausnarorð í aukinni hagkvæmni sem er nauðsynleg í viðskiptum og mannlegum samskiptum.

Smærri ríki eru líklegri en önnur til að vinna að sveigjanleika og byggja upp sterka siðferðilega hugmyndafræði til að stuðla að meiri samvinnu þjóða heims. Enn vantar slíkan siðferðilegan grunn. Áður fyrr var samvinna þjóða æskileg og hagkvæm. Nú er samvinna þjóða hins vegar lífsnauðsyn ef mannkyninu á að takast að ráða við vandamál næstu áratuga. Hér geta smærri ríki heims tekið forustuna.

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Richard T. Griffiths:
Stærð, skipulag og Evrópusamruninn-samanburðarrannsókn.

Útdráttur

- Í þessari rannsókn voru könnuð áhrif *stærðar* á *efnahagslegt skipulag* nokkurs hóps aðildarríkja EBE og EFTA (að Portúgal undanskildu).
- Löndin sem könnunin náði til eru eftirtalin, eftir stærð:
    - *Fjögur stór lönd*: Þýskaland, Stóra-Bretland, Frakkland, Ítalía,
    - *Ellefu smærri lönd*: Holland, Belgía, Svíþjóð, Sviss, Austurríki, Danmörk, Noregur, Finnland, Írland, Lúxemborg, Ísland.

- Í rannsókninni var byrjað á því að skoða skilgreininguna á *stærð* og valið að nota verga landsframleiðslu sem viðmiðun.
- Því næst var notuð tölfræðileg greining til að ganga úr skugga um tengslin milli stærðar og nokkurra kerfislægra fyrirbæra sem oft birtast í fræðilegum ritum á þessu sviði. Notuð var lógaritmísk línuleg aðhvarfsgreining sem hentugasta greiningaraðferðin og til stuðnings var notuð lógaritmísk aðhvarfsgreining og raðfylgni. Miðað var við *95% tölfræðileg öryggismörk*.
- Í rannsókninni voru notuð *fjögur viðmiðunarár* og voru þau valin vegna þess að einmitt á þessum árum urðu breytingar á stofnunum hjá EBE og EFTA.
    - 1958 – árið áður en EBE tók að hafa áhrif
    - 1972 og 1974 (tvær athuganir) – þau ár sem EBE fjölgaði fríverslunarsamningum við EFTA
    - 1984 – árið sem framkvæmd lauk á EBE-EFTA viðskiptasamningunum
    - 2000 – það ár sem er næst í tíma, til að meta áhrif EES, sem komið var í framkvæmd 1994, og stækkun EBE ári síðar.
- Í rannsókninni voru fyrirbærin stærð og efnahagslegt skipulag athuguð í tveimur hópum:
    - Í öðrum hópnum voru öll löndin fimmtán (þ.m.t. fjögur stærstu)
    - Í hinum hópnum voru einungis smáríkin ellefu.
- Ef unnt var, var alltaf spurt hvort Ísland, sem smæsta landið, uppfyllti væntingar sem leiddar eru af kenningunni um smáríki.
- Hin „klassíska“ framsetning á röksemdafærslunni er eftirfarandi:
    - Í smáríkjum er tilhneiging til þess að skipulag innanlandsframleiðslu sé þröngt.
    - Þetta þvingar þau til að vera á heimsmörkuðum til þess að fullnægja ýmsum innflutningskröfum sem þau gera, sem aftur leiðir til tiltölulega opins hagkerfis.
    - Til þess að greiða fyrir þennan innflutning verða þau að stunda útflutning og þar sem skipulag framleiðslu er þröngt og auðlindir takmarkaðar er tilhneiging í þá átt að þetta leiði til tiltölulega þröngs útflutningssviðs og takmarkaðs landfræðilegs svæðis.
    - Ein afleiðing af því að svæðið er tiltölulega takmarkað er að þau eru mun berskjaldaðri og einnig vandi varðandi kerfislægan halla á greiðslujöfnuði.

- Andhverfa þess að halli sé á greiðslujöfnuði er geta til að lađa að hlutfallslega mikið innstreymi aðstoðar eða beinna erlendra fjárfestinga.

- Þessar væntingar og tölfræðilegar niðurstöður eru skráðar í myndinni hér á eftir (birtist einnig í skýrslunni á bls. 72):

Niðurstöður varðandi tengsl milli stærðar og uppbyggingar

Tafla	***Því smærra sem landið er…***	Öll	Smáríki
1	… þeim mun samþjappaðri er innanlandsframleiðsla	*******	***_****
2	… þeim mun opnara er það fyrir utanríkisverslun	*****	-----
3	… þeim mun meiri er samþjöppun í útflutningsvöru	*****	****_
3a	… *sama á við um* framleiðsluvörur til útflutnings	_****	_****
3b	... *sama á við um* landbúnaðarvörur til útflutnings	*****	****_
4	... þeim mun meiri er landfræðileg samþjöppun í vöruútflutningi	___**	-----
4a	… *sama á við um* framleiðsluvörur til útflutnings	****	*_*_*
4b	… *sama á við um* landbúnaðarvörur til útflutnings	---**	-----
5	… þeim mun óhagstæðari er greiðslujöfnuður	*----	*----
6	… þeim mun meira er hreint streymi beinnar erlendrar fjárfestingar	**--?	***-?
6a	… … þeim mun meira er vergt innstreymi beinnar erlendrar fjárfestingar	?----	?--*-
6b	... … þeim mun meira er vergt útstreymi beinnar erlendrar fjárfestingar	?----	?***_

***** marktækt við 95% öryggismörkin
* marktækt við 90% öryggismörkin
- engin tölfræðilega marktæk tengsl,
? engin gögn

- Niðurstöður tölfræðilegu prófananna má taka saman á eftirfarandi hátt:
  - „Smáríkja“ tilgátur um skipulag framleiðslu, hversu opið landið er og um viðskipti eru fremur traustar.
  - Niðurstöður fyrir „smáríkja“ tilgátur sem tengjast greiðslujöfnuði og beinni erlendri fjárfestingu eru veikar.
- Vísbendingar um Ísland eru óljósar. Þar sem þar er smæsta hagkerfið ætti það að raðast á ystu mörk rófsins (þannig skilgreint hér að það sé innan síðasta fimmtungsins). Þessi rannsókn gefur eftirfarandi til kynna:
  - Þar *er* mikil samþjöppun í framleiðslu, eins og vænta má, fyrir þau tvö ár sem við höfum gögn um (1984, 1999).
  - Það *er ekki* opið að því marki sem vænta má á neinu þeirra ára sem könnuð voru.
  - Dreifing í útflutningsvöru *er* á þröngu sviði og gildir það um öll árin, bæði fyrir viðskipti í heild og þegar tekinn er sérstaklega útflutningur á framleiðsluvörum og landbúnaðarvörum. Úr henni dregur yfir lengra tímabil.

- Landfræðileg dreifing heildarútflutnings þar *sýnir ekki* þá miklu samþjöppun sem þó mætti vænta fyrir hvaða ár sem er, þó að framleiðsluvörur sýni tilhneigingu í þessa átt 1974 og 2000.
- Greiðslujöfnuður landsins *er* óvenjulega óhagstæður, eins og klassíska kenningin gefur til kynna, þrjú ár af þeim fjórum sem könnuð voru (1958, 1974, 1984 – 2000 var ekki með í könnuninni), en landið *laðar ekki að* hlutfallslega mikla beina erlenda fjárfestingu eins og kenningin lofar.

- Væntingar sem leiddar voru af stofnanabreytingum í Evrópu eru sem hér segir:
  - EBE mun hvetja til aukningar í framleiðslu og viðskiptum innbyrðis meðal aðildarríkjanna og sameiginleg landbúnaðarstefna mun stórauka viðskipti innbyrðis með landbúnaðarvörur.
  - EFTA mun hvetja til aukningar í framleiðslu og viðskiptum innbyrðis meðal aðildarríkja sinna en einungis verður hvatt til viðskipta innbyrðis með landbúnaðarvörur að því marki sem tvíhliða samningar leyfa.
  - Fríverslunarsamningar EBE-EFTA og EES munu auka viðskipti með framleiðsluvörur milli blokkanna tveggja.
- Niðurstöður greiningar á viðskiptaflæði koma fram á myndinni hér á eftir (birtist einnig í skýrslunni á bls. 55)

Niðurstöður varðandi tengsl milli samruna og viðskipta

	1958-72	1974-84	1984-2000
Aðild að EBE-EB mun ….			
… auka innbyrðis viðskipti með framleiðsluvörur	Já	Nei	Nei
... auka innbyrðis viðskipti með landbúnaðarvörur	Já	Nei	nei
Ef ríki á ekki aðild að EBE-EB mun það …			
… draga úr viðskiptum milli landa með framleiðsluvörur	nei	-	-
… draga úr viðskiptum milli landa með landbúnaðarvörur	já	-	-
EB-FTA-EES-samningar munu …			
… auka innbyrðis viðskipti með framleiðsluvörur	-	Nei	já
… og að vera ekki aðilar að þeim gæti valdið skaða	-	-	já
Aðild að EFTA mun ….			
… auka innbyrðis viðskipti með framleiðsluvörur	Já	Nei	nei
… … auka örlítið innbyrðis viðskipti með landbúnaðarvörur	Já	Nei	nei

- Niðurstöðurnar staðfestu aðeins að hluta væntingar sem gera má ráð fyrir að hafi orðið vegna breytinga á stofnunum og breytinga á stofnanaaðild.
  - Milli áranna 1958 og 1972 var unnt að staðfesta allar væntingar nema eina: að tollabreytingar sem urðu til við myndun EBE drógu ekki úr aðdráttarafli þessa svæðis sem iðnaðarmarkaðar fyrir utanaðkomandi aðila.
  - Eftir 1974 fékkst ekki staðfesting fyrir neinni væntingu um aðild að EBE-ES eða aðild að EFTA.
  - Eftir 1984 voru væntingar sem tengdust árangri af EES-samningum studdar.

- Niðurstöðurnar má skýra með tveimur staðreyndum:
    - fyrirkomulag alþjóðlegra stofnana gegnir ekki endilega stóru hlutverki með tilliti til markandi áhrifa á viðskiptaflæði,
    - breytingar á viðskiptaskilyrðum annars staðar, breytingar á samkeppni, mismunandi vaxtarhraði markaða, mismunandi áhrif viðskipta milli fyrirtækja, o.s.frv. hafa einnig áhrif á stefnu viðskipta.

Í lok skýrslunnar er bent á að niðurstöðurnar hafa mikið gildi og þær eru nýstárlegar, en að þörf er á frekari rannsóknum til að koma fram með fullnægjandi skýringar.

Niðurstöður

Niðurstöður þessarar rannsóknar munu vafalítið bægja frá þeim efasemdum, sem kunna að hafa heyrst, um að gagnlegt væri að halda áfram að kanna tengsl milli stærðar og uppbyggingar hagkerfa í háþróuðum iðnríkjum og ríkjum þar sem þjónusta hefur leyst framleiðslu af hólmi. Þessi rannsókn sýnir að fremur en að samleitni sæki á í þróuðum kapítalískum hagkerfum, þá er ýmis konar munur á uppbyggingu ennþá til staðar og að hann má oft tengja stærðarmun. Raunar var sambandið milli stærðar og uppbyggingar óvenjulega varanlegt og sterkt að því er varðaði suma þætti tengslanna. Þetta gilti um tengslin milli uppbyggingar framleiðslu, hversu opin viðskipti eru og hversu mikil samþjöppun er í vöruviðskiptum, þótt í smærri löndunum hafi ekki komið fram tölfræðilega marktæk tengsl milli stærðar og hversu opin viðskiptin voru. Ekki var unnt að greina heildartengsl milli stærðar og þess hversu mikil landfræðileg samþjöppun viðskipta var en tengslin reyndust afar sterk þegar um var að ræða útflutning á framleiðsluvörum. Erfitt reyndist að styðja aðrar væntingar um greiðslujöfnuð og streymi beinnar erlendrar fjárfestingar þegar þær voru prófaðar vísindalega (þó að ég hafi sjálfur alltaf haft efasemdir um gildi þeirra raka sem notuð eru til að styðja þær). Ein undantekning reyndist vera hversu algengar beinar fjárfestingar erlendis eru meðal meirihluta smáríkjanna. Tilgátan um smáríkin og niðurstöður tölfræðiprófana okkar koma fram í mynd 12 hér á eftir:

Mynd 12: Niðurstöður varðandi tengsl milli stærðar og uppbyggingar

Tafla	***Því smærra sem landið er…***	Öll	Lítil	Ísland
1	… þeim mun samþjappaðri er innanlandsframleiðsla	*******	******	Já
2	… þeim mun opnara er það fyrir utanríkisverslun	*****	-----	Nei
3	… þeim mun meiri er samþjöppun í útflutningsvöru	*****	****-	já
3a	… *sama á við um* framleiðsluvörur til útflutnings	-****	-****	já
3b	... *sama á við um* landbúnaðarvörur til útflutnings	*****	****-	já
4	... þeim mun meiri er landfræðileg samþjöppun í vöruútflutningi	---**	-----	nei
4a	… *sama á við um* framleiðsluvörur til útflutnings	****	*-*-*	Nei
4b	… *sama á við um* landbúnaðarvörur til útflutnings	---**	-----	Nei
5	... þeim mun óhagstæðari er greiðslujöfnuður	*----	*----	Já
6	… þeim mun meira er hreint streymi beinnar erlendrar fjárfestingar	*--?	**-?	nei
6a	… þeim mun meira er vergt innstreymi beinnar erlendrar fjárfestingar	?----	?--*-	nei
6b	... þeim mun meira er vergt útstreymi beinnar erlendrar fjárfestingar	?----	?***-	nei

- * marktækt við 95% öryggismörkin
- * marktækt við 90% öryggismörkin
- - engin tölfræðilega marktæk tengsl,
- ? engin gögn

Þegar þessi einkenni smáríkja eru talin upp hvert á fætur öðru koma þau fyrir sjónir sem áhrifamikil röð hindrana sem standa í vegi þróunar – þau eru einhliða, opin, of háð, berskjölduð - og vissulega er litið þannig á þau í rannsóknum og útgefnu efni um þróun. Þessi einkenni hafa þó alls ekki aftrað þeim löndum, sem við höfum verið að rannsaka, frá því að ná jöfnum vexti og háum þjóðartekjum. Vera kann að þessi einkenni í uppbyggingu smáríkja sái sér og þau frækorn nái að vaxa og að ávöxtur þeirra sé þessi árangur - meðvitund, árvekni, einbeiting, almenn sátt og samkeppnishvöt. Þetta fæst ekki ókeypis heldur verður að vinna að því að ná þessum eiginleikum fram og viðhalda þeim. Hér er ekki rétti vettvangurinn til að greina einkenni stjórnunar í smáríkjum (hina sígildu lýsingu er ennþá að finna hjá Katzenstein, 1985) eða valkosti í stefnum og hömlum sem þau geta gripið til. Síðara atriðið er efni sérstakrar greinar eftir prófessor Guðmund Magnússon sem er innan ramma þessa rannsóknarverkefnis.

Við greindum einnig áhrif stofnana, sem tengjast samrunanum í Evrópu, á viðskiptamynstur ríkjanna, sem voru í úrtaki okkar, án þess að gefa endilega í skyn nokkur tengsl við stærð þeirra. Þó er rétt að vekja athygli á því að þrjú af fjórum stærstu efnahagskerfum í Evrópu voru aðilar að Efnahagsbandalagi Evrópu frá upphafi og að öll fjögur tilheyrðu EBE/EB frá 1973 til dagsins í dag. Það þýðir að níu smáríki í úrtaki okkar voru utan EBE frá 1958 til 1973, sjö frá 1973 til 1995 og þrjú eftir 1995. Dregið var úr efnahagslegum áhrifum blokkamyndunar, einkum í viðskiptum, fyrst með tvíhliða viðskiptasamningum milli EBE- og EFTA-landanna og síðar með EES-samningnum. Með GATT-samningnum fækkaði einnig umtalsvert viðskiptahindrunum í framleiðsluvöru í nokkrum þrepum á því tímabili sem hér um ræðir. Hins vegar hafði Efnahagsbandalag Evrópu í för með sér mikið alræðis- og verndarkerfi í landbúnaði. Út frá stofnanaþáttum, einum og sér, settum við fram nokkrar væntingar sem við gátum prófað með tilliti til raunverulegra breytinga á viðskiptaflæði.

Mynd 13: Niðurstöður varðandi tengsl milli samruna og viðskipta

	1958-72	1974-84	1984-2000
Aðild að EBE-EB (mun) ….			
… auka innbyrðis viðskipti með framleiðsluvörur	Já	Nei	Nei
… auka innbyrðis viðskipti með landbúnaðarvörur	Já	Nei	Nei
Ef ríki á ekki aðild að EBE-EB mun það …			
… draga úr viðskiptum milli landa með framleiðsluvörur	no	-	-
… draga úr viðskiptum milli landa með landbúnaðarvörur	Já	-	-
EB-EFTA-EES-samningar munu …			
… auka innbyrðis viðskipti með framleiðsluvörur	-	Nei	Já
… og að vera ekki aðilar að þeim gæti valdið skaða	-	-	já
Aðild að EFTA mun….			
… auka innbyrðis viðskipti með framleiðsluvörur	Já	Nei	Nei
… auka örlítið innbyrðis viðskipti með landbúnaðarvörur	Já	Nei	nei

Þessar niðurstöður staðfestu aðeins að hluta væntingar sem gera má ráð fyrir að hafi orðið vegna breytinga á stofnunum og breytinga á stofnanaaðild. Milli áranna 1958 og 1972 var unnt að staðfesta allar væntingar nema að tollabreytingar sem urðu til við myndun EBE drógu ekki úr aðdráttarafli þessa svæðis sem iðnaðarmarkaðar. Einnig er það áhugavert að eftir 1974 fékkst ekki staðfesting á neinum væntingum um aðild að EBE-EB eða aðild að EFTA þó að þær sem snertu góðan árangur EES-samningsins væru studdar. Við fyrstu sýn gæti þetta virst mótsagnakennt en staðreyndin er einfaldlega sú að fyrirkomulag alþjóðlegra stofnana hefur ekki endilega markandi áhrif á viðskiptaflæði - breytingar á viðskiptaaðstæðum annars staðar, breytingar á samkeppni, mismunandi vaxtarhraði markaða, mismunandi áhrif viðskipta milli fyrirtækja, o.s.frv., getur allt stuðlað að því að gera að engu væntingar sem eiga rætur að rekja til breytinga á stofnunum.

Niðurstöður þessa verkefnis eru mikilvægar. Þær gera okkur kleift að setja fram ákveðnar ályktanir um áhrif stærðar á uppbyggingu og áhrif stofnana á viðskipti í hópi mikilvægra Evrópulanda sem hafa allt frá upphafi tekið þátt í samrunanum í Evrópu. Við höfum þó ekki skýrt þessa þróun á kerfisbundinn hátt heldur tekið skýringar, sem hafa verið settar fram í vísindarannsóknum og hugmyndafræðilegum rannsóknum á þessu sviði og beitt er í þessum fræðum í dag, og kannað hvort þær séu áreiðanlegar. Með þessari rannsókn er bent á nýja og spennandi möguleika í rannsóknum; rannsóknirnar sjálfar á þó eftir að framkvæma.

Guðmundur Magnússon:
Smáríki í evrópska efnahagssamrunanum –
samanburðarrannsókn með sérstakri áherslu á stöðu Íslands.

Niðurstöður

Ísland hefur tekið þátt í efnahagslegum samruna Evrópuríkja með aðildinni að EFTA, samningi við Efnahagsbandalag Evrópu og síðar með samningnum við Evrópusambandið (EB) um Evrópska efnahagssvæði (EES). Ísland hefur beðið átekta með frekari ákvarðanir.

Sé litið á tuttugu umsóknir um aðild að Evrópusambandinu frá ellefu löndum, má sjá að átján þeirra komu fram þegar hagvöxtur landanna hafði verið talsvert eða jafnvel verulegra lægri en í Evrópusambandinu. Sviss er þó undantekning hvað þetta varðar.

Hagvöxtur hefur verið meiri í smáum ríkjum, bæði innan og utan EB, en í þeim stóru.

Verðbólga hefur verið svipuð í löndum EB og EES.

Atvinnuleysi hefur að staðaldri verið meira í löndum innan EB en í löndum EES.

Vextir hafa verið verulega hærri á Íslandi og Noregi en í ríkjum Myntbandalags Evrópu (EMU).

Vextir hafa verið nokkru hærri í þeim þremur löndum EB sem ekki taka þátt í EMS, en í EMS.

Finna má skiptilínu (að minnsta kosti til skamms tíma) milli (hárra) vaxta og (lágs) atvinnuleysis í löndum EES.

Dregið hefur úr sveiflum í iðnaðarframleiðlu í smáríkjum EB á tímabilinu 1991 – 2000 (EB-tímabilinu) samanborið við 1980 – 1990 (undan-EB-tímabilinu). Reynsla stóru ríkjanna er blönduð að þessu leyti; flökt framleiðslunnar er meira á Spáni og í Bretland en minna í Frakklandi og í Þýskalandi. Þetta má sennilega rekja til bindandi ákvarðana vegna samrunaskilyrða EMS.

Að því er varðar flökt neysluvöruvísitölu má draga eftirfarandi ályktanir:

- Það hefur aukist í næstum öllum ríkjunum 1991 -2001 samanborið við 1980 – 1990.
- Þetta er sú breyta sem sýnir jafnasta dreifni fyrir öll löndin nema tvö: Grikkland og Ísland.

Það dregur úr sveiflum í atvinnuleysi smáríka 1991- 2001 samanborið við 1980 – 1990. Sveiflurnar aukast þó á Norðurlöndum ef þau eru skoðuð sérstaklega.

Flökt í verðmæti gjaldeyrisvarasjóða, að undanskildu gulli, er meira á stórum ríkjum en smáum á báðum tímabilunum. Í þeim löndum þar sem flöktið er mest 1980 – 1990 minnkar það 1991 – 2001.

Hvað varðar sveiflur í útflutningtekjum, aukast þær í nær öllum löndunum 1991 – 2001 samanborið við 1980 – 1990.

Eftirfarandi gildir um sveiflur í viðskiptajöfnuði:

Þær eru kröftugri í nær öllum löndunum 1991 – 2001 en 1980 – 1990.
Flökt er meira hjá smáum ríkjum en stórum á báðum tímabilum.
Viðskiptajöfnuður sveiflast minna á Norðurlöndum en í öðrum ríkjum, hvort sem er smáum eða stórum, nema hvað Ísland er athyglisverð undantekning frá þessari niðurstöðu.

Að því er varðar sjálfræði í stjórn peningamála er að finna lítinn mun í framkvæmd á þeim löndum sem fylgja sveigjanlegri gengisstefnu og hinum sem fylgja fastgengisstefnu.

Tíu af þeim tólf smáu og meðalstóru ríkjum sem mælast með mesta samkeppnishæfni eru smá ríki í Evrópu, innan og utan EB.

Smá ríki í EB hafa flest laðað til sín meiri beina erlenda fjárfestingu en smá ríki í EES. Finnland er þó undantekning í EB hvað þetta varðar. Þetta gæti bent til neikvæðra útjaðaráhrifa.

Bein erlend fjárfesting á Íslandi virðist fremur ráðast af því að sóst sé eftir aðgangi að auðlindum en markaði og þekkingu.

Size, Structure and European Integration: A Comparative Study

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Executive Summary

- This study investigated the effects of *size* on *economic structure* for a group of early EEC and EFTA members (except Portugal).
- The countries surveyed are, in terms of size:
    - *Four large countries*: Germany, Great Britain, France, Italy,
    - *Eleven smaller countries*: Netherlands, Belgium, Sweden, Switzerland, Austria, Denmark, Norway, Finland, Ireland, Luxembourg, Iceland.
- The study begins by looking at the *definition* of size and opts for *GDP* as the criterion.
- It then uses statistical analysis to ascertain the relationship between size and several structural phenomena that frequently appear in the literature. It uses *log-linear regression* as the favoured method for analysis, supplementing this with log-regression and rank correlation. A *statistical confidence level of 95%* was taken as the standard.
- The study used *four bench-mark years*, chosen because they represented years of institutional change for the EEC and EFTA.
    - 1958 - the year before the EEC started to take effect
    - 1972 and 1974 (two observations) – the years of EEC expansion of FTA's with EFTA
    - 1984 – the year the implementation of the EEC-EFTA trade agreements was completed
    - 2000 – the most recent year, to assess the effects of the EEA, implemented in 1994, and the expansion of the EEC a year later.
- The study looked at the phenomena of size and economic structure in two groups:
    - one group including all fifteen countries (i.e. with the four largest)
    - one group confined to the eleven smaller states.
- Wherever possible, the question was asked whether Iceland, as the smallest country, fell within the expectations derived from small-state theory.
- The "classic" formulation of the argument runs as follows.
    - Small states tend to have a narrow domestic production structure.
    - This forces them onto world markets to satisfy many of their import requirements, leading to a relatively open economy.

- In order to pay for these imports, they have to export and, given their narrow production structure and limited resources, this tends to lead to a relatively narrow range of exports and a limited geographical focus.
- One result of this relatively narrow focus is an increased degree of vulnerability and structural balance-of-payments problems.
- A inverse of the balance-of-payments deficits is an ability to attract a relatively large inflow of aid or FDI.

- These expectations, and statistical results, are listed in the Figure below (replicated on page 54 of the report):

Conclusions on the Relationship between Size and Structure

Table	***The smaller the country…***	All	Small
1	… the more concentrated is its domestic production	*******	******
2	… the more open it is to foreign trade	*****	-----
3	… the higher is the commodity concentration of its exports	*****	****-
3a	… *ditto* manufacturing exports	-****	-****
3b	... *ditto* agricultural exports	*****	****-
4	... the higher is the geographical concentration of its exports	---**	-----
4a	… *ditto* manufacturing exports	*******	***-***
4b	… *ditto* agricultural exports	---**	-----
5	... the worse is the balance-of-payments	*----	*----
6	… the higher is the net FDI flow	***--?**	***-?**
6a	… the higher is gross FDI inflow	?----	?--*-
6b	... the higher if gross FDI outflow	?----	?***-

***** significant at 95% confidence level
* significant at 90% confidence
- no statistically significant relationship,
? no data

- The results of the statistical tests can be summarised as follows:
  - The "small country" hypotheses relating to production structure, openness and trade are fairly robust.
  - The results for the "small country" hypotheses relating to balance-of-payments and FDI flows are weak.
- The evidence for Iceland is ambiguous. As the smallest economy, it should be at the extreme of the spectrum (defined here as in the last quintile). This study suggests

- It *does* have the high degree of concetration of production one would expect in the only two years for which we have data (1984, 1999).
- It *does not* have the high degree of openness that one would expect in any one of the years surveyed.
- The commodity distribution of its exports *is* narrowly focussed for all years, for trade as a whole and exports of manufactures and agriculture taken separately. It weakens over time.
- The geographical distribution of its total exports *does not* exhibit the narrow concentration one would expect for any year, though its manufacturing exports do exhibit this tendency in 1974 and 2000.
- Its balance-of-payments *is* exceptionally weak, as the classical theory would suggest, in three of the four years surveyed (1958, 1974, 1984 – 2000 not surveyed) but it *does not* attract the relatively high levels of FDI that the theory promises.

- The expectations derived from the institutional changes in Europe run as follows:
  - The EEC will encourage an increase in manufacturing intra-trade among its members and the CAP will boost agricultural intra-trade.
  - EFTA will encourage an increase in manufacturing intra-trade among its members but agricultural intra-trade will only be encouraged as far as allowed by bilateral arrangements.
  - The EEC-EFTA free trade agreements and the EEA will increase manufacturing trade between the two blocs.
- The results of the analysis of trade flows are presented in the Figure below (replicated from page 55 of the report)

Conclusions on the Relationship between Integration and Trade

	1958-72	1974-84	1984-2000
Membership of the EEC-EU will….			
… increase intra-trade in manufactured goods	yes	no	no
… increase intra-trade in agriculture	yes	no	no
Non-membership of EEC-EU will…			
… decrease mutual trade in manufactured goods	no	-	-
… decrease mutual trade in agriculture	yes	-	-
EU-EFTA-EEA arrangements will…			
… increase intra-trade in manufactured goods	-	no	yes
… and being outside could be damaging	-	-	yes
EFTA membership will….			
… increase intra-trade in manufactures	yes	no	no
… mild increase intra-trade in agriculture	yes	no	no

- The results only partially confirmed the expectations that we would derive from institutional change and changes in institutional membership.
    - Between 1958 and 1972 all the expectations were confirmed except one; the tariff changes implied by the formation in the EEC did not reduce its attractiveness as an industrial market for outsiders.
    - After 1974 none of the expectations for EEC-EU membership or for EFTA membership were confirmed,
    - After 1984 the expectations reflecting on the success of the EEA agreements were supported.
- The results can be explained by two facts:
    - international institutional arrangements do not necessarily play a large role in determining trade flows, and
    - changes in trading conditions elsewhere, changes in competitiveness, differential rates of market growth, different impacts of intra-firm trade, etc., also influence the direction of trade.
- The report concludes by observing that the results are important and novel, but that more research is required to establish satisfactory explanations.

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Introduction[1]

As an integrated corpus of knowledge, small-state theory really developed after the Second World War and, as it developed, it embraced several sub-genres of literature (Griffiths and Pharo, 1995):

- Political
  - Security and defence dilemmas
  - Strengths and weaknesses in bilateral and multilateral negotiations
  - Preference for, and role in, international organisations
- Economic
  - Patterns of economic development, and their supposed weaknesses
  - Domestic compensatory mechanisms and internal political structures
  - Policy options and responses to supposed vulnerability.

This study is part of the economic stream of literature and focuses on the testing the relationship between size and pattern of economic development. The literature on this topic has grown fitfully as each new generation tests the "size" hypotheses against its own set of contemporary conditions. However, empirical research has also been propelled in two different and opposing directions. First, whilst the original studies embraced a limited number of countries, as data-sets developed, some of the research strategies developed a mondial dimension. This meant that explanations on size tended to be swamped by factors such as different locations and stages of development. As a reaction to this, a second direction was pursued as some social scientists focussed on smaller specific groups – mostly very small, developing economies. This approach might certainly have generated more useful hypotheses, but it limited their wider application. By and large, there was a tendency in the literature to maintain that, whatever might have been the case in the past, theories on size and development were passé as far as richer economies were concerned.

This study will contribute to redressing the balance. It takes a group of countries that are all grouped among the richest countries of the world and are all located in Western Europe. Indeed they all became involved early on (by 1973 at the latest) in the two international trading organisations that determined the Continent's

[1] I would like to acknowledge the contribution of Clive Archer and Lee Miles towards formulating the context and conclusions of this research. I would also like to thank Harvey Armstrong for his useful insights. We wish to thank Ronald Jansen and colleagues of the Commodity Trade Statistics Section, ITSB, United Nations Statistics Division, for their kind and extra-ordinary co-operation in obtaining the data. Finally, I acknowledge a debt of gratitude to Jurriën de Jong for his research assistance in collecting and preparing all the statistics employed in this study.

institutional development – the European Economic Community (EEC) and the European Free Trade Association (EFTA). Comparative research is best undertaken under two separate conditions:

- Cases that appear similar but yield different outcomes, and
- Cases that appear different but yield similar outcomes.

The countries we have chosen appear similar in many respects, but in some ways they differ from each other. For a start, they are different in size. In this study we will see whether this had an impact on their structures of economic development, and whether we can frame explanations where size becomes a convincing explanatory variable.

In the research design, we were originally asked to consider size, structure and European integration. After due consideration, we decided that whilst there might be a link between size and economic structure (and indeed the theories all pointed that way), we could not see how differing membership of the EEC and EFTA might impact on the results. It would have been difficult to test the relationship statistically with the small sample of countries at our disposal, but it would have been pointless running statistical methods through different data series without a prior expectation about the nature of the relationship. However, there are other expectations deriving from membership of different trading institutions and these impinge on the direction of trade. These relationships are tested in the second part of the paper.

There is also an argument that runs from size through economic structure to weakness or vulnerability. In this context, the rules and obligations of different institutions might reduce or aggravate the vulnerability and they might facilitate or constrain the choice and exercise of different policy measures. These relationships will be examined by Professor Gudmundur Magnusson in the second study of this project, commissioned by the Federation of Icelandic Industries.

The Question of Size

There is little consensus among academics about what constitutes a "small" state, or even what criteria should be employed in defining it as such. Fortunately, this lack of an exact definition is more apparent among political scientists studying small states in the context of security issues and international relations than it is among economists interested in questions of economic structures and policy options. Nonetheless, even among economists there is a considerable range of opinion on the definition of what constitutes a "small" economy.

The most common indicator employed in the literature is that of **population size**, often employed indiscriminately among both developed industrialised economies and developing economies. The earlier work on small economies, published in the late 1950s and early 1960s, settled fairly arbitrarily on a definition of under 10 million inhabitants. (Kuznets 1960, 1961; Michealy, 1958) or less than between 10 and 15 million (Robinson ed. 1960). This latter definition represented an attempt during an International Economics Association Conference, devoted entirely to the question of size, to acknowledge the fact that size was not simply a question of population numbers but also a question of market size, and that larger populations with lower incomes might still be analysed as small. It was suggested that Italy, and even Brazil or India, might be considered small , though this did not lead to a revision of the guidelines (Ibid., 151-2, 215-216, 377-8, 387). One important study published a little later suggested a split definition with an upper limit of 10-15 million for developed countries and 20-30 million for less developed (Vital 1967). Since these early studies were undertaken, the world population has doubled, and one would have expected the upper limit to have been stretched ever upwards, but this has not occurred.

In one strand of literature, which has come to prominence in the last decade, the focus of investigation had narrowed considerably to focus on what used to be called micro-states or "very-small states". Here the definition has ranged from less than a million (Reid 1974; Sutton and Payne, 1993; Geser, 1993; Easterly and Kraay 2000) through 1.5 million (Commonwealth Advisory Group, 1997; Liou and Ding, 2002) to 3 million (Armstrong and Read 1998). This new focus has come not because of some new insight that states beyond that cut-off point should be lumped together in some undifferentiated, relatively homogeneous, contrasting block; rather, it stems

form a desire to concentrate on the specific problems confronted by the ultra-small end of the spectrum, with a high representation of isolated island economies.

The emergence of a specific sub-genre in the literature has not hindered the continuation of research along a wider front, though still without any consensus over where limits should be drawn. Upper limits have continued to vary from 5 million, accepted by virtue of the fact that in 1980 it was the median population (Lloyd and Sundrum 1982) but still maintained twenty years later when this logic no longer applied (Bräutigam and Woolcock 2001), to 10 million (Abt and Deutsch, 1993; Streeten 1993) 8-13 million (Damijan, 1996) 5-16 million (Salvatore (1997) and even 20 million (Levinsen and Kristensen 1983).

It is worth noting that if we accept an upper limit of 10 million for the 1950s and inflate it for the rise in world population, we would arrive at a cut-off point of 20 million in 2000. (UN Population Division 1999) Interestingly, the World Bank, however, in its recent *Human Development Report*, broke with caution and took a cut-off point of 40 million (World Bank 2003). On the other hand, using the criteria of the median population size would provide an upper limit of 4.4 million – lower than in the 1980s since many smaller states have been formed since that data. (UN Population Division 1999)

Since so much of the small economy literature concentrates in its analysis on facets related to market size, surprisingly few studies take **economic size** as their point of departure. In the 1960s Lloyd (1968) suggested an arbitrary cut-off point of $20 billion, which at the time would have embraced all states up to and including Australia and the Netherlands. Some studies of Western Europe intuitively make the observation that France, Germany, Italy and the UK are so demonstrably larger than the rest, that the remaineder can be defined as small (Värynen,1974; Rothchild, 1993). Another suggestion was to include all states with a GNP of less than 1 per cent of the world total (Azar 1973) which would still include the Netherlands within the upper limit (Maddison 2001).

More recently some authors have experimented with a **composite index** which integrates area, population and GNP, weighted according to their share of the total in each category. The first of these studies measured each component according to its weight relative to the largest country in each category and then assigned equal weights to each of the measures (Jalan 1982). Subsequent studies using this composite index approach have calculated each component as a share in the world total and have

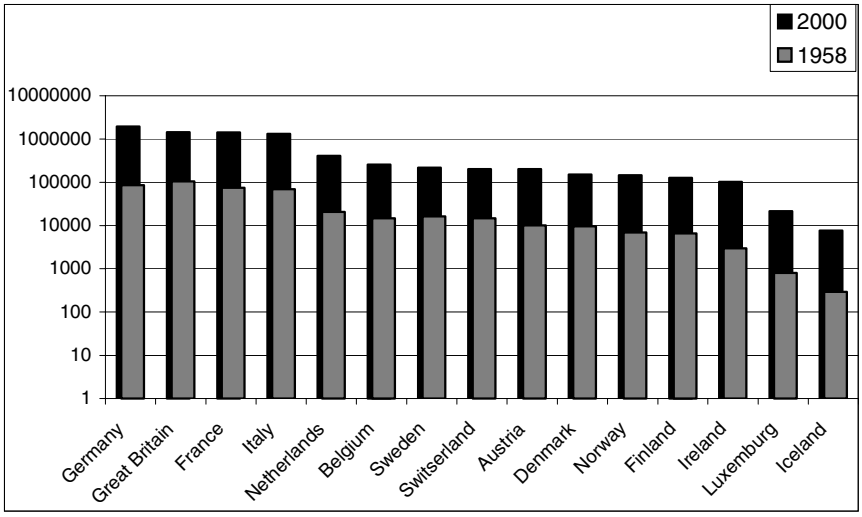
then assigned far greater importance to GNP than to either population or area. (Damijan 1997; Castello ea. 1997) The problem with composite indices is that there are no scientific grounds for the weights chosen for the separate variables and, as one author observed, the end result does not differ radically from the more simple and direct measures (see Lloyd and Sundrum 1982).

For the purposes of this study we have chosen to circumvent the problem of delineating small economies from the rest altogether. If size is to be a useful explanatory factor in describing economies, it should be applicable across the entire spectrum of the selected states when ranked according to size. In other words "small" should exhibit a certain characteristic to a greater (or lesser) degree than "smaller still" and "smaller still" should, in its turn, differ from "smallest". We can always argue later whether it is helpful to cluster states into any sub-categories as "small", "middle" or "large".

The states selected for this study embrace the original six members of the EEC (Belgium, France, Germany, Italy, Luxembourg and the Netherlands) and six of the original seven EFTA members (Austria, Denmark, Norway, Sweden, Switzerland and the UK). We have deliberately omitted Portugal in order to maintain the relative homogeneity of the sample and to avoid including a case where the characteristics of underdevelopment would cut across expectations deriving from size. On the other hand, we have included Finland, which was associated with EFTA in 1961, and Iceland, which joined in 1970. We have also included Ireland, which joined the EEC in 1973, at the same time as Denmark and the UK.

These fifteen countries all lie within Western Europe, from the mid-Atlantic to the Russian frontier, and they all enjoy broadly comparable levels of per capita national incomes, though the differences were larger in the 1950s than they are today. Within the spectrum of the sample, four of them (Germany, France, Italy and the UK) would usually be considered as "large" and two of them (Iceland and Luxembourg) as "very small".

Figure 1: Gross Domestic Product (USD million, constant prices)



leaves us with the choice of measure and here we have chosen the economic definition of size (i.e. total gross domestic product - GDP). This is because, although population size is the most popular criterion in the literature, most of the conceptual and theoretical work employs arguments based on economic size, or markets, as explanations. However, because per capita incomes lie within a relatively narrow range, there is no real statistical difference between using population or using GDP (which is only population multiplied by per capita income) as a measure. The correlation coefficient between GDP and population is 0.97 in 1958 and even higher in later years and the rank correlations are similarly strong.

Size and Structure

This section examines the links between size and structural economic characteristics. The "classic" formulation of the argument runs as follows. Small states tend to have a narrow domestic production structure, which forces them onto world markets to satisfy many of their import requirements, leading to a relatively open economy. In order to pay for these imports, they have to export and, given their narrow production structure and limited resources, this tends to lead to a relatively narrow range of exports and a limited geographical focus. One result of this relatively narrow focus is an increased degree of vulnerability and structural balance-of-payments problems. All of these hypotheses will be explored in more detail and tested statistically below.

One does not need complete annual data series to test hypotheses of a structural nature but rather (clusters of) data separated by reasonable intervals. We have chosen our dates to reflect the timing of patterns of institutional change within Western Europe. This does not, however, mean that the explanations for any patterns observed lie in these institutional developments. Parallel to these changes there occurred an almost continuous economic growth in Western Europe and an increasing degree of global interdependence whose effects probably far surpass changes in the pattern of the institutions of regional integration. The first date chosen is 1958, which marks the founding of the European Economic Community, to be followed two years later by the creation of EFTA. Within the next few years both groupings would eliminate frontier barriers to trade among their respective member states. Any changes resulting from these developments should be visible by 1972, when we have introduced our next observation point. The following year the next major changes in Europe's institutional architecture started with the UK and Denmark leaving EFTA to join the EEC (together with Ireland) and with the implementation of industrial free trade agreements between the EEC and the remaining EFTA members. However, 1973 also marked the start of a major rise in oil prices and a relative change in the direction, and sometimes product composition, of trade. In order, therefore, to maintain the comparability of our subsequent series, we have taken a third observation point in 1974. As the fourth point we have taken 1984, by which time the final steps in the EEC-EFTA trade agreements had been implemented. Between then and the year 2000, several more changes had taken place in the shape of the

conclusion of the European Economic Area Agreement (which took effect in 1994) and the membership of Austria, Sweden and Finland of the European Union.

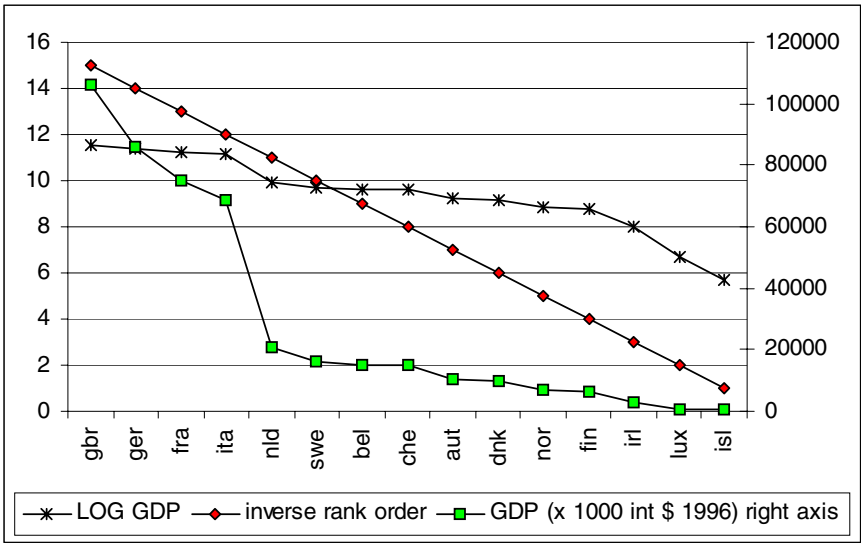
For several criteria we have used *concentration indices*. The Gini or Hirschman index measures concentration by adding up the squares of the share of each sub-group within a total. For the concentration of output these are the employment statistics in ISIC categories, for commodity concentration these are the individual three-digit categories of the SITC and for geographic concentration the share of exports per country. If there were to be no concentration (i.e. if all sub-groups accounted for the same share in the total) the index would be zero. Because of the squaring of the shares, higher scores will be found for countries which rely strongly on one or two partners or products than for countries where exports are spread more evenly. This means that the degree of concentration does not have to be measured over the whole range of observations, but can be sampled through the largest categories. This has no impact on the rank order of outcomes (Michaely 1962, Chapter 2). In the simplified form we have used, we have taken the squares of the shares of the *five* most important countries or commodity groups. Many authors, using the same technique, have limited their observations to three.

The main statistical technique employed in this paper is to relate countries' relative size to phenomena commonly associated with it , assuming a priori that size is the explanatory variable. The most common statistical technique is *linear regression*, where the raw data for both sets of variables is employed. However, this is rarely satisfactory, since the effects of size are not always exactly linear. For example, a country with half the GDP of another country is not expected to have twice as high a level of trade concentration. One alternative is to use *rank correlations*. Rather than to take the absolute values of variables, all countries are ranked according to size or other criteria. The more similar the rank orders of the two variables are (meaning that the largest economies also score highest on other variables), the stronger the correlation. It is also possible that the relationship is negative and the countries with the highest ranks on the first variable have the lowest ranks on the other. All rank correlations have been performed using Spearman's method. However, the problem with using rank correlations is that it inherently assumes that the distance between each consecutive observation is always the same. It therefore ignores clusters and outliers. Another alternative technique, recently employed (Damijan, 1997) that of *log-linear regression* employing the natural logarithmic values of the original data.

The logarithm for a base b and a number x is defined to be the inverse function of taking b to the power x, or $x = log_b (b^x)$. By using the natural log value, an exponential development is converted to a linear development. Thus, for example, the natural logarithm of 100 is double that of 10, while the logarithm of 1000 is three times that of 10. If a relationship is established between GDP and another variable, this means that that variable increases in proportion to the increase of GDP. When a significant relationship is found between the natural logarithmic value of GDP and another variable, this means that the value of the dependent variable doubles each time GDP is squared.

These effects of employing each of these three methods are illustrated in the diagram below. It shows the distribution of GDP among the 15 countries in 1958 in the three ways described above. The absolute values of GDP are on the left axis. The wide gap between the four large states and the small states is apparent. The size of the British economy was at that time a little more than the square of that of Iceland. The natural logarithmic value (on the left axis) is thus double.

Figure 2: Different representations of GDP (1958)



We will take the log-linear measure as our preferred measure throughout our description, but we will give equal weight to the simple regression results, should they prove statistically significant. Rank correlation is employed more as a back-up measure.

Establishing a (statistical) relationship is not interesting in itself. One has to be reasonably certain from the strength of the relationship that it is not the result of chance or fluke. There are established *significance tests* for this and we have set the acceptance level of significance at p=0.05. This means that there is less than 5% chance that the observed statistical relationship is due to randomness. Since the sample is small, and we risk painting too stark a picture (all-or-nothing), we have also reported those results that attain a significance level of p=0.10, though obviously the statistical link in these case is less strong. Below these levels, we assume that we cannot, with any degree of confidence, suggest that a hypothesis has been confirmed. The full detailed results of our analysis can be found in the Appendix.

Production Structure

There is a "classic" assumption that small states tend to have a narrower production structure than their larger counterparts. Small states have supply constraints such as fewer resources, less labour, smaller capital base and fewer entrepreneurs. They are also confronted by demand constraints, the most important of which is too small a domestic market to reach scale (and therefore less inefficient) economies. Moreover, because of the need to compete on international markets, the export sector tends to be focussed on a narrow range of "niche" products (Kuznets, 1960; Ward 1975; Rothchild, 1993).

To test this relationship we used a Hirschman concentration index of industrial employment, based on the United Nations ISIC classification. There are 28 groups, but in some cases several small classes have been added together or to larger classes, which might overstate concentration and therefore some extreme cases have been left out.[2] One should stress that the material we have to work with is extremely limited. The twenty or twenty-eight output categories into which the employment statistics are divided cannot begin to capture the full sophistication of modern industrial economies. For GDP, the figures at constant prices from *Penn World Tables* were used. The results are presented in Table 1 and in Figure 3[3] .

[2] For 1958, only the original 20-group classification was available. See the statistical appendix for further comments.

[3] Figures 3-8 present the results of log-linear regressions for all countries. The regression line is only shown if the results were statistically significant

Table 1: Results testing the hypothesis that there is a negative relationship between size and concentration of employment

All countries		1958	1972	1974	1984	1999
GDP	Pearson Correlation	-0.31	-0.314	-0.283	-0.348	-0.311
	Sig. (2-tailed)	0.282	0.274	0.327	0.204	0.301
	N	14	14	14	15	13
Log GDP	Pearson Correlation	-0.624	-0.567	-0.523	-0.77	-0.746
	Sig. (2-tailed)	**0.017**	**0.035**	***0.055***	**0.001**	**0.003**
	N	14	14	14	15	13
RANK	Spearman's rho	-0.147	-0.086	-0.13	-0.311	-0.459
	Sig. (2-tailed)	0.615	0.771	0.659	0.26	0.114
	N	14	14	14	15	13

Small countries		1958	1972	1974	1984	1999
GDP	Pearson Correlation	-0.39	-0.141	-0.125	-0.587	-0.578
	Sig. (2-tailed)	0.265	0.699	0.731	***0.058***	0.103
	N	10	10	10	11	9
Log GDP	Pearson Correlation	-0.727	-0.567	-0.531	-0.888	-0.928
	Sig. (2-tailed)	**0.017**	***0.088***	0.114	**0**	**0**
	N	10	10	10	11	9
RANK	Spearman's rho	0.055	0.152	-0.152	-0.373	-0.31
	Sig. (2-tailed)	0.881	0.676	0.676	0.259	0.417
	N	10	10	10	11	9

Missing: Belgium (1999), Iceland (1958, 1972, 1974), Luxembourg (1999)

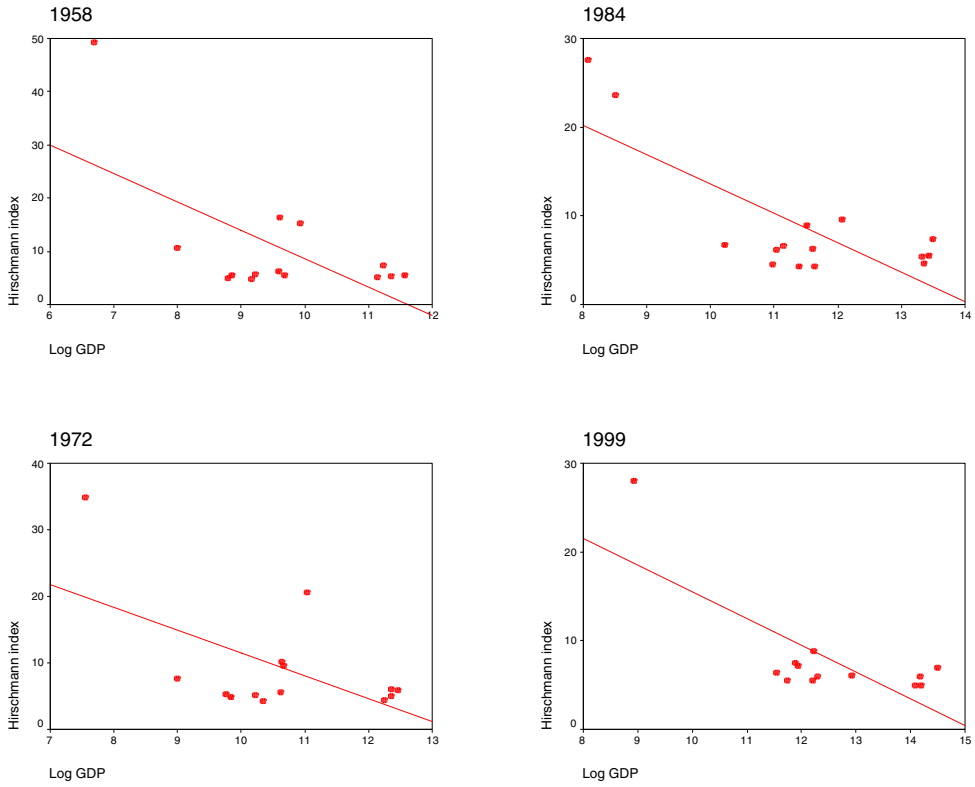
The results of the analysis can be summarised as follows:

For all states, the log-linear regression generates statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the less diverse is its production structure. This relationship has, moreover, strengthened over time. Neither linear regression nor rank correlation techniques generate statistically significant results.

For the smaller states taken separately, with the exception of the period round the 1970s, the log-linear regression generates statistically significant results ($p<0.05$ that confirm the hypothesis that the smaller the country, the less diverse is its production structure. Neither linear regression nor rank correlation techniques generate statistically significant results.

The comparable data for Iceland, unfortunately, is only available for the years 1984 and 1999, but both of these confirm the classical small-state expectation. Iceland, as the smallest country, also has the least diversity in manufacturing employment.

Figure 3: Size and concentration of production structure (all countries)



These patterns have been replicated in recent research into small developing countries, but obviously the reasoning would be different. For these poorer countries the pattern is ascribed to capital shallowing, which restricts their growth pattern, to limited opportunities for structural change, to limited opportunities for catching up on technology and to limited domestic technological diffusion (Milner and Westeway, 1993). This line of argumentation has recently also been applied to very small states (< 3 million) across the whole development range. It has been suggested that size may inhibit R&D and technological innovation and that whilst access to raw materials might not be a limitation (some states having large areas), small states might face difficulty in raising domestic capital to exploit these (Armstrong and Read, 1998). Since, among our sample countries, the apparent lack of diversity does not appear to have been accompanied by any failure in long-term growth performance, it would be

better to conclude that these negative arguments lose their explanatory force when applied to Western Europe.

On the other hand, our findings would refute the results of a wider survey undertaken recently that suggested that, whatever the relationship in the past, there is now only a weak relationship between the concentration in manufacturing and size; and this regardless of the level of development. Several arguments were advanced to explain this phenomenon. The most important argument is that factor abundance as an explanatory variable (i.e. as in Heckscher-Ohlin model) is less important than was previously believed and that, over time, human capital has become an increasing important component in national wealth. The economies-of-scale argument was also exaggerated, partly because of the lesser role ascribed to raw material endowment and partly because the logic only works when applied to national markets. However, national frontier barriers to trade have been breaking down throughout the post-war period and this has allowed small economies especially to benefit from access to wider international markets. Rather curiously, this work suggested that in Western Europe, small countries exhibited particularly diverse production structures, possibly because intra-trade in manufactures was particularly strong (Damijan,1997).

Openness

One of the most persistent assumptions of small state theory is that small economies are more trade-dependent than their larger counterparts. This is usually explained by the fact their smaller populations are supposed to set limits on the range of activities which they are able to undertake while remaining competitive whilst their patterns of demand are determined by their levels of per capita income, and therefore become more varied the richer they become. In order to satisfy the demands of their citizens, therefore, they are more likely to turn to foreign suppliers, and to pay for these imports they are forced to export. This leads to a higher proportion of foreign trade relative to their national economies than is apparent in larger economies.

The hypothesis that smaller economies will tend to be more open than their larger counterparts was confirmed by our data. The openness of the economy was measured as the share of combined exports and imports in GDP. Both were obtained from the *Penn World Tables*. The results are presented in Table 2 and in Figure 4.

Table 2: Results testing the hypothesis that there is a negative relationship between size and trade dependence

All countries		1958	1972	1974	1984	2000
GDP	corr	-0.499	-0.53	-0.494	-0.49	-0.466
	sig	***0.058***	***0.042***	***0.062***	***0.064***	***0.08***
	N	15	15	15	15	15
Log GDP	corr	-0.541	-0.636	-0.563	-0.576	-0.491
	sig	**0.037**	**0.011**	**0.029**	**0.025**	***0.063***
	N	15	15	15	15	15
Rank	corr	0.539	0.657	0.604	0.532	0.482
	sig	**0.038**	**0.008**	**0.017**	**0.041**	***0.069***
	N	15	15	15	`15	15

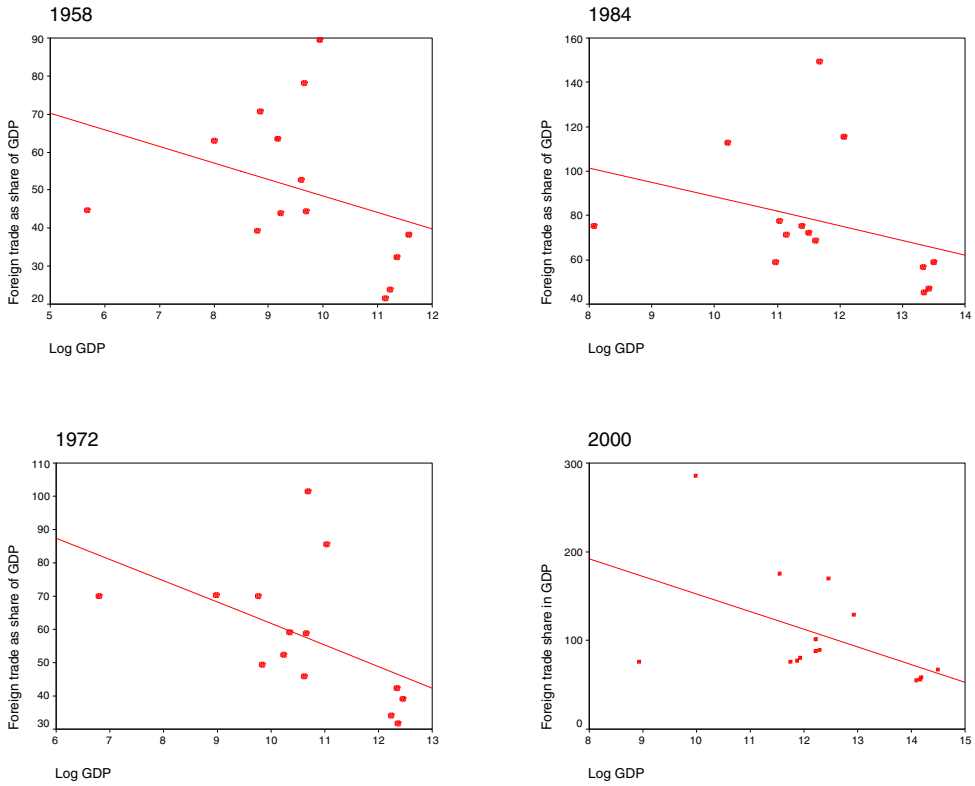
Small countries		1958	1972	1974	1984	2000
GDP	corr	-0.21	-0.292	-0.23	-0.19	-0.204
	sig	0.535	0.384	0.497	0.576	0.548
	N	11	11	11	11	11
Log GDP	corr	-0.298	-0.462	-0.369	-0.242	-0.385
	sig	0.373	0.153	0.265	0.474	0.242
	N	11	11	11	11	11
Rank	corr	0.082	-0.173	-0.109	0.027.	0.227
	sig	0.811	0.612	0.75	0.903	0.502
	N	11	11	11	11	11

The results of the analysis can be summarised as follows:

- For all states, both the log-linear regression and the rank correlation generate statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the more trade dependent it is, at least for the years to 1984. The strength of the relationship has weakened since the first oil crisis, and is only significant at a lower level ($p<0.10$) by the year 2000. These findings are confirmed by both the linear regression and the rank correlation.
- For the smaller states taken separately, none of the statistical measures produces a significant result for any of the selected years. Moreover, the rank correlation even suggest a relationship opposite from the expectation for three of the years (1958, 1984 and 2000), but again not one that is statistically significant.
- What we appear to be dealing with is a phenomenon known as "stepped data" where there is a major cut-off point between one part of the data-set and the other; in this case between the four larger countries and the rest. These larger states are less trade-dependent than smaller states (to the extent that their inclusion can alter a series from being statistically insignificant to statistically

highly significant but no such trend is observable among the small states in our sample). The pattern among the small states is highly distorted by Belgium and the Netherlands, which are far more trade-dependent than one would expect from their relative size, and by Iceland and Finland, which are far less so.

Figure 4: Size and openness (all countries)



The value of Iceland's foreign trade as a percentage of its GDP rises from 45 per cent in 1958 to the mid-70 percent range from the early 1970's onwards. In 1958, it is among countries like Finland and Austria, whose exports to the East Bloc necessitate a deflection of imports towards there as well in order to balance trade. The jump to 70 per cent by 1972/74 moves Iceland's relative position more in the direction of expectations from small-state theory, but after that it does not share to the same degree as then rest of Europe the trend towards increasing openness. In the year 2000, it is the least open of the smaller states in our sample.

Overall, our results confirming the inverse relationship between size and openness coincide with most statistical studies that have been made on this topic (Kuznets 1960; Lloyd, 1968; Väyrynen, 1974; Chenery and Syrquin 1975; Rothchild, 1993; Alesina, Spolaore and Wacziarg 1997; Salvatore 1997; Armstrong and Read 1998; Armstrong 2001). One study, however, has suggested that the relationship has weakened over time, something which our findings do not support. This study also observed that trade dependence tended to be high among European states in particular (Damijan 1997) though a contemporaneous study demonstrated that here too, size was an important factor in defining openness (Castello ea. 1997, 101-102).

Commodity Concentration of Trade

The logic behind the observation that small countries have a narrower range of exports than their larger counterparts stems directly from the suggestion that they have a relatively narrow production structure and a relatively high propensity to import. To pay for these imports they are forced onto export markets, and this they tend to do by concentrating on those products in which they have a competitive advantage (Hischman, 1945, Kuznets, 1960). Even studies from the 1950s, though, observed that the trade of European states was more diversified than that of most other regions (Michaely, 1958).

Our study uses the Hirschman concentration index, based on three-digit SITC codes. Very early on, statisticians indicated that the fact that some of the product definitions lay very close together formed a problem in using the data. In the 1950s, for example, the top four product categories for Finland all covered wood and paper products. However, as long as this limitation is borne in mind, the exercise was considered legitimate (Michaely, 1958, 725). The results are presented in Table 3 and in Figure 5.

Table 3: Results testing the hypothesis that there is a negative relationship between size and commodity concentration of exports, all countries

All countries		1958	1972	1974	1984	2000
GDP	corr	-0.364	-0.309	-0.332	-0.437	-0.375
	sig	0.2	0.282	0.247	0.118	0.168
	N	14	14	14	14	15
Log GDP	corr	-0.808	-0.759	-0.75	-0.708	-0.51
	sig	**0**	**0.002**	**0.002**	**0.005**	***0.052***
	N	14	14	14	14	15
RANK	corr	-0.705	-0.547	-0.569	-0.631	-0.582
	sig	**0.005**	**0.043**	**0.034**	**0.016**	**0.023**
	N	14	14	14	14	15

Small countries		1958	1972	1974	1984	2000
GDP	corr	-0.67	-0.625	-0.589	-0.568	-0.427
	sig	**0.034**	***0.053***	***0.073***	***0.086***	0.191
	N	10	10	10	10	11
Log GDP	corr	-0.939	-0.92	-0.883	-0.717	-0.423
	sig	**0**	**0**	**0.001**	**0.02**	0.195
	N	10	10	10	10	11
RANK	corr	-0.636	-0.782	-0.515	-0.455	-0.573
	sig	**0.048**	**0.008**	0.128	0.187	***0.066***
	N	10	10	10	10	11

Luxembourg included with Belgium except for 2000

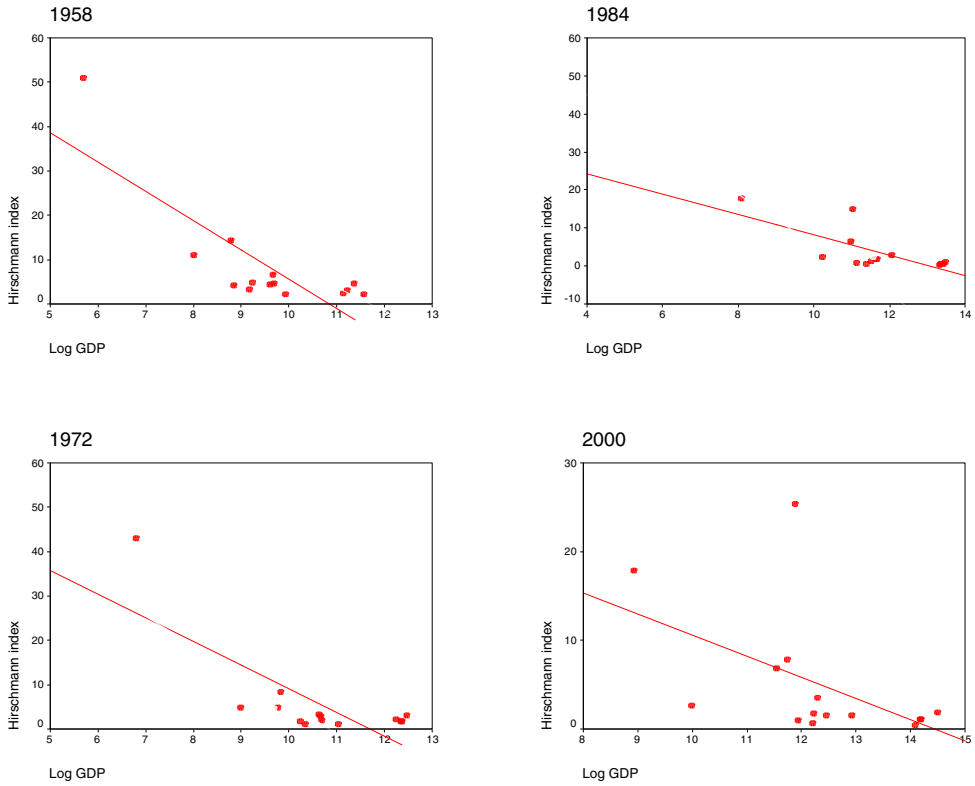
The results of the analysis can be summarised as follows:

- For all states, both the log-linear regression and the rank correlation generate statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the more concentrated is the commodity concentration of its exports. Only for the one year 2000 does the significance level for the log-linear regression drop slightly outside the 95 percent confidence range. By contrast, the linear regression does not generate any statistically significant results.
- For the smaller states, the log-linear regression generates statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the more concentrated is the commodity concentration of its exports. The relationship weakens after 1974 to the point in 2000 where it is not statistically significant. The linear regression follows the same pattern, albeit

at consistently lower confidence levels. Rank correlation confirms a statistically significant relationship ($p<0.05$) for 1958 and 1972 only.

- The results bear out the expectation of a significant negative relationship between GDP and commodity concentration for exports. There is a general weakening of the relationship in the aftermath of the first Oil Crisis, which disturbed the relative unit value of energy and energy-intensive exports.
- Iceland confirms the classical small-country expectations. As the smallest country, it also has the highest commodity concentration of exports until the year 2000, when it yields that position to Norway.

Figure 5: Size and commodity concentration of trade, all products, all countries



These findings are at odds with those empirical studies of the 1960s that found the connection between size and product concentration difficult to establish, and found at best only a weak correlation. There was a suggestion that the export pattern for small European states was more diverse than their equivalents elsewhere because of their

proximity to large foreign markets (Lloyd, 1968. See also Väyrynen, 1974) but we cannot comment on this. Our findings do, however, suggest that the relationship has been weakening over time and the most recent observations would confirm a weak inverse correlation between size and commodity concentration. Recent studies, concentrating on very small countries (>3-5 million inhabitants) across the entire spectrum of economic development suggest that the absence of economies of scale forces them to export, but that their size precludes economies of scope and therefore contributes to a greater commodity concentration (Armstrong and Read, 1998; Armstrong, 2001. See also Bräutigam and Woolcock, 2001).

Exports, of course, comprise different categories of products – agricultural commodities, raw materials, manufactured goods. We repeated the tests separately for exports of manufactured goods and of agricultural products (thus not fuel and raw materials). On the basis of the arguments about scale economies and niche markets we should expect an inverse relationship between size and concentration. For agriculture, the scale argument is less compelling but there are still limitations in human resources to take into account. Moreover, and this we have not factored into our definition of size, it is argued that geographically small countries have fewer variations in soil and climate. The results for manufacturing exports are given in Table 3a:

Table 3a: Results testing the hypothesis that there is a negative relationship between size and commodity concentration of manufacturing exports

All countries		1958	1972	1974	1984	2000
GDP	corr	-0.296	-0.299	-0.333	-0.373	-0.34
	sig	0.325	0.299	0.245	0.188	0.215
	N	13	14	14	14	15
Log GDP	corr	-0.33	-0.738	-0.744	-0.789	-0.692
	sig	0.271	**0.003**	**0.002**	**0.001**	**0.004**
	N	13	14	14	14	15
RANK	corr	-0.319	-0.266	-0.393	-0.635	-0.604
	sig	0.289	0.358	0.164	**0.015**	**0.017**
	N	13	14	14	14	15

Small countries		1958	1972	1974	1984	2000
GDP	corr	-0.306	-0.598	-0.597	-0.678	-0.556
	sig	0.423	**0.068**	**0.068**	**0.031**	***0.076***
	N	9	10	10	10	11
Log GDP	corr	-0.225	-0.893	-0.874	-0.933	-0.784
	sig	0.56	**0.001**	**0.001**	**0**	**0.004**
	N	9	10	10	10	11
RANK	corr	-0.133	-0.515	-0.418	-0.709	-0.555
	sig	0.732	0.128	0.229	**0.022**	***0.077***
	N	9	10	10	10	11

Iceland is not included for 1958 (see data appendix) and Luxembourg is included with Belgium until 2000

- For all states, none of the methods reveals a significant relationship for 1958. Thereafter, the log-linear regression does generate statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the more concentrated is the commodity composition of its manufacturing exports for the rest of the years covered. The results of the rank correlation are statistically significant for 1984 and 2000. The linear regression does not generate any statistically significant results.
- For the smaller states, none of the methods reveals a significant relationship for 1958. For the other years, the log-linear regression generates statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the more concentrated is the commodity composition of its manufacturing exports. The linear regression produces statistically significant results after 1972, but they are generally less robust and fall to $p<0.10$ in 2000. The rank correlation is only significant for 1984. Generally the relationship is slightly more robust for the smaller states than for all the states in our sample.
- Iceland confirms the classical small-country expectations. As the smallest country, it also has the highest commodity concentration of manufacturing exports.

The results bear out the expectation of a significant negative relationship between GDP and commodity concentration for manufacturing exports. The weak relationship in 1958 may have been the result of almost three decades of protectionism, dictated by depression, war and reconstruction, which led to artificially maintained levels of diversification.

The results for agricultural exports are given in Table 3b below:

Table 3b: Results testing the hypothesis that there is a negative relationship between size and commodity concentration of agricultural exports

All countries		1958	1972	1974	1984	2000
GDP	Corr	-0.393	-0.358	-0.365	-0.346	-0.297
	Sig	0.164	0.209	0.199	0.226	0.282
	N	14	14	14	14	15
Log GDP	Corr	-0.775	-0.767	-0.754	-0.71	-0.478
	Sig	**0.001**	**0.001**	**0.002**	**0.004**	***0.071***
	N	14	14	14	14	15
RANK	Corr	-0.622	-0.688	-0.6	-0.499	-0.493
	Sig	**0.018**	**0.007**	**0.023**	***0.069***	***0.062***
	N	14	14	14	14	15

Small countries		1958	1972	1974	1984	2000
GDP	Corr	-0.835	-0.714	-0.666	-0.664	-0.471
	Sig	**0.003**	**0.02**	**0.035**	**0.036**	0.144
	N	10	10	10	10	11
Log GDP	Corr	-0.897	-0.919	-0.885	-0.844	-0.492
	Sig	**0**	**0**	**0.001**	**0.002**	0.124
	N	10	10	10	10	11
RANK	Corr	-0.903	-0.83	-0.733	-0.661	-0.727
	Sig	**0**	**0.003**	**0.016**	**0.038**	**0.011**
	N	10	10	10	10	11

Luxembourg is included with Belgium until 2000

- For all states, the log-linear regression generates statistically significant results ($p<0.05$) that confirm the hypothesis that the smaller a country, the more concentrated is the commodity composition of its agricultural exports until 2000, when the relationship weakens ($p<0.10$) This is supported by the rank correlation, albeit that the results are less robust and relationship weakens earlier. The linear regression does not generate any statistically significant results.
- For the smaller states, all the methods generate statistically significant results ($p<0.05$) up to and including 1984, that confirm the hypothesis that the smaller a country, the more concentrated is the commodity composition of its agricultural exports. For the year 2000, the relationship then deteriorates below the acceptable confidence levels, except when measured by rank correlation, where it remains highly significant. Generally the relationship is stronger among small states and more robust than in the sample as a whole.

- Iceland is a typical small state in this respect too. As the smallest country, it also has the highest commodity concentration of agricultural exports.

Overall, the results bear out the expectation that the agricultural exports of smaller countries are more diverse than those of larger countries. Unlike the pattern for manufactured goods, agricultural exports conform to small-state expectations for 1958 as well. However, clearly between 1984 and 2000, the pattern has begun to unravel and the relationship between size and concentration has become less robust. It would require more research than that permitted within the context of this project to discover the reasons why this might be so.

Geographical Concentration of Trade

Looking at the geographical concentration, one of the first studies found a clearly higher degree of concentration among small countries, both developed and underdeveloped. This reason was that just as small countries lacked the human resources to build up a wide range of industries, so they lacked the capacity to construct and maintain a wide range of trading and marketing contacts (Michealy, 1958). This relationship was not confirmed, however, when a similar study was made covering the 1960s (Värynen, 1974) and Hirschman had argued that, if anything, one should expect an inverse correlation between product concentration and geographic dispersion. If small countries had an export "niche", they should supply much of the world (Hirschman, 1945 30-31).

We tested this expectation by constructing Hirschman concentration indices for the share of exports destined for major trading partners. The results are shown in Table 4 below and in Figure 6:

Table 4: Results testing the hypothesis that there is a negative relationship between size and geographical concentration of exports, all countries

All countries		1958	1972	1974	1984	2000
GDP	corr	-0.382	-0.402	-0.402	-0.607	-0.472
	sig	0.177	0.154	0.154	**0.021**	***0.076***
	N	14	14	14	14	15
Log GDP	corr	-0.378	-0.443	-0.413	-0.579	-0.479
	sig	0.183	0.113	0.142	**0.03**	***0.071***
	N	14	14	14	14	15
RANK	corr	-0.749	-0.578	-0.547	-0.67	-0.457
	sig	**0.002**	**0.03**	**0.043**	**0.009**	***0.087***
	N	14	14	14	14	15

Small countries		1958	1972	1974	1984	2000
GDP	corr	-0.423	-0.329	-0.281	-0.213	-0.099
	sig	0.224	0.353	0.432	0.555	0.772
	N	10	10	10	10	11
Log GDP	corr	-0.212	-0.29	-0.226	-0.247	-0.229
	sig	0.557	0.416	0.53	0.492	0.498
	N	10	10	10	10	11
RANK	corr	-0.382	-0.152	-0.115	-0.273	-0.182
	sig	0.276	0.676	0.751	0.446	0.593
	N	10	10	10	10	11

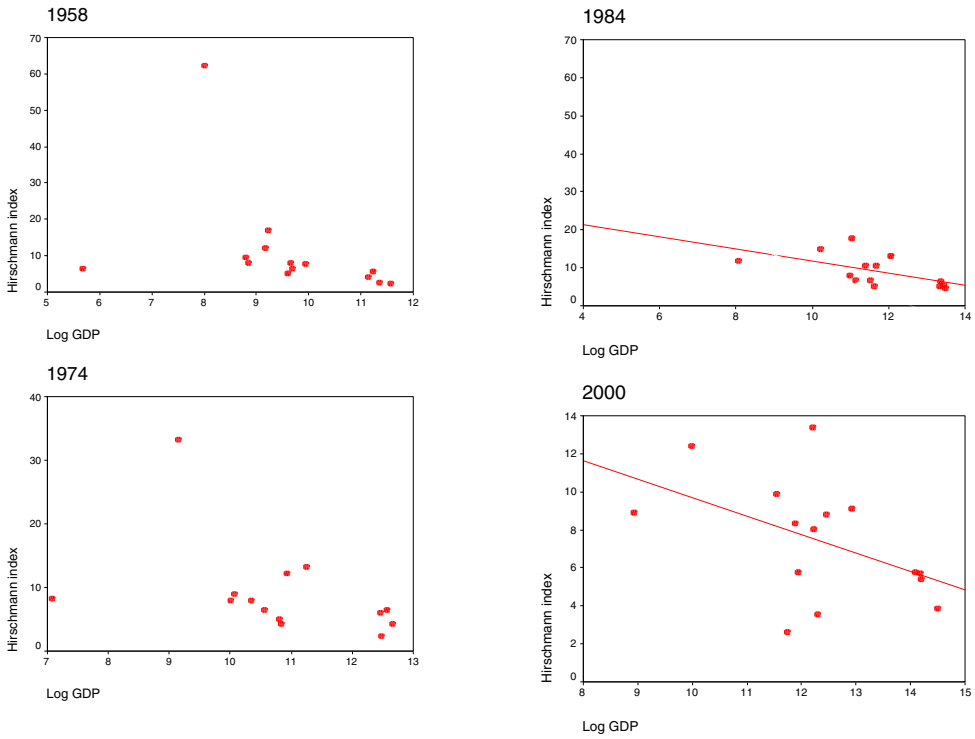
Luxembourg is included with Belgium until 2000

The results are difficult to interpret.

- For all states, the rank correlations generate statistically significant results ($p<0.05$) for all years except 2000, which means that there is a strong sequential relationship between the observations for size and those for concentration. On the other hand, there is no statistical relationship in the log-linear regression series or the linear regression, except for 1984, when even the linear regression yields a statistically positive relationship.
- For the smaller states, none of the methods employed yields a statistically significant result. This means that the inverse rank relationship among the largest countries, that was strong enough to pull the whole series into a statistically significant relationship, was not apparent among the smaller states. Like the relationship between size and openness, this appears to be a case of "stepped data".
- Iceland does not fit the small-state profile at all in 1958 when its geographical concentration is around the middle of the countries surveyed. This is probably

still a reflection of the bilateralism still apparent in Iceland's trade relations with Eastern European countries. After that, Iceland's trading pattern does become more concentrated, but not to the extent to push it to the far end of the spectrum.

Figure 6: Size and geographical concentration of trade, all products, all countries



We explored this relationship further by separating manufacturing and agricultural exports. One could expect the marketing and transaction cost arguments to be more telling for manufacturing exports than for agriculture because of the greater diversity in price, quality and specifications within different trade categories, and that these would change more often over time, than would be the case for agricultural exports. The results are shown in Table 4a:

Table 4a: Results testing the hypothesis that there is a negative relationship between size and geographical concentration of manufacturing exports

All countries		1958	1972	1974	1984	2000
GDP	corr	-0.323	-0.428	-0.477	-0.58	-0.467
	sig	0.282	0.127	***0.085***	**0.03**	***0.079***
	N	13	14	14	14	15
Log GDP	corr	-0.554	-0.498	-0.641	-0.544	-0.741
	sig	**0.05**	***0.07***	**0.013**	**0.044**	**0.002**
	N	13	14	14	14	15
RANK	corr	-0.632	-0.569	-0.688	-0.6	-0.564
	sig	**0.021**	**0.034**	**0.007**	**0.023**	**0.028**
	N	13	14	14	14	15

Small countries		1958	1972	1974	1984	2000
GDP	corr	-0.601	-0,388	-0.499	-0.243	-0.489
	sig	***0.087***	0,268	0.142	0.5	0.127
	N	9	10	10	10	11
Log GDP	corr	-0.791	-0,362	-0.557	-0.22	-0.74
	sig	**0.011**	0,304	***0.094***	0.541	**0.009**
	N	9	10	10	10	11
RANK	corr	-0.65	-0,297	-0.394	-0.2	-0.4
	sig	***0.058***	0,405	0.26	0.58	0.223
	N	9	10	10	10	11

Luxembourg is included with Belgium until 2000. Iceland is not included for 1958 (see data appendix).

- For all states, the log-linear regression generates statistically significant results ($p<0.05$) for all years except 1972, which suggests that that there is a strong relationship between the observations for size and those for geographical concentration of manufacturing exports. This is confirmed by the rank correlation data, which produces significant results for all years. The linear regression analysis is significant at a lower confidence level.
- For the smaller states taken separately, the only significant results generated by log-linear regression are for the years 1958 and 2000. None of the other methods employed yields a statistically significant result at the 95 per cent confidence level. Like the relationship between size and openness, this appears to be a case of "stepped data".
- In the year 2000, Iceland is a "typical" very small economy, with the highest geographical concentration of export markets for manufactured goods. For

earlier years, its pattern is fairly concentrated, but it is not at the extreme end of the spectrum.

Thus, our results suggest that the four larger countries had far more varied geographical patterns of exports than did the small ones. This relationship was far more robust than the pattern for exports as a whole. Although there was a similar trend among the smaller countries, it was insufficiently robust to make any confident pronouncements, except for the most recent data, where the relationship was statistically significant. It would be interesting to examine whether this is a trend and, if it is, to explain it. If the pattern of manufacturing exports explains most of the total pattern, it will be no surprise if agricultural trade shows only a weak relationship, or none at all. The data is presented in Table 4b below:

Table 4b: Results testing the hypothesis that there is a negative relationship between size and geographical concentration of agricultural exports

All countries		1958	1972	1974	1984	2000
GDP	corr	-0,342	-0,361	-0,336	-0,368	-0,441
	sig	0,231	0,204	0,24	0,195	***0,1***
	N	14	14	14	14	15
Log GDP	corr	-0,269	-0,365	-0,355	-0,531	-0,473
	sig	0,352	0,2	0,213	***0,051***	***0,075***
	N	14	14	14	14	15
RANK	corr	-0,367	-0,275	-0,187	-0,433	-0,507
	sig	0,197	0,342	0,523	0,122	***0,054***
	N	14	14	14	14	15

Small countries		1958	1972	1974	1984	2000
GDP	Corr	-0,317	-0,219	-0,273	-0,345	-0,21
	Sig	0,372	0,544	0,446	0,329	0,535
	N	10	10	10	10	11
Log GDP	Corr	-0,085	-0,192	-0,212	-0,491	-0,269
	Sig	0,814	0,596	0,557	0,15	0,424
	N	10	10	10	10	11
RANK	Corr	-0,03	0,115	0,188	-0,406	-0,209
	Sig	0,934	0,751	0,603	0,244	0,537
	N	10	10	10	10	11

Luxembourg is included with Belgium until 2000.

The findings confirm that overall there is no statistically strong relationship between size and the geographical distribution of agricultural exports (and only a weak one for all countries in 1984 and 2000). Now, agriculture was one area where the institutional arrangements could be expected to have had an impact on concentration. The high

prices applied by the common agricultural policy for members of the EEC/EU could have been expected to have diverted trade towards member states. The question is whether this led to a difference in pattern between members and non-members and whether that pattern reflected any relationship to size as an operational variable. Thus we the separated EC(6) from the rest for 1958 and 1972, and separated EC(9) from the rest for 1974, 1984 and 2000 (assuming that the late membership of Austria, Finland and Sweden would not have too much impact for 2000).

Table 4c: Weighted average of geographical concentration of agricultural exports

	1958	1972	1974	1984	2000
EEC(6)	12.21	14.30	-	-	-
Remainder	11.70	10.83	-	-	-
EEC(9)	-	-	10.63	8.76	7.34
Remainder	-	-	9.77	7.79	9.10

In 1958 the original EEC members had a higher degree of geographical concentration of exports than did the non-members in our sample, and this increased as the CAP took effect. By contrast, the concentration among non-members diminished.

By 1974 the EEC had expanded to nine members, but the geographical concentration fell in both subsequent periods. Since it also fell initially among non-members as well, this may be a relative price effect (it may not – this is something that would require further research to verify or refute). However, this may also be the effect of new members diversifying into previously discriminatory markets and vice versa.

Before leaving this issue, I wish to introduce one further set of calculations. We initially made them by mistake, since there was no particular reason to assume that the "CAP effect" would operate to enhance a "small country trading pattern", especially since the evidence for any relationship was conspicuously absent in Table 4b above (page 30). However, the results were so surprising that I have included them here in Table 4d:

Table 4d: Results testing the 'hypothesis' that EEC membership will lead to an enhanced relationship between size and geographical concentration of agricultural exports

		EEC(6)		Remainder	
		1958	1972	1958	1972
GDP	Corr	-0.077	-0.936	-0.308	-0.368
	Sig	0.903	**0.019**	0.42	0.33
	N	5	5	9	9
Log GDP	Corr	-0.017	-0.897	-0.167	-0.365
	Sig	0.978	**0.039**	0.668	0.334
	N	5	5	9	9
RANK	Corr	-0.1	-0.8	-0.217	-0.45
	Sig	0.873	0.104	0.576	0.224
	N	5	5	9	9

		EEC(9)			Remainder		
		1974	1984	2000	1974	1984	2000
GDP	corr	-0.692	-0.673	-0.75	-0.35	0.839	0.14
	sig	***0.057***	***0.067***	**0.02**	0.497	**0.037**	0.98
	N	8	8	9	6	6	6
Log GDP	corr	-0.859	-0.704	-0.862	-0.301	-0.797	-0.078
	sig	**0.006**	***0.051***	**0.003**	0.563	***0.058***	0.884
	N	8	8	9	6	6	6
RANK	corr	-0.762	-0.667	-0.883	-0.029	-0.829	-0.371
	sig	**0.028**	***0.071***	**0.002**	0.957	**0.042**	0.468
	N	8	8	9	6	6	6

Luxembourg is included with Belgium until 2000.

- What the results suggest is that in 1958 virtually no relationship at all was discernable between size and geographical concentration among the original EEC members (the result is close to complete randomness). By 1972, however, the situation has been transformed to one of a highly significant inverse relationship between size and concentration.
- The expanded EEC of nine members also demonstrates a highly significant relationship in 1974, but one that weakens slightly by 1984 before returning to high significance in the year 2000.
- If the robustness of the size:concentration relationship weakened among the EEC(9) between 1974 and 1984, it moved dramatically in the other direction

for the EFTA states and, using the linear regression results, became highly significant.

These results are as striking as they are unexpected. I can offer no explanation at the moment. It would require more annual data points to analyse the chronological dynamic behind the process and thereby to come up with some plausible explanations. This would certainly be worth further study.

Vulnerability

The idea that small states are uniquely vulnerable stems directly from the notion that they have a disproportionate concentration in their foreign trade orientation. If their product concentration is high, they are susceptible to swings in demand for their export specialisms. This factor, of course, is particularly pronounced for small underdeveloped countries with an export focus on primary products where price swings and corresponding shifts in the terms of trade are prevalent (Crucini, 1997; Bräutigam and Woolcock, 2001). This vulnerability is accentuated if their production units are foreign-owned and that part of the added value that takes the form of profits is repatriated (Helleiner, 1982). However, vulnerability can equally apply to an excessive geographical concentration of trade, where the growth performance of the major trading partners is relatively poor (Deans and Bernstein, 1978).

There have been studies looking at the amplitude of the business cycle (Crucini,1997), but the easiest level to approach this relationship is through the balance of payments - and not the balance of trade (cf Lloyd, 1968, Väyrynen, 1974) since this ignores the contribution of the invisible sector to the balance of payments, which may be considerable for small developed economies. The expectation that we will test is that smaller countries have greater balance-of-payments problems (i.e. deficits) than large countries. Our study has taken a seven-year average of current account surpluses or deficits around each of the base years. These data were derived from the United Nations *Yearbooks of National Accounts Statistics*. The results are given in Table 5 and Figure 7.

Table 5 Results testing the hypothesis that there is a positive relationship between size and balance-of-payments (current account)

All countries		1958	1972	1974	1984
	corr	0.411	0.085	0.204	0.18
	sig	0.144	0.764	0.466	0.521
GDP	**N**	14	15	15	15
	corr	0.588	-0.058	0.197	0.165
	sig	**0.027**	0.838	0.481	0.557
Log GNP	**N**	14	15	15	15
	corr	0.543	0.257	0.429	0.304
	sig	**0.045**	0.355	0.111	0.271
RANK	**N**	14	15	15	15

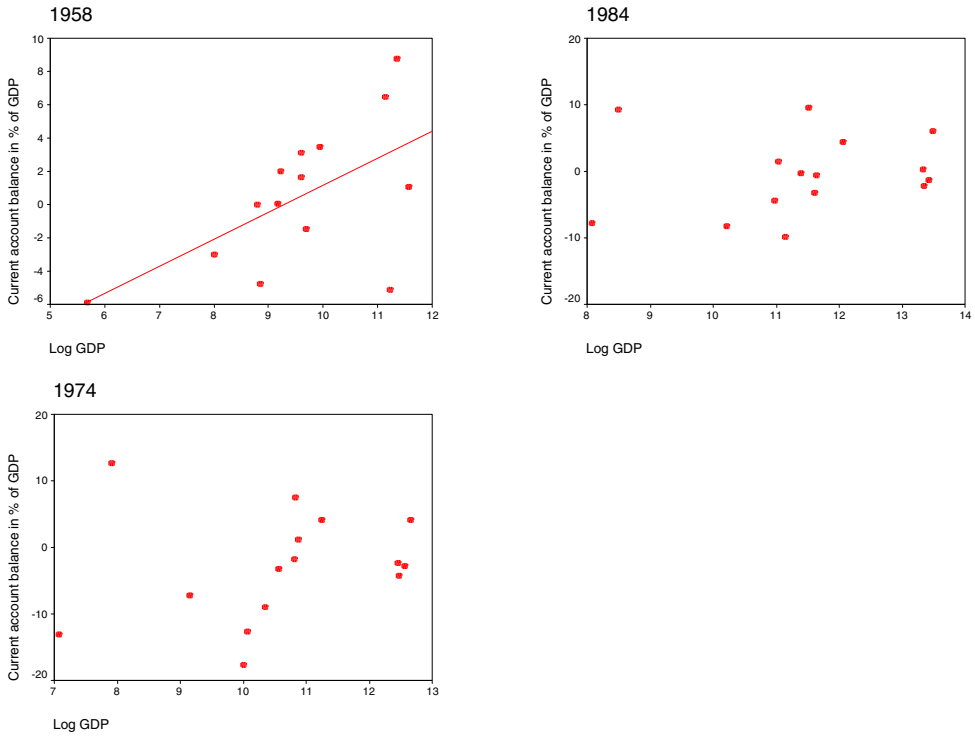
Small countries		1958	1972	1974	1984
	corr	0.789	0.201	0.358	0.276
	sig	**0.007**	0.544	0.26	0.412
GDP	**N**	10	11	11	11
	corr	0.773	-0.131	-0.151	0.11
	sig	**0.009**	0.702	0.658	0.747
Log GNP	**N**	10	11	11	11
	corr	0,758	0.427	0.482	0.327
	sig	**0.011**	0.19	0.133	0.326
RANK	**N**	10	11	11	11

Luxembourg is not included for 1958 (see annex for why no figures are given for 2000)

Other than for the years around 1958, we could find no significant relationship between GDP and the balance of the current account. Indeed in all the remaining years, it is difficult to discern any statistical relationship at all (and sometimes the suggestion of a relationship even runs in the other direction; i.e. that larger countries run larger deficits).

There is a relationship in our sample for 1958, but within this research project it is difficult to explain. However, the relationship between size and balance-of-payments disappears completely thereafter and one possible explanation lies in the changing nature of international capital markets. In 1958, capital flows were still comparatively small and immobile but from the 1970s onwards, international financial resources grew faster than any other sector of the international economy. Moreover, the discipline of fixed exchange rates became a thing of the past. As a result a balance-of-payments deficit, that had previously constituted a major concern for policy-makers became less of a problem, and this may have had the effect of 'randomising' its occurrence.

Graph 7 Size and current account balance, all countries



A corollary of the balance-of-payments argument is that small countries find it easier to attract compensatory capital flows. This is fairly obvious if one reflects on the accounting methods used in compiling payments data – a current-account deficit is always matched by a capital-account surplus, and that surplus is made up of a reduction in reserves, flows of aid and changes in net borrowing. However, since we observed little relationship between balance-of-payments and size, there is little reason to expect to find one between size and *net* FDI. We tested the link between FDI and size by using a five-year average net FDI flow calculated from OECD data and expressed as a percentage of GNP. There are two caveats to note. First, there was no comparable data available for 1958. Second, since it was impossible to cluster a five-year average around 2000, we took the 1996-2000 average instead. The results are given in Table 6 below and Figure 8:

Table 6: Results testing the hypothesis that there is a negative relationship between size and net FDI

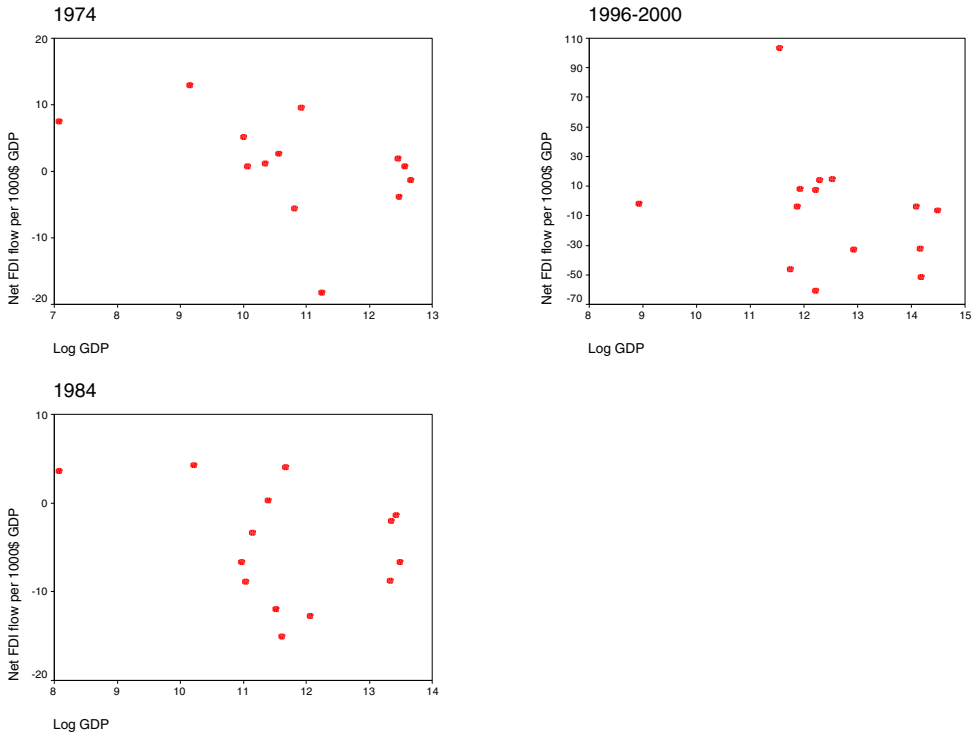
All countries		1970-74	1972-76	1982-86	1996-2000
	Corr	-0.206	-0.263	-0.081	-0.283
	Sig	0.5	0.385	0.783	0.328
GDP	**N**	13	13	14	14
	Corr	-0.324	-0.45	-0.34	-0.288
	Sig	0.28	0.123	0.234	0.319
Log GNP	**N**	13	13	14	14
	Corr	-0.5	-0.577	-0.222	-0.354
	Sig	***0.082***	**0.039**	0.446	0.215
RANK	**N**	13	13	14	14

Small countries		1970-74	1972-76	1982-86	1996-2000
	corr	-0.658	-0.735	-0.566	-0.275
	sig	***0.054***	**0.024**	***0.088***	0.442
GDP	**N**	9	9	10	10
	corr	-0.388	-0.532	-0.551	-0.135
	sig	0.302	0.14	***0.098***	0.709
Log GNP	**N**	9	9	10	10
	corr	-0.317	-0.55	-0.503	-0.03
	sig	0.406	0.125	0.138	0.934
RANK	**N**	9	9	10	10

Luxembourg is included with Belgium. Switzerland is not included for 1970-74 and 1972-76

- For all states the log-linear regression generates no statistically significant results. The rank correlation does produce significant results for 1972-76.
- For the smaller states taken separately, the log-linear regression generates no statistically significant results. Linear regression produces significant results for 1972-76. Although not statistically significant, the inverse relationship between size and net FDI is stronger for the smaller states than for the sample as a whole.

Figure 8: Size and net FDI flows (all countries)



Basically, we can say that our analysis demonstrates no relationship between size and net flows of FDI. Now, whilst the net flow is interesting when we are implicitly counterpoising it with the balance-of-payments, it is made up of two separate movements – an inflow and an outflow. It is possible that a country might have a small net flow, whilst being considerably active in international capital markets as a borrower and a lender, at the same time.

Looking at less developed countries and at foreign aid there is a general consensus that there is a "small country effect, according to which aid per head increases, and the terms of aid improve, as country size declines" (Streeten 1993, 200. See also de Vries, 1975). An earlier but more detailed study found that whilst this was demonstrably true for very small countries (< 5 million), the mid-small countries (10-15 million) did better still. Even more strange was the observation that this applied to non-official capital inflows as well (Helleiner, 1982). In other words, there is a suggestion that small countries may be capable of attracting larger FDI inflows than their larger counterparts. We tested this expectation separately in Table 6a below.

Table 6a: Results testing the hypothesis that that there is a negative correlation between inflow FDI and size

All countries		1972	1974	1984	1998
	corr	0.021	-0.101	-0.071	-0.280
	sig	0.944	0.742	0.810	0.332
GDP	N	13	13	14	14
	corr	0.167	-0.084	0.141	-0.063
	sig	0.585	0.785	0.630	0.830
Log GDP	N	13	13	14	14
	corr	0.033	-0.011	0.02	-0.073
	sig	0.915	0.972	0.946	0.805
Rank	N	13	13	14	14

Small countries		1972	1974	1984	1998
	corr	0.568	0.178	0.723	0.37
	significance	0.11	0.647	**0.018**	0.293
GDP	N	9	9	10	10
	correlation	0.375	-0.002	0.467	0.347
	significance	0.32	0.995	0.173	0.325
Log GDP	N	9	9	10	10
	corr	0.383	0.05	0.661	0.455
	sig	0.308	0.898	**0.038**	0.187
Rank	N	9	9	10	10

Luxembourg is included with Belgium. Switzerland not included for 1970-74 and 1972-76

For all countries, none of the methods produced a statistically significant result suggesting a relationship between size and FDI inflows.

For the smaller countries taken separately, the log-linear regression generated no significant results that suggested an inverse relationship between size and FDI inflow, though both the linear regression and rank correlation did produce a significant result for 1984.

Since the literature did suggest the possibility of a "U curve" (with the middle countries receiving proportionally most) we applied various curvi-linear functions to the data but none produced any significant results (and we have not shown them here). Thus we can conclude from our research that there is no link between size and the inflow of FDI. This is perhaps not surprising since the expectation was derived largely from observations from developing countries, whilst our sample embraces many of the richest countries in the world.

There is an argument that small countries will engage disproportionately more than their larger counterparts in FDI lending. After all, if small countries' export

dependence forced them to build up international marketing networks, it could be expected that, at a later stage of development, they would shift to net outward investment. It could also be argued that small exporting countries might use foreign direct investment as a means of economising on the human resources required to maintain those networks. Recent statistical testing across a range of large and small countries found a weak but not significant overall link, but a strong and significant relationship within the group of small countries, taken separately (Castello ea. 1997). We have examined this expectation in Table 6b.

Table 6b: Results testing the hypothesis that that there is a positive correlation between FDI outflow and size

All states		1970-4	1972-6	1982-86	1996-2000
GDP	**Corr**	0.055	0.058	-0.056	-0.145
	Sig.	0.872	0.867	0.855	0.621
	N	11	11	13	14
Log GDP	**Corr**	0.18	0.191	0.246	0.092
	Sig.	0.597	0.574	0.419	0.753
	N	11	11	13	14
RANK	**Corr**	0.327	0.282	0.137	0.226
	Sig.	0.326	0.401	0.655	0.436
	N	11	11	13	14

Small states		1970-4	1972-6	1982-86	1996-2000
GDP	**Corr**	0.84	0.833	0.691	0.548
	Sig.	**0.018**	**0.02**	**0.039**	0.101
	N	7	7	9	10
Log GDP	**Corr**	0.722	0.724	0.597	0.447
	Sig.	***0.067***	***0.066***	***0.09***	0.195
	N	7	7	9	10
RANK	**Corr**	0.679	0.643	0.6	0.673
	Sig.	***0.094***	0.119	***0.088***	**0.033**
	N	7	7	9	10

Luxembourg is included with Belgium. Switzerland and Iceland are not included for 1972 and 1974, Ireland is not included for 1972-1984

- For all countries, none of the methods produced a statistically significant result suggesting a relationship between size and FDI outflows.
- For the smaller countries taken separately, the linear regression generated statistically significant results that suggested an inverse relationship between size and FDI outflow for the 1970s and for 1982-86. The log-linear regression produced results for the same years that were significant only at a lower confidence level, as did the rank correlation. The latter also suggested a

statistically significant relationship for 1996-2000, though this was not confirmed by either of the other two methods.

The results would confirm that, among the smaller states at least, the larger states in the group tended to invest more, proportionately, abroad. This would confirm the trend suggested in other recent research.

Integration and Trade

Several organisations were created in the postwar period that could be expected to have a direct influence on West European trading patterns. The first of these was the *Organisation for European Economic Cooperation* (OEEC), established in 1948 for the express purpose of administering Marshall Aid. All the countries in our study, except Finland (because of the peace treaty with Russia) were members. After 1950, the OEEC added to its activities two institutional measures specifically designed to increase European economic integration – the *"Trade Liberalization Scheme"* and the *European Payments Union*. Both these schemes continued to 1960 when the OEEC was transformed into the OECD.

The Trade Liberalization Scheme provided for the gradual elimination of quotas on intra-European private trade (i.e. it made no provision for trade conducted through state trading monopolies). By 1960, when the program ended, most quotas has been eliminated and the scope for state trade had also been reduced. Since the scheme allowed quota discrimination against third countries (usually hard-currency countries) it obviously served to promote intra-member trade. This promotion of intra-trade was concentrated mostly on manufactured goods. The effect on agriculture was muted because:

- state trade, where it existed, was mainly in agriculture,
- quotas were often left intact on trade in temperate foodstuffs, and
- even when quotas were removed, trade was stifled by high tariffs and tariff equivalents (such as variable levies).

The European Payments Union provided an automatic clearing mechanism for commercial transactions, which meant the immediate elimination of foreign-exchange controls on intra-European trade. This in itself would have encouraged the deflection of trade within a soft-currency zone, but the effect was reinforced in the initial years

(until 1954) by the fact that the EPU operated as a mutual, automatic credit system (allowing soft-currency payments for goods, as a country first slipped into deficit and gradually "hardening" until all payments had to be made in hard currency).

The *General Agreement on Tariffs and Trade* (GATT) was established in 1948 and was originally conceived as part of a more comprehensive International Trade Organization, which however, because of the failure of the USA to secure ratification, never came about. The GATT provided a set of rules for tariff negotiation and made provision for non-discrimination among its members (other than recognising existing "colonial" trade regimes and making provisions for customs unions and free trade areas in the future. The initial GATT agreement had 23 members, of which only five formed part of our sample. By 1950/51 most of the other countries in our sample had joined, leaving only Iceland, Ireland and Switzerland outside. The reduction of tariffs among members of a trading group could be expected to promote intra-trade. However, the only major "tariff round" was that in Annecy in 1949, and its achievements were largely illusory since most countries had entered the negotiations with "fighting tariffs": tariffs pitched high with the specific intention of reducing them during the negotiations. Moreover, few of the countries in our sample took part. For most of the 1950s, progress in tariff reductions within the GATT was conspicuous by its absence. This, however, was to change in the 1960s, and the Kennedy Round delivered the largest cut in tariffs on manufactured goods seen to date. The effect of this would be to reduce the "trade diverting" effects (and therefore the degree of trade intensification) of the two European trading blocs that were about to be formed.

Figure 9: Membership of trade organisations 1958/60

	OEEC	GATT	EEC 1958	EFTA 1960
Austria	x	x (10/1951)		x
Belgium	x	x	x	
Denmark	x	x (5/1950)		x
Finland		x (5/1950)		(associate)
France	x	x	x	
Germany	x	x (10/1951)	x	
Iceland	x			
Ireland	x			
Italy	x	x (5/1950)	x	
Luxembourg	x	x	x	
Netherlands	x	x	x	
Norway	x	x (7/1948)		x
Sweden	x	x (4/1950)		x
Switzerland	x			x
UK	x	x		x

The *European Economic Community* (EEC) came into being in 1958, with France, Germany, Italy and the Benelux countries as members. It was built on a common market for coal and steel products among the same countries that had come into force in 1952. At the EEC's core were a commitment and schedule for creating a customs union, the provision for institutional arrangements to create a common agricultural community and clauses for a community regime for fair competition. The EEC could be expected to promote intra-trade for several reasons:

- The elimination of tariffs and quotas on industrial goods among its members.
- The maintenance of a common tariff against third countries, the impact of which was reinforced by the fact that for Benelux and Germany this involved an upward revision of the external tariff level.
- The steps towards the creation of a common agricultural policy involved a commitment to the promotion of intra-trade in agricultural products until the policy came into effect.
- When that policy came into force, it produced a high level of internal prices, and thus served to promote intra-trade to the point of virtually excluding third countries.

As a response to the creation of the EEC, seven countries took the initiative for the creation of the *European Free Trade Association*. The membership embraced the UK, Austria, Denmark, Norway, Sweden, Switzerland (which all figure in our sample) and Portugal. Finland was an associate member virtually from the start, and (after the acceleration decision in 1963) shared the same schedule of tariff reductions as the other EFTA members. The aim of EFTA was the creation of a free trade area in manufactured goods. It too could be expected to promote intra-trade for the following reasons:

- The elimination of tariffs and quotas on industrial goods among its members. (Unlike the EEC, however, there was no reinforcement from inherent changes in the level of external tariffs,though some countries did raise national tariffs before entry.)
- The existence of clauses calling for the promotion of mutual agricultural trade (but this fell far short of the system of institutional preferences implied by the EEC's common agricultural policy). At the outset of EFTA, the UK had granted some agricultural preferences to Denmark and

Portugal and in the course of the 1960s there were some bilateral concessions among the Scandinavian countries.

If we now examine the effects of these institutional arrangements on patterns of trade, we should note that the measures taken by the OEEC had been accompanied by a remarkable growth in intra-trade in Western Europe. This trade concentration was not exclusively attributable to reduced protectionism: it was also influenced by factors such as growth, productivity and competitiveness. Two things stood out:

- the epicentre of this trade growth lay in the six founding members of the EEC, and
- agricultural trade lagged behind.

After 1958 we can distinguish two trading areas, EFTA and the EEC. For the purposes of this analysis, we have included Portugal among the EFTA countries (but the effect is only marginally different from taking only our sample countries).

Table 7: Export flows of EEC(6) and EFTA by product and destination (percentage of total exports)

	EEC		EFTA	
EEC	1958	1972	1958	1972
Total	30.2	49.3	21.8	17.3
Agriculture	36.8	67.4	25.4	11.8
Manufactures	26.5	46.1	20.7	17.9
EFTA	EEC		EFTA	
Total	22.7	25.1	18.6	28.6
Agriculture	30.2	26.6	27.7	29.7
Manufactures	18.5	24.0	15.3	28.6

EFTA here does not include Portugal (but includes Finland)

The effects of both trade blocs are what we would expect:

- The EEC's intra-trade in manufactured goods increases dramatically, whilst the relative importance of its trade with EFTA falls slightly. Even more dramatic is the increase in importance in intra-trade in agricultural products, as a result of the trade deflection implicit in the CAP, and a more precipitous fall in the trade with EFTA.
- EFTA's intra-trade in manufactured goods increases sharply, but its trade with the EEC also grows, though not to the same extent. This is probably the result of the "pull" of the faster economic growth in the EEC area. Intra-trade in agricultural products increases slightly as result of the bilateral trade agreements and there is a slight decline in exports to the EEC.

Iceland was excluded from both trading blocs until it joined EFTA in 1970. Its manufacturing exports were granted immediate duty-free access to the EFTA markets.

As far as its imports were concerned, Iceland had to lower its most prohibitive duties by 30 per cent immediately, and remove them all entirely by 1980. It had only a small manufacturing export sector in 1958, and most of that went to the USA. By 1972, it had grown somewhat, and most now went to Europe - 33.2 per cent to the EEC and 48.9 per cent to EFTA. Its agricultural exports to the EEC declined slightly and there was a corresponding rise in those destined for EFTA.

Ireland was not a member of either trading bloc. The economy had, until the late 1950s, geared its policy towards import substituting industrialisation behind prohibitive tariffs whilst nurturing its preferential trading position in agriculture with the UK (e.g., being allowed to export live cattle, which was banned from the Continent). In 1965 the Anglo-Irish Free Trade Agreement was signed, giving Irish manufacturing exports immediate access to UK markets and committing the Irish to annual 10 per cent reductions in its industrial tariffs until they were eliminated in 1975. One would have expected the agreement to have cemented Irish agricultural exports to the UK in place and to have contributed to an intensification of industrial trade. The figures, however, point in the opposite direction. The share of Irish agricultural exports destined for UK markets fell from 87.5 per cent in 1958 to 71.5 per cent in 1972, and the share of industrial exports from 79.3 per cent to 58.3 per cent. The explanation lies in the effects of two other policies being pursued by the Irish government – an attempt to find new foreign outlets for Irish agriculture (the Irish position in UK markets was privileged, but it was not a very generous privilege) and an attempt to diversify the industrial structure by attracting foreign investment,

Figure 10: Membership of trade organisations, 1974

	OECD	GATT	EEC	EFTA
Austria	x	x		x
Belgium	x	x	x	
Denmark	x	x	x	
Finland	x	x		x
France	x	x	x	
Germany	x	x	x	
Iceland	x	x (4/1968)		x (1970)
Ireland	x	x (12/1967)	x	
Italy	x	x	x	
Luxembourg	x	x	x	
Netherlands	x	x	x	
Norway	x	x		x
Sweden	x	x		x
Switzerland	x	x (8/1966)		x
UK	x	x	x	

In 1973, the institutional arrangements governing Europe's trade shifted dramatically. It that year, the United Kingdom, Denmark and Ireland joined the EEC. The accession treaties stipulated that industrial tariffs between the new members and the rest of the EEC would be removed by July 1977, in five equal steps and that by January 1978 they would have completed the transition to the common agricultural policy. The implications for the pattern of trade built up within EFTA would have been disastrous had not a series of parallel industrial free trade agreements been negotiated between the EEC and the individual EFTA members. These envisaged mutual tariffs on most goods being eliminated by July 1977 (as agreed with the new members) but with a longer timetable for sensitive metals and for paper products, where the dates were January 1980 and 1984 respectively. The effects of these changes would be as follows:

- The effect of the elimination of tariffs (and any remaining quotas) were to serve to reinforce trade in manufactured goods within the new EEC-EFTA group, possibly with some deflection away from the partners in the previous arrangements. This would happen least of all in Norway and Sweden, whose exports were more reliant on sensitive metals and paper products, where the tariff cuts came later.
- The effect of the common agricultural policy would be an intensification of trade among the new EEC (with Denmark's and Ireland's exports being diverted inwards by the high common prices) and a reduction of trade with EFTA members. Any EFTA exports to Denmark and the UK would fall as they fell victim to the preference involved in the CAP and the impact of the variable levies.

Table 8: Export flows of EEC(9) and EFTA by product and destination (percentage of total exports)

	EEC		EFTA	
EEC	1974	1984	1974	1984
Total	50.3	50.0	11.3	9.9
Agriculture	66.3	62.4	6.6	4.6
Manufactures	47.0	46.4	11.7	10.7
EFTA	EEC		EFTA	
Total	44.0	51.1	18.5	13.2
Agriculture	40.8	38.5	20.7	16.4
Manufactures	42.1	44.9	19.7	14.0

EFTA here does not include Portugal and Iceland (which we will examine separately)

The "effects" of the new trade alignments are more muted than one would expect; this is because the two oil crises contributed to a significant shift in trade patterns towards the oil producers (and if a percentage share increases in one direction, it must reduce the rest).

- The EEC's trade between our two observation points is remarkably stable. The share of manufactured goods destined either for intra-trade or EFTA markets actually falls slightly (despite the mutual elimination of tariff barriers).
- EFTA's trade pattern shows a little more dynamism. Manufacturing exports to the EEC increase and agriculture falls (though none of the remaining EFTA countries is a major agricultural exporter – except Iceland, which we will treat separately). Intra-EFTA trade falls on all fronts.
- Iceland's agricultural trade (mostly fish) was increasingly directed to European markets (especially to the EU). Although the share of industrial exports destined for the EU remained constant, that going to the EFTA countries declined sharply.

Figure 11: Membership of trade and European organisations 2000

	OECD	WTO	EU	EMU	EFTA	EEA
Austria	x	x	x	x		
Belgium	x	x	x	x		
Denmark	x	x	x			
Finland	x	x	x	x		
France	x	x	x	x		
Germany	x	x	x	x		
Iceland	x	x			x	x
Ireland	x	x	x	x		
Italy	x	x	x	x		
Luxembourg	x	x	x	x		
Netherlands	x	x	x	x		
Norway	x	x			x	x
Sweden	x	x	x			
Switzerland	x	x			x	
UK	x	x	x			

Note: Liechtenstein joined EFTA in 1991

By 1984, the free trade agreements between the EEC and EFTA countries were complete, so that tariffs scarcely played a role as a barrier to trade between the two blocs. But the role of tariffs in trade discrimination was declining generally. The Tokyo Round (1979) and the Uruguay Round (1994) of GATT reduced the level of industrial tariffs by 30 and 38 per cent respectively. The average level of industrial tariffs among developed countries was less than five per cent.

No sooner were the FTAs implemented, however, than the EEC began to consider taking action on non-tariff and other administrative barriers to trade. In 1986 the Single European Act was signed and the way was clear for the preparation of over 200 decisions that would eventually create a "true" common market. Although the positive effects of this move for the promotion of mutual trade were clearly exaggerated, the term "Fortress Europe" expressed the fears of outsiders that they would find a battery of administrative procedures and impenetrable regulations aimed against them. This, of course, included the EFTA countries, which considered that they had spent the previous decade progressing towards the elimination of trade discrimination. In 1989, therefore, plans were launched for a European Economic Area (EEA) in which the EEC and EFTA would agree to the free movement of capital, labour, goods and services, and agreeing and implementing the rules to bring this about. Eventually in 1992, after much fuss, this was agreed but the Swiss, after an unfavourable referendum vote, decided not to join. The repercussions of this for the Swiss were limited – they generally introduced legislation parallel to that of the EEC and thus ensured that their goods received EEA treatment. Thus, one could expect that these measures would reinforce the tendency towards greater intra-trade in manufactured goods within and between the two blocs.

Meanwhile, the entire context of post-war politics had been overturned by the collapse of communism in Eastern Europe, the disintegration of the Warsaw Pact and, two years later, the disintegration of the Soviet Union itself. Those neutral countries that had previously ruled out EU membership for political reasons now began to reconsider their positions, especially since the EEA's decision-making procedures were decidedly lop-sided, and ultimately unfavourable to the member states. In 1995, Austria, Finland and Sweden joined the European Union, even though this would entail a reduction in their domestic levels of agricultural protection. By itself, this was unlikely to impact on industrial trade patterns, but it would shift the direction of agricultural trade. The decision to move ahead with the implementation of a common currency among some of the EU states came too late to have any impact on the data we are considering. The effects of these changes should be as follows:

- There should be an intensification of intra-trade in manufactured goods among the existing EU members, and between them and those joining in 1995, as a result of the Single European Act.

- There should be an increase in agricultural exports from the existing EU members to those joining in 1995 and vice versa because of the elimination of the discriminatory/protectionist impacts of various agricultural regimes. There might even be some increase in mutual trade among the new members.
- Among the remaining EFTA members, the manufacturing trade of those such as Norway and Iceland, which were members of the EEA, should equally benefit from the impact of the Single European Act, but this is not necessarily the case for Switzerland. In all cases they should lose agricultural markets in the 1995 members, as the CAP takes effect.

We will start by examining the first of these two expectations.

Table 9: Export flows of EEC(6) and 1973 and 1995 members by product and destination (percentage of total exports)

	EEC6		1973 members		1995 members		EU 12	
	1984	2000	1984	2000	1984	2000	1984	2000
EEC6								
Total	41.3	37.6	9.8	10.6	5.0	5.4	56.1	53.6
Ag	55.8	50.6	9.6	11.7	2.0	4.0	67.4	66.3
Man	37.6	35.0	10.2	10.7	5.6	5.4	53.4	51.1
1973 members								
Total	36.1	35.8	9.7	11.0	6.4	5.0	52.2	51.8
Ag	32.9	31.5	19.1	18.8	2.5	4.3	54.5	54.6
Manuf	31.5	35.4	8.5	10.6	5.8	4.8	45.8	50.8
1995 members								
Total	31.5	35.5	14.9	11.4	7.2	6.2	53.6	53.1
Ag	27.4	44.6	7.3	11.3	5.9	8.0	40.6	56.7
Manuf	29.5	35.2	13.6	10.8	7.5	5.7	50.6	51.7
EU 12								
Total							55.1	52.8
Ag							63.7	63.8
Manuf							51.9	51.5

We have broken the Table down into component parts because it should be immediately apparent (bottom right corner) that intra-EU trade actually declines and that even intra-trade in manufactured goods falls slightly.

- The relative decline in intra-trade in manufactured goods is entirely accounted for by the original six "core" countries, which is probably a reflection of the deflection of (German) exports towards Eastern Europe. Both the 1973 and the 1995 entrants sharply increase their share of manufacturing exports destined for the core markets.
- The relative importance of intra-trade in agricultural products in the EU remains almost constant but there are large proportional shifts in the exports

(but at low levels) of the exiting EU members towards the 1995 entrants, and in the reverse direction (at relatively higher levels). Since the agricultural exports of the new entrants are relatively small, they do not show up in the total EU aggregates.

Table 10: Exports flows of Norway, Iceland and Switzerland by product and destination (percentage of total exports)

	EU9		1995 members		EFTA 3	
	1984	2000	1984	2000	1984	2000
Norway						
Total	67.5	63.3	10.7	10.9	0.9	0.7
Agriculture	39.3	41.2	19.3	8.7	2.4	1.8
Manufacturing	40.4	46.7	14.7	18.3	1.9	1.6
Iceland						
Total	37.3	55.5	3.4	1.6	5.0	6.2
Agriculture	29.3	49.2	4.1	1.4	1.0	4.0
Manufacturing	49.7	68.2	1.5	1.4	14.6	9.1
Switzerland						
Total	49.7	50.0	6.7	4.9	0.8	0.4
Agriculture	45.7	56.9	11.0	6.1	2.2	1.9
Manufacturing	49.6	50.0	6.5	4.7	0.8	0.4

If we look at the three remaining members of EFTA we see the following results:

- The manufacturing exports of Iceland and Norway to the original EU countries and the 1995 new entrants increase, but those of Switzerland do not.
- The share of agricultural exports of all three countries to the 1995 entrants declines, as we would expect from the workings of the CAP. Curiously, the share of exports to the original EU(9) actually rises.

Conclusions

If doubts were beginning to be voiced about the continuing utility of an exercise exploring the relationship between size and economic structure among highly industrial (and post-industrial) economies, the results of this study will surely dispel them. Far from producing convergence among advanced capitalist economies, this study shows that structural differences still persist, and that these can often be related to differences in size. Indeed, in some facets of the relationship, the link between size and structure was remarkably persistent and robust. This applied to the relationships concerning production structure, openness and the commodity concentration of trade, albeit that among the smaller countries there was no statistically significant relationship between size and openness. The relationship between size and the

geographical concentration of trade was not apparent at an aggregate level, but proved extremely robust for manufacturing exports. Other expectations, concerning the balance-of-payments and flows of foreign direct investment proved difficult to sustain when tested empirically (though, personally, I always had doubts about the validity of the argumentation employed to support them). One exception proved to be the use of prevalence of outward FDI among the larger of the group of smaller countries. The small-state hypotheses and the conclusions of all our statistical testing are presented in Figure 12, below:

Figure 12: Conclusions on the relationship between size and structure

Table	***The smaller the country…***	All	Small	Iceland
1	… the more concentrated is its domestic production	******	**-**	yes
2	… the more open it is to foreign trade	*****	-----	no
3	… the higher is the commodity concentration of its exports	*****	****-	yes
3a	… *ditto* manufacturing exports	-****	-****	yes
3b	... *ditto* agricultural exports	*****	****-	yes
4	... the higher is the geographical concentration of its exports	---**	-----	no
4a	… *ditto* manufacturing exports	****	*-*-*	no
4b	… *ditto* agricultural exports	---**	-----	no
5	... the worse is the balance-of-payments	*----	*----	yes
6	… the higher is the net FDI flow	**--?	**-?	no
6a	… the higher is gross FDI inflow	?----	?--*-	no
6b	... the higher if gross FDI outflow	?----	?***-	no

- * significant at 95% confidence level
- * significant at 90% confidence
- - no statistically significant relationship,
- ? no data

If we recite these small-state characteristics in a row, they appear as an impressive catalogue of barriers to development – one-sided, open, over-dependent, vulnerable – and indeed they are seen as such in development literature. However, these self-same characteristics have not prevented the countries we have been examining from achieving steady growth and high levels of national income. It could be that these small-state structural characteristics carry within them the seeds of this success – awareness, alertness, focus, consensus and the drive for competitiveness. These do not come free – they need to be worked for and maintained. This is not the place to

analyse the governance characteristics of small states (the classic exposition remains Katzenstein, 1985) or the policy options and constraints available to them. The latter is the subject of a separate paper by Professor Magnusson within the framework of this research project.

We also analysed the impact of the institutions of European integration upon the trading patterns of the states in our sample, without necessarily implying any connection with size. It is worth commenting, however, that three of the four largest European economies were members of the EEC from the outset, and that all four belonged to the EEC/EU from 1973 onwards. That left nine small states in our sample outside the EEC from 1958 to 1973, seven from 1973 to 1995 and three after 1995. The economic impact of the bloc-forming, especially on trade, was mitigated first by the bilateral trade agreements between the EEC and the EFTA countries and later by the EEA agreement. Moreover, at various intervals through our period, GATT produced significant reductions in barriers to trade in manufactures. For agriculture, however, the EEC represented a highly autarchic, protectionist system. From the institutional arrangements alone, we constructed several expectations which we were able to test against actual changes in trade flows.

Figure 13: Conclusions on the relationship between integration and trade

	1958-72	1974-84	1984-2000
Membership of the EEC-EU will….			
… increase intra-trade in manufactured goods	yes	no	no
… increase intra-trade in agriculture	yes	no	no
Non-membership of EEC-EU will…			
… decrease mutual trade in manufactured goods	no	-	-
… decrease mutual trade in agriculture	yes	-	-
EU-FTA-EEA arrangements will…			
… increase intra-trade in manufactured goods	-	no	yes
… and being outside could be damaging	-	-	yes
EFTA membership will….			
… increase intra-trade in manufactured goods	yes	no	no
… mild increase intra-trade in agriculture	yes	no	no

The results only partially confirmed the expectations that we would derive from institutional change and changes in institutional membership. Between 1958 and 1972 all the expectations were confirmed except for the fact that the tariff changes implied by the formation in the EEC did not reduce its attractiveness as an industrial market. It is also interesting that after 1974 none of the expectations for EEC-EU membership or for EFTA membership were confirmed, though those reflecting on the success of the

EEA Agreement were supported. At first sight this may appear paradoxical, but the simple fact is that international institutional arrangements do not necessarily play a large role in determining trade flows – changes in trading conditions elsewhere, changes in competitiveness, different rates of market growth, different impact of intra-firm trade, etc., can combine to nullify expectations derived from institutional change.

The results of this project are important. They allow us to make definite pronouncements about the effect of size on structure and the impact of institutions of trade among an important group of European countries that have, from the start, been involved in the process of European integration. However, we have not systematically explained these developments. What we have done is to take explanations advanced in the existing empirical and conceptual literature and see if they are plausible. This study has pointed to new and exciting directions of research; that research itself still remains to be done.

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Appendix

A note on the Hirschman concentration index

The index is a weighted summary of the export shares of the five main commodities in each country:

$$100 * \text{sqrt} \left(\sum_{i=1}^{n=5} (Xij/Xj)^2 \right)$$

Xj is total value of country J's commodity exports
Xij is exports of commodity i (three digit SITC groups)

The index varies between (100/square root of number of possible groups) and 100. For example the minimum value of a full Hirschman coefficient in commodity concentration using SITC revision 1, with 150 product groups is 100 / (150 * sqrt(150)) = 8.16; If only the first 5 groups are counted the minimum is 100 / (5 * sqrt(150)) = 0.27.

See Michaely, M., *Concentration in international trade* (Amsterdam 1962) chapter 2.

GDP and population

Internationally comparable GDP data are available from the *Penn World Tables version 6.1*. These are expressed in US$ per capita for 1996. GDP has been calculated by multiplying population and per capita GDP. Data for the former Federal Republic of Germany (up to 1984) were taken from version 5.6. The database and accompanying documentation can be downloaded from http://pwt.econ.upenn.edu/.

	Per capita GDP in USD in 1996				
	1958	**1972**	**1974**	**1984**	**2000**
AUT	1446	4110	5082	11784	24836
BEL	1650	4301	5410	11500	25008
CHE	2828	6665	7809	15356	28209
DNK	2110	5553	6210	13518	28539
FIN	1506	4022	5041	11989	24416
FRA	1636	4394	5316	12033	23614
GBR	2049	4110	4674	10883	24252
GER	1582	4190	5093	11865	23917
IRL	1040	2655	3015	7762	27197
ISL	1746	4290	5535	13448	26929
ITA	1392	3823	4661	11074	22876
LUX	2574	5496	7669	13424	48968
NLD	1845	4683	5684	11994	25759
NOR	1975	4447	5546	15004	32057
SWE	2178	5055	6079	13217	24628

	Population in thousands				
	1958	**1972**	**1974**	**1984**	**2000**
AUT	7029	7525	7580	7552	8110
BEL	9027	9696	9755	9855	10254
CHE	5209	6401	6460	6505	7185
DNK	4531	4992	5045	5112	5338
FIN	4360	4640	4691	4882	5176
FRA	45901	52993	53771	56401	60431
GBR	51873	56097	56236	56506	59756
GER	54210	61675	62059	61176	82168
IRL	2872	3024	3124	3529	3787
ISL	169	209	215	239	281
ITA	49500	54381	55111	56577	57728
LUX	310	347	355	366	441
NLD	11181	13330	13543	14423	15920
NOR	3522	3932	3984	4140	4491
SWE	7390	8122	8161	8337	8871

	GDP in million USD in 1996				
	1958	**1972**	**1974**	**1984**	**2000**
AUT	10164	30926	38523	88994	201423
BEL	14891	41699	52776	113332	256437
CHE	14729	42662	50447	99891	202680
DNK	9559	27722	31330	69102	152340
FIN	6567	18661	23648	58530	126379
FRA	75090	232877	285855	678659	1427008
GBR	106269	230576	262844	614929	1449229
GER	85760	258418	316066	725853	1965248
IRL	2986	8028	9419	27392	102993
ISL	295	897	1190	3214	7575
ITA	68915	207908	256895	626518	1320609
LUX	799	1905	2723	4913	21614
NLD	20633	62424	76979	172996	410081
NOR	6954	17486	22094	62117	143969
SWE	16096	41054	49614	110193	218479

Openness

Data on openness were also derived from the *Penn World Tables*. See above.

	Value of foreign trade as % of GDP				
	1958	**1972**	**1974**	**1984**	**2000**
AUT	44	59	65	75	101
BEL	73	98	121	146	169
CHE	53	59	63	72	88
DNK	64	52	65	71	80
FIN	39	49	57	59	76
FRA	24	32	41	47	56
GBR	38	42	60	57	58
GER	32	39	48	59	67
IRL	63	70	94	113	176
ISL	45	70	71	75	76
ITA	22	34	44	45	56
LUX	164	176	202	221	286
NLD	89	86	103	116	130
NOR	71	70	83	77	77
SWE	44	46	64	69	89

Employment structure

Employment data were taken from UN *Patterns of industrial growth / The growth of world industry / Industrial statistics yearbook / Yearbook of industrial statistics* / (1960/1969/1976/1985) Volume 1 *General industrial statistics.* Additional data were taken from the UNIDO website http://www.unido.org/.

The data are classified according to the International Standard Industrial Classification of all Economic Activities (ISIC). The original version stems from 1948 and is used for 1958. Although a more recent revision has more detail, the data in the *General industrial statistics* for most countries in most years are only available in 2-digit format. Therefore, we have used revision 2 to allow comparison over time for the last 4 benchmarks. The data for the countries has been converted to SITC2 as far as possible. At this level there are some overlaps between sub-groups in the twoclassifications and the conversion is not 100% accurate. There are 28 groups, but sometimes several small classes have been added together or to larger classes. In some cases more than a quarter of the classes have been collapsed, which might overstate concentration. This is the case for Austria in 1958, Belgium in 1972, France in 1972, 1974, Ireland in 1972, Luxemburg and the Netherlands in 1958, 1972, 1974 and 1984. Furthermore there are some differences in methodology. For 1958 Ireland, and for 1984 Germany and Iceland have registered the number of persons 'engaged' and Switzerland for 1958 uses the number of 'operatives' and after that the number 'engaged'. Both terms result in slightly lower numbers than 'employed'. Sometimes data for benchmark years was unavailable and the nearest alternative was used. Therefore these data should be used with considerable caution.

ISIC classification

	All economic activities			Manufacturing		
	ISIC1	ISIC2	ISIC3	ISIC1	ISIC2	ISIC3
Year of revision	1958	1968	1994	1958	1968	1994
1 digit	10	10	17	2		
2 digits	44	34	60	20		
3 digits	124	72	159		28	61
4 digits		160	292			

	Manufacturing employment concentration indices				
	1958	1972	1974	1984	1999
AUT	5.70	4.33	4.37	4.27	5.46
BEL	16.28	10.17	4.29	4.31	
CHE	6.20	9.57	10.72	8.90	8.79
DNK	4.76	5.18	5.61	6.66	7.14
FIN	4.98	4.78	4.68	4.50	5.46
FRA	7.35	5.96	5.86	5.53	5.92
GBR	5.55	4.99	5.09	5.45	4.91
GER	5.25	5.92	6.35	7.37	6.90
IRL	10.66	7.70	7.50	6.69	6.44
ISL				27.53	27.96
ITA	5.21	4.43	4.47	4.59	4.92
LUX	49.26	34.82	33.86	23.59	
NLD	15.29	20.60	21.82	9.64	6.12
NOR	5.50	5.31	5.35	6.20	7.50
SWE	5.61	5.57	5.83	6.31	5.95

Trade data

For trade data we used the United Nations *Comtrade database* http://unstats.un.org/unsd/comtrade/. The database contains trade statistics from 1960 on and searches can be specified to reporters, partners, product groups, trade flows and years. The Commodity Trade Statistics Section, ITSB, United Nations Statistics Division kindly provided some missing data. For the 1958 data and some cases in later years we used the UN *International Trade Statistics Yearbook/ Yearbook of International Trade Statistics* series (1951/1983) on which also the *Comtrade* data are based. The data are grouped according to the Standard International Trade Classification.

	SITC1	SITC2	SITC3
Year of revision	1962	1977	1988
1 digit	10	10	10
2 digits	52	61	67
3 digits	150	191	261
5 digits	570		3121

For the geographical concentration indices we divided the share of exports taken in by each of the five most important importing partners by the total exports. For the commodity concentration indices we divided the share of the five most important three-digit export products group by the total exports.

For agricultural exports we combined the SITC one-digit groups 0 (Food and live animals) and 1 (Beverages and tobacco). For manufactures we combined one-digit groups 5 (Chemicals and related products), 6 (Manufactured goods classified chiefly by material), 7 (Machinery and transport equipment) and 8 (Miscellaneous manufactured articles).

As the manufacturing exports of Iceland in 1958 were so small that they could not be classified, these have been omitted. Data were not available for geographic concentration of manufactures and agriculture for the Netherlands and Ireland in 1972.

1958	Concentration indices					
	Commodity			Geographic		
	all	manu	agri	all	manu	agri
AUT	4.93	6.52	23.40	17.11	**5.44**	38.94
BELUX	6.52	9.83	6.51	7.95	7.61	11.62
CHE	4.34	5.16	12.19	5.10	4.74	14.60
DNK	3.21	2.77	8.59	12.00	5.57	21.80
FIN	14.42	30.80	30.94	9.39	10.85	15.58
FRA	3.02	5.67	9.82	5.75	11.10	20.79
GBR	2.30	3.28	12.22	2.21	2.46	5.43
GER	4.66	5.76	6.55	2.58	**2.22**	4.64
IRL	11.13	4.47	23.81	62.37	63.46	76.95
ISL	50.96		65.95	6.52		6.82
ITA	2.49	3.72	19.54	4.21	3.11	12.22
NLD	2.15	3.39	4.86	7.81	6.40	12.84
NOR	4.14	7.70	40.08	7.86	7.81	5.67
SWE	4.70	6.53	4.15	6.49	4.95	16.22

1972	Concentration indices					
	Commodity			Geographic		
	all	man	agri	all	man	agri
AUT	1.15	1.43	18.40	8.09	7.42	26.48
BELUX	1.88	2.77	5.28	14.44	14.62	20.26
CHE	2.93	3.46	16.27	5.05	4.87	17.22
DNK	1.73	3.07	9.49	8.93	7.64	15.30
FIN	8.41	13.14	8.54	9.15	10.00	11.88
FRA	1.78	3.16	6.44	7.81	6.88	11.65
GBR	1.86	2.59	17.36	2.46	2.44	6.41
GER	3.19	3.95	4.38	4.99	4.57	11.96
IRL	4.93	2.30	24.08	38.70	35.96	51.75
ISL	43.10	60.32	72.95	12.18	13.56	17.82
ITA	2.29	3.13	16.49	8.61	8.44	16.61
NLD	1.06	1.64	6.68	14.98	13.02	22.06
NOR	4.81	8.13	35.06	8.66	8.17	7.08
SWE	3.21	4.69	7.12	5.58	5.30	7.14

1974	Concentration indices					
	Commodity			Geographic		
	all	man	agri	all	man	agri
AUT	1.16	1.32	11.01	6.45	6.00	14.44
BELUX	1.70	2.51	4.26	12.24	12.31	17.69
CHE	3.00	3.46	15.73	4.32	4.17	7.89
DNK	1.61	3.29	8.36	7.87	6.26	14.18
FIN	10.37	15.73	7.51	8.91	9.60	13.70
FRA	1.31	2.41	5.78	6.49	5.74	8.85
GBR	1.52	2.21	14.31	2.38	2.35	5.49
GER	2.42	3.09	4.46	4.25	3.85	9.59
IRL	2.77	1.98	16.50	33.30	30.93	41.91
ISL	38.35	54.01	67.06	8.20	17.19	12.32
ITA	2.18	2.58	12.07	6.04	5.82	14.30
NLD	2.26	2.27	5.17	13.16	10.76	16.55
NOR	4.72	8.56	33.59	7.87	7.18	6.38
SWE	3.39	4.63	11.95	**5.01**	**4.83**	**7.61**

1984	Concentration indices					
	Commodity			Geographic		
	all	man	agri	all	man	agri
AUT	0.48	0.57	6.19	10.46	10.68	9.59
BELUX	1.74	2.47	3.43	10.64	10.47	16.20
CHE	1.24	1.41	13.47	6.72	6.71	6.66
DNK	0.90	1.00	8.68	6.67	6.01	8.53
FIN	6.40	9.67	5.88	8.03	9.44	13.65
FRA	0.60	0.94	6.48	5.36	5.03	7.44
GBR	0.37	0.65	8.80	5.22	3.54	4.77
GER	1.15	1.54	4.58	4.55	4.74	8.23
IRL	2.35	5.11	10.06	15.03	14.49	18.08
ISL	17.72	33.00	34.21	11.85	8.72	16.46
ITA	0.64	0.70	8.95	6.37	6.46	11.99
NLD	2.85	0.77	5.17	13.03	8.48	12.12
NOR	15.04	5.09	20.85	17.77	5.19	6.03
SWE	1.83	2.43	6.88	5.22	5.22	4.99

2000	Concentration indices					
	Commodity			Geographic		
	all	man	agri	all	man	agri
AUT	0.69	0.87	5.39	13.38	13.56	17.84
BEL	1.51	2.05	3.13	8.80	8.33	14.19
CHE	1.78	1.93	11.22	8.01	8.04	7.20
DNK	1.01	1.29	8.19	5.77	6.39	7.34
FIN	7.79	10.00	5.12	2.60	3.70	8.13
FRA	1.12	1.57	6.34	5.74	5.81	6.59
GBR	1.10	1.82	11.06	5.41	5.02	4.86
GER	1.92	2.02	3.25	3.86	3.93	6.07
IRL	6.81	9.22	8.04	9.89	9.79	15.84
ISL	17.84	35.30	35.24	8.88	19.68	10.27
ITA	0.48	0.60	8.13	5.77	5.86	9.55
LUX	2.69	3.30	14.93	12.40	12.25	20.15
NLD	1.59	2.34	2.96	9.09	7.10	10.49
NOR	25.41	3.81	50.53	8.35	6.22	4.87
SWE	3.58	4.44	4.94	3.57	3.44	6.10

Export flows

These data were derived from the United Nations *Comtrade database*. In the EU58 are included Belgium-Luxembourg, France, Germany, Italy and the Netherlands; in the EU73 Denmark, the United Kingdom and Ireland; in EU95 Austria, Finland and Sweden; in NEU Iceland, Norway and Switzerland. For agricultural and manufactures exports missing data were reconstructed from national publications for the Netherlands 1972 and 1974; Ireland for 1972; United Kingdom for 1984 (*Maandstatistiek van de buitenlandse handel per land*, Centraal Bureau voor de Statistiek; *External trade statistics.* Central Statistics Office; *Overseas trade statistics of the United Kingdom / Board of Trade.* Office for National Statistics) . There may be slight differences with the *Comtrade* data due to changing conversion rates. For Ireland 1972 no manufacturing and agricultural export data to Finland, Iceland and Austria were available. In the 1958 International Trade Statistics Yearbook exports to Ireland and Iceland are given combined.

		1958				1972			
		EU58	**gbrdnk**	**EU95**	**NEU**	**EU58**	**gbrdnk**	**EU95**	**NEU**
belux	*agri*	57.4	13.8	1.3	3.6	81.7	2.1	0.5	0.8
	man	42.2	6.4	4.2	3.2	68.6	5.1	2.6	2.8
	all	45.1	7.3	4.0	4.2	68.6	5.3	2.7	2.8
fra	*agri*	18.3	13.2	1.3	5.5	63.0	6.8	0.8	4.7
	man	19.4	3.9	3.3	4.3	45.3	6.1	3.2	5.0
	all	22.2	5.6	2.9	4.7	49.9	6.2	2.6	5.5
ger	*agri*	35.8	14.1	8.9	8.9	60.0	4.5	5.5	4.6
	man	23.4	6.9	12.6	8.6	37.3	6.8	9.6	7.3
	all	27.3	7.0	12.4	8.5	39.0	6.6	9.3	7.1
ita	*agri*	37.1	13.8	8.0	12.5	58.2	6.7	5.1	8.9
	man	20.8	6.0	4.6	4.9	44.6	4.7	3.3	4.4
	all	23.9	7.6	5.9	7.8	45.1	5.0	3.6	4.9
nld	*agri*	47.1	18.9	2.7	2.6	74.5	6.4	1.3	1.5
	man	39.2	9.8	6.6	5.5	60.3	8.8	3.9	3.4
	all	41.5	14.5	6.4	4.7	64.8	8.8	3.3	2.7
dnk	*agri*	34.7	37.8	4.2	2.5	21.2	33.8	9.8	5.7
	man	24.5	5.9	18.0	13.3	20.6	12.3	24.4	13.8
	all	31.8	25.9	9.1	6.3	22.6	19.5	19.5	10.5
gbr	*agri*	13.5	0.9	2.0	2.3	24.1	1.7	3.5	3.9
	man	12.1	1.7	4.5	2.8	22.1	2.2	6.7	6.0
	all	13.1	2.4	4.7	3.1	22.3	2.4	6.7	5.8
aut	*agri*	84.0	6.5	0.1	4.1	67.1	6.6	2.0	8.2
	man	36.4	3.9	3.2	5.7	32.7	11.1	6.2	14.2
	all	49.6	3.2	2.3	4.9	38.9	9.9	5.4	12.9
fin	*agri*	31.9	30.3	7.1	0.3	17.3	17.0	15.0	8.2
	man	19.4	16.0	4.2	1.3	16.9	19.0	22.8	7.0
	all	26.7	24.5	3.4	1.4	20.9	22.0	18.4	6.3
swe	*agri*	40.4	32.9	1.5	8.2	26.6	25.8	7.4	14.5
	man	21.1	15.9	4.9	17.2	20.6	23.1	9.2	13.9
	all	31.0	22.3	3.4	11.6	22.8	22.6	7.7	12.2
che	*agri*	65.0	8.3	3.4	0.2	58.5	5.8	8.7	1.5
	man	37.4	7.1	6.2	1.2	34.7	9.8	10.3	1.4
	all	39.6	7.2	6.1	1.1	36.6	9.5	10.2	1.4
isl	*agri*	13.2	10.8	8.0	0.0	10.1	14.6	4.6	1.7
	man	0.0	2.8	0.0	0.0	33.2	20.2	8.3	20.4
	all	17.7	9.9	8.5	1.4	16.1	16.2	5.8	5.9
nor	*agri*	22.6	18.6	10.1	1.5	19.3	17.4	17.7	1.7
	man	25.6	23.3	14.4	1.0	21.8	26.2	19.4	1.7
	all	27.2	25.4	11.6	1.0	22.5	24.9	18.8	1.6
irl	*agri*	4.1	87.5	0.1	0.3	15.5	71.6	0.3	0.7
	man	3.0	79.5	1.0	0.4	16.7	58.5	1.1	0.9
	all	4.7	78.7	0.4	0.3	16.0	60.7	1.0	0.8

		1974				1984			
		EU58	**gbrdnk**	**EU95**	**NEU**	**EU58**	**gbrdnk**	**EU95**	**NEU**
belux	*agri*	76.1	5.8	0.5	0.8	72.3	6.3	0.3	0.5
	man	63.1	6.1	3.1	2.8	56.4	11.4	3.0	3.2
	all	63.4	6.5	3.2	2.7	57.2	10.8	2.6	3.4
fra	*agri*	52.7	11.1	0.8	4.8	50.6	7.6	0.7	3.2
	man	42.7	6.7	3.0	4.6	35.1	8.9	2.8	4.4
	all	46.2	7.3	2.5	5.2	38.9	8.7	2.5	4.7
ger	*agri*	55.5	10.9	5.6	4.1	52.4	11.0	5.1	2.8
	man	35.5	6.7	8.9	6.4	33.2	10.4	8.9	6.4
	all	37.9	6.8	8.8	6.4	34.1	10.0	8.4	6.2
ita	*agri*	52.9	8.5	4.7	9.0	49.3	10.1	3.1	6.0
	man	38.5	5.2	3.4	4.1	35.7	7.7	3.8	4.4
	all	39.2	5.9	3.8	4.5	35.9	7.5	3.8	4.6
nld	*agri*	65.1	11.8	1.7	1.3	59.9	10.5	1.5	1.2
	man	58.4	10.2	4.4	3.4	45.4	11.3	3.5	2.8
	all	59.3	10.8	3.8	2.7	56.7	10.1	2.7	2.1
dnk	*agri*	29.2	31.6	8.9	4.5	33.9	18.7	4.9	3.8
	man	20.9	10.7	23.3	11.9	24.1	9.6	16.0	11.9
	all	25.1	17.1	19.9	9.0	28.6	12.6	14.1	8.8
gbr	*agri*	24.1	1.7	3.3	3.9	34.3	1.1	1.6	1.6
	man	24.9	2.1	6.4	5.9	32.2	1.5	4.6	4.4
	all	25.3	2.6	6.7	5.8	37.7	1.7	5.6	3.7
aut	*agri*	51.4	3.1	3.6	8.5	41.9	1.7	2.3	6.2
	man	31.5	9.7	6.1	12.5	45.5	6.0	3.0	8.2
	all	36.3	8.5	5.4	11.4	47.1	5.4	2.7	7.8
fin	*agri*	16.1	4.5	13.0	14.8	16.0	5.3	7.7	4.9
	man	15.8	19.9	20.6	5.0	16.6	15.5	13.6	6.8
	all	19.9	22.4	16.9	4.8	20.2	16.0	13.0	5.9
swe	*agri*	27.7	14.5	7.0	18.8	20.3	14.3	8.3	14.3
	man	20.5	20.7	9.8	14.2	25.9	16.2	7.6	11.6
	all	23.4	20.7	8.2	12.5	28.4	18.5	6.9	11.1
che	*agri*	47.2	5.6	11.5	2.2	42.0	3.5	11.0	2.2
	man	33.9	9.0	10.0	1.2	39.7	9.6	6.5	0.8
	all	35.3	8.7	10.3	1.2	40.2	9.2	6.7	0.8
isl	*agri*	10.4	10.6	3.0	1.9	14.2	15.1	4.1	1.0
	man	24.6	25.1	3.0	28.9	35.4	14.2	1.5	14.6
	all	14.4	14.3	3.5	9.0	21.0	16.3	3.4	5.0
nor	*agri*	19.8	16.4	20.7	1.9	21.7	17.4	19.3	2.4
	man	20.1	23.8	20.0	2.0	24.5	15.6	14.7	1.9
	all	20.5	22.1	19.6	1.8	28.6	38.7	10.7	0.9
irl	*agri*	15.4	64.1	0.6	0.3	27.3	40.1	0.6	0.7
	man	17.6	54.6	2.3	1.5	35.8	33.1	3.6	2.6
	all	18.0	56.8	1.5	0.9	33.0	35.2	2.6	2.1

		2000			
		EU58	**gbrdnk**	**EU95**	**NEU**
belux	*agri*	67.2	9.5	2.3	0.7
	man	50.5	11.2	3.3	2.0
	all	52.5	10.7	3.1	1.9
fra	*agri*	45.0	12.0	1.7	3.0
	man	34.1	10.5	3.4	3.4
	all	35.8	10.6	3.1	3.7
ger	*agri*	45.6	10.0	8.9	2.5
	man	28.5	9.5	8.1	5.3
	all	30.1	9.7	8.6	5.0
ita	*agri*	43.7	10.5	5.3	5.0
	man	33.4	7.7	3.6	3.6
	all	33.2	7.7	3.7	3.7
nld	*agri*	55.0	12.4	3.2	1.4
	man	44.0	12.3	4.9	2.8
	all	50.0	11.4	4.2	2.5
dnk	*agri*	37.3	11.3	9.8	3.7
	man	30.4	8.5	16.8	9.1
	all	30.5	9.0	16.6	7.2
gbr	*agri*	30.2	1.2	2.0	1.6
	man	36.5	1.3	3.8	3.1
	all	37.4	1.2	3.5	2.9
aut	*agri*	63.7	5.9	2.0	4.1
	man	51.2	5.5	1.8	6.0
	all	51.9	5.3	1.7	6.6
fin	*agri*	16.3	7.4	17.8	3.6
	man	27.4	11.1	9.6	4.3
	all	27.5	11.4	10.4	4.2
swe	*agri*	24.7	20.8	13.8	13.3
	man	27.3	13.5	6.5	9.7
	all	27.7	14.7	7.2	9.6
che	*agri*	51.7	5.1	6.1	1.9
	man	42.6	6.5	4.7	0.4
	all	43.2	6.4	4.9	0.4
isl	*agri*	19.2	29.9	1.4	4.0
	man	58.0	10.1	1.4	9.1
	all	31.7	23.5	1.6	6.2
nor	*agri*	21.4	19.6	8.7	1.8
	man	29.5	15.4	18.3	1.6
	all	37.2	24.5	10.9	0.7
irl	*agri*	25.9	38.9	1.4	0.4
	man	34.1	20.6	2.7	3.4
	all	33.3	22.6	2.7	3.2

EU58 consists of Belgium-Luxembourg, France, Germany, Italy and the Netherlands
NEU consists of Iceland, Norway and Switzerland
EU95 consists of Austria, Finland and Sweden
GBRDNK consists of Great Britain and Denmark

Balance of payments

Our study has taken a seven-year average of current account surpluses or deficits around each of the base years. These data were derived from the United Nations *Yearbooks of National Accounts Statistics Volume 1, Individual country data*; *National accounts statistics. Main aggregates and detailed tables* (1958/1969/1983). Insufficient data were available to calculate figures for 2000.

	Current Account Balance as %			
	1958	***1972***	**1974**	**1984**
AUT	2.0	*0.1*	-3.3	-0.4
BEL	3.1	2.9	1.1	-0.6
CHE	1.7	4.2	7.5	9.6
DNK	0.0	-7.0	-9.0	-9.8
FIN	0.0	-14.1	-12.6	-4.4
FRA	-5.1	-2.2	-2.8	-1.4
GBR	1.1	-4.0	-4.2	0.3
GER	8.8	4.8	4.2	6.1
IRL	-3.0	-8.4	-7.2	-8.2
ISL	-5.9	-0.5	-13.1	-7.8
ITA	6.5	-1.8	-2.3	-2.2
LUX		12.3	12.7	9.2
NLD	3.5	3.4	4.1	4.4
NOR	-4.8	-8.0	-17.7	1.4
SWE	-1.5	1.0	-1.8	-3.2

Foreign Direct Investment

Data were obtained from the UNCTAD *Foreign Direct Investment database*. The database contains data from 1970 to the present, which can be downloaded from the website at http://www.unctad.org/Templates/Page.asp?intItemID=1923&lang=1.

	Net FDI inflow per USD 1000 GDP 5 year averages			
	1972	**1974**	**1984**	**1998**
AUT	5.5	2.6	0.3	7.3
BELUX	9.7	9.6	4.0	14.7
CHE			-11.9	-60.8
DNK	4.7	1.1	-3.4	8.2
FIN	-0.5	0.7	-6.7	-46.4
FRA	2.0	0.7	-1.3	-32.1
GBR	-4.7	-3.8	-8.7	-51.7
GER	0.1	-1.4	-6.6	-6.7
IRL	6.7	12.9	4.3	103.5
ISL	5.2	7.5	3.6	-1.9
ITA	2.7	1.9	-2.0	-3.6
NLD	-19.7	-18.3	-12.7	-32.7
NOR	7.1	5.2	-8.9	-3.6
SWE	-4.1	-5.5	-15.0	13.7

	FDI inflow per 1000$ GDP 5 year averages			
	1972	**1974**	**1984**	**1998**
AUT	6,71	3,70	2,61	21,83
BELUX	16,89	15,22	10,58	308,40
DNK	7,42	3,26	2,29	65,73
FIN	1,74	1,92	4,39	46,27
FRA	4,76	4,27	3,99	22,71
GER	5,37	3,30	1,35	26,29
IRL	6,72	12,92	4,29	137,40
ITA	4,37	3,47	3,60	4,88
NLD	17,06	12,59	12,54	80,93
SWE	1,54	1,44	4,96	97,24
GBR	15,74	15,15	11,33	51,05
ISL	5,23	7,53	3,76	15,51
NOR	10,46	10,01	4,29	27,65
CHE			10,94	33,97

	FDI outflow per USD 1000 GDP 5 year averages			
	1972	**1974**	**1984**	**1998**
AUT	1.3	1.1	2.4	14.5
BELUX	7.2	5.6	6.5	293.7
CHE			22.9	94.7
DNK	2.7	2.1	5.7	57.5
FIN	2.2	1.2	11.1	92.6
FRA	2.7	3.6	5.3	54.8
GBR	20.4	19.0	20.1	102.8
GER	5.3	4.7	8.0	33.0
IRL				33.9
ISL			0.2	17.4
ITA	1.7	1.5	5.6	8.5
NLD	36.7	30.9	25.3	113.6
NOR	3.4	4.8	13.2	31.3
SWE	5.7	7.0	20.0	83.5

Small States and European Economic Integration

A Comparative Study
With Special Reference to Iceland

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Contents

Introduction

The purpose of this study is to suggest answers to the following questions:

How have small states fared economically in the European integration process relative to large states?

Is there a difference in the economic performance of small states as to whether they are inside or outside the EU?

How do the volatilities of key macroeconomic variables compare as to the size of countries and as to whether they are inside or outside of the EU?

Do exchange rate regimes matter for monetary policy autonomy?

What is the ranking as to competitiveness of small versus large states in Europe and the world as whole?

Is there a different pattern of foreign direct investment between small countries as to whether they are inside and outside the EU?

In these comparisons the focus is on the comparative position of Iceland.

Iceland has participated in all the most important European (and international) economic organisations, although at times with some delay, except the EU. It has, however, adopted most of the legal framework of the EU through its membership with EU, Norway and Liechtenstein in the EEA. What is outside the EEA agreement is mainly fish, money and a seat at the decision table.

The size of nations and economic performance

It has been argued that openness to trade, and more generally, international economic integration, is related to the size of countries. Small countries can prosper in a world of free trade but cannot in a world where economies have to be self-sufficient. With completely free trade and economic integration, market size and country size are not correlated: for every country the size of the market is the world.[4]

In the face of regional integration the importance of trade with different blocks or unions and the trade off between trade creation and trade diversion effects will be an important factor in deciding whether a country will join or not.

Regional integration has many dimensions, however, not only a many facetted economic one but also cultural and political ones.

[4] Alesina, A. and Spolaore, E. (2003): *The Size of Nations*, p. 218. MIT Press, Cambrdige, Mass.

The European integration process

There are many stepping-stones in the European integration process from the Treaty of Rome in 1957 till the enlargement to the east in 2002, from the development of the EEC to the EU, and from the creation of the EFTA to the EEA. The most memorable initiatives on the way are the White Paper on the Internal Market in 1985, the Cecchini report in 1992, the Delour report leading to the Maastricht Treaty in 1992, paving the way for a monetary union and a single currency in 1999, and indeed the EEA agreement, effective form January 1st 1994.

Incidentally, there have been some political vicissitudes and unexpected events that have shaped the developments. The accession of the UK to the EEC after a change of government in France, the fall of the Berlin Wall in 1989 and the disintegration of the Soviet Union, difficulties in the ratifications of the Maastricht Treaty and the enlargement to the East and last but not least the uneven pace of assimilation with the EMU. Some decisions may also have had unintended effects. This is in part true for the convergence criteria to the EMU and the stability and growth pact. It has also been surmised that the historical decision in 1972 to include fish in the common agricultural policy to make the entry negotiations more difficult for the UK has excluded Norway form joining: "The heart of the matter is that EEC under the leadership of France in June 1972 made the unfortunate decision that the common fisheries policy should include mutual access to fishery grounds. This was probably meant to become one of the impediments to British membership but instead it in effect closed the door for Norway."[5]

The European market is the largest in the world with well over 400 million people and 40% of world trade. The internal market is still developing and new measures are continuously being called for in view of new problems and challenges, both internal and external.

The EU and EEA countries account for about 2/3 of Iceland's foreign trade, thus being by far its most important trading partners.

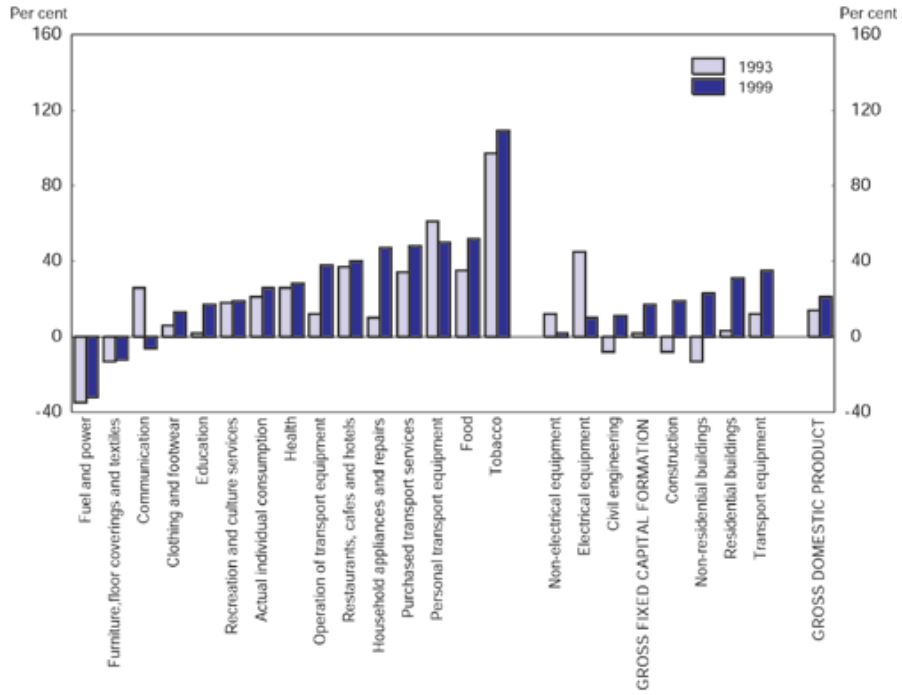
[5] Einar Benediktsson (2000): Ísland og Evrópuþróunin (*Iceland and the European Development) 1950-2000*, p. 110. Reykjavík.

Learning and adaptation

The winds of liberalisation and globalisation are probably both a cause and an effect of the ongoing integration process. Economic agents, governments, firms and consumers, are adapting to the rules of the game and engaged in a learning process. This does not apply only to the member states but also to the outsiders that still have the option to join, like Iceland, Norway and Switzerland. All these countries enjoy a high standard of living, partly due to exploiting quasi-rents from fish, oil and financial services. In case these rents will not be dissipated these states may still choose to stay outside the EU and accordingly the EMU. It is to be expected, however, that these countries will closely follow the developments in their neighbouring states and even in the EU as a whole. Thus the Norwegians are waking up to the fact that food prices are a third higher in Norway than in Sweden, and that there are considerable price differences between Norway and the EU in general as is evident from Fig. 1. This is also a concern in the other member countries that are outside the EU. Fig.1 can be looked upon as representing the differences between the outsiders and the insiders. [6] Travellers at large are experiencing the convenience of a single currency. Mergers and acquisitions are taking place without endangering sovereignty and portfolio investments are the order of the day. The experience of Luxembourg, Denmark, Ireland and Finland is of course something to learn form for other small states weighing the pros and cons of membership in the EU.

[6] Cf. The Institute of Economic Studies (1995*): Ísland & Evrópusambandið (Iceland and the European Union):* University of Iceland Press.

Fig. 1. Price Differences Between Norway and the EU



Source: OECD.

Explaining regional integration. [7]

It has been argued that:

i) In the context of recent European integration, three popular accounts of the forces driving integration are frequently encountered. First, it is said that politicians, haunted by the horrors of the Second World War, were naturally driven to devise a novel structure of European governance capable of eradicating the very roots of intra-European conflicts.

ii) A second set of explanations centres around the notion of leadership. Insightful, charismatic leaders, it is agreed, managed to transcend the narrow-mindedness and selfishness of domestic pressure groups hostile to integration and European unity.

[7] Walter Mattli (1999): *The Logic of Regional Integration. Europe and Beyond*. Cambridge University Press, Cambridge.

iii) An ever-popular third explanation refers to changed preferences. The timing of new application for membership, it is claimed, is attributable to the pressure from growing segments of society desirous of being connected to the larger "Euro-culture."

iv) Economists who study regional integration look primarily at market relationships among goods and factors of production within a region and assume away the relevance of institutional and political forces. They are interested in the welfare aspects of integration.

v) States that fail to adapt their governance structure adequately to the exigencies of new technologies will suffer economic damage for one or several of the following reasons. First, cost-saving new production techniques requiring large markets are unlikely to be implemented in imperfectly integrated markets where they could only be operated below capacity. Second, firms in competitive industries will leave the jurisdiction of such states and settle where the institutional environment is most conducive to profitable trade and investment. Third, foreign investors deciding whether to operate in the large and well-integrated market of a community country or the functionally insufficiently integrated economy of a non-community country are likely to opt for the former, ceteris paribus.

vi) By remaining outside a union, states may also suffer the damage of trade diversion. If these external effects are felt strongly enough and the economies of outsiders decline markedly, elected officials, mindful of their re-election chances, are likely to change course and embrace pro-integration agendas.

vii) Out of twenty applications for membership by eleven countries, eighteen were submitted after one, or more typically – several years, of growth rates mostly substantially below the average growth rates of EC countries.

Countries that fail to experience such a gap see no reason to pay the price of integration and thus stay out.

viii) Finally, another regularity is that growth-rate differentials tend to be mostly above the EC average during a country's first active year of membership. Nevertheless, at least in the Swiss case, the political-economy approach is analytically incomplete.

Armstrong and Read [8] point out that economic integration, however, is not necessarily *size neutral*, whether dealing with absolute or relative size asymmetries. They discuss the agglomeration effects of integration, the core-periphery issue, trickle-down and polarization effects.

Miles[9] refers to the fact that it is small European countries, like Iceland, Switzerland and especially Norway, that seem to defy the integrationist logic of others, rejecting the widespread arguments that small states cannot survive 'alone' and refraining from full membership status.

The statistical evidence[10]

This project involves the comparison of the performance of small states in the European economic integration. It encompasses small states that are either inside or outside the EU. The presentation will mainly be quantitative but some qualitative assessment will also be necessary.

First, we will look at five-year averages for some key economic variables, *viz.* the real growth rate, unemployment, inflation and the interest rate. We will compare the developments between small states in Europe inside and outside the EU. This is done without testing for significant differences because of too few observations.

Secondly, we will look at volatilities of some important macroeconomic variables, *i.e.* industrial production, consumer prices, unemployment, official reserves, exports and trade balance.

Thirdly, research on the importance of monetary policy autonomy is referred to.

Fourthly, we cite the ranking of competitiveness of small and large European countries in an international setting.

Finally, we consider some findings and hypotheses with regard to foreign direct investments in European countries within and outside the EU.

It should be borne in mind during the following comparisons that there was a recession in the world economy during the first half of the nineties while the second half was characterized by a booming world economy.

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[8] H.W.Armstrong and R. Read (2002)*:* Small States and the European Union: Issues in the Political Economy of International Integration. *Current Politics and Economics of Europe.* Vol. 11, No. 1, pp. 31-48,.

[9] Lee Miles (2002): Small States and the European Union: Reflections. *Current Politics and Economics of Europe*. Vol. 11, No.1, pp. 91-98.

[10] I am indebted to Ragnar Garðarsson, M.Sc., and Saso Andonov, M.S. econ., for data collection and calculations.

Economic growth

Table 1. Real growth rate of GDP; unweighted 5 year average

	1990 – 1994	1995 – 1999
Iceland	0,7	3,8
Ireland	4,4	9,6
Finland	- 1,3	4,7
Norway	3,5	3,4
Denmark	1,6	2,6
Luxembourg	4,5	5,2

Source: OECD.

The average growth rate of GDP is higher in the latter period for all the countries except for Norway where it is marginally less. The performance of countries both inside and outside the EU has improved. However, the phenomenal economic growth in Ireland and the increase in growth in Finland give the member countries the upper hand after 1994.

It has been observed that small nations have fared better than the large ones with regard to increase in production capacity in 1990 – 2002. During this period the production capacity of eight small EU countries increased by 54% on the average (Austria, Belgium, Denmark, Finland, Netherlands, Ireland, Portugal and Sweden). In the five largest EU countries the average increase in capacity was 37% (France, Germany, Italy, Spain, United Kingdom). The corresponding capacity increase in Iceland was 34%, while it was 48% in the US.[11]

Inflation

Table 2. Inflation; unweighted 5 year average

	1990 – 1994	1995 - 1999
Iceland	6,4	2,2
Ireland	2,7	2,0
Finland	3,3	1,0
Norway	2,7	2,1
Denmark	2,1	2,1
Luxembourg	3,0	1,3

Source: OECD

The trend is clearly towards lower inflation from the former to the latter half of the nineties, Iceland getting in line with the upper bound for average inflation for the other countries in the table. The relative performances of Iceland and Finland are approximately the same; in both countries inflation decreased by two thirds.
No clear difference can be discerned between the insiders and outsiders.

[11] Þorsteinn Þorgeirsson (2003): *Íslenskur iðnaður (Icelandic Industry),* 1.tbl.

Unemployment

Table 3. Unemployment; unweighted 5 year averages

	1990 – 1994	1995 – 1999
Iceland	3,1	3,6
Ireland	15,4	9,5
Finland	10,9	13,0
Norway	5,6	4,0
Denmark	8,6	6,0
Luxembourg	1,9	3,2

Source: OECD.

No clear picture emerges and the numbers do not reflect the lower unemployment figures for e.g. Finland and Ireland after 1999. Unemployment was higher in Iceland during the nineties than the seventies and eighties. Historically the unemployment rate has also been significantly higher in most of the EU countries than in Iceland and Norway, Luxembourg being an interesting exception as for the EU.

Analysis of volatilities of six macrovariables in selected countries.

Volatilities were calculated as standard deviations for a set of 6 variables classified into 2 groups:

The Policy Variables:

Trade Balance (TRBAL)

Exports (EXP)

Official Reserves Excluding Gold (OREG)

The Performance Variables:

- Industrial Production (INDPROD)
- Consumer Price Index (CPI)
- Unemployment (UNEMPL)

Data included 16 countries, conditionally divided into three groups – to a larger extent according to the size of population - and to a lesser extent according to characteristics of the economies or geographical areas. Groups included:

. Small Countries - Austria, Luxembourg, Belgium, Greece, Ireland, and Holland.
. Nordic Countries - both EU member countries plus non-EU member countries - Sweden, Denmark, Finland, Norway and Iceland.
. Large Countries - Spain, Italy, France, Germany and United Kingdom.

Data range was divided into 2 sub-periods:

. 1980 – 1990 (conditionally taken as non EU period)
. 1991 - 2001 (conditionally taken as EU period)

One has to take into account the underlying differences in the performance of all countries, especially prior to the EU period where convergence was an issue of lesser importance. It is also worth taking into account the changes in the structural aspects of the economies in the EU period, particularly in the financial area and in the overall macroeconomic policies being adopted.

Concerning volatility of the INDPROD, the following conclusions can be made:

- Volatility in the case of the small countries decreased in the EU period compared to the non-EU period, while it increased in the case of Nordic countries. The experience of the large countries is mixed, namely in Spain and UK increased while in France and Germany decreased. This may reflect the commitment to the convergence criteria of the EMU.

Concerning volatility of the CPI, the following conclusions can be drawn:

- Volatility in almost all countries decreases in the period 1991-2001 compared to 1980-1990.
- This is the most uniformly dispersed variable where all countries show similar dispersion except the two outliers: Greece and Iceland. In both countries episodes with high inflation were long-lasting, causing detrimental effects to the real sector.
- If one assumes that CPI can be used to represent adequate proxy for the overall macroeconomic policies - than the low volatility of this variable indicates the importance the national governments place on price stability.

Concerning volatility of the UNEMPL, the following conclusions can be drawn:

- Volatility of unemployment in the small countries shows a decrease in the period 1991-2001 compared to the period 1980-1990. In the case of Nordic countries it shows increase while in the case of large countries it has moderately increased.

Concerning volatility of the OREG, the following conclusions can be made:

- Volatility on the average shows an increase in the period 1991-2001 compared to 1980-1990.
- Countries with the highest volatility of OREG in the first sub-period all show lower standard deviation in the subsequent period.
- Volatility is higher in the case of the large countries compared to the small ones in both sub-periods.

Concerning volatility of the exports, the following conclusions can be drawn:

- Volatility in almost all countries shows an increase in the period 1991-2001 compared to 1980-1990.

- Volatility is larger in the case of the small countries compared to the large countries in both sub-periods.

Concerning the volatility of the trade balance, the following conclusions can be made:

- Volatility in almost all countries increases in the period 1991-2001 compared to 1980-1990.
- Volatility is larger in the case of the small countries compared to the large ones in both sub-periods.
- The trade balance is less volatile in the case of Nordic countries compared to both small and large ones, Iceland being the notable exception.

The standard deviations of the parameters for individual countries are shown in Tables 4 – 9 below.

Table 4: Volatility of Industrial Production
St. Dev. of Industrial Production - Total

Country	*Industrial Production*	
	1980-1990	1991-2001
Austria	10.10	8.58
Luxembourg	15.12	8.61
Belgium	8.51	7.74
Greece	4.15	2.00
Italy	8.30	7.02
Ireland	23.05	20.33
Holland	5.31	6.16
Sweden	1.32	1.89
Denmark	1.45	3.28
Finland	11.83	2.78
Norway	1.56	1.69
Iceland	3.14	2.49
Spain	8.27	8.04
France	5.42	5.94
Germany	7.14	10.78
UK	7.99	4.98

Table 5: Volatility of Consumer Prices
St. Dev. of Consumer Prices Index for All Items

	Consumer Prices – All Items	
Country	1980-1990	1991-2001
Austria	10.24	6.50
Luxembourg	12.20	4.93
Belgium	12.90	4.50
Greece	60.00	70.89
Italy	24.66	14.67
Ireland	20.33	6.52
Holland	2.12	3.66
Sweden	20.58	16.93
Denmark	16.67	5.59
Finland	19.03	12.65
Norway	17.3	10.8
Iceland	81.56	75.37
Spain	26.56	16.51
France	17.28	7.08
Germany	7.14	4.92
UK	18.67	14.13

Table 6. Volatility of Unemployment
St. Dev. of Unemployment as Percent of Total Labour Force

	Unemployment as Percent of Total Labour Force	
Country	1980-1990	1991-2001
Austria	1.25	0.68
Luxembourg	na	na
Belgium	2.44	1.97
Greece	36.17	37.64
Italy	1.54	0.90
Ireland	3.71	5.28
Holland	4.89	1.94
Sweden	0.77	2.01
Denmark	1.15	2.86
Finland	0.74	4.09
Norway	1.01	2.37
Iceland	0.51	1.79
Spain	3.25	4.06
France	1.25	1.35
Germany	1.77	1.72
UK	2.29	2.66

Table 7. Volatility of the Official Reserves Excluding Gold

St. Dev. of the Official Reserves Excluding Gold in Million SDRs
(End of Period)

	Official Reserves Excluding Gold	
Country	1980-1990	1991-2001
Austria	956.36	3259.91
Luxembourg	na.	na.
Belgium	1653.54	1907.80
Greece	660.23	4232.12
Italy	9679.36	7806.40
Ireland	719.21	957.50
Holland	1430.56	6676.06
Sweden	2234.45	2574.57
Denmark	2213.90	3523.23
Finland	1842.47	1366.24
Norway	Na	na
Iceland	58.75	57.53
Spain	9905.78	9360.88
France	3659.94	5028.79
Germany	4582.75	8092.45
UK	8140.20	3158.15

Table 8. Volatility of Exports

St. Dev. of Exports f.o.b. in Mill. of Local Currency

	Exports	
Country	1980-1990	1991-2001
Austria	6.26	13.43
Luxembourg	na	na
Belgium	56.47	107.08
Greece	32.94	61.22
Italy	3630.819	7742.02
Ireland	303.36	1367.53
Holland	1669.71	6993.82
Sweden	6.06	14.52
Denmark	3.17	5.58
Finland	1.38	5.01
Norway	5.79	8.64
Iceland	2535.40	2730.84
Spain	112.84	391.43
France	18.44	24.80
Germany	8.27	13.94
UK	1167.15	2506.10

Table 9. Volatility of Trade Balance

St. Dev. of Net Trade (c.i.f. – f.o.b)

	Trade Balance	
Country	1980-1990	1991-2001
Austria	1.06	1.88
Luxembourg	na	na
Belgium	10.54	31.08
Greece	44.89	130.57
Italy	729.27	2443.67
Ireland	124.63	551.46
Holland	479.47	757.51
Sweden	1.27	3.54
Denmark	1.04	0.96
Finland	0.45	1.80
Norway	3.04	5.92
Iceland	338.33	1998.60
Spain	79.53	160.63
France	2.61	4.89
Germany	3.83	3.44
UK	673.97	855.80

In a strongly export-oriented economy, competitiveness in international trade influences the domestic economic situation, since production in the export sector has an influence on growth and thus on employment. Exchange rate changes can adjust the price competitiveness of an economy, thus avoiding or diminishing the risk of long-term misalignments of the domestic currency. If, however, major exchange rate fluctuations bring about frequent changes in the domestic competitive situation, such volatility may also adversely affect foreign trade. As for the volatility calculations above it is borne out that:

i) The size of the economy does not have significant impact on the exchange rate fluctuations. The strongest fluctuations can be observed for the Greek Drachma, the Portuguese Escudo and the Spanish Peseta. These countries were and among the

initial countries in the EMS but joined it later on. In most instances, however, such extremely strong exchange rate fluctuations meant unique peaks, which occurred particularly during the 1970s or at the beginning of the 1980s. A look at the frequency of such fluctuations obviously proves that the currencies of Belgium and Luxembourg, the Netherlands and Austria fluctuated to a considerably lesser extent than for example those of Italy, Finland, Portugal, Sweden, Spain, Ireland and Great Britain.

ii) Overall, exchange rates were much less volatile at the end of the 1980s than in the 1970s. In the 1990s, however, several disturbances, sometimes relatively strong ones, occurred again. Even nominal exchange rates such as the Dutch Guilder or the Austrian Shilling, which had previously become very stable in relation to the DM, experienced major volatility. Due to a series of crises that began in 1992, the margin of tolerated exchange rate fluctuations in the EMS was extended in 1993 from ±2.25 % to ±15 %.

iii) Despite strong nominal exchange rate stability between 1987 and 1992, differences in, *e.g.*, national inflation rates which have led to turbulence since 1992 were still existent. In spite of the general currency stabilisation in Europe, some countries have been subject to strong volatility over a long period of time. In particular Great Britain has been exposed to permanent and heavy upward as well as downward currency corrections from 1973 until today. Other countries, by contrast, such as Italy and Portugal also experienced constant fluctuations, but they were subject to an ongoing nominal depreciation. The mainly positive changes of the exchange rates reflect that fact. Additionally, the Italian and Portuguese currencies always fluctuated to different extents anyway. Greece, by contrast, was also subject to a permanent nominal depreciation but particularly since 1986 this has happened with continuity. Thus, after this point in time, the Greek Drachma does not seem to fluctuate extremely.

iv) Looking at the changes of the nominal exchange rates and their standard deviations, we can observe that 6 of the 14 other EU member states have mostly stabilised their exchange rates in relation to the DM. This is the case of Belgium/Luxembourg, Denmark, France, the Netherlands and Austria. Since the end of the 1980s, these core countries have developed into a hard currency block, the so-called “DM-block.“

The development of the USD/Euro bilateral rate on the world markets, on the one hand, and the stance of the Icelandic krona, on the other hand, may have a significant impact on Icelandic industries. While the fluctuations in the bilateral exchange rate can be hedged with a corresponding currency composition of the debt structure, the stance of the Icelandic krona needs to be assessed, taking into account the potential real appreciation of the krona in face of the inflow of foreign currency revenues stemming from large-scale export-oriented investment. If the monetary authorities pursue interest rate fine-tuning in such a situation, certain industries, such as the SME-sector, that still rely on domestic borrowing, may suffer losses due to higher domestic interest rates. In this case the availability of foreign credit should be carefully approached, taking into account the possibilities for agents to hedge against foreign exchange rate risks.

Looking from a recent historical perspective, there was a big depreciation of the Icelandic krona in the latter half of 2000 and in 2001. After reaching a peak in the spring of 2000, the krona had depreciated by almost a quarter in effective terms by mid-year 2001. In real terms the krona reached its lowest level for three decades. The krona depreciated by a total of 17,4% in the course of 2001. The main transmission mechanism of exchange rate volatility to domestic macrovariables is by way of its impact on prices. Based on recent experience from 1999 to 2001, the short-run impact of exchange rate changes seems to be temporarily weaker. However, the exchange rate volatility and the impact on domestic prices has been negligible. Intermediaries might have adjusted their margins in order to absorb the exchange rate induced variations in input prices, or they may have anticipated that the exchange rate shocks would be short lived. Accordingly, drastic corrections on prices were avoided.

Exchange rates and policy autonomy

From the perspective of macroeconomic stabilization, the cost or benefit of giving up a flexible exchange rate depends on the types of asymmetric shocks hitting the economy and the ability of the exchange rate to act as a shock absorber. Economic theory suggests that flexible exchange rates are useful in absorbing asymmetric real shocks but unhelpful in the case of monetary and financial shocks. This is often set forth as the main reason for conducting exchange rate policy autonomy.

It is often implicitly assumed that being able to choose an exchange rate policy will result in different behaviour. But do exchange-rate regimes matter for monetary-policy autonomy?

Forssbæck & Oxelheim[12] have investigated monetary-policy autonomy under different exchange rate regimes in 11 small, open European economies during the 1980s and 1990s by estimating international monetary-policy transmission from 3 larger benchmark economies into the case countries during sub-periods with different exchange rate regimes. It is assumed that interest rates and monetary aggregates are the primary vehicles of policy, and hence the primary channels of pass-through.
Iceland is not included in the study.

The authors find very little difference in the degree of nominal monetary-policy autonomy enjoyed by those countries that pursue flexible exchange-rate regimes as compared to those that have kept their exchange rates fixed:
i) A reasonable conclusion from the results is that over the medium (and long) term following an 'independent' target for monetary policy, which does not deviate much from the targets of those countries to which one is closely integrated financially, is as constraining as locking the exchange rate to some particular level other than which brings higher (or perhaps lower) inflation.
ii) No *exploitable* degree of autonomy is possible with or without a fixed exchange rate. The counterargument might be that the monetary-policy autonomy has contributed to the convergence result but the proof of the pudding is in the eating.
Forssbæck and Oxelheim classify exchange rates regimes as in Table.10.

Table.10. Exchange rate regimes

		Exchange rate			
		Flexible/ managed float	Cooperative/ semi-fixed	Unilaterally inflexible	Superfix(EMU)
Restric-tions on capital move-ments	YES	1a	2a	3a	X
	NO	1b	2b	3b	4
		Degree of rigidity			

iii) The results of causality tests on the sub-sample countries/periods with flexible exchange rates (Regime 1 in Table10) lend support to the result that monetary policy autonomy does not vary systematically according to exchange-rate regime as predicted by mainstream theory and common wisdom. Thus, the dual exchange rate in Belgium during the 1980s did not afford that country any measurable degree of autonomy. Finland, Ireland, Norway, Sweden and Switzerland – in spite of (more or less) flexible exchange rates in at least one sub-period – are all strongly influenced by foreign monetary policy (and not necessarily, or even primarily, just that of Germany).

iv) Under the cooperative EMS regime (Regime 2 in Table 10), there are three instances of country sub-periods with capital controls and four without (sub-periods for Denmark, Ireland and Portugal). For those countries/periods with capital controls, we see low or no influences from abroad (or, in the case of Portugal, results are unreliable because of the shortness of the sub-period). Lifting capital controls seems to have changed little in the cases of Ireland and Portugal but gives a result in the form of multipliers significantly closer to unity for Denmark. Although with limited material, our results to this extent would tend to lean toward a conclusion of the EMS as an essentially symmetrically-working system.

[12] J. Forssbæck & L. Oxelheim (2003): *Money Markets and Politics. A Study of European Financial Integration and Monetary Policy Options*. Edward Elgar, Cheltenham.

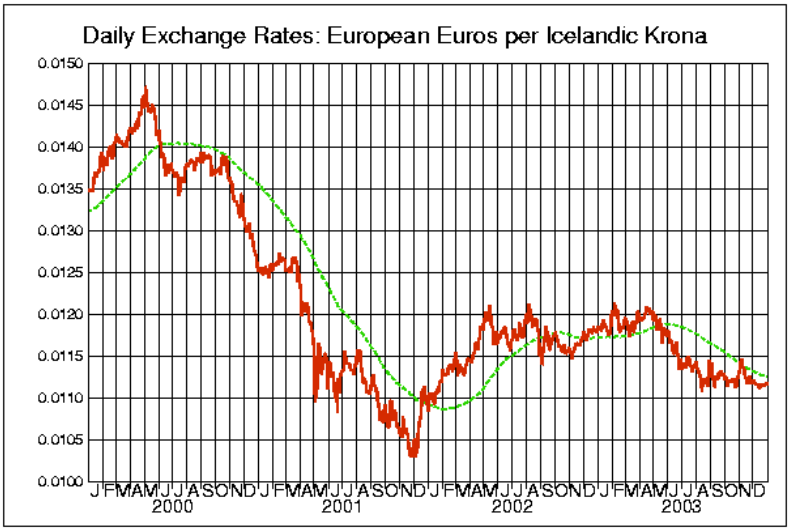
v) There are 16 countries/sub-periods in the sample with unilateral pegs (Regime 3 in Table 10). The results are somewhat varied. In Austria, the Netherlands and Sweden (period 1 in all three cases), the imposition of capital controls does not seem to have offered any measurable degree of policy autonomy: they are all clearly influenced by Germany's interest rate and/or money-growth rates. Finland and Norway (also period 1), on the other hand, appear to have pursued more independent policies under fixed exchange rates with capital controls imposed. However, that autonomy initially largely persists even as capital controls are abolished in these countries. For Finland, the degree of foreign influence is markedly higher when, in the second half of the 1990s (period four), it re-enters into a fixed exchange rate arrangement. For Portugal, a plausible explanation for the negative multipliers in period four is 'nominal convergence,' that is, from initially higher levels, Portuguese interest rates moved determinately toward the same levels as other EMU countries in the run-up for the monetary union. The remaining cases with ´unilateral pegs´ and no capital controls show similar variety; Belgium in period two and Demark in period three (high foreign influence and low autonomy), and Greece in period three (vice versa).

vi) Multivariate tests give no support whatever to the notion that EMU countries may have been exposed to asymmetric foreign shocks, and thus had lower 'cost', in terms of lost autonomy, for entering the EMU. The non-EMU countries, whether in the EU or not, are just as exposed to monetary policy transmission from abroad as are the EMU countries – or more, even.[13]

The exchange rate of the euro against the Icelandic krona is shown in Fig. 2 and against the Norwegian krona in Fig. 3.

[13] J. Forssbæck & L. Oxelheim, *op.cit*., p.223.

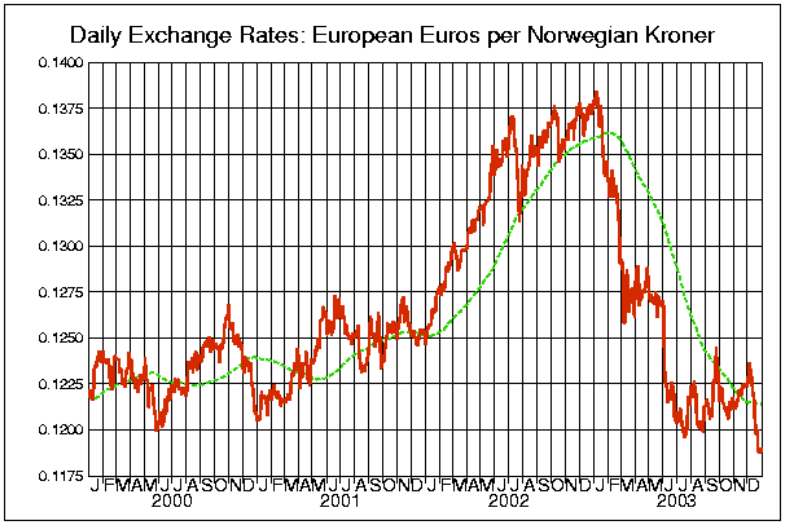
Fig. 2. The Euro Against the Icelandic Krona 2001 – 2004



--- Daily Exchange Rates

--- Six Months Moving Average

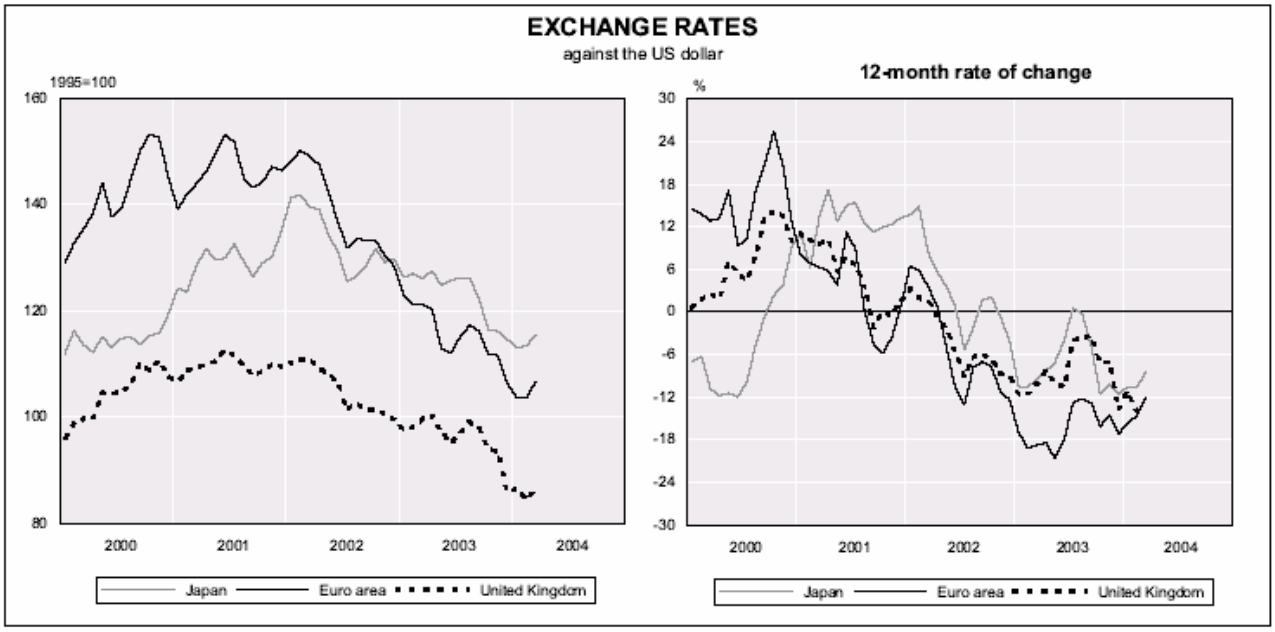
Fig. 3. The Euro Against the Norwegian Krona 2001 – 2004



--- Daily Exchange Rates

--- Six Months Moving Average

Fig. 4. Exchange Rates Against the US dollar 2000-2004



As can be seen the changes in the Norwegian krona follow the changes in the dollar against the euro but the Icelandic krona has its own time beat.

Iceland adopted inflation targeting (with managed float of the krona) on March 27th 2001.[14]

Interest rates and unemployment

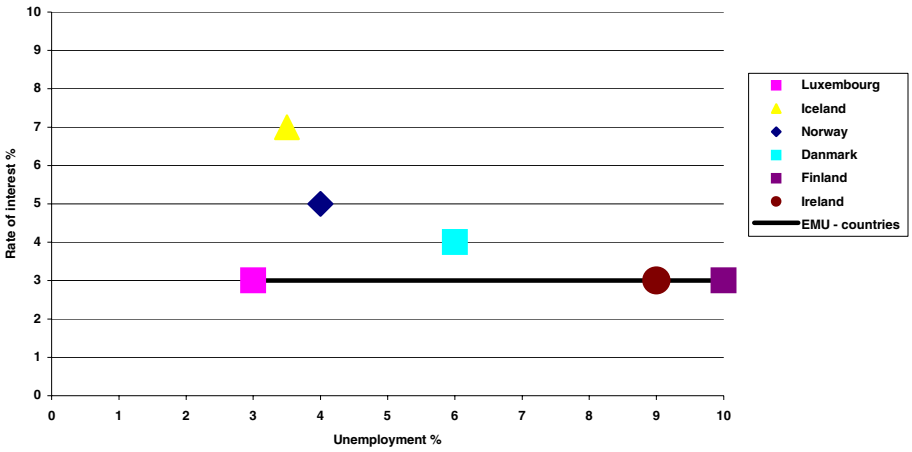
The main instrument for keeping the price level or the exchange rate stable in the case of monetary-policy autonomy is the rate of interest. Indeed the effectiveness of monetary policy is often measured by the difference between the domestic interest rate and a foreign one, this difference also being used as a measure of the credibility of monetary policy.

Here we find differences for individual countries as to whether they are inside or outside the EMU. There also emerges a trade-off between the rate of interest and unemployment. This is reminiscent of the trade-off between inflation and unemployment depicted by the famous Phillips curve and is subject to all the caveats

[14] Cf. *Monetary Bulletin* (2001), nr. 2. Central Bank of Iceland.

in that case as to short and long run considerations, changes of the curve over time and policy regime changes.

Fig. 5 Trade-off between interest rate and unemployment



Source: OECD (2001).

It should be pointed out, however, that the level of interest rates has come down since 2001, both inside and outside the EU and especially in Norway since the end of year 2003. Central bank discount and repo rates are now at a historical low.

Competitiveness of small and large nations in the world as a whole

The EMD World Competitiveness Yearbook ranks, on the one hand small and medium sized countries, and on the other hand large countries, according to their competitiveness. Countries with less than 20 million inhabitants are classified as small.

Table 11. Ranking of small and medium sized countries according to competitiveness in 2003

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8. Finland
8. Singapore
8. Denmark
8. Hong Kong
8. Switzerland
8. Luxembourg
8. Sweden
8. Netherlands
8. Iceland
8. Austria
8. Ireland
8. Norway

Source: EMD World Competitiveness Yearbook.

Table 12. Ranking of large countries as to competitiveness in 2003

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3. USA
3. Australia
3. Canada
3. Malaysia
3. Germany
3. Taiwan
3. UK
3. France
3. Spain
3. Thailand

Source. EMD World Competitiveness Yearbook

It is remarkable that only two of the small and medium sized countries are outside Western Europe, i.e. the Asian tigers, Singapore and Hong Kong. It also meets the eye that seven out of the ten European countries are members of the EU while three are outside, i.e. Switzerland, Iceland and Norway. Referring to the ranking of large countries only four out of the top ten countries are European, i.e. Germany, UK, France and Portugal. This is yet another indication of the relatively good performance of small countries in Europe, whether they are inside or outside the EU.

Foreign direct investment (FDI).

Andersson[15] reaches the following conclusions as to foreign direct investment in Europe:

i) During the last 30 years, most national governments adopted a benevolent stance vis-à-vis foreign investors. A favourable environment for international business has now become widely viewed as a prerequisite for economic and social progress. In recent years, popularly referred to as the era of the "new economy", FDI reached levels never previously encountered.

ii) It has long been known that public authorities may compete among each other in the attraction of FDI, which has been verified empirically. Ample room remains in the EU for national and local FDI-related policies, e.g. with respect to taxes or a range of structural measure. The prevailing view has been that the location of investment decisions basically is not affected, but that the degree of competition influences the distribution of gains from FDI. As regional integration keeps reducing the segmentation of product markets, the availability of viable alternative choices of location is on the increase. In practice, ventures have been relocated within the EU on several occasions, seemingly in response to incentives offered by rivalling countries or regions.

iii) There are also indications of sharpening competition for the attraction of key corporate functions, such as research and development (R&D), involving complex capacity-enhancing measures.

iv) Most empirical studies have tended to estimate positive impacts of both outward and inward FDI on national economies. The evidence is far from conclusive, however. In particular, recent work casts doubt on the prevalence of technological

spillovers from inward FDI in the EU. Some studies observe such benefits within the EU and spillovers where the technology-gap between investors and home countries was significant. For FDI flowing between technologically comparable countries, the potential for favourable impacts of FDI on the TPF of receiving industry and economy was found to be greatly reduced.

v) It has been known for years that R&D-intensive industries tend to cluster geographically and it has been suggested that regional integration would favour a geographical concentration of knowledge-intensive activities, prone to economies of scale, whereas smaller and peripheral markets would move towards specialisation in constant-returns-to-scale standardized production. It has also been found that liberalisation and technical progress, by improving access to foreign markets, reduce the comparative disadvantages of locations in small countries, raising their ability to compete in the attraction of activities that benefit from increasing returns to scale.

vi) The data for FDI inflows per $ 1000 GDP in Europe show that small countries are doing relatively well, as is shown in Table 13. Iceland is a notable exception.

The driving forces behind direct investment in Iceland appear to be different from forces driving FDI in larger countries.[16] Indeed the large foreign investment in the energy sector seems to be more resource-based than market or knowledge-capital driven. Restrictions on foreign investment in the fisheries probably also mean less FDI than otherwise.

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[15] Thomas Andersson (2003): *The European Union in the New Economy: FDI Technology Flows and Economic Growth*. Conference Paper, SNEE, Mölle.

11) Cf. Helga Kristjansdottir (2004): *The Knowledge-Capital Model and Small Countries.* Seminar Paper.

Table 13. FDI inflows per $ 1 000 GDP in Europe

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
US	8.42	3.84	3.07	7.70	6.45	8.01	10.90	12.52	20.00	30.78	30.67
Japan	0.57	0.39	0.72	0.02	0.18	0.01	0.05	0.75	0.81	2.84	1.75
EU	13.10	10.88	9.27	10.37	10.22	13.29	12.57	15.49	30.69	57.11	102.9
Austria	4.04	2.13	7.54	6.12	10.55	8.10	19.12	12.90	21.47	14.20	46.8
Belgium + Luxemb.	38.37	43.54	46.89	46.84	34.19	36.24	48.82	45.65	84.07	491.73	991
Denmark	8.49	11.58	6.92	12.34	32.97	23.17	4.24	16.57	44.31	9.27	198
Finland	5.75	-2.00	3.74	10.04	15.78	8.22	8.69	17.31	94.08	35.94	73
France	7.44	12.43	13.26	12.88	11.53	15.24	14.13	16.48	21.34	32.72	33
Germany	1.75	2.67	-1.03	0.19	3.41	4.89	2.76	5.80	11.47	26.03	104
Greece	11.95	12.57	11.46	10.45	9.80	8.96	8.51	8.12	0.70	4.58	9.7
Ireland	13.26	28.41	26.87	22.30	15.30	21.74	35.79	34.28	127	157	253
Italy	5.82	2.07	2.52	3.77	2.14	4.41	2.88	3.17	2.20	5.86	12
Netherl.	35.71	19.12	18.45	19.81	20.53	29.66	40.46	29.54	93.94	103	142
Portugal	36.52	30.22	19.18	17.78	14.03	6.39	13.24	23.21	27.88	11	61
Spain	27.23	22.64	22.03	19.36	17.58	10.55	10.80	13.71	20.06	26	67
Sweden	8.27	25.67	-0.16	19.99	30.69	60.15	19.38	45.91	82	250	102
UK	30.78	14.36	14.43	15.37	8.87	17.59	20.55	25.03	52.2	60	81
Iceland	3.46	2.70	-1.77	0.12	-0.24	-1.26	11.51	20.15	18.16	7.7	17
Norway	8.69	-3.38	-5.29	8.54	17.38	10.03	13.13	19.22	22.53	44	39

Source: UNCTAD.

Conclusions.

1. Iceland has adapted to the European economic integration process through the EFTA, an agreement with the EEC and then via the EEA. It has adopted a wait-and-see policy in other respects.

2. Out of twenty applications for EU membership by eleven countries, eighteen were submitted after one or several years of growth rates substantially below the average growth rates of EU countries, Switzerland being the notable exception.

3. As for economic growth small countries have fared better than big ones, both inside and outside the EU.

4. Inflation has been about the same in EU and EEA countries.

5. Historically, unemployment has been higher in the EU countries, except for Luxembourg, than in the EEA countries.

6. Interest rates have been considerably higher in the Iceland and Norway than in the EMU countries.

7. Interest rates have been somewhat higher in the three non-EMU countries than in the EMU countries of the EU.

8. There seems to be a trade-off (at least in the short run) between the (high) rate of interest and the (low) rate of unemployment in the EEA countries.

9. The volatility of industrial production decreased in the case of small EU countries during 1991 - 2000 (the EU period) compared to 1980 – 1990 (the non-EU period), while it increased in the case of the Nordic countries. The experience of the large countries is mixed; the volatility increased in Spain and the UK while it decreased in France and Germany. This may reflect the commitment to the convergence criteria of the EMU.

10. Concerning the volatility of the consumer price index (CPI), the following conclusions can be drawn:

    - Volatility in almost all countries decreases in the period 1991 – 2001 compared to the period 1980 - 1990.

    - This is the most uniformly dispersed variable where all countries show similar dispersion with the exemption of the two outliers: Greece and Iceland.

11. The volatility of unemployment in small countries decreases in the period 1991 – 2001 compared to the period 1980 – 1990. For the Nordic countries taken separately volatility of unemployment increases. Volatility has also increased in the case of the large countries.

12. The volatility of official reserves excluding gold is higher for the large countries than for the small ones in both sub-periods. Countries with the highest volatility during 1980 – 1990 exhibit lower standard deviations during 1991 – 2001.

13. Concerning the volatility of exports, in almost all countries it increases during 1991 – 2001 compared to 1980 – 1990, being higher in the case of small countries compared to the large ones in both periods.

14. As for the volatility of the trade balance the following holds:
    - Volatility in almost all countries is higher during 1991 – 2001 than during 1980 – 1990.
    - Volatility is larger for the small countries than the big ones in both periods.
    - The trade balance is less volatile in the case of the Nordic countries than other countries, both small and large, with Iceland being the notable exception.

15. Very little difference is found in the degree of nominal monetary policy autonomy enjoyed by those countries in Europe that pursue flexible exchange rate regimes as compared to those that have kept their exchange rates fixed.

3. Ten out of the twelve highest ranked small and medium sized countries as to competitiveness are small countries in Europe, inside and outside the EU. Only four out of the top ten most competitive large countries in the world are European. This is yet another indication of the relatively good performance of small countries in Europe, whether they are inside or outside the EU.

3. As for FDIs the (small) EEA countries are in general outscored by the small EU countries. Finland, however, is a notable exception within the EU in this respect. This might suggest a core-periphery effect in the case of FDI.

3. FDI in Iceland seems to be more resource based than market-oriented or knowledge-capital induced.

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IMF, OECD, UNCTAD
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