Financing the Nordic Welfare States

The Challenge of Globalization to Taxation in the Nordic countries: A Report prepared for The Nordic Council of Ministers, Oslo, 2002

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Financing the Nordic Welfare States: The Challenge of Globalization to Taxation in the Nordic countries

A report prepared for the

Nordic Council of Ministers

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Executive Summary and Conclusions

1. Brief summary of the Report

Part 1
Part 1 of the report investigates how the Nordic welfare states compare to a group of European reference countries regarding the level and structure of taxation, the extent of redistribution, fiscal sustainability and the degree of decentralization. It also provides an updated survey of the international evidence on the impact of globalisation and tax competition on national tax policies.

The Nordic Welfare state in a European context
At the general level, the Nordic welfare states have carried the concept of the welfare state further than most other countries. This is manifested in comparatively high levels of total public expenditures and, thus, taxation, with the explicit aim of achieving a higher degree of equality. The Nordic countries also tend to have high levels of public consumption; in particular, Denmark and Sweden have by far the largest public sectors of the OECD area. Further, the Nordic countries are characterized by a high degree of equality of disposable income.

The Nordic countries apply different varieties of the so-called dual income tax, taxing capital incomes at a lower rate than labour incomes. Apart from that, however, public sector financing is not radically different from that found in other European countries, but the Nordic countries do stand out as relying more on indirect taxation, including environmental taxation, and by having a more decentralized public sector.

Tax Competition and the Effects of Internationalisation
Advanced economies have experienced a substantial increase in economic integration, in particular through increased trade and capital flows, in the last twenty years. One consequence of this is that that the taxation of more mobile factors, such as capital, can be harder to achieve. Indeed, recent research suggests that while labour and consumption taxation have increased, capital taxation has not, leading to a relative decrease in the taxation of capital. Furthermore, tax setting is becoming increasingly interdependent, and there is evidence of tax competition to attract corporations.

Part 2
Part 2 is concerned with international tax cooperation. We discuss the experience of OECD and EU attempts at tax coordination and/or harmonisation, and we present quantitative estimates of the effects of tax competition, and hence of the gains from tax coordination, based on simulations on a large-scale applied general equilibrium model for the OECD economies, the OECDTAX model.

International tax cooperation is difficult to implement. Within the EU, decisions on tax policy require unanimity, something that so far has been very hard to achieve. As a result EU tax coordination has met limited success on important tax policy issues with an international dimension such as indirect taxation and corporate taxation.

Simulations of the OECDTAX model suggest the direction and magnitude of key economic indicators in response to intensified tax competition. A main finding is that the effects on the individual country depend crucially on the initial level and structure of taxation in the country. For example, whereas increased tax competition leading to a lower corporate taxes within the EU will

tend to increase average welfare in some EU countries, the estimates suggest that the Nordic EU-members will actually *lose* from such increased tax competition, making corporate tax cooperation an important issue for future tax policy in the Nordic countries.

Part 3
Part 3 discusses the future perspectives for Nordic tax policy in an internationalised world economy, and draws on parts 1 and 2 to suggest policy responses to the increased pressure on public finances. A distinction is made between the *internal* pressure, defined as the demographic development with an increasing share of pensioners relative to the labour force, and *external* pressures consisting of a *market* pressure from internationalisation and a *legal* pressure from supranational institutions such as the EU.

Possible policy responses include changing the structure of income taxation from capital to labour, adjusting corporate taxation and the taxation of natural resources, maintaining and increasing property taxation, abolishing tax expenditures in a number of areas, and replacing part of the ordinary income tax and/or social security tax by user fees and mandatory contributions to individual savings accounts. The full set of conclusions is set out in section 3.

2. Conclusions

Increasing internationalisation will undoubtedly affect tax policy in the Nordic countries. As economic integration deepens, small open economies like the Nordic countries will need to adapt in a number of ways.

The residence principle of international taxation is difficult to enforce. Therefore, the Nordic countries should levy relatively low taxes on corporate and personal capital income, as is currently being done by the countries using dual income taxation. They should also consider utilizing natural resources as a tax base.

Indirect taxation is under pressure from cross-border shopping in the Single Market and from E-commerce, in particular regarding some services and digital products. When the current Danish restrictions on cross-border shopping are abolished from 2004, the pressure on the high Nordic excise taxes on alcohol and tobacco will increase, and some adjustment in the excise tax structure will be necessary. Energy and environmental taxation is incompletely coordinated at the international level. Furthermore, the structure of energy taxation does not adequately and systematically reflect the negative environmental effects of the different sources of energy.

Part of the solution to the problem of shrinking tax bases could be to rely more on labour taxation and the taxation of immobile factors such as land and natural resources. However, higher labour taxation can have adverse implications for employment by increasing wage pressures, while increased use of property taxation, for which there is considerable scope in the Nordic countries, can be an appropriate response to increasing mobility of capital and consumption tax bases.

The increasing international mobility of tax bases will tend to raise the economic efficiency cost of maintaining a high level of redistributive taxation in the Nordic countries. Quantitative estimates from a large-scale simulation model suggest that the effects of international tax competition on employment and overall production are non-negligible and that the Nordic countries would gain

considerably from international tax coordination at (high) minimum levels of taxation. A main conclusion, therefore, is that the Nordic countries should increase their common efforts to strengthen international tax cooperation.

3. Recommendations and policy options

Basic principles

- The main aim of the Nordic countries' tax policies should be to collect the desired levels of revenues for the public sector in a way that minimizes tax distortions in resource allocation while maintaining consideration for redistribution and the environment. The basic principles to achieve this are: (i) neutrality, to ensure that the tax payment to the widest possible extent is independent of tax payer choices, (ii) symmetry, such that incomes and expenditures are treated equally; (iii) simplicity, served by applying the broadest possible tax base without exemptions and credits; and (iv) taxpayer equity, by levying the income tax in accordance with the taxpayer's ability to pay. To a varying degree, these principles were introduced with the introduction of the dual income tax in the tax reforms in Denmark (1987), Sweden (1991), Norway (1992) and Finland (1993), and the principles should be strengthened and continue to guide Nordic tax policy.

Income taxation and tax structure

- The structure of income taxation should reflect the fact that capital is more mobile internationally, and hence should be taxed at a lower rate than labour. Furthermore, greater emphasis on immobile tax bases such as land, property and natural resources can be an appropriate response to the increased mobility of capital and (less so) labour. At the very least, current levels of land and property taxation should not be reduced.
- The Nordic countries should strive to achieve international cooperation that will make it easier to apply the residence principle in (capital) income taxation, by supporting the proposed EU Directive on effective taxation of interest income, including more information exchange among countries. More effective information exchange would also make it easier to secure a consistent taxation of private pension savings without discriminating against foreign investment of these savings.

Corporate taxation

- The Nordic countries should support initiatives to secure minimum effective tax rates on corporate income, and they should actively support the OECD initiative against Harmful Tax Competition as well as the Primarolo-group recommendations regarding the EU Code of Conduct for Business Taxation. The Nordic countries should also support the EU Commission's efforts at reducing tax obstacles to cross-border investment in Europe. Within the dual income tax system, they should seek ways of streamlining and simplifying the taxation of firms with active owners, as currently investigated by the Norwegian government tax reform committee.

Indirect taxation

- The current minimum rates of VAT and excise tax rates in the EU provide no serious protection of countries with high indirect tax rates. The Nordic countries all have VAT rates in excess of 20 % and high excises on alcohol and tobacco. Therefore, the Nordic countries should support higher minimum tax rates for VAT and excise taxes, as well as support efforts to secure destination-based value-added taxes and excises on digital products.

Energy and environmental taxation

- It is in the interest of the Nordic countries to work towards broader tax bases and relatively high minimum tax rates in Europe. Energy taxes and environmental taxes should reflect the environmental damages.

Increased cooperation among the Nordic countries

- The Nordic countries should consult each other, or at the very least inform each other in advance, when setting up tax rules designed for mobile factors, when such rules are likely to have effects on other Nordic countries. The Nordic Council of Ministers could be a natural forum for such consultations. On a broader scale, the Nordic EU member countries should consider joint initiatives in international fora such as the EU and the OECD to promote international tax cooperation in accordance with the principles set out above.

4. Political discussion points

1. How should the Nordic countries respond to an increased *internal* pressure, from the demographic development towards an increased share of pensioners, to an increased *market* pressure from globalization, and to an increased *legal* pressure from international organizations, in particular the EU?
2. Should the Nordic countries support minimum tax rates and partial tax harmonization on selected issues? In particular, should the Nordic countries support high minimum tax rates in *indirect* taxation (VAT and excises, including alcohol and tobacco), and should the Nordic countries press for high minimum tax rates on *corporate* income, and for a fully or partly harmonized corporate tax base?
3. Should the Nordic Council of Ministers be used as a formal forum for Inter-Nordic consultation on tax policy issues and as a forum for planning joint Nordic initiatives on tax cooperation in international fora?
4. Should the Nordic countries support an increased focus on environmental and energy taxation, including higher minimum tax rates on energy and a restructuring of energy tax bases and tax rates to reflect environmental damage?

Att finansiera de nordiska välfärdsstaterna

Globaliseringen som utmaning för de nordiska skattesystemen

Sammanfattning och slutsatser

Utarbetat för Nordiska Ministerrådet

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Juni 2002

1. Kort sammanfattning av rapporten

Del 1
Del 1 av rapporten undersöker de nordiska välfärdsstaterna jämförda med en grupp europeiska referensländer vad gäller skattenivå och skattestruktur, graden av inkomstomfördelning, uthålligheten i offentliga finanser och graden av decentralisering. Den ger också en uppdaterad översikt över de internationella beläggen för hur globalisering och skattekonkurrens påverkar den nationella skattepolitiken i enskilda länder.

Den nordiska välfärdsstaten i ett europeiskt sammanhang
Rent allmänt har de nordiska välfärdsstaterna drivit begreppet välfärdsstat längre än de flesta andra länder. Detta visar sig i jämförelsevis höga totala offentliga utgifter och därmed skattenivåer, med det uttalade syftet att uppnå en högre grad av jämlikhet. De nordiska länderna tenderar också att ha höga nivåer av offentlig konsumtion; särskilt gäller detta Danmark och Sverige som är det länder i OECD-området med överlägset störst offentlig sektor. De nordiska länderna karakteriseras av en hög grad av jämlikhet när det gäller disponibel inkomst.

De nordiska länderna tillämpar olika slag av så kallad dual inkomstbeskattning och beskattar kapitalinkomster med lägre skattesatser än vad som gäller för arbetsinkomster. Bortsett från detta är emellertid finansieringen av den offentliga sektorn inte särskilt olik den som finns i andra europeiska länder. De nordiska länderna utmärker sig dock genom att förlita sig mer till indirekt beskattning, däribland miljöbeskattning, och genom en mer decentraliserad offentlig sektor.

Skattekonkurrens och internationaliseringens effekter
De utvecklade ekonomierna har under de senaste tjugo åren upplevt en avsevärd ökning av den ekonomiska integrationen särskilt genom ökad handel och kapitalflöden. En följd härav är att beskattningen av rörligare faktorer såsom kapital kan bli svårare att genomföra. Så visar också ny forskning att medan beskattningen av arbete och konsumtion har ökat så är detta inte fallet med kapitalbeskattningen. Detta har lett till en relativ minskning av skatteuttaget på kapital.. Dessutom har skatteuttaget blivit i högre grad beroende av omvärlden och det finns indikationer på skattekonkurrensens betydelse för för företagens lokalisering.

Del 2
Del 2 behandlar internationellt skattesamarbete. Vi diskuterar erfarenheterna från OECD och EU och deras försök med skattesamarbete och/eller harmonisering, och vi redovisas kvantitativa beräkningar på effekterna av skattekonkurrens och därmed fördelarna med skattesamarbete grundade på simuleringar på en storskaligt tillämpad allmän jämviktsmodell för OECD-ekonomier, OECDTAX-modellen.

Internationellt skattesamarbete är svårt att genomföra. I EU fordrar skattepolitiska beslut enhällighet, något som än så länge har varit svårt att få till stånd. Detta har lett till att skattesamarbetet i EU har nått begränsad framgång när det gäller viktiga skattepolitiska frågor med en internationell dimension såsom indirekt beskattning och företagsbeskattning.

Simuleringar med OECDTAX-modellen visar riktning och storlek på centrala ekonomiska variabler som svar på ökad skattekonkurrens. Ett viktigt resultat är att effekterna av reformer i enskilda länder framför allt beror på den initiala skattenivån och skattestrukturen. Till exempel tenderarökad skattekonkurrens inom EU att öka den genomsnittliga välfärden i åtskilliga EU-länder medan resultaten indikerar att de nordiska EU- medlemmarna kommer att *förlora* på en sådan ökad skattekonkurrens. Detta gör att samarbete kring företagsbeskattning blir en viktig framtida skattepolitisk fråga i de nordiska länderna.

Del 3
Del 3 diskuterar framtidsutsikterna för nordisk skattepolitik i en internationaliserad världsekonomi och stöder sig på delarna 1 och 2 för att indikera politiska reaktioner på det ökade trycket på de offentliga finanserna. En åtskillnad görs mellan *inre* tryck, definierat av den demografiska utvecklingen med ett ökande antal pensionärer i förhållande till arbetskraften, och *yttre* tryck, bestående i press från en internationaliserad *marknad* och *juridisk* press från övernationella institutioner såsom EU.

De möjliga politiska reaktionerna handlar om att förskjuta skatteuttaget från kapital till arbete, justera företagsbeskattningen och beskattningen av naturtillgångar, att behålla och öka fastighetsskatteuttaget, slopa skatteutgifter inom en rad områden och ersätta en del av den vanliga inkomstskatten och/eller socialförsäkringsskatten med användaravgifter eller obligatoriska avsättningar till individuella sparkonton. Slutsatserna i sin helhet redovisas i avdelning 3.

2. Preliminära slutsatser

Den ökande internationaliseringen kommer oundvikligen att påverka skattepolitiken i de nordiska länderna. Då den ekonomiska integrationen fördjupas, kommer små öppna ekonomier som i de nordiska länderna att behöva anpassa sig på flera sätt.

Det är svårt att upprätthålla den s.k. hemvistprincipen vid den internationella beskattningen.. Därför bör de nordiska länderna tillämpa relativt låga skatter på företag och individernas kapitalinkomster, något som redan sker ide länder som tillämpar den duala inkomstskatten. De borde också överväga alternativa principer för beskattning av naturresurser..

Den indirekta beskattningen är under tryck från gränshandeln på den inre marknaden och från elektronisk handel särskilt när det gäller olika tjänster och digitala varor. När de nuvarande danska begränsningarna för gränshandeln avskaffas 2004 kommer trycket på de höga nordiska alkohol- och tobaksskatterna att öka och en viss anpassning av skattestrukturen kommer att bli nödvändig. Energi- och miljöbeskattning är ofullständigt samordnad på internationell nivå. Dessutom reflekterar inte energiskattestrukturen på ett adekvat och systematiskt sätt olika energikällors negativa miljöeffekter.

En del av lösningen på problemet med krympande skattebaser kunde vara att förlita sig mer på skatt på arbete och på skatter på orörliga produktionsfaktorer som mark- och naturresurser. Högre skatter på arbete kan dock få ogynnsamma effekter på sysselsättningen genom att öka lönetrycket medan däremot ökad användning av fastighetsskatt, för vilken det finns avsevärt utrymme i de nordiska länderna, kan vara en lämplig reaktion på den ökande rörligheten hos skattebaserna för kapital och konsumtion.

Skattebasernas ökande internationella rörlighet kommer att leda till ökade effektivitetsförluster genom beskattningen om man önskar bibehålla en hög grad av inkomstomfördelning genom skattesystemet i de nordiska länderna. Kvantitativa beräkningar från en storskalig simuleringsmodell ger vid handen att den internationella skattekonkurrensens effekter på sysselsättning och samlad produktion inte är negligerbara och att de nordiska länderna skulle vinna avsevärt på internationell skattesamordning vid (höga) miniminivåer på beskattning. En huvudslutsats är därför att de nordiska länderna borde öka sina gemensamma ansträngningar att stärka internationellt skattesamarbete.

3. Rekommendationer och handlingsalternativ

Grundläggande principer

? En huvudmålsättning för skattepolitiken i de nordiska länderna bör vara att uppnå de önskade skatteintäkterna för den offentliga sektorn på ett sätt som minimerar skatternas snedvridande effekter på resursallkoreringen och som samtidigt bibehåller hänsynen till inkomstfördelning och miljö.. Grundläggande principer för att uppnå detta är a) neutralitet för att säkerställa att skattebetalning så långt möjligt är oberoende av skattebetalarnas val, b) symmetri, så att inkomster och utgifter behandlas lika, c) enkelhet som åstadkoms genom att använda bredast möjliga skattebas utan undantag och reduktioner och d) rättvisa för skattebetalarna genom utformning av inkomstskatten i överensstämmelse med skattebetalarnas betalningsförmåga. I olika hög grad förverkligades dessa principer med införandet av den duala inkomstskatten i skattereformerna i Danmark (1987), Sverige (1991), Norge (1992) och Finland (1993), och principerna bör stärkas och fortsätta att vara ledande i nordisk skattepolitik.

Inkomstskatt och skattestruktur

? Strukturen på inkomstskatten bör spegla det faktum att kapital är internationellt rörligare och därför bör beskattas med lägre skattesats än arbete. Dessutom kan större betoning på orörliga skattebaser såsom mark och fastigheter och naturresurser vara ett lämpligt svar på kapitalets och (i mindre grad) arbetets ökade rörlighet. Åtminstone bör ej nuvarande nivåer för mark- och fastighetsskatter ej sänkas.

? De nordiska länderna bör eftersträva internationellt samarbete, vilket gör det lättare att tillämpa hemvistprincipen när det gäller inkomstskatt (kapital) genom att stödja de föreslagna EU-direktiven om effektiv beskattning av ränteinkomster som inkluderar ett förbättrat informationsutnyte mellan länderna.. Ett mer effektivt informationsutbyte skulle också göra det lättare att säkra en konsekvent beskattning av privat pensionssparande utan diskriminering av utländska placeringar av sådant sparande.

Företagsbeskattning

? De nordiska länderna bör stödja initiativ att säkerställa miniminivåer för den effektiva skatten på bolagsinkomster och de bör aktivt stödja OECD-initiativet mot skadlig skattekonkurrens, liksom också Primarolo-gruppens rekommendationer vad gäller EU:s uppförandekodex för företagsbeskattning. De nordiska länderna bör också stödja EU-kommissionens ansträngningar att minska skattehinder för gränsöverskridande investeringar i Europa. Inom det duala inkomstskattesystemet bör

de hitta sätt att harmonisera och förenkla beskattningen av företag med aktiva ägare, något somnyligen undersökts av den norska regeringens skattereformkommitté.

Indirekt beskattning.

? Nuvarande miniminivåer för mervärdesskatt och punktskatters inom EU erbjuder inget verkligt skydd för länder med höga indirekta skatter. De nordiska länderna har alla mervärdesskattenivåer överstigande 20% och höga punktskatter på alkohol och tobak. Därför bör de nordiska länderna stödja högre miniminivåer för mervärdesskatt och punktskatter och även stödja överenskommelser som möjliggör för dem att ta ut destinationslandsbaserad mervärdeskatt och punktskatter på digitala varor.

Energi- och miljöbeskattning

? Det ligger i de nordiska ländernas intresse att eftersträva bredare skattebaser, inkluderande alla energiprodukter, och relativt höga miniminivåer utformade så att skattestrukturen avspeglas de miljömässiga skadeverkningarna hos olika former av energikonsumtion.

Ökat samarbete mellan de nordiska länderna.

? De nordiska länderna bör konsultera varandra eller åtminstone informera varandra i förväg när de bestämmer skatteregler för rörliga skattebaser, när sådana regler kan tänkas påverka de andra nordiska länderna. Nordiska Ministerrådet kan vara ett naturligt forum för sådana konsultationer. Rent allmänt bör de nordiska länder som medlemmar i EU överväga gemensamma initiativ i internationella fora såsom EU och OECD för att främja internationellt skattesamarbete i överensstämmelse med ovan redovisade principer.

4. Politiska diskussionspunkter

1. Hur bör de nordiska länderna svara på ett ökat *inre* tryck från den demografiska utvecklingen mot en ökad andel pensionärer, på ett ökat *marknadstryck* från globalisering och på ett ökat *juridiskt* tryck från internationella organisationer, särskilt EU?

2. Bör de nordiska länderna stödja minimiskattenivåer och partiell skatteharmonisering på utvalda områden? Mer precist, börr de nordiska länderna stödja höga miniminivåer vid *indirekt* beskattning (mervärdesskatt och punktskatter, innefattande alkohol och tobak) och bör de nordiska länderna eftersträva höga minimiskattenivåer för *bolagssinkomster* och helt eller delvis harmoniserade bolagsskattebaser?

3. Bör det Nordiska Ministerrådet användas som ett formellt forum för inomnordisk konsultation i skattepolitiska frågor och som ett forum för att planera gemensamma nordiska initiativ om skattesamarbete i internationella fora?

4. Bör de nordiska länderna stödja en ökad betoning av miljö- och energiskatter, innefattande högre skattesatser på energi, och en omstrukturering av energiskattebaser och skattenivåer som reflekterar miljöskador?

Pohjoismaisten hyvinvointivaltioiden rahoittaminen

Globalisaatio pohjoismaisten verojärjestelmien haasteena

Tiivistelmä ja päätelmät

Laadittu Pohjoismaiden ministerineuvostoa varten

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1. Raportin tiivistelmä

Osa 1
Raportin ensimmäisessä osassa pohjoismaisia hyvinvointivaltioita verrataan eräisiin Euroopan maihin. Vertailtavina ovat mm. verotuksen taso ja rakenne sekä verotuksen vaikutus tulonjakoon, julkisen talouden kestävyyteen ja päätöksenteon hajautuksen asteeseen. Lisäksi luodaan ajantasainen katsaus kansainvälisiin havaintoihin globalisaation ja verokilpailun vaikutuksista kansalliseen veropolitiikkaan.

Pohjoismainen hyvinvointivaltio ja muu Eurooppa
Pohjoismaat ovat yleisesti vieneet hyvinvointivaltion mallin pitemmälle kuin useimmat muut maat. Tämä ilmenee verrattain korkeina julkisina kokonaismenoina, ja näin ollen kireänä verotuksena, kun selkeänä tavoitteena on kansalaisten yhdenvertaisuus. Julkisen kulutuksen taso on tyypillisesti korkea Pohjoismaissa, etenkin Tanskassa ja Ruotsissa, joissa on OECD-maiden ehdottomasti suurin julkinen sektori. Pohjoismaille on ominaista, että käytettävissä olevien tulojen osalta tulonjako on hyvin tasainen.

Pohjoismaat soveltavat eri muodoissa niin sanottua eriytettyä tuloverojärjestelmää verottaen pääomatuloja lievemmin kuin ansiotuloja. Muutoin julkisen sektorin rahoitus ei juuri poikkea muiden Euroopan maiden rahoitusrakenteista lukuunottamatta sitä, että Pohjoismaat turvautuvat muita enemmän välilliseen verotukseen, muun muassa ympäristöveroihin, ja että niiden julkinen sektori on hajautetumpi kuin vertailumaissa.

Verokilpailu ja kansainvälistymisen vaikutukset
Kehittyneiden maiden talouksien yhdentyminen on lisääntynyt huomattavasti kuluneiden kahdenkymmenen vuoden aikana, mikä johtuu etenkin kaupan ja pääomavirtojen kasvusta. Tästä syystä liikkuvimpien tuotannontekijöiden, kuten pääoman, verottaminen voi olla entistä vaikeampaa. Tuoreet tutkimukset antavatkin viitteitä siitä, että ansiotyön ja kulutuksen verotusta on kiristetty mutta pääoman verotusta ei, mikä on johtanut pääomaveron suhteelliseen alenemiseen. Veron asetanta on tullut yhä riippuvaisemmaksi muiden maiden veropäätöksistä ja yrityksiä houkutellaan verokilpailun avulla maasta toiseen.

Osa 2
Osa 2 käsittelee kansainvälistä veroyhteistyötä. Siinä pohditaan OECD:n ja EU:n kokemuksia pyrkimyksistä veroyhteistyöhön ja/tai verotuksen yhdenmukaistamiseen sekä esitetään kvantitatiivisia laskelmia verokilpailun vaikutuksista ja veroyhteistyön eduista tällaisen kilpailun vallitessa. Laskelmat on tehty OECD-maat käsittävällä yleisellä tasapainomallilla, OECDTAX-mallilla.

Kansainvälinen veroyhteistyö on käytännössä hankalaa. EU:n veropoliittiset päätökset edellyttävät yksimielisyyttä, jota toistaiseksi on ollut vaikea saavuttaa. Tämä on johtanut siihen, ettei EU:n veroyhteistyö ole ollut erityisen menestyksekästä sellaisissa tärkeissä veropoliittisissa kysymyksissä, jotka sisältävät kansainvälisen ulottuvuuden, esimerkiksi välillisessä verotuksessa ja yritysverotuksessa.

OECDTAX-mallilla tehdyt laskelmat osoittavat verokilpailun voimistumisesta aiheutuvien muutosten suunnan ja suuruuden talouden tilaa kuvaavissa muuttujissa. Keskeinen havainto on se, että verokilpailun vaikutukset yksittäisessä maassa riippuvat ennen kaikkea maan verotuksen lähtötasosta ja rakenteesta. Esimerkiksi voimistuneesta verokilpailusta johtuva yritysveron keventäminen koko EU-alueella saattaa lisätä joidenkin EU-maiden hyvinvointia, mutta EU:n pohjoismaisille jäsenvaltioille verokilpailun lisääntyminen merkitsee itse asiassa *hyvinvointitappiota.* Tämän vuoksi yritysverotusta koskeva yhteistyö on tulevaisuudessa Pohjoismaille tärkeä veropoliittinen kysymys.

Osa 3
Kolmannessa osassa käsitellään pohjoismaisen veropolitiikan tulevaisuuden näkymiä kansainvälistyneessä maailmantaloudessa. Ensimmäiseen ja toiseen osaan tukeutuen ehdotetaan talouspoliittisia ratkaisuvaihtoehtoja julkisen talouden kasvaviin rahoituspaineisiin. Raportissa on eroteltu *sisäinen* paine, jolla tässä yhteydessä tarkoitetaan demografista kehitystä ja eläkeläisten määrän kasvua suhteessa työvoimaan, ja *ulkoinen* paine, joka johtuu markkinoiden kansainvälistymisestä ja ylikansallisten instituutioiden, kuten EU:n, aiheuttamasta *juridisesta* paineesta.

Mahdollisia talouspoliittisia toimintalinjoja voisi olla tuloverotuksen painopisteen siirtäminen pääomasta ansiotyön suuntaan, yritysverotuksen ja luonnonvarojen verotuksen korjaaminen, varallisuus- ja kiinteistöveron säilyttäminen ja korottaminen, veromenojen karsiminen joiltakin alueilta sekä varsinaisen ansiotuloveron ja/tai sosiaalivakuutusmaksujen osittainen korvaaminen käyttäjämaksuilla tai pakollisilla yksilöllisillä sosiaalivakuutustileillä. Toimintalinjat esitellään tarkemmin kappaleessa 3.

2. Päätelmät

Kasvava kansainvälistyminen vaikuttaa epäilemättä Pohjoismaiden veropolitiikkaan. Taloudellisen yhdentymisen syventyessä Pohjoismaiden tapaisten pienten avoimien talouksien on sopeuduttava monin tavoin.

Sijaintimaaperiaatteen täytäntöönpano tuottaa kansainvälisessä verotuksessa ongelmia. Siksi Pohjoismaiden tulisi verottaa yritysten ja yksilöiden pääomatuloa suhteellisen lievän verokannan mukaan, kuten eriytettyä verotusta soveltavat maat jo tekevätkin. Lisäksi tulisi pohtia tarkemmin luonnonvaroja verottamista.

Sisämarkkinoiden rajakauppa ja sähköinen kaupankäynti aiheuttavat paineita välilliselle verotukselle. Tämä koskee erityisesti erilaisia palveluja ja digitaalisia tuotteita. Kun Tanskan nykyiset rajakaupparajoitukset vuonna 2004 poistuvat, alkoholin ja tupakan korkeaan valmisteveroon kohdistuva paine kasvaa Pohjoismaissa, ja valmisteveron rakennetta on pakko jollakin tavoin muuttaa. Energia- ja ympäristöverojen kansainvälinen koordinointi on puutteellista. Energiaveron rakenteessa eivät myöskään riittävästi ja systemaattisesti heijastu eri energialähteiden haitalliset ympäristövaikutukset.

Supistuvien veropohjien aiheuttama ongelma voitaisiin ehkä osittain ratkaista turvautumalla suuremmassa määrin ansiotyön ja paikallaan pysyvien tekijöiden kuten maan ja luonnonvarojen verottamiseen. Ansiotyön kireällä verotuksella saattaa kuitenkin palkkapaineiden kasvaessa olla

epäsuotuisa vaikutus työllisyyteen. Toisaalta taas omaisuusveron käytön lisääminen – mille on runsaasti tilaa Pohjoismaissa – saattaa olla sopiva keino vastata pääoma- ja kulutusveropohjien kasvavaan liikkuvuuteen.

Veropohjien yhä suurempi kansainvälinen liikkuvuus nostaa voimakkaasti tuloja uudelleen jakavan verotuksen kokonaistaloudellisia kustannuksia Pohjoismaissa. Laajamittaisella simulointimallilla suoritetut kvantitatiiviset laskelmat osoittavat, ettei kansainvälisen verokilpailun vaikutuksia työllisyyteen ja kokonaistuotantoon voi jättää huomiotta ja että verotuksen kansainvälinen koordinointi korkeiden vähimmäisverokantojen vallitessa olisi mitä suurimmassa määrin Pohjoismaiden etujen mukaista. Tärkeimpiä päätelmiä onkin, että Pohjoismaiden tulisi lisätä yhteisiä ponnistelujaan kansainvälisen veroyhteistyön vahvistamiseksi.

3. Suositukset ja toimintavaihtoehdot

Perusperiaatteet

Pohjoismaiden veropolitiikan tavoitteena tulisi olla se, että julkisen sektorin halutun tasoiset tulot kerätään tavalla, joka minimoi resurssienjaon verovinoutumat ottaen kuitenkin samalla huomioon tulonjako- ja ympäristövaikutukset. Perusperiaatteita ovat tällöin a) neutraalisuus, millä varmistetaan se, että veronmaksu riippuu mahdollisimman vähän veronmaksajien valinnoista, b) symmetrisyys, niin että tuloja ja menoja käsitellään yhtäläisesti, c) yksinkertaisuus, johon päästään soveltamalla mahdollisimman laajaa veropohjaa mahdollisimman vähin verovapauksin ja –vähennyksin ja d) verotuksen oikeudenmukaisuus määräämällä tulovero veronmaksajien maksukyvyn mukaisesti. Näitä periaatteita ryhdyttiin toteuttamaan vaihtelevassa määrin, kun tuloverotus uudistettiin eriytetyn verokannan suuntaan Tanskassa (1987), Ruotsissa (1991), Norjassa (1992) ja Suomessa (1993). Edellä mainittuja neljää periaatetta tulee vahvistaa ja niiden tulee edelleenkin olla suuntaa-antavia Pohjoismaiden veropolitiikassa.

Tulovero ja verorakenne

Tuloverotuksen rakenteen tulee kuvastaa sitä seikkaa, että pääoma on kansainvälisesti liikkuvampaa kuin työ ja siksi sitä tulee verottaa alhaisemman verokannan mukaan kuin ansiotyötä. Paikallaan pysyvien veropohjien, kuten maan, kiinteistöjen ja luonnonvarojen, verotuksen kiristäminen saattaa olla sopiva vastaus pääoman ja (vähäisemmässä määrin) työn liikkuvuuden lisääntymiseen. Ainakaan omaisuus- ja kiinteistöveron tasoa ei pidä alentaa nykyisestä.

Pohjoismaiden tulee pyrkiä kansainväliseen yhteistyöhön, jolla helpotetaan asuinpaikkaperiaatteen soveltamista tuloverotuksessa. Tämä voidaan tehdä kannattamalla ehdotettuja EU-direktiivejä korkotulojen tehokkaasta verottamisesta ja lisäämällä keskinäistä tiedonvaihtoa. Tiedonvaihdon tehostaminen helpottaisi myös yksityisten eläkesäästöjen yhdenmukaista verottamista eikä syrjisi ulkomaisia eläkesijoituksia.

Yritysverotus

Pohjoismaiden tulee tukea aloitteita, joilla turvataan yritystulojen efektiiviset vähimmäisveroasteet. Maiden tulee myös tukea aktiivisesti OECD:n aloitetta haitallisen verokilpailun ehkäisemiseksi, samoin Primarolo-raportin suosituksia EU:n yritysverotuksen käytännesäännöiksi. Pohjoismaiden tulee myös tukea EU -komission

ponnisteluja rajat ylittävien sijoitusten tiellä olevien veroesteiden vähentämiseksi Euroopassa. Eriytetyn verojärjestelmän puitteissa maiden tulee hakea keinoja omistajayritysten verotuksen yhdenmukaistamiseksi ja yksinkertaistamiseksi, kuten Norjan hallituksen verouudistuskomitea vastikään on todennut selvityksessään.

Välillinen verotus

Arvonlisäveron ja valmisteveron nykyiset vähimmäisverokannat EU:ssa eivät tarjoa kunnon suojaa maille, joissa välillisen verotuksen taso on entuudestaan korkea. Kaikkien Pohjoismaiden arvonlisäverokanta on yli 20 %, ja alkoholin ja tupakan valmistevero korkea. Sen vuoksi Pohjoismaiden tulee kannattaa arvonlisäveron ja valmisteverojen minimikantojen korottamista, samoin hankkeita, joilla pyritään varmistamaan digitaalisten tuotteiden arvonlisäveron ja valmisteveron periminen määränpäämaassa.

Energia- ja ympäristöverotus

Pyrkimys veropohjan laajentamiseen ja Euroopan verokantojen suhteellisen korkeisiin vähimmäistasoihin on Pohjoismaiden etujen mukaista. Verokohteen ympäristöhaittojen tulee näkyä energia- ja ympäristöverotuksessa.

Pohjoismaisen yhteistyön lisääminen

Pohjoismaiden tulee neuvotella keskenään tai ainakin ilmoittaa ennakkoon toisilleen liikkuvia verotuskohteita koskevista veropäätöksistä, sikäli kuin päätösten voi olettaa vaikuttavan muihin Pohjoismaihin. Pohjoismaiden ministerineuvosto saattaisi olla luonteva foorumi tällaisille neuvotteluille. Kansainvälisillä foorumeilla, kuten EU:ssa ja OECD:ssa, EU:n pohjoismaisten jäsenmaiden tulisi harkita yhteisiä aloitteita kansainvälisen veroyhteistyön edistämiseksi edellä mainittujen periaatteiden mukaisesti.

4. Talouspoliittisia keskusteluaiheita

1. Miten Pohjoismaiden tulee vastata demografisen kehityksen, eli eläkeläisten väestöosuuden kasvun, aiheuttaman *sisäisen* paineen, globalisoitumisen aiheuttaman *markkinapaineen* ja kansainvälisten järjestöjen, etenkin EU:n, aiheuttaman *juridisen* paineen voimistumiseen?

2. Tuleeko Pohjoismaiden tukea vähimmäisverokantoja ja osittaista verotuksen yhdenmukaistamista tietyillä alueilla? Tuleeko Pohjoismaiden nimenomaan asettua *välillisten* verojen (arvonlisävero ja valmisteverot, esimerkiksi alkoholi ja tupakkavero) korkeiden minimikantojen kannalle ja pyrkiä *yritystulojen* korkeisiin vähimmäisveroasteisiin ja kokonaan tai osittain harmonisoituun yritysverotukseen?

3. Tulisiko Pohjoismaiden ministerineuvostoa käyttää muodollisena elimenä Pohjoismaiden välisessä veropolitiikkaneuvonpidossa ja yhteispohjoismaisten veroaloitteiden laatimisessa kansainvälisiä foorumeita varten?

4. Tuleeko Pohjoismaiden asettua tukemaan nykyistä vahvempaa keskittymistä ympäristö- ja energiaverotukseen, mukaan lukien alimpien verokantojen korottaminen sekä veropohjien ja veroasteiden uudelleen strukturointi niin, että ne vastaisivat verokohteen ympäristöhaittoja?

Part I:
The Nordic Welfare States in an Integrated World Economy

I.1. The Nordic welfare states in international perspective

Introduction

The case is often made that the Nordic welfare states are unique in both their size and scope. Nordic welfare states are larger than those found elsewhere, and they are more comprehensive (in terms of policy areas) and inclusive (in terms of eligibility). This part of the report investigates whether there are unique features of the Nordic countries' welfare states, and seeks to identify the areas where the Nordic countries stand out.

Sandmo (1991) notes that a developed welfare state typically has the following three characteristics: First, it guarantees individuals and families a certain minimum income irrespective of the market value of their endowments. Second, it offers social insurance by offsetting at least part of the individual's loss of income due to social contingencies caused by illness, unemployment and so on. Third, in certain social welfare areas such as health care and education, the welfare state offers a basic level of services free of charge to all citizens.

While most Western European countries would seem to follow this definition, the development of welfare states of industrial democracies have followed different trajectories, and can, using Esping-Andersen's (1990) classification, broadly be characterized as liberal, conservative or social-democratic. While no single country conforms to these ideal-type classifications, the Nordic countries probably are best described as 'social-democratic' regimes, with focus on equality and universalism. Historically, there has in Scandinavia been strong support for the idea that public redistribution policy should not only guarantee minimum levels of income and provide social insurance, but also that it should help narrow income differentials more generally, in particular through highly progressive taxation.

Kvist (2001) argues that at a general level, the Nordic Welfare State model is characterized by (i) being comprehensive and very broad in broad scope; (ii) universalism, offering public services to the entire population; (iii) individualism, relating social rights and transfers to individual rather than family circumstances; (iv) high employment; and (v) equality of possibilities and outcomes.

Although our focus is on the financing of the public sector, we also touch briefly on the expenditure side, looking at the provision of public and private goods, as well as transfers, and the redistributive properties thereof. It is difficult to discuss the size of the public sector if we do not, at the same time, have some measure of whether the Nordic welfare states realise their goals.

Throughout, we compare the data for the Nordic countries with two groups of selected countries: A group of North-Western and Central European countries (Austria, Belgium, France, Germany, Netherlands and United Kingdom) and a group of Southern European countries (Italy, Portugal, and Spain).

I.1.1. Tax burdens

The size of the public sector is, at a first approximation, characterized by the gross tax rate defined as the ratio of taxes to the value of gross domestic production (GDP) at market prices. This tax rate indicates the share of domestic production channelled through the public sector as taxes. Table 1 reports the level of taxation, as well as the level and structure of public expenditures for the Nordic countries and the selected comparison countries. Sweden and Denmark collect, by far, the largest tax revenues in the OECD (and in the world), Finland is close by, and Norway is above the OECD-Europe average. Iceland is the only Nordic country with a small public sector compared to other European countries.

High tax revenues are needed to finance high public expenditures. Generally, public expenditures are higher than tax revenues, as other sources of revenue, including user charges and debt financing, are not accounted for. The levels of public consumption are generally high in the Nordic countries. Spending on subsidies to firms, households and public utilities is slightly higher than in the comparison group, and spending on public investment and transfers to households are at levels roughly comparable to those found in the other countries. In particular, France and the Netherlands spend more on transfers to households than do the Nordic countries. Generally, the large public sectors found in the Nordic countries partly reflects that the welfare state is inclusive, based on universalism and tax financed public benefits as compared to means testing / targeting and private provision of public goods.

Tax revenue as percentage of GDP is a rough measure of government involvement in the economy, and the use of this as the metric by which to compare countries' public sectors is often criticised. The Danish Ministry of Taxation list sixteen possible definitions of such tax ratios, where the measure of economic activity is measured in a variety of different ways.[1]

Regardless of the choice of tax base, however, several problems pertain to this type of comparison. We will stress a few important ones. First, the tax treatment of government transfer payments differs substantially across countries: Some countries pay out social benefits and government transfers on a net basis, while in other countries transfers payments are subjected to income tax (and adjusted accordingly). Countries that subject transfers to income tax must, for a given level of public benefits, pay out higher transfers, resulting a larger public sector, other things equal. Second, some countries use tax credits as instruments in social policy, allowing for deductions in the tax base rather than paying out subsidies and transfers. Countries that rely on payments rather than tax expenditures will, in comparison, have higher levels of government for equal levels of effective transfers. These two factors account for substantial differences in the gross tax burdens, and will be considered in detail below.[2]

In addition to these two factors, the tax or expenditure levels also do not capture intertemporal issues such as differences in the fiscal sustainability of public finances and the tax treatment of pensions. For example, financing current public expenditures by public deficits serves to increase future tax payments by letting current tax payments remain lower. Finally, differences in the

[1] The choice of denominator in calculating tax burdens is not innocuous. Rather than using GDP at market prices, as done here, one could subtract net interest income, dividends and wages from abroad as well as net transfers to EU and other countries to get GNP at market prices. Subtracting indirect taxes and subsidies from this yields GNP at factor prices. See also the discussion in OECD Tax Policy Studies No. 2: *Tax Burdens: Alternative Measures*, OECD 2000.
[2] Also, contributions to actuarial pension and insurance schemes are in some countries designated taxes.

measurement of GDP and in the size of the informal sector obviously affect the measurement of tax burdens.

Adjusted tax burdens

Taking account of the abovementioned problems of comparing public sector size is difficult in practice. We concentrate on how the interaction of the tax system with social policy instruments affects gross tax rates and address the question of fiscal sustainability below. Adema (2001) investigates the effects of the tax system on social expenditures in OECD countries to derive a measure of social expenditures net of direct and indirect taxes paid from government transfers and taking into account tax breaks for social purposes. In that study we find estimates of the amount of direct taxes paid from government transfers and the revenue equivalent of tax expenditures used for social policy purposes. These are subtracted from gross tax rates comparable to that of table 1 (but for 1997) to arrive at an adjusted tax rate.

Table 2 shows the gross tax rates and the tax rates adjusted for differences in the tax treatment of government transfers and the use of tax breaks for social purposes. Sweden and Denmark still have the highest tax burdens, but they are not as markedly different from the rest as before. Direct tax revenues and social contributions from social expenditures - including both public, mandatory private and voluntary private social expenditures - are more than 4 percent of GDP in Denmark, Finland and Sweden, figures exceeded only by the Netherlands. Further, the Nordic countries do not make use of tax breaks for social purposes, a feature found in the rest of Europe and, in particular, in the United States (not shown).

Taking account of differences in the use of the tax system regarding social policy expenditures narrows the difference markedly between the Nordic countries and the rest of the European countries for which data is available. The tax burdens for the Nordic countries are adjusted downwards by 2.5 to 4.8 percent of GDP, whereas in Germany, the revenue equivalent of tax breaks cancel out tax revenues from social expenditures. The general picture remains, however, that tax and expenditure levels in the Nordic countries, in particular in Denmark and Sweden and excepting Iceland, are high compared to other European countries and, even more so, compared with OECD countries.

Regardless, however, of the base used for assessing the size of government, this sort of measure may not be very meaningful economically when discussing tax policy. Behavioural responses to taxation, which are the key to all tax policy analyses, depends on specific tax rates and schedules, levied on precisely defined tax bases, and without the knowledge of these it is not possible to analyse in a meaningful way the consequences of, say, the impact of globalisation on national tax policies, the labour market consequences of income taxation etc.

The Nordic Welfare states and Redistribution

A key element of the Nordic welfare state model has been a desire to redistribute incomes and wealth to those in need, and to do it over the public budgets. In principle, income transfers come about for two different reasons, social insurance and pure redistribution. The idea of social insurance is that individuals cannot (or, at least, do not) insure themselves privately against a number of long-term risks, such as sickness and disability, and unemployment. Because of missing or distorted markets for such insurance, there is a role for the state to improve efficiency by providing citizens with social insurance such as public disability assistance, public unemployment benefits etc. This sort of social insurance is an integral part, but to a varying degree, of the public

sector in most industrialized countries. It works as any standard private insurance, paying benefits if certain eligibility criteria are fulfilled, but is financed through taxes. To the extent that the tax system itself is redistributive, for example through progressive taxation, such a social insurance scheme will be partly redistributive.

Pure redistribution, on the other hand, stems from a desire on the part of policy-makers to redistribute income or wealth from rich to poor, regardless of insurance considerations. In practice, however, it can be difficult to separate the two *ex-post*, as it is not always clear to what extent current circumstances are products of chance or choice.

Redistribution over the public budgets can take many forms, but it is common to distinguish redistribution through public goods provision, and public provision of private goods (redistribution in-kind), from direct income redistribution, which can take place through either the tax system or through government transfers (redistribution in-cash). Regarding the latter, a system of progressive taxation with equal transfers to all citizens will have redistributive taxation, but not redistributive transfers. Conversely, a flat rate tax system without basic allowances, but with transfers being paid out primarily to those with low incomes, will have redistributive transfers, but not redistributive taxation. Of course, the systems of redistribution found in practice are a mixture of the two, combined with public provision of public and private goods.

In principle, it is possible to decompose the redistributive effects of taxes vs. transfers, by looking at changes in measures of inequality for the two systems of redistribution in isolation, but the results will generally depend on the order by which taxation and transfer systems are included in the analysis (Danish Ministry of Finance, 1996).

This, of course, does not necessarily say something about the potential for redistribution through the tax system and transfers, respectively, but only about the performance of current systems. It is not surprising, though, if it is the case that transfers contribute less to overall redistribution, as the Nordic countries generally have a high degree of universalism and less mean-testing than found in, for example, the Anglo-Saxon countries.[3] Therefore, given a high a degree of universalism in transfers, a more equal income distribution must be obtained via the tax system.

Table 3 shows a number of indicators associated with redistribution. Column one shows public income transfers as a share of GDP[4] and column two the top marginal tax rate on wage income, the next two show two widely used measures of inequality, income distribution shares and Gini-coefficients, while the final column shows poverty rates in the working-age population. The third column measures inequality at the extremes of the income distribution, by comparing the income received by the top 10 per cent in the income distribution to that received by those at the bottom 10 per cent. The higher is this number, the more unequal is the distribution of incomes between the two extremes. The Gini-coefficient for personal income is a commonly used measure of income inequality, and again it is the case that a higher Gini-coefficient indicates a more unequal distribution of incomes in society.

[3] The degree to which tax-and-transfer systems can in fact alter the income distribution significantly is subject of some debate; some observers argue that most redistribution takes place *within* the middle class and does not benefit the poor. See, for example, Tanzi and Schuknecht (2001, p. 95).

[4] We do not use social expenditures corrected for taxes, as computed by Adema (2001), as this measure exists only for a smaller number of countries, cf. table 2.

The level of gross income transfers in the Nordic countries is not strikingly different from the picture seen elsewhere. While the level is high in Denmark and Sweden, it is higher in Germany and Austria, and while it is relatively low in Norway and Finland, it is lower in the Netherlands, Portugal and Spain. Top marginal tax rates on wage income follow a similar pattern; they are somewhat higher in the Nordic countries, except for Iceland, but Belgium has the highest marginal rate by far. Things are different, though, when we turn to inequality. Both the extreme-decile shares and the Gini-coefficients are generally lower in the Nordic countries than in our group of comparison countries, and in the entire OECD as well, suggesting that the income distribution is less unequal in the Nordic countries. A similar pattern suggests itself from inspection of the poverty rates.

The data presented in table 3 thus confirms one of the general perceptions about the Nordic welfare model, that it is associated with less unequal distributions of income. However, at least from this data, it is not clear whether this is due to public policies, as they do not seem to be very much different from those pursued in other countries, or to a more equal distribution of incomes *before* taxes and transfers are accounted for. Data on extreme-decile shares for wage distributions does indeed suggest that (pre-tax) wages are somewhat more equally distributed in the Nordic countries (see OECD (1996)), and evidence suggests and that much redistribution channelled through the public sector contributes more to redistribution over the individual's life-cycle than redistribution between citizens.

I.1.2. The structure of taxation

Given the *level* of taxation, does the *structure* of taxation in the Nordic countries differ from the rest of Europe? There are two approaches to this problem. Either one can look at the share of different types of taxes of the total tax revenue or, alternatively, on the so-called effective tax burdens on labour, capital and consumption. We begin by looking at the former.

Table 4 shows the importance of the personal income tax as a source of revenue compared to other types of taxes in our group of countries in 1998. Iceland stands out in collecting almost half (46 percent) of its tax revenue from indirect taxation. Denmark relies on personal income taxes for more than half of its tax revenue, collecting almost nothing from social security contributions, whereas Finland, Norway and Sweden collect social security taxes at the level of most non-Nordic European countries. Sweden, in particular, collect almost a fourth of its tax revenue from employer social security taxes and, correspondingly, collect less than its Nordic neighbours in indirect taxes. Generally, the degree of reliance on personal income taxes in the Nordic countries is above average, which is important as they are generally thought to have the highest element of progression; however, this is countered by most of the Nordic countries relying heavily on indirect taxes, typically thought to be regressive. Finally, note that Iceland is the only Nordic country collecting more than average from wealth and property taxation. On the whole, the tax structures of the Nordic countries seem comparable to that found in other European countries.

Effective tax rates on labour, capital and consumption

For analytical purposes tax analysis often distinguish between taxes on labour income, capital income and consumption. The tax bases of such taxes are often eroded by numerous deductions and exemptions, for example for social policy reasons and, therefore, statutory income and consumption tax rates are often poor indicators of so-called effective tax rates, or implicit tax rates, defined as actual tax payments relative to the true economic measure of income or consumption. Such implicit

tax rates can yield important insights into the functional distribution of income, keeping in mind, of course, that taxes paid not necessarily equal the final incidence of a tax. It should also be noted that the implicit tax rate calculated here are *average* and therefore mainly indicate the revenue and income effects of taxation, whereas the incentive and allocation effects of the tax system tend to be determined by *marginal* tax rates, which often differ considerably from average tax rates (see below).

Recently, in both the academic and policy-oriented literature, the use of implicit tax rates has been widespread, following a very influential article by Mendoza, Razin and Tesar (1994) (denoted MRT) that introduced formulas to compute implicit tax rates at the macro level from publicly available OECD data. Mendoza et al. calculate implicit tax rates for the G-7 countries and other studies, for example Lassen and Nielsen (1996), have extended the analysis to other countries. The popularity of such tax rates reveals a demand for being able to compare, across countries, effective tax rates on factors of production. However, it is important to stress that such comparative methods also have their drawbacks.

First, the development of implicit tax rate measures have taken as a starting point National Accounts and revenue data, and in particular the National Accounts data has been collected for other purposes than tax comparisons, and, therefore, the classification of economic activities, which is crucial for allocation of tax bases when constructing implicit tax rates, is constrained from the beginning. For the method to work, a number of strong assumptions have to be made; for example, as noted above, relating revenue data directly to tax bases, without taking into account behavioural responses such as tax shifting, implicitly assumes that the initial impact of taxes equals the final incidence.

Second, all international comparisons of national accounts are prone to problems of classification. One type of economic activity can be classified in one way in one country and in other ways elsewhere, which means, for example, that what is a sensible component of capital income in one country could be less straightforwardly classified in other countries. Lassen and Nielsen (1996) illustrate the problem regarding the demarcation of labour and capital income for the Danish case, but the problem is general and important.[5] In particular, the capital income tax bases are rather small, which means that wrong classification of capital incomes tends to make large differences in estimated capital income tax rates.

A third, important, problem is that even if one accepts the premises of the Mendoza-method, this is based on the SNA 68, the system of National Accounts used by the OECD until 1998, when a switch was made to SNA 93, and publication of national account under SNA 68 was terminated. As a result of this switch, methods based on the SNA 68, including Volkerink and de Haan (2000), are so far not possible to apply to the new system of national accounts; in particular, the new classification system is still much less detailed than before. Further, even the old obviously applies only to OECD countries.

A number of authors and organisations have attempted to devise alternative methodologies to address the shortcomings of the MRT approach - these include de Haan and Volkerink (2000), Martinez-Mongay (2000) for ECOFIN, and Carey and Tchilingurian (2000) for the OECD. While each approach offers improvements over the MRT approach, the conclusion of a OECD study on

[5] This is also addressed in Carey and Tchilingurian (2000); see below, and in Volkerink and de Haan (2000).

effective tax rates remains that "… [effective] average tax rates measured using aggregate data will in a number of cases generate misleading indicators of the tax burdens on tax payers, on factors of production, and on consumption." OECD (2000, p. 3)[6] and Carey and Tchilingurian (2000) go on to argue that estimates of effective average tax rates should not be used for policy recommendations on their own. Still, the OECD concedes, implicit tax rates can represent a more informative indicator of the burden and impact of tax systems than statutory tax rates or tax to GDP measures, as those presented in table 1 (OECD (2000a)).[7]

In this study, we have chosen to report the estimates made by Carey and Tchilingurian (2000) (CT) for the OECD. They correct the MRT approach on key issues, including the treatment of social security contributions, the income of the self-employed, the consumption tax base and the allocation of specific taxes. This results in a number of revised estimates, reported for our group in countries in table 5. The estimates of implicit taxes on labour income correspond roughly to those calculated by the MRT method, whereas both the implicit tax rates on capital income and consumption estimated using the CT-method are lower than the MRT estimates; however, the ranking of countries is not greatly affected and, as shown by Carey and Tchilingurian, neither are the average trends in the implicit tax rates.

It is interesting to note that, despite the relative large public sectors relative to GDP reported for the Nordic countries in table 1, the Nordic countries do not appear to levy systematically higher taxes across the board. In the case of labour income taxes, the implicit tax rates are slightly higher than those found in other countries, corresponding roughly to the differences in the size of the public sector. Implicit tax rates on capital income, on the other hand, are not systematically higher than in the group of comparison countries, reflecting in part the use of the dual income tax system.[8] Finally, the taxation of consumption is comparatively high, which is not surprising with the broad-based value-added taxes and high excise taxes found in the Nordic countries (see below).

I.1.3. Direct taxation

Dual income taxation.

During the 1980's and the early 1990's, countries in most of the OECD area enacted tax reforms aimed at lower marginal tax rates and broader and more inclusive tax bases. However, the tax reforms in the Nordic countries also represented a deliberate move away from the principle of *global income taxation* towards a system of *dual income taxation*, henceforth termed the DIT system. Under a progressive global income tax, a single progressive tax rate is applied to the sum of the taxpayer's incomes from all sources (global income), whereas under the pure DIT system a separate proportional tax rate on all income from capital is combined with a progressive tax schedule applying to the sum of the taxpayer's income from other sources.[9]

[6] OECD: Effective Tax Rates: A Critical Survey, OECD Tax Policy Studies No. 5.
[7] OECD Tax Burdens: Alternative Measures, OECD Tax Policy Studies No. 2.

[8] The estimates of implicit tax rates on capital income are somewhat less reliable than the others, as the tax base is relatively small and therefore very sensitive to the business cycle.
[9] We will return to the dual income tax in part III; see Sørensen (1998) for a detailed introduction.

Labour taxation

The discussion of the level of taxation above focused on tax burden and ratios, as well as implicit tax rates, which are average tax rates for the population at a whole. Such measures do not capture neither the redistributive properties of the tax system nor the effects of taxes on economic efficiency. As noted above, the level of personal income taxation is high in the Nordic countries, which tends to a higher degree of redistribution. However, this is countered by high indirect tax rates. Table 6 addresses this issue. The first two columns show, for an unmarried wage earner receiving, respectively, the average production worker wage ("middle income") and 167 percent of the APW ("high income"), the average tax rate defined as the sum of personal income taxes, employee plus employer social security contributions together with payroll taxes if applicable, as a percentage of labour costs. Together, the columns suggest the degree of progression in personal income taxation. The higher is the second column compared to the first, the more progressive is the system of direct labour income taxes.

However, indirect consumption taxes erode the real purchasing power of nominal wages and should therefore be included to get a picture of the overall average tax burden on labour income. The third column reports the effective average tax burden on consumption, which is taken from the MRT estimates from the previous section. Thus, accounting for indirect consumption taxes, as well as direct labour income taxes, social security contributions, and payroll taxes, we arrive in the two final columns of table 6 at two measures of the total average tax burden on labour income.

The general impression from the two final columns of table 6 is that labour taxation in the Nordic countries is somewhat more progressive than in the group of comparison countries. Indeed, the average difference between taxes paid by a worker receiving 167 percent of APW and a worker receiving the APW is markedly higher in the Nordic countries; in particular, Iceland has a high degree of progression by this measure. Notably, in the Netherlands, a country to which the Nordic countries is often compared, the average tax rate on labour income is slightly regressive, such that a high wage earner actually pays a bit more in taxes than do an APW.

Rather than comparing average tax burdens at different levels of income, it is also of interest to assess the degree of progression at the various income levels. This is done in table 7. The table reports average tax rates of the type reported in table 6 for three levels of wage income (low, medium, and high). For each wage income group, the second column reports the marginal tax rate, defined as the total tax burden on an extra unit of earnings. As above, we include also the indirect tax rate in the measurement of average and marginal tax rates; these are shown in the third and fourth column. While marginal tax rates including indirect taxes are high in the Nordic countries, they are not particularly so in a comparative view. For example, Belgium, Germany and the Netherlands have marginal tax rates at levels comparable to those found in Finland and Denmark, the Nordic countries with the highest marginal tax rates taking into account indirect taxes.

Having determined average and marginal tax rates at particular wage levels makes it possible to assess the tax system's degree of progression. We measure the progression of the tax system by the so-called coefficient of residual income tax progression. This measure, defined as the ratio of one minus the effective marginal tax rate to one minus the effective average tax rate, is the elasticity of after-tax income with respect to pre-tax income. The degree of progression in the tax system generally depends on the wage level at which it is measured and, therefore, we report for low, medium and high incomes separately.

For example, an unmarried Finnish APW that receives a pre-tax income increase of 1 per cent will see his/her after-tax income increase only by 0.78 per cent. In a proportional tax system, this measure of progression would equal 1. The lower the coefficient, the more progressive is the tax system. For low and middle incomes, Sweden has the least progressive tax system by this measure. Generally, at low and middle incomes the Nordic countries' tax systems seem relatively less progressive than in the group of comparison countries, while for high incomes, the Nordic tax systems are slightly more progressive; indeed, Germany and UK actually have regressive tax systems.
Together, tables 6 and 7 suggest that while the Nordic countries in comparison have a relatively high degree of progression at high levels of income, taxes at average earnings are not generally more progressive than in the group of comparison countries. This probably reflects relatively the high degree of reliance on indirect taxes, which affect all income groups equally, while the progressive elements of the personal income taxation kicks in only at higher levels of income.

Capital taxation: The taxation of corporate income and personal capital income
The corporation tax is the tax that is levied on retained corporate earnings. The final taxation of distributed corporate profits depends on the interplay of corporate and personal capital income taxation. If no exemptions are made, corporate profits are subject first to the corporate income tax and then, when distributed, to the full personal capital income tax rate; however, to ease this double taxation of profits, most countries have so-called dividend relief systems in place, easing the tax burden on distributed corporate profits with the aim of equalizing the final tax rate on distributed profits with the tax rate applicable to interest income and other types of income so as to not discriminate against corporate investment.

Table 8 shows statutory corporate tax rates on retained earnings ("the corporate tax rate"), the final tax rate of corporate and personal capital income taxation applied to distributed corporate earnings (and the dividend relief system) and for comparison the personal tax rate on interest income and other types of income. Dividend relief can be granted in a number of different ways: Some countries, including Finland and Norway use the imputation system, basically giving a tax credit on the base of net dividend or liable corporate tax. Other countries, including Denmark and Sweden, use schedular personal income tax rates, applying lower personal income tax rates to distributed profits, while still other countries either fully exempts dividends or levies full double taxation. The Finnish and Norwegian systems of dual income taxation are evident from the table: Finland levies a tax rate of 29 percent on distributed profits as well as on interest income, which is substantially lower than the tax rate of 53.5 percent levied on other types of income. Denmark, on the other hand, taxes distributed profits, interest income and other income at (almost) similar high rates.

Further, the final three columns of table 8 show, respectively, the treatment of capital gains, on both ordinary and substantial holdings, and net wealth taxes. Most countries tax capital gains on 'substantial' share holdings, while fewer collect taxes from 'ordinary' holdings; the Nordic countries, though, do tax capital gains at comparatively high rates. Taxes on net wealth are also common in the Nordic countries: all countries, except Denmark that abolished it in 1996, tax personal net wealth. This is in contrast to most other OECD countries that levy no such taxes.

An important criterion by which tax systems are also compared is the neutrality towards corporate financing and investment decisions. To the extent the tax system discriminates between different types of financing it causes allocative inefficiencies and, in particular, tax systems have traditionally favoured debt financing over other types of financing. Table 9 shows so-called effective marginal

tax wedges, that is, the pre-tax rate of return on an investment in manufacturing necessary for a resident investor to invest rather than holding a deposit yielding 4 % before tax.[10] The required return depends on the method of financing the investment; this can be done in three ways, either from retained corporate earnings, by issuing new equity or by debt financing.

The method of computing EMTRs was developed by King and Fullerton (1984) and has been widely used.[11] It is the most detailed micro-level forward-looking measure of marginal corporate income taxes on an investment, but the drawback is that it, as in reality, depends on a number of additional economic factors such as interest rates, rates of depreciation depending on the investment good, the rate of inflation, the residence of the investor etc., all of which there has to be made assumptions about.

As is evident from table 9, in most countries the tax rules are not neutral with respect to the way of financing; in particular, it is often the case that financing by issuing new equity requires the highest pre-tax rate of return or, put differently, is taxed the most.[12] The final column shows the standard deviation of the three ways of financing, to capture the extent of non-neutrality in corporate investment taxation. If the standard deviation is zero, as is the case only for Norway, there is full neutrality among the different sources of finance, and the larger is the standard deviation, the more non-neutrality is present in the tax system. While the rates of marginal effective investment taxation are not systematically lower in the Nordic countries, the standard deviation is generally lower in the Nordic countries than in our group of comparison countries, reflecting the use of dual income taxation with a flat rate generally being levied at capital income.

So far our discussion of capital taxes have focused on the taxation of corporate and interest income, but the most important capital good for most citizens, owner-occupied housing, is also an integral part of capital income taxation. Just as all monetary assets yield an interest, either in the form of dividends or interest income, all durable capital goods yields a flow of utility or income and, in principle, owners should be taxed on this flow. However, for practical and administrative reasons, this is generally not done except in the case of owner-occupied housing.

Table 10 shows the tax-treatment of owner-occupied housing. The entire group of countries, save Austria, Belgium and Spain, do not allow acquisition costs to be deducted from taxable income, but as column two shows, the pattern regarding the deductibility of interest on loans for owner-occupied housing is more mixed. Generally, the tax treatment is symmetric in the sense that the countries that tax imputed rental income also allow for deductibility of interest on loan (an exception is Finland, that allows for deductibility of interest on loans while exempting imputed rental income), but it is often the case that the imputed rental income is taxed relatively leniently, while the tax-value of deductibles equals that of other interest debt.[13]

[10] A common rate of inflation of 2% p.a. is also assumed. Implicitly, therefore, these effective marginal tax wedges on investment can be compared across countries only when real rates of return and inflation rates are not too different.
[11] See also the Ruding committee report (European Commission, 1992), and evidence of tax competition (below).
[12] This, of course, is due to (less than fully off-set) double taxation of distributed profits. The historical propensity of tax systems to favor debt financing has been limited in recent years by low inflation rates, but it is often the case that retained earning are also treated more favorably than distributed profits, resulting in 'locking-in' of profits.
[13] Imputed rental income derived from owner-occupied housing equals the market interest rate applied to the market value of the property. For tax purposes, however, both the interest rate and the assessed value of the property are often lower than their respective true rates.

I.1.4. Indirect taxation

VAT and Excise taxation

From the investigation of the tax structure (table 4, above) we know that indirect taxes contribute a relatively large share of total tax revenues in the Nordic countries. It is, therefore, of some interest to consider the structure of indirect taxation itself. This is done in table 11. The revenue shares are expressed as percentages of total indirect tax revenues. The Nordic countries rely relatively more on excise taxes on alcohol,[14] and relatively less on revenues from tobacco; however, as the level of indirect taxation is high, the actual revenues (in percent of GDP) from excise taxes on tobacco are higher in the Nordic countries than in the other countries we consider. Apart from these excise taxes, the structure of indirect taxation is not very different from that of the rest of Europe.

The structure of indirect taxation in terms of revenue obviously reflects national government choices regarding indirect tax rates and bases, determined partly by domestic considerations, such as distributional and paternalistic concerns, partly by international considerations from the possibility of cross-border shopping. Table 12 shows VAT-rates, both standard and reduced rates, as well as selected excise taxes. All the countries under consideration levy value-added taxes (as opposed to, for example, the US that uses sales taxes only), but the rates differ considerably, as do the use of differentiated VAT rates, with lower rates for certain commodities such as food, newspapers and books, electricity etc.[15] Within our selected group of countries, the Nordic countries stand out as having, by far, the highest VAT rates, exceeding twenty percent for all the Nordic countries. Although the tax bases for value-added taxes differ, with for example Finland, Iceland and Sweden applying lower rates to food, the tax bases are generally rather broad and comprehensive compared to other European countries. Together, high rates and broad tax bases result in high revenues, confirming the relatively large part of tax receipts stemming from indirect taxation noted above (table 3).

The second part of table 12 displays excise taxes, in USD for comparison purposes, for the three main group of goods on which excise taxes are levied in virtually all OECD countries, alcoholic beverages, tobacco and mineral oils. Generally, excise taxes on alcoholic beverages, such as beer, wine and spirits, are comparatively very high in the Nordic countries, excises in tobacco slightly less so, while excises on mineral oils are comparable to other European countries.[16] This reflects partly the need for raising revenue, levying high taxes on goods with relatively inelastic demand, and partly a wish, to some extent historically based, to influence consumption of alcohol and tobacco products downwards.

Cross-border shopping

The high excise tax rates found in the Nordic countries are sources of cross-border shopping, both between the Nordic countries and other countries, as well as among the Nordic countries

[14] This is the case for Finland, Norway and Sweden; in the last decade, Denmark's excise taxes on alcohol have been lowered to mitigate cross-border shopping from Germany.

[15] See OECD (2001) *Consumption Tax Trends 2001* for a comprehensive account of VAT and excise tax rates in OECD countries.

[16] In addition to these three common groups of excise taxes, vehicles are another major source of excise tax revenues. For example, the Norwegian import tax on cars generated 37 billion NOK in 1999 (7.4 % of total tax revenue), while revenue from the Danish vehicle registration tax, an excise tax of 180 percent, totalled 16.8 billion DKK in 1999 (2.6 % of total tax revenue). Source: OECD: Consumption Tax Trends 2001.

themselves.[17] It is the combination of excise taxes and VAT, the latter being calculated from prices *including* excise taxes, that makes up the final consumer price, on the basis of which cross-border shopping decisions are made. The revenue costs of cross-border shopping are difficult to assess, but attempts are routinely being made in a number of countries.

Estimates of the extent of cross-border shopping are necessarily associated with significant uncertainty, as no registration of cross-border shopping exists. Typically, estimates are based on surveys and random checks at the border. Combining estimates of the value of cross-border shopping with the structure of this shopping on various categories allows for estimating the possible revenue effects of cross-border shopping. The Swedish Ministry of Finance has estimated the revenue effects of Swedish cross-border shopping abroad for alcohol, tobacco and cars in the year 2000 to be 8.4 bn. SKK. Similarly, the Danish Ministry of Taxation has estimated (year 2000) the revenue loss of total cross-border trade to be 4.0 bn. DKK, while the revenue gains from foreign cross-border trade in Denmark is estimated to be 2.0 bn. DKK, resulting in a net loss of revenue of 2.0 bn. DKK. In both the Swedish and the Danish cases, the revenue effects are very small, amounting to less than .1 % of total tax revenues.

When Denmark and Sweden abolish their quantitative restrictions in January 2004, cross-border shopping will undoubtedly increase. The Danish Ministry of Taxation estimates that given unchanged excise taxes, abolishing quantitative restriction will result in a revenue loss of approximately 2.0 bn. DKK, and adjusting excises downwards will obviously diminish the revenue loss, but can have consequences for Swedish, and eventually Finnish and Norwegian, excise tax policy.

Environmentally related taxation

A particular type of indirect taxation that has received considerable attention in recent years is environmentally related taxes and charges. Many countries have implemented tax reforms with elements of environmental taxation, so-called 'green tax-reforms', with the aim of reducing pollution and emissions by the use of excise taxes in addition to the traditional use of quotas etc.

An argument has been made that introducing green taxes could help countries reap a 'double dividend', using revenue from environmental taxation to reduce labour income taxes, leading to both cleaner environment as well as higher labour supply and lower welfare losses from taxation. It has been argued, though, that the attempts to reap such dividends conflict with another goal of the welfare state, a more equal income distribution, since the incidence of environmental taxes are said to fall primarily on low-income citizens.

Returning to table 11, the latter two columns report the share of environmentally related taxes (ERT) to total indirect tax revenue and to GDP, respectively. These taxes and charges include motor vehicles taxes and motor registration duties, as well as duties on fossil fuels, fertilizers, carbon dioxide emissions, waste etc. From the former of the two columns, it is clear that ERT contribute substantially to tax revenues; in Denmark, more than ten percent of total tax revenue can be attributed to ERT. Generally, the Nordic countries collect between three and five percent of GDP in

[17] Iceland is the obvious exception, as its geographical distance from potential tax competitors makes large-scale cross-border shopping unprofitable.

ERT, which is slightly more than both the average of our comparison group of countries (2.8) and the entire OECD (2.9).[18]

Finally, note that revenues derived from environmental taxes is not necessarily proportional to the "success" of such taxes in bringing down pollution – indeed, many environmental taxes erode their own tax base by inducing users to substitute away from the polluting activity or good.

I.1.5. Fiscal sustainability

As mentioned above, a traditional critique of standard tax burdens measures is that they ignore the intertemporal dimensions of fiscal policy; in particular, a standard tax burden measure does include information on the sustainability of public finances and, thus, does not account for future claims on the welfare state. Assessing the sustainability of public finances requires making a number of assumptions about the demographic development, future expenditures and revenues, as well as the development of key economic variables such as the interest rate, which affects interest payments on government debt. In this section we survey the problems associated with fiscal sustainability for governments facing ageing populations, using recent OECD survey data.

It is a demographic fact that the composition of the populations of Western Europe will change dramatically over the next forty years when large generations leave the labour market to retire, being replaced by much smaller cohorts left to finance extensive pension payment programmes. Estimates for the Nordic countries report that in 2050, more than 30 percent of the population will be 60 years or older, and the ratio of 60+ to the working age population will have increased to a Nordic average of 64 % from the level of 32 % today.

This development, sometimes referred to as the old-age crises (World Bank 1994), puts significant internal pressure on the welfare state, as rising expenditures per worker on pensions, old-age health measures etc. only to some extent will be financed by private pension savings, while the brunt of the burden, in particular in the Nordic countries, will be borne by the tax payers.

What does this mean for public finances? Assessing fiscal sustainability necessarily involves making assumptions regarding a number of key economic and demographic variables, including fertility, life expectance, immigration, interest rates, employment etc. Studies that have been carried out at the national level are not readily comparable across countries, while most cross-country studies of fiscal sustainability have tended to be less detailed in their description of country programmes than is optimal. A recent study by the OECD (Dang, Antolin and Oxley, 2001) assesses fiscal sustainability based on national models reported by member countries and using commonly agreed upon assumptions about macroeconomic and demographic developments for the next fifty years.

The first column of table 13 illustrates part of the ageing problem: for all countries, the share of older workers (individuals aged 55-64 relative to those aged 20-64) will increase in all OECD countries; The second column shows the share of elderly to the working population, defined as those aged 60 and more relative to the number of people aged 15-59. This ratio will increase dramatically over the next fifty years. Among the Nordic countries, the ratio ranges from 25 %

[18] The OECD is currently revising the estimates regarding the Nordic countries. The definition of environmentally related taxes is not that a tax is implemented with an environmental scope, but rather whether a tax is thought to have an impact on the environment (OECD 2001a).

(Iceland) to 38 % (Sweden) in the year 2000, levels comparable to those found in other countries. However, the average projected increase until 2050 will be lower in the Nordic countries than in the group of comparison countries; in particular, Austria, Italy and Spain (and Ireland, not shown) will see the share of older workers and elderly increase dramatically in this demographic development.

This demographic shift will impact on public finances in a number of ways. Obviously, expenditures for old-age pension programmes will increase, but also expenditures for early retirement programmes, including disability programmes, health care and long-term care for the elderly, and in the other end of the age-distribution, education and child benefits, will be affected. Therefore, broadening the concept of age-related expenditures from old-age pensions to include those listed above, leads the OECD to estimate that between forty and sixty per cent of total public spending is age-sensitive.[19]

To assess the claims on the public sector in the future, table 13 shows the projected evolution in public spending on old-age pensions, early retirement programmes and health and long-term care, respectively. The projected level of future spending is found by assuming that current policy programs will continue unchanged in the future; except in the case where policy changes have been decided upon, but not yet implemented. Old-age pension spending in projected to peak in Sweden and Denmark in 2035, in Norway in 2040 and in Finland in 2050. The increases in projected spending on old-age pensions spans from 2.2 per cent of GDP in Sweden to 8.2 per cent in Norway; the high value for Norway reflects already enacted increases in old-age pensions. In addition to this, from column 7 it can be seen that spending on early retirement programmes is comparatively high in the Nordic countries, between 2 and 4 per cent of GDP, at least compared to other countries for which data is available. However, the stable development in spending on these programmes partly reflects the fact that many countries have already undertaken reforms to limit the extent of early retirement programmes, for example by making staying on the labour market more attractive, and partly follows from assumptions of decreasing unemployment. Only Norway projects significant increases over the fifty-year period.

Together, these components amount to significant projected increases in public spending. The right most column of table 13 shows the total projected increase in spending from 2000 to 2050: The Nordic countries project to increase spending between 3.6 per cent of GDP (Sweden) and 16.5 per cent of GDP (Norway). Taking into account changes in revenues, for example from collecting deferred revenue from pensions, results in a worsening of primary balances of between 4 per cent of GDP (Denmark) and 17 per cent (Norway, not taking into account the Norwegian petroleum fund).

Given the current system, pension expenditures are increasing considerably more in Norway than in most other OECD countries. The return on the Government Petroleum Fund will help financing increasing public expenditures in the future. However, long- term projections indicate that in spite of the petroleum revenues, measures to restrain the growth of government expenditures are necessary. The Governments program to modernise the public sector may contribute to this. A pension reform may also reduce the pressure on the fiscal budget through strengthening incentives to remain in the workforce.

Various solutions have been proposed to counter this trend; apart from the general objective of bringing down public debt to lower the interest burden in the future, suggestions and policies have

[19] Dang et al. (2001, p. 7).

centred on increasing mandatory private pension payments for current workers, increasing labour supply to lessen the tax burden per worker by either increasing the retirement age, which is effectively quite low in some European countries, or through immigration, or reliance on other state revenue sources, such as oil in the case of Norway.

Increasing the retirement age obviously helps on two fronts, by reducing pension payments to people now in the labour force while collecting taxes from the very same. However, it may not be politically feasible, or economically efficient, to rely only on increasing the retirement age; in particular, the demographic development implies that a large share of voters will be pensioners or close to retirement.

This leaves immigration of foreigners as a solution. In the 1960's and 1970's, European countries invited foreign labour to reduce the shortage of labour at that time. Since then, while European countries have reduced immigration considerably, in particular by unskilled, non-OECD individuals, Canada and the US have exercised very selective immigration criteria and granted residence only to immigrants able to support themselves, and in particular to high-skilled individuals.

Table 14, containing also data for Canada and the US in addition to our group of reference countries, shows labour force participation rates and unemployment rates, by sex, for nationals and foreigners. The general picture is that the participation rate is higher for nationals than for foreigners,[20] while, in almost all European countries, the unemployment rate for foreigners is substantially larger (indeed, often double) than that of nationals. By contrast, for Canada and the US, the unemployment rates for nationals and foreigners are roughly of similar magnitude.

The benefits of immigration for fiscal policy depends crucially level of education, labour market attachment, and age at immigration (and thus potential years on the labour market). Calculations made for (West) Germany for 1997 reveals that for immigrants with average labour market participation and receiving the average in terms of transfers from the government, it is only for immigrants staying longer than twenty-five years that the net fiscal impact becomes positive.

An equally important part of the internal pressure on the welfare state stems from the potential emigration of Nordic citizens to other countries. Do the high progressive marginal taxes on labour and, to a lesser extent, capital income induce highly skilled individuals to move abroad permanently or for longer periods of their working life? Increasing globalisation and the establishment of the internal market in the European Union will tend to increase labour mobility, but it is not clear to what extent current emigration from the Nordic countries is due to high levels of taxation or other factors such as higher wages, other types of jobs etc.[21]
Particular attention has been paid to whether it is highly skilled workers, who will typically be subject to the top marginal income tax rate, that emigrate to escape the high levels of taxation. Evidence on emigration tendencies from the Nordic countries are typically based on administrative data and, thus, while we know the number of people emigrating, and to where, we do not know why; that is, is it due to high labour income taxes, or to lack of suitable employment opportunities,

[20] Note that endogenous withdrawal from the labour market by foreigners, as a response to long-term unemployment, could one reason for this development.
[21] Salt (1997) argues that, save for tax reasons, increased globalisation will in fact tend to stabilize the international movement of the highly skilled, attributable to greater use of oversea subsidiaries and collaborators, increased outsourcing, increased air travel and increased use of information technology.

higher wages regardless of taxes, or for personal reasons. Regardless of the reasons for emigration, however, we know that citizens tend to return after only a few years abroad. Evidence from Denmark[22] shows that of the total number of emigrants in 1993, thirty-eight per cent had returned to Denmark already the next year, and in 1999 more than seventy-five per cent of those emigrated in 1993 had returned to Denmark. While the evidence suggests that re-immigration tendencies are roughly the same for individuals of different, but completed, education, it seems as if those with the very highest income (measured in the year before they emigrated) have a slightly smaller tendency to re-immigrate.

I.1.6. Decentralization and expenditure control

We finally look at the intra-governmental division of taxing and spending powers. Table 15 reveals that the Nordic countries are characterized by high degrees of decentralization. Although not federal countries, which have constitutionally autonomous sub-national governments, the Nordic countries generate substantial tax revenue from local governments, in the range of 23 to 35 percent of total tax revenue, which is higher than most other non-federal countries. Measured in percent of GDP, regional and local governments in the Nordic countries collect between 8 (Iceland) and 18 (Sweden) percent of GDP in taxes. The same holds for expenditures, though this is more common (not shown). This means that there typically is a fiscal gap, with the central government providing additional financing, and redistribution among local governments, through block and matching grants.

Though often confused in the debate, a high share of local government tax collection does not necessarily imply that regional and local entities have substantial control over neither the level of local taxation nor the instruments used to raise it. In federal countries, regional and local governments can, to some extent, determine both tax bases and tax rates, while in unitary countries tax bases are determined at the central level, while local governments have different degrees of autonomy in setting local tax rates.

A recent study by the OECD makes a first attempt at assessing the degree of autonomy in tax setting for local governments. The study classifies local government taxes according to the degree of local autonomy exercised over these taxes, ranging from full local control to full central control. The third column of table 15 reports a measure of discretion in tax setting, based on this classification.[23] The column reports the percentage of local tax revenue for which local governments hold full discretion over the tax rate and the tax base or only the tax rate. A value of 100 designates full discretion over local government tax revenues. All the Nordic countries except Norway have considerable or full discretion in local government tax setting, corresponding well to popular perceptions of strong local democracy. Interestingly, three federal countries - Austria, Belgium and Germany - all have less regional and local government discretion in setting.

The measure of discretion in tax setting does not take into account the share of taxes controlled by the local governments; therefore, the final column of table 15 reports a summary indicator of local government tax setting powers, which is computed as the degree of local discretion in tax setting multiplied by the share of local governments tax revenues to GDP to yield a measure of the share of

[22] Danish Economic Council, 2001.
[23] See OECD (2002), Ec. Survey.

resources in the economy controlled autonomously by local governments.[24] This measure finds Sweden, Denmark and Finland as being the countries where local governments control the largest share of economic output.

Decentralisation carries with it advantages as well as disadvantages. By decentralising both tax and expenditures decisions to local entities, the population potentially has the possibility of choosing the tax-expenditure mix most in line with their preferences; therefore, the existence of local entities with tax and spending powers can yield a closer correspondence between citizen preferences and tax and expenditure policies chosen. On the other hand, having several layers of government equipped with autonomous taxing powers raises the possibility of encroaching common tax bases, with each tax jurisdiction not taking into account the choice of tax rates by the other levels of government. Such 'piggy-backing' can potentially increase tax burdens on particular factors more than would have been the case was there only one tax authority.

In federal countries, such vertical tax competition takes place between equals, as the sub-national units in principle have tax authority equal to that of the central, federal government. On the other hand, in non-federal countries such as the Nordic countries, local governments do not have similar degrees of autonomy and, therefore, the central government remains the final decision-maker regarding tax policy. Still, the division of tax revenues both between central and local government, as well as the degree of central government redistribution among local governments, remain highly contentious issues in public finance.

[24] The summary indicator does not take into account that local governments can use their autonomy *not* to raise taxes, and therefore the indicator is biased to take on high values in countries where local governments actually exercise their right to raise local tax revenues.

I.2. Tendencies in international tax competition

Introduction: Is tax competition good or bad?

A defining feature of international economic integration is an increase in the flow of factors between countries. This impacts on tax policy as the higher mobility of tax bases is thought to lead governments to engage in tax competition, undercutting each other in a 'race to the bottom' to attract tax bases, leading eventually to lower tax revenues and, thus, lower public expenditures.[25] In the international policy debate, the potential increase in the mobility of tax bases following from increased wider and deeper international economic integration is a cause of concern to some, while to others it is a welcome antidote to ever-expanding public sectors.

Some observers feel that the public sector in Western Europe has expanded dramatically in the post-war period, beyond any measure of optimal welfare-maximizing size of government.[26] To these observers, international tax competition can provide – through external pressure – what domestic politics could not: a downsizing of the public sector, trimming public expenditure programs and rolling back government involvement in the economy.[27]

On the other hand, if one sees the size and scope of government as the outcome of a well-functioning democratic process, reflecting the will and desires of a majority of citizens, tax competition constitutes a 'beggar-thy-neighbour' policy, involving national governments attempting to lure mobile tax bases from each other, with adverse consequences for the provision of public goods, services and government transfers.

At both sides of this debate, less extreme positions have been taken, proponents of the former view recognizing that some government programs actually serve useful and productive purposes, while proponents of the latter view concede that not all government activities are created or sustained for the public good, but rather to serve myopic political purposes or special interests. Therefore, there is some agreement that tax competition could in fact lead to improved efficiency in the public sector and to focus on particular, central expenditure programs.[28]

A study by Edwards and Keen (1996) attempts to compare rigorously and constructively the two fundamentally different views of government lying behind the different views of tax competition presented above. They consider a small open economy with taxation of internationally mobile capital as its marginal source of public funding, and assume, as a way of capturing the two positions outlined above, that some fraction of marginal public expenditure is pure waste, whereas the rest generates welfare for the representative citizen. They show that international tax competition reduces the welfare of the representative citizen if the elasticity of the tax base with respect to the tax rate exceeds the fraction of marginal public expenditures that are pure waste. This result is quite intuitive: The more elastic (or mobile) the tax base, the stronger is the tendency for international tax competition to drive down public spending below the level that would have been chosen were the no tax competition. Therefore, the greater the mobility of capital, the greater should the fraction of

[25] Most, but not all, economic models predict that lower taxes will result from tax competition.
[26] Tanzi and Schuknecht (2000); Cnossen (1990).
[27] A somewhat more radical position, taken by Brennan and Buchanan (1980), sees federalism with full mobility of factors, which could conceivably be the end result of a European Union, as the only way of constraining revenue-maximizing Leviathan governments from encroaching on citizen incomes.
[28] Compare with the literature on the common currency: Some feel that having a floating exchange rate disciplines politicians and central banks better than having a common currency relying on sanctions.

public spending that is pure waste be for tax competition to be welfare improving. The study by Edwards and Keen makes the important point for both sides in the debate to consider (quantitatively) the elasticity of the tax base and the fraction of public spending which is pure waste. On the basis of these estimates it is then, in principle, possible to judge the desirability of tax competition.

Parallel to the development and discussion within the academic debate on tax competition, the views on international tax competition have changed also in the international community; for example, the concern of the European Commission some years ago was that tax competition, by shifting part of the tax burden from capital towards labour, would result in high(er) unemployment. More recently, however, the commission has expressed the view that "… a reasonable degree of tax competition within the EU is healthy and should be allowed to operate. Tax competition may strengthen fiscal discipline to the extent that it encourages member states to streamline their public expenditures, thus allowing a reduction in the overall tax burden." (European Commission, 2001, p. 4). Similarly, the recent OECD initiative against so-called harmful tax practises was promoted under the headline "Promoting Tax Competition."[29]

I.2.1 Principles of international taxation

A country whose citizens and corporations engage in cross-border transactions, for example by working abroad or receiving interest income or profits from abroad, cannot readily apply domestic tax rules to such transactions. Generally, countries can assess tax liability involving international transactions according to two principles, the residence principle and the source principle.

The residence principle states that taxes should be levied on income earned by domestic residents, regardless of where that income is earned. This means, for example, that a citizen in a Nordic country earning income from, say, Germany should pay taxes in the Nordic country of residence. The source principle, on the other hand, states that taxes should be levied on income earned within the country, regardless of the residence of the income recipient.

A central result of the international taxation literature is that small open economies should not employ source based taxation, as it will create a tax wedge between the required rate of return demanded by domestic factors of production and the return required by the rest of the world, leading to an inefficient allocation of factors of production if tax rates differ. The problem is that a potential investor compares after-tax returns when contemplating which project to invest in, and under the source principle this will lead to different before-tax interest rates, at least when taxes differ. If income is based on the residence principle, however, this inefficiency disappears as factor owners equating after-tax returns face the same (domestic) tax rate regardless of whether they invest domestically or abroad, leading to an equalization of before-tax interest rates, which is optimal from the production efficiency theorem.[30] The optimality of residence-based taxation has thus been thoroughly established, but most national governments nevertheless continue to employ some types of source-based taxes, in particular in corporate and business income. There are several reasons for this.

First, modest tax differentials are not sufficient for multinational corporations to relocate the activities, as a reallocation of production activities and physical capital across countries involves considerable adjustments costs, and as real assets held in different countries typically are imperfect

[29] Hammer and Owens (2001).
[30] See, e.g., Razin and Sadka, (1991).

substitutes due to country-specific risks; as a consequence of this, international capital mobility will never be perfect in practice. There may also be political adjustment costs, with very frequent changes in corporate tax rates and rules being politically and administratively costly.

Second, multinational corporations will sometimes be able to earn above-normal profits when investing in a country, perhaps as a result of local factors such as easy access to (large) markets or raw materials, qualified labour, high quality local infrastructure, and rents of agglomoration. Such location-specific rents decreases the elasticity of the tax base with respect to the corporate income tax rate, leaving room for corporate taxation without distorting investment and without deterring foreign investors.[31]

Third, economic integration will increase international cross-ownership of the stock of business capital, which means that although capital mobility increases, a larger fraction of domestic business capital will be held by foreign investors, which in turn implies that a larger fraction of the domestic corporation tax will fall on non-residents. For governments (mainly) concerned with the welfare of their own citizens, this possibility of 'tax exporting' will make the corporation tax a relatively more attractive instrument,[32] in particular where 'location-specific rents' are presents, cf. above.

Fourth, some resident countries alleviate international double taxation by granting a tax credit for taxes paid abroad on foreign source investment income, typically up to a limit given by the domestic tax on foreign source profits, so that the effective marginal tax rate on repatriated foreign profits corresponds to the higher of the domestic and the foreign corporate tax rates. Therefore, even in countries that are formally based on the residence principle, there are strong elements of source-based taxation, and these countries can, through the credit system, shift some of the corporate tax incidence onto foreign governments without deterring foreign private investors. Such a credit system, hence, give countries with foreign investments an incentive to maintain some amount of source taxation, which, in turn, enables residence countries to maintain taxation of capital invested in the domestic economy without causing tax-motivated capital flight from the home country.

Fifth, the corporation tax serves as a backstop for tax avoidance by reclassification of income from personal income to corporate income.[33] If corporate income taxation is taxed at a much lower rate, or not at all, tax payers have an incentive to convert (labour) income into corporate income, to avoid high personal income taxes. Indeed, as we will discuss below, empirical evidence suggests that this is in fact a key role for the corporate income tax rate.

The problem with a system based on the pure residence principle is that, for full taxation to take place, it is necessary for the domestic government to receive information about all income earned abroad by domestic residents. This requires national tax authorities to engage in large-scale information exchange and, obviously, this is not easily achieved. It is much less demanding for national tax authorities to obtain information about incomes generated within the country, even if these are in fact owned by non-residents of that country. Therefore, source-based taxation is still widely employed.

[31] See also Baldwin and Krugman (2001).
[32] See also Huizinga and Nielsen (1997).
[33] See Gordon (1992) and Gordon and MacKie-Mason (1997).

I.2.2. Do taxes influence FDI and portfolio flows?

Before we turn to evidence on tax competition and the impact of globalisation on national taxation, it is worthwhile asking whether tax policy affects flows of portfolio income and foreign direct investment, as suggested by theory. The discussion of tax competition and tax harmonisation rely heavily on arguments that for example company taxation is a major determinant of the flows of FDI between countries. While company taxation influences both the extent of transfer pricing (see below) and dividend repatriations from subsidiaries to parent companies, it is often the effect of taxation on the allocation of real investment by multinational that holds the most attention.

A large literature has examined the effect of company taxation on the allocation of foreign direct investment. de Mooij and Ederveen (2001) list twenty-five empirical studies reporting tax elasticities for FDI and goes on to compare these in an integrated framework. Many of the elasticities reported in the studies they survey are not significantly different from zero, meaning that one cannot with reasonable confidence say that taxes matter for the location of FDI and while there exists substantial variation across the studies, they find a mean value of the tax rate elasticity in the literature to be around –3.3, which means that a 1 % reduction in the host-country tax rate raises foreign direct investment by 3.3 % in that country.

Confirming the survey of earlier studies, a recent study by Buettner (2001) – not included in de Mooij and Ederveen – focuses on FDI within Europe, and finds that taxation significantly influences FDI-flows; in particular, the joint effect of the marginal tax burden and the statutory tax rate proves significant. While the literature is far from conclusive yet, at this point it does suggest that FDI-flows respond to tax incentives, as predicted by economic theory.

Regarding foreign portfolio flows, less evidence exists. A small number of papers have investigated the determinants of international deposits, but only a few with a focus on taxation. A recent study uses the most detailed tax and banking rules yet, and the authors' main finding is that high income and wealth taxes elicit international depositing.[34] Further, domestic interest reporting to tax authorities also seems to increase depositing. There is less evidence that withholding taxes discourage deposits in "receiver-countries" and similarly, there is little evidence that information reporting has a strong impact on bilateral depositing. The authors take the results regarding withholding taxes and information reporting to reflect the fact that non-resident withholding taxes are typically low and enforced only by a few countries, and that information reporting yet has to be enforced rigorously across a large number of countries.

Summing up, from the evidence accumulated so far it seems that national governments and policy-makers are correct in recognizing the potential threat from increased mobility of tax bases and tax competition for national taxation. We next turn to whether increased internationalisation has had an impact on national tax policies, and whether it is possible to find systematic evidence that tax competition is taking place.

I.2.3. Is there tax competition? The empirical evidence

While the widespread opinion in the international policy debate is that economic integration through tax competition will put downward pressure on taxation and spending, there is considerable less agreement on just how much this will matter for the level and structure of taxation. Some (Sinn,

[34] Huizinga and Nicodème (2001)

1990) fear that the foundation of the welfare state will disappear, while others believe that the remaining natural barriers to mobility will leave sufficient room for independent fiscal policy in individual countries. In the latter case, however, while it may be possible to sustain or lessen only slightly the level of taxation, tax competition can shift the burden of taxation from mobile to immobile factors, which, while being more efficient, can result in an altered income distribution.

An important issue, then, is to attempt to quantify the actual extent of tax competition. We do so by reviewing several very recent studies dealing with various facets of this issue, and in addition by giving qualitative examples of recent interdependencies in tax policy in the Nordic and EU countries.

Several problems pertain to assessing whether tax competition has quantitatively important effects. Firstly, it is possible that tax competition, although it exists, does not manifest itself in lower tax rates; if the public sector grows, as has been the case quite steadily over the last forty years, tax competition as a downward pressure on public finances could mean that the public sector stops growing, or grows at a lower rate than would have been the case in lieu of tax competition. Secondly, the may be conflicting effects; for example, as is discussed in detail below, increased openness of the economy may serve to increase the demand for social insurance beyond that of a closed economy, meaning that voters, in the face of increased volatility of income following from more openness, are willing to accept greater tax distortions or taxation of other factors than the mobile ones. This will tend to increase the size of the public sector and, hence, taxation. At the same time, of course, openness can serve to intensify tax competition, which will work the other way. The net effect, then, could in principle go both ways. Thirdly, declining tax rates (or a declining size of government) could simply reflect voter preferences rather than external forces such as tax competition, or reflect the focus on tax-cut-cum-base-broadening OECD tax reforms in the 1980s and 1990s. With these caveats in mind, we will turn to review the empirical evidence on tax competition.

First, we ask the question if there is an impact of globalisation in itself on the levels and structure of national taxation, and, second, if there exists an international interdependence in tax-setting, such that a country's choice of tax levels and structures depends on the choices of other countries, and that countries behave strategically when setting tax rates? The distinction arises from the fact that globalisation and the resulting reallocation of factors of production can influence patterns of production, demand for social insurance, shifts between unskilled and skilled labour etc., and these changes can have important implications for tax policy, but at the same time tax policy in itself can be used to influence choices of location for firms and individuals. Obviously, the two questions are interconnected in the sense that increasing globalisation, by increasing mobility of factors of production, has the potential to increase the intensity of tax competition.

In the literature, globalisation has been defined in a number of ways, but most scholars agree that it has to do with openness to trade and lack of capital controls. How does trade openness affect the size of the public sector? A recurring empirical result in economics and political science is that countries that are more open to trade have larger public sectors, measured by government expenditures.[35] This comes about, Rodrik (1998) argues, as more open economies are more vulnerable to external shocks, which creates a domestic pressure for a higher degree of social insurance, financed by higher taxes.

[35] Cameron (1978); Katzenstein (1985); Rodrik (1997, 1998). See, though, Iversen and Cusack (2000) for a challenge to this finding.

This effect, sometimes referred to as the compensation hypothesis, comes about from the demand side of the public sector: voters wishing a higher degree of social insurance vote for higher taxes. However, openness also affects the possibility of the public sector to raise taxes. More openness means that factors of production, in particular capital, can move abroad more easily to jurisdictions with lower taxes, and therefore higher after-tax returns. This decreases the tax bases available for raising government revenue, potentially leading to lower taxes. Theory suggests that the tax rates on factors that are more mobile should respond more to globalisation, and therefore it makes most sense to look for evidence of the impact of globalisation on taxation in capital and corporate taxation.

I.2.4. The effects of globalisation on the taxation of mobile factors

A number of studies have done so looking at how openness, measured both by trade openness and lack of capital restrictions, has influenced the share of corporate tax revenue to GDP; for example, more trade openness and less restrictive capital account regulation have been associated with *increases* in capital and corporate income taxation, results seemingly at odds with standard theories of tax competition surveyed above.[36] Following the discussion in section I.1, however, some have argued that this is an inappropriate measure, as corporate earnings, and thus the corporate tax base, has increased over the last twenty years which means that for given corporate tax rates, corporate tax revenue relative to GDP will increase.

As an alternative, a recent study by Bretschger and Hettich (2002) investigates whether increased globalisation has an impact on effective average corporate tax rates, measured by the method of Mendoza et al. (1994). As the other studies, they measure globalisation by (i) openness, corrected for size,[37] and (ii) capital account regulation. Their three main findings are the following: globalisation decreases effective average corporate tax rates, it tilts the tax mix from corporate to labour income taxation, which is less mobile internationally, and it causes social expenditures to rise, the latter confirming the finding of others referred to above. The first result clearly is in contrast to other studies that have looked at corporate tax revenues as percent of GDP. The substitution of corporate income taxation for labour income taxation is an important one, observed also by Rodrik (1997), and has also been the worry of the European Commision who have argued that the shift towards labour taxation stemming from tax competition exacerbates Europe's unemployment problem. Their focus is on corporate tax rates, as effective capital income tax rates include revenues from immovable property etc, while corporate earnings are thought to be more mobile.

Slemrod (2001), on the other hand, looks at statutory tax rates and revenue from corporate taxation to GDP. He finds that the latter measure of corporate taxation increases in openness.[38] The reason is that while increased openness drives down the rate of taxation per unit of investment, more globalised economies (and larger economies, due to agglomeration advantages), attract a higher base for corporate taxation, and can therefore collect more revenue from taxing corporate income. Therefore, the message is that while tax competition may decrease the rate of taxation per unit of investment, and particularly so for more open and larger economies, this competition has the (for

[36] Garrett (1995) and Quinn (1997).
[37] Everything else equal, smaller economies, reaping more gains from specialization, will necessarily have to trade more, leading to more openness.
[38] Thus, confirming the results of Garrett (1995) noted above.

the countries) desired effect that they attract a larger tax base for corporate taxation, leading to higher revenues.

Slemrod finds that corporate income taxation is insulated from revenue needs, in the sense that corporate revenues are independent of the level of taxation, and that the main determinant of statutory corporate tax rates is the top marginal individual tax rate of a country. This suggests that corporate income taxation rather acts as backstop to the reclassification of labour income to business income in the search for lower tax rates, in particular as this effect is more pronounced in countries without capital gains taxation.[39] *If* there are competitive pressures on corporate income taxation, then an indirect effect of this could be that the backstop-effect is weakened, putting domestic pressure on labour income taxation or allowing for increased income shifting.

Capital taxation

As discussed above, the use of implicit tax rates in comparing national tax systems both across countries and over time is a subject of great debate. Two major problems exist: The first is the lack of suitable measures of tax rates for international comparison; as mentioned earlier, the method developed by Mendoza et al. (1994) as well as similar attempts by Eurostat and OECD, were directed at solving this problem. However, when using these measures for comparing issues in international tax competition, a major problem, acknowledged by the two previous studies by their exclusive focus on corporate income taxation, is the fact that existing measures of implicit tax rates on capital include substantial revenues from taxes that are irrelevant for the location of mobile capital, which makes them unsuitable for assessing the degree of tax competition on mobile capital, as it has been done by, for example, Eurostat (1998).[40]

To assess the share of capital that is mobile, very detailed information on national tax systems and tax revenues is needed, and this information is available only for a small number of countries. Devereux, Griffith and Klemm (2001) carry out a detailed study, comparing the evolution over time of statutory corporate tax rates, effective average and marginal tax rates as well as implicit tax rates, the latter computed in the Mendoza et al. tradition.

Their main findings are that both the statutory tax rate on corporate income and the effective average rate of taxation have declined over the past twenty to thirty years. This is consistent with an increased competition among national government for the location of multinational firms. Further, the effective marginal tax rate, relevant for marginal investment decisions given the location, have been stable on average over the period they examine.[41] The implicit tax rate on corporate income shows no clear trend, and is very volatile, reflecting volatility in the tax base measure. Finally, as documented also by other studies referred to above, they find that corporate income tax revenues to GDP have risen sharply since the mid 1960s, reflecting partly a rise in the total level of taxation. Together, the results suggest that taxation of corporation has become more generous, as statutory and effective average tax rates have decreased substantially, while at the same time tax revenues from mobile capital have *in*creased, reflecting an increase in corporate income which have come about partly through increases in productive activity, partly, as suggested also by Slemrod (2001), through re-classification of activities or income as corporate activity. In particular, since statutory corporate income tax rates have decreased, while labour taxation – despite rate-reduction-cum-base-

[39] This is explored in greater detail in Gordon and MacKie-Mason (1993)
[40] See also the discussion in Lassen and Nielsen (1996).
[41] At least for the ten countries, including the G-7 countries, they consider.

broadening tax reforms carried out in the OECD area – have remained high, the role of the corporate income tax as a backstop for reclassification activities have been weakened.

I.2.5. Evidence of tax competition

The previous section examined whether taxation of capital and corporate incomes is affected by factors of globalisation, and whether a clear (time) trend could be seen in the development of various measures of tax rates. But this is not the same as asking whether actual tax competition takes place; that is, do countries, when setting taxes on mobile factors, take into account the choice of other countries? A large literature has looked at this issue at the sub-national level, to see if states or municipalities take into account the tax policy choices of neighbouring states and municipalities when choosing tax policy, and there is substantial evidence that they do.[42]

Two recent studies look for empirical evidence of tax competition among (sub-samples of) OECD countries. How does one look for evidence of tax competition? The standard method is to take as given the tax policy choices of others, typically taken as an average, and to see if this affects the tax policy of the country in question.

Devereux, Lockwood and Redoano (2001) examine ten OECD countries, examining statutory tax rates, effective average tax rates and effective marginal tax rates. They find evidence of tax competition in statutory tax rates and effective average tax rates, such that the average of the other countries' effective average tax rates significantly influences the tax policy choices of a single country. The competition is downward: If a country's tax rate is higher than average, there is a tendency for the country to significantly reduce it's tax rate towards the average, whereas if a country has a tax rate less than the average, they will not increase it towards the mean.

While they find evidence of competition in average and statutory tax rates, they find no evidence of interdependence in the cost of capital or the effective marginal tax rates – this mirrors the findings reported above, that there had been a downward tendency for effective average tax rates, but that effective marginal tax rates have remained stable over the last twenty to thirty years.

This is consistent with a belief among governments and policy-makers that locational choice is discreet and 'sticky' – once a firm has chosen a location, taking into account effective average tax rates, it will tend to stay unless the relative tax burden changes dramatically, independent of the marginal rate of corporate income taxation, which will influence only the amount of investments undertaken once location has been settled.

A complementary analysis has been carried out by Besley, Griffith and Klemm (2001). They analyse whether a country's tax revenue ratio (to GDP) depends on the average tax structure of other OECD countries (that is, they examine whether so-called fiscal reaction functions exist). Since they use revenue data instead of prospective tax rates as Devereux et al. (2001), they can consider a larger sample and over a longer time horizon than do Devereux et al. Besley et al. identify fiscal interdependence in corporate, VAT/sales taxes and excise taxes, in some cases in labour taxes, but not in property taxes. This means that the average of other countries' ratio of revenues from indirect taxation significantly influences the revenue collected by each single country. The fiscal interdependence they identify is consistent with the mobility of these tax bases,

[42] E.g. Besley and Case (1995).

with corporate income being mobile and indirect taxation susceptible to cross-border shopping, while labour is less mobile and property not at all.

Given the existence of fiscal interdependence in tax setting, theory suggests that this interdependence should be larger, the more freely factors of production can move between countries. This is exactly what Besley et al. find: When they split the OECD countries into EU and non-EU countries, they find that EU countries react more strongly than non-EU countries to changes in EU corporate tax rates, suggesting that the fiscal interdependence they identify is stronger for countries among which the mobility of capital is (supposed to be) higher. This, then, indirectly returns to the arguments made above regarding globalisation and its impact on tax policy.

To sum up, at this point available evidence seems to suggest that tax competition is taking place. Countries have responded to more openness by shifting taxation away from mobile tax bases such as corporate income towards less mobile tax bases such as labour income. The increased mobility of factors has increased the fiscal interdependence of countries, leading to tax competition over taxes on mobile factors and in particular taxes aimed at attracting FDI and multinational corporations. In addition to this, evidence of tax competition is present in a number of special cases, such as labour income taxation of foreigners (the so-called researcher tax, see Box 1), shipping-taxation (see Box 2) and the taxation of corporations' capital gains on shares in subsidiaries.

Box 1: *Taxation of highly qualified labour and key personnel*

High tax rates on labour income, as generally applied in the Nordic countries, can result in employers having difficulties in attracting foreign or expatriate staff to high tax jurisdictions. This has lead to the introduction in several countries of special tax arrangements for researchers and highly qualified staff, consisting of special low tax rates in a limited period. The general idea is that lower tax rates are available for employees with specific expertise that is scarce or unavailable in the domestic labour market.

Currently, within Europe special low-tax arrangements for expatriates is provided in Denmark, Finland, Sweden and the Netherlands, while a number of countries (Belgium, Poland, the Czech Republic, Turkey and Japan) have so-called non-resident provisions in the tax code, typically providing beneficial treatment by taxing only source country income, exempting certain incomes and providing extra deductions.

For example, Finland and Denmark apply a gross tax of 35 and 31.75 percent,[43] respectively, while in Sweden only 75 percent of the wage is included in taxable income. Certain restrictions apply to differing extents, including minimum salaries for eligibility, approval of the position, country of residence within the last five years etc. The period in which the low tax scheme applies ranges from two years (Finland), over three years (Denmark and Sweden), to 10 years (the Netherlands).

From tables 6 and 7, it is clear that low-tax arrangements, including non-resident provisions, have been implemented in the countries with the highest average and marginal tax rates in our group of comparison countries: Belgium, Denmark, Finland and Sweden have, by far, the highest marginal tax rates and also comparably high average tax rates.

[43] The Danish tax rate consists of a 9 % labour market contribution and a 25 % gross tax.

Box 2: *Tax Competition at Sea*

Another case of tax competition is the preferential treatment of the shipping business. Instead of being subjected to standard corporate tax rules, several countries have introduces preferential tax treatment of shipping based on tonnage. While Greece has exempted shipping from taxation since the 1970's, the Netherlands introduced tonnage taxation in 1996, which effectively exempted certain ship-owning companies from taxation. As a response, similar rules were enacted in Norway in 1996 and pressure from the shipping industry has led to similar rules being implemented in Germany (1999) and Finland (2001), and having been proposed in Denmark (2002).

Similar, the exemption of seamen's wages from taxation also provides preferential tax treatment. As part of the Dutch reform of 1996, employers in the shipping industry could keep an amount roughly equivalent to liable income taxes of the seamen employed, which effectively served as a subsidy to shipping. Similar rules were enacted in Germany in 1999 and, as a result thereof, in Denmark for employers at ferries between Denmark and foreign countries. Subsequently, Sweden and Norway have enacted similar rules with an emphasis on ferries operating abroad.

I.2.6. Transfer pricing

The pressure from internationalisation on the corporate tax base has to do not only with the choice of location by multinationals, but also the extent to which they will attempt to shift profits around from one tax jurisdiction to another. The discussion above has focused on competition in tax rates, implicitly assuming that corporations shift their choice of location to countries with lower tax rates. However, a substantial part of corporate responses to differences in taxation takes place by corporations using *transfer pricing*, rather than shifting the location of the entire corporation. The existence of intra-corporate transactions makes it possible for parent companies to shift its profits to a subsidiary in another tax jurisdiction, either to offset a loss (cross-border loss offset) or to be taxed at a lower rate; this profit shifting can take place by intra-corporate transactions taking place at prices different from those that would prevail were the corporations individually owned.

To prevent transfer pricing, internal prices in corporations should, as general rule, follow the so-called arms-length principle; that is, internal prices should be similar to the prices that would prevail if the transaction had taken place between two separate legal entities. In practice, however, establishing the 'correct' market price for a good or service traded internally is often difficult, as there often exist no external market for such goods and services.[44] At the same time, this makes it difficult for authorities to investigate cases involving transfers pricing, let alone determine the overall extent of such transfer pricing schemes.

Obviously, the incentives to shift profits from one jurisdiction to another depends on differences in tax rates, as well as differences in the provision of loss offset etc. Therefore, the effective average tax rate on corporate income is an important determinant of where the profits of multinational corporations are taxed and as reported above, empirical evidence suggests that effective average tax rates and statutory tax rates on corporate income have declined over the last decades.

Assessing the extent of transfer pricing for tax planning, like assessing the size of the informal sector, is obviously very difficult. Given the complexities associated with even determining whether profit shifting is taking place obviously makes it even more difficult to determine the extent of

[44] Indeed, this is sometimes the reason for the existence of firms.

profits shifting at the macro level, and existing estimates for the Nordic countries have been somewhat controversial and highly uncertain.

Part II:
International Tax Cooperation

II.1 The international debate on tax competition vs. tax coordination

Spurred by the worldwide liberalization of capital flows and the launching of the European Single Market and Economic and Monetary Union, the last two decades have witnessed an intensive international debate on the need for tax coordination. Recently, however, as noted also in part one, there seems to have been a shift in the dominant opinion in this long-standing debate. Only a few years ago the European Commission expressed concern that international tax competition seems to shift the tax burden from mobile capital onto unemployment-ridden labour. The Commission therefore argued for improved coordination of capital taxation within the EU to prevent further shifts in the tax burden to the disadvantage of labour. However, more recently the Commission has expressed the view that "… a reasonable degree of tax competition within the EU is healthy and should be allowed to operate. Tax competition may strengthen fiscal discipline to the extent that it encourages Member states to streamline their public expenditure, thus allowing a reduction in the overall tax burden." (European Commission, 2001, p. 4).

In other words, international tax competition is now seen as an instrument for enforcing a necessary reduction in public spending in Europe. Although dissenters remain, the view that tax competition is in general beneficial is becoming increasingly popular. As an indication of this, the much publicized OECD initiative against so-called harmful tax competition was recently marketed under the headline "Promoting Tax Competition" (Hammer and Owens, 2001). The basic message in this statement co-authored by the Head of the OECD Fiscal Affairs Department was that the OECD initiative is only intended to fight international tax evasion so as to allow international tax competition to take place on a level playing field for all multinational companies and investors.

Parallel to the shifting mood among policy makers there seems to have been a shift in the dominant academic view of international tax competition. In the 1980s when the literature on tax competition started to flourish, most academics agreed that inter-jurisdictional competition for mobile capital will drive source-based capital income taxes to sub-optimally low levels unless the international community engages in some form of tax coordination. But recent refinements of the basic model of tax competition show that the theoretical case for tax coordination in the form of a minimum source tax on capital is not clear-cut. For example, the increasing importance of foreign direct investment increases the incentive for policy makers to use the source-based corporation tax as an instrument for exporting some of the domestic tax burden to foreign capital owners. If the degree of foreign ownership of the domestic capital stock increases due to economic integration, this may offset the incentive to lower the corporation tax to attract more foreign investment. Moreover, if the political process is imperfect, tax competition may enforce fiscal discipline which reduces the scope for rent-seeking by politicians and bureaucrats, as suggested by the previous quote from the European Commission.

If governments and bureaucrats are not only enriching themselves for their own benefit (and that of selected special interests), tax competition will, everything else equal, imply a loss of tax revenue. This can be countered by shifting the tax burden towards labour, or by cutting government transfers and the public provision of private and public goods. In either case, however, it is possible that increased inequality will result. If the burden of taxation is simply shifted from capital to labour, there will be less income distribution via the tax system, as the distribution of capital income is more skewed than that of labour, and if the loss of revenue is financed by cutting public provision of goods and services as well as government transfers, income inequality will increase to the extent that such goods and, in particular, transfers have redistributive effects.

Tax harmonisation vs. tax coordination

The international debate on tax competition often fails to distinguish between tax harmonisation and tax coordination. Tax harmonisation within a given area means international equalisation of effective tax rates, implying a serious loss of national fiscal autonomy. Furthermore, with cross-country differences in economic structures and political preferences, complete harmonisation of the most important taxes can have negative welfare effects. By contrast, tax coordination aims to prevent distortions and inequities arising from over- or under-taxation of cross-border activities, while respecting as far as possible national sovereignty over tax policy.

II.2 Tax cooperation within the OECD

A major role of the OECD in influencing tax policy is to provide, unilaterally, advice on domestic tax principles and issues, and to do this in a consistent way across countries. The input of the OECD has often formed the basis of the debate of the tax system in individual member countries. A recent example of the role of the OECD in assisting domestic tax policy can be found in van den Noord and Heady (2001), who summarize the findings from the individual country studies of domestic tax policy included in OECD Economic Surveys.

The role of the OECD in assisting tax policy in the international community is hindered by the fact that the OECD has no legislative authority over member states and, as a result, is not able to establish legally binding agreements over tax policy. As a consequence, any cooperation has to be based on voluntary participation and implementation by member states. As many issues in international taxation have OECD countries at odds with each other due to competing interests, actual results have been hard to achieve historically.

The most ambitious recent OECD initiative regarding international taxation issues is the on-going initiative against 'Harmful Tax Competition' mentioned above, which has most OECD countries united against off-shore tax havens used by OECD resident individuals and corporations for tax avoidance and evasion, making the residence principle hard to enforce for national governments. At present, a number of tax havens have to establish effective exchange of information for tax matters with OECD countries.

II.3 Tax cooperation within the EU

Following the on-going removal of barriers to trade within the European Union as a result of the Single Market, as well as the elimination of exchange rate costs within Euroland, attention at the EU level has turned to remaining barriers for the free movement of factors, one of which is taxation. In particular, the argument of both the European Commission and the European Parliament is that divergent national systems of taxation appear to distort competition and limit the free movement of

factors. Furthermore, member countries have been concerned that the free movement of capital will imply a shift in the tax structure towards less mobile factors, in particular labour, with disadvantageous consequences for unemployment, already high in many countries.

Attempts to harmonise tax systems and tax rates has, however, largely been unsuccessful, as have more modest attempts at tax coordination. At the level of the ECOFIN Council, an almost insurmountable obstacle has been the requirement of unanimity when voting on issues of taxation. This lack of agreement at the supranational level reflects national concerns, shared by both politicians and citizens, of losing autonomy of national tax policy, with respect to both the extent and structure of taxation. For example, it is argued that the strict budget deficit limits set up as part of the fiscal convergence criteria and the Stability and Growth pact require national governments to retain some discretion over national tax policy. At the same time, citizen support for transferring tax authority to the European Union is almost non-existent: "Europe's citizens, generally speaking, do not want their taxes set by Brussels."[45]

As noted by the European Parliament (2001), a major difficulty is the Treaty itself. Article 93 of the Treaty provides for the harmonisation of "turnover taxes, excise duties and other indirect taxes in the interest of the Common market [where this is] necessary to ensure the establishment and functioning of the Internal Market." As noted above, the Treaty at the same time holds that any measure on these matters must be decided by unanimity in the Council, and all attempts to change the Article, including in particular the procedure of voting, has been met by strong resistance by member states. For example, proposals as part of the Nice Treaty including introducing weighted majority voting for aspects of the tax system while keeping unanimity on tax rates were comprehensively rejected by member states.

The remainder of this section briefly sums up the experience of EU tax coordination so far, and the next section addresses future perspectives on tax coordination in the EU, including emerging issues such as the taxation of occupational pensions.

EU coordination of indirect taxation

As noted above, coordination and harmonisation of indirect taxation is an integral part of the Treaty and has had high priority at the Commission and for good reasons. The current problems of indirect taxation in the European Union stem from the fundamental tension between the goal of creating a Single Market with no borders while attempting to preserve member state autonomy in setting indirect tax rates. Where there is no limit on cross border shopping and national indirect tax rates differ substantially, tax competition and trade distortions inevitably result.

The Commission has several times proposed a switch to the so-called definitive VAT regime, a system of origin-based VAT, involving abolition of the zero VAT rate on exports to other member states, with the aim of ensuring identical VAT treatment of domestic and cross-border sales within the EU. However, the proposed regime also involved a clearing mechanism to maintain the current distribution of VAT revenues implied by a destination-based system, and as this was heavily criticised, the proposals were eventually withdrawn.

[45] Ussher, 2000, quoted in European Parliament (2001).

Results regarding coordination of direct taxation so far
In the case of direct taxation, the Treaty provides hardly any legal base at all. As noted by the European Parliament, legislative action has been justified by appealing to more general objectives such as the free movement of workers and capital, the functioning of the common market, etc. As a consequence of this, most recent developments have taken place outside the normal Treaty framework, such as The Code of Conduct regarding corporate taxation (see below).

According to the Commission, personal income taxation falls entirely under the responsibility of members states. Numerous problems of coordination exist, however, and the Commission finds that co-ordination at the EU-level could become necessary to prevent cross-border discrimination or obstacles to free movement, to eliminate double taxation and to avoid cross-border tax evasion. The relations between member states, as well as between member states and third countries including OECD countries, in matters of direct taxation are therefore left governed largely by bilateral tax treaties, most commonly covering issues related to double taxation.

Corporate taxation: Code of Conduct, Principles and current status
The history of attempts to coordinate and harmonise corporate taxation within the European community dates back to the Neumark Committee, prepared in 1962, which recommended that corporation tax systems should be harmonised along the lines of a split-rate system, with a lower tax on distributed than on retained profits. Since then, a number of reports and initiatives regarding the harmonisation of tax system, base and rates have been presented, including a draft proposal for the harmonisation of the tax base for enterprises in 1988, but all have been unsuccessfull.

This experience gradually led the Commission to change course. In the beginning of the 1990's, it was recognised that, subject to the principle of subsidiarity, all initiatives in the realm of corporate taxation should be defined through a consultative process with member states. At the same time, a committee of experts published the Ruding report, which focused on the changes to company taxation necessary for a well-functioning Single Market. However, as concluded by the Commission (SEC(2001)1681), again "little progress has been achieved in the field of company taxation as a result of [the Ruding Reports'] findings and recommendations." The main reason for the lack of success in coordination and harmonising business taxation is, again, the fact that decision-making on legal provisions adopted by the Council in the case of taxation needs to be approved with unanimity.

This experience of gridlock in the Council led, in 1997, to a new strategy which established the Code of Conduct for Business Taxation. Rather than trying to establish legally binding instruments, the Code took the form of a political agreement, under which EU member states agreed to respect principles of fair competition and to refrain from harmful tax practices against each other, something not covered by bilateral tax treaties, but attempted in a similar way at the OECD level, cf. above.

A number of initiatives were spelled out under the Code of Conduct; in particular, member states should not introduce new harmful tax measures, they agreed to a re-examination of current laws and practises, to inform each other about changes in tax measures regulated by the Code, and co-operation against tax evasion and avoidance.

Recently, the so-called 'Primarolo Group' has been identifying, reviewing and supervising the implementation of and compliance with the Code of Conduct; in particular, the Primarolo group in

their first report (Primarolo, 1998) identified 85 tax measures of a harmful nature in member states, and this list has since been updated based on submissions from member states, but not approved by the Council. Such harmful tax measures are selective tax schemes with zero or very low effective taxation combined with one or more of the following characteristics: (i) separation of the favoured activity from the domestic tax base ('ring-fencing'); (ii) lack of transparency of special tax rules; (iii) absence of significant real economic activities; and (iv) profit determination deviating from OECD transfer pricing guidelines. The number of harmful tax measures found in single member states range from zero in Sweden and the UK to ten in the Netherlands. Following the final report of the group, published as Primarolo (1999), the group has been given the mandate to supervise that member states abolish those measures identified as harmful by 2003, and at the same time do not introduce new such measures.

The Directive concerning taxation of interest income: Principles and current status
With the introduction of the common currency, which has effectively removed the exchange-rate risk of investing abroad, the attractiveness of foreign deposits within Euroland has increased substantially. This is of great concern to national tax authorities, as this will make it increasingly difficult for them to tax the overall interest income of their residents. In particular, the existence of countries within the euro-zone that have combined bank secrecy with low or no withholding taxation of interest income has made tax coordination regarding the taxation of personal income an important topic in recent tax policy debates at the European level.

Already in 1989, the Commission proposed in a draft directive a common system of withholding tax on interest income, to be levied at a rate of 15 %. However, as the proposal failed to make any progress in the Council, it was eventually withdrawn. The topic was re-introduced as part of the so-called Monti-package, of which the Code of Conduct for Business Taxation was another part, in 1998. The aim was to ensure a minimum of effective taxation of savings income in the form of interest payments within the Community, and the proposal put forward (European Commission, 1998) was based on a co-existence model, in which member states would either levy a withholding tax of 20% on interest income paid to residents of another Member country, or provide information on such payments to the tax authorities of the other member states.[46] In addition to providing general principles, the proposal also dealt in detail with many technical issues.

After lengthy negotiations in the Council, a revised proposal was presented in 2001, see European Commission (2001). The revised proposal has as its ultimate objective full exchange of information between member states, to be achieved seven years from the adoption of the Directive. Until then, Austria, Belgium and Luxembourg will introduce a withholding tax rate of 15 percent, increasing to 20 percent after three years, and finally adopting information exchange after seven years. Under the proposal, the collecting country of the withholding tax would retain 25 percent of the revenue.

Concern has been expressed, however, by countries such as Luxembourg in which banking is a main industry, that business would simply move to third countries with similar banking secrecy laws, for example Switzerland, Liechtenstein, Monaco etc. Therefore, the adoption and implementation of the Directive will depend on whether "equivalent measures" will be adopted by such third countries, and whether agreement on what constitutes "equivalent measures" can be reached. The hope of the Commission is that a decision will be taken, by unanimity, by the end of 2002.

[46] See Huizinga and Nielsen (2002) for a theoretical analysis of this issue.

II.4 Perspectives on tax coordination in EU

Harmonisation and coordination of corporate taxation within the EU.
Regardless of past problems in harmonizing and coordinating corporate taxation within the European Union, it remains an important objective for the Commission to attempt to restructure member states' corporate income taxation so as to "cater for the increased cross-border activity and modern organisational structures of companies." [COM (2001) 260 final, p. 16]. The most recent initiative, taken following a mandate from the Council in 1999, was to examine the possibilities for providing companies with a consolidated corporate tax base for the EU-wide activities. The conclusions from that study were published in 2001 as COM(2001)582 and SEC(2001)1681. The argument for preparing a new report was that the corporate landscape of Europe has changed in important ways, including a large number of mergers and acquisitions, the emergence of electronic commerce, and the increased mobility of factors with the growing importance of tax havens, since the Ruding report of the early nineties. In addition, of course, neither the Internal Market nor the Economic and Monetary Union had been established then.

The report distinguishes two approaches for tackling the problems of company taxation in the EU, one based on so-called "targeted solutions", meant to remedy individual obstacles in a piece-meal approach, and one designated "comprehensive solutions", aiming at more fundamental reforms of company taxation both at the European and national levels.

The targeted solutions include harmonising tax rules regarding cross-border restructuring operations and mergers, the treatment of cross-border offsetting of losses (or, alternatively, implementing a scheme of joint taxation of parent and subsidiaries along the lines of the Danish system), and developing best practises for application procedures and documentation requirements.

The more ambitious route aims at more general measures, providing multinational companies with a common consolidated tax base for the EU-wide activities. The approaches include: The mutual recognition approach of "Home State Taxation", under which the tax base would be computed in accordance with the tax code of the country in which the company's headquarter is based; Common consolidated base taxation, devising completely new harmonised EU rules for the determination of a single tax base on the European level to work parallel to existing national systems; the European Corporate Income Tax, levied at the European level with all or parts of the revenue accruing directly to the EU, either replacing or working alongside national tax systems; and the "traditional" approach to harmonisation, replacing national tax systems with a single EU company tax base.

Harmonization of indirect taxation within the EU, including the final VAT-system.
As summarized above, a major concern of the Commission has always been the harmonisation of indirect taxes to secure a proper functioning of the Internal Market. The 1987 proposal for an origin-based common VAT system was made with the objective of creating a true "Single Market" in which intra-community sales and purchases of goods and services would be treated in the same way as those taking place within the member states. However, such an origin-based system has not been achieved and, therefore, a transitional system based on taxation in the country of consumption, was retained when border controls were abolished in 1993.

The current stance on indirect tax harmonisation reflects the Commission's view that the transitional system is "complicated, susceptible to fraud and out of date." [COM(2001)260 p. 11] combined with a reluctance on the part of member states to switch to the definitive origin-based

system from fears of losing revenue, resulting in the compromise that while the Commission's long-term goal remains the definitive origin-based system, the current strategy aims at improving the current transitional system.

Coordination of energy and environmental taxes within the EU and the EU Commission's attempts to harmonise energy tax bases.

Taxation is generally recognised to be an efficient economic instrument for dealing with environmental problems and influencing energy consumption. Furthermore, many environmental problems, such as carbon-dioxide emissions, inherently have an international dimension, and, therefore, coordination at the supra-national level has been a priority for the Commission for the last decades.

Environmental and energy taxation takes place at the national level, and the only EU-wide agreement on energy taxation is a minimum excise tax rate on mineral oils for each product according to its use. However, the system has not been update since its adoption in 1992, and today excise duties are often levied at rates significantly higher than the minimum tax rates and, as a result, effective excise taxes differ substantially between member states. At the same time, the tax bases are very different, with exemptions provided at the national level to maintain competitiveness of local business.

In 1997, the Commission proposed a Council Directive (COM(1997)30) with the aim of extending the scope of the Directive on taxation of mineral oils to other energy sources, including coal, electricity and natural gas, and to increase minimum excise duties on energy products, under the restriction that the implementation should be revenue neutral. This directive, however, has not made much progress in the Council.

The taxation of pensions

Often, the taxation of occupational pensions is not covered by bilateral tax treaties and therefore not coordinated in any way. The problem is that at present, most member states discriminate payments to occupational pensions by not allowing for tax relief for contributions to pensions schemes in other countries. This implies that employers and employees cannot take out pensions with a pension provider in another country. This creates substantial problems for employers, employees and the national governments alike. Employees who start their working life in one Member State, and contribute to a pension fund in that Member State, cannot keep their pension arrangements if they move to work in another country, even if they continue within the same firm. There is also considerable difference in the tax treatment of pensions. While some member states give tax relief for payments to occupational pensions, and then later tax occupational pension receipts, others provide no tax relief at the time of payment but, at the same time, refrain from taxing the pension receipts. For individuals moving from one country to another as part of their working or retirement life, this can lead to double taxation or double exemption if coordination takes place. In particular, countries providing tax relief for contributions could fear that pensioners would move abroad to escape the taxation of pensions receipts, since the OECD Model Tax Convention, typically followed in bilateral tax treaties, holds that a pensioner normally is taxable in the country of actual residence. Finally, to avoid the difficulties of different pensions systems, employers operating in more than one Member State often have to keep a separate pension system for each country, at additional cost.

Currently, three different pension taxation systems exist, denoted TEE, ETT and EET, where T denotes taxed and E exempt, with respect to pensions payments, investment returns, and benefits, respectively. For example, Denmark, Italy and Sweden operate an ETT system, where contributions are tax-exempt, while both investment returns and pension benefits are subject to tax. Luxembourg and Germany operate a TEE system, while the remaining member states operate an EET system.

The current aim of the Commission[47] is to achieve alignment of member states' pension taxation systems on the basis of the EET system, as this is the most widespread already, but as noted by the Commission the differences within the group of countries operating the EET system are also substantial. Therefore, the Commission does not take actual legislative initiatives, but encourage countries to move towards the EET system, or alternatively setting up detailed unilateral or bilateral provisions, as those in place between Sweden and Denmark.

Tax competition in a larger European Union

As the EU enlargement process proceeds, new members will be admitted and some of these new member states have significantly smaller public sectors and lower tax rates than the current EU average and, in particular, than the Nordic EU-members. Therefore, the effect of new member states can be an intensified competition for mobile capital. Moreover, obtaining unanimity decisions in the Council in a larger, less homogenous European Union will become increasingly difficult, and this is indeed one of the reasons that the Commission is currently trying to implement alternative rules for devising common tax policies (cf. above).

[47] European Commission COM(2001) 214.

II.5 Quantitative estimates of the gains from international tax coordination

While theoretical economic models do not give clear cut answers regarding the welfare effects of tax coordination and competitions, and the empirical evidence suggests some downward pressure on mobile tax bases, additional analyses are needed to evaluate the welfare effects of further tax coordination.

We do this by means of a so-called applied general equilibrium model, which combines a large theoretical model with empirical estimates and assessments to produce estimates of the welfare effects of tax coordination. The model, described in detail in Sørensen (2001b), is constructed with the aim of analysing tax policy in the OECD area, extending earlier work that focused on tax policy within the European Union (Sørensen, 2001).

Under the assumption that capital will remain more mobile than labour in many years to come, we use model simulations to illustrate the effects on output, factor markets, and consumer welfare of a fall in corporate tax rates financed exclusively by increasing labour income tax rates. If the effects of such a shift in tax policy appear to be positive, one should probably welcome a process of tax competition that includes this type of policy response, while if the effects appear to be negative, there could be good reason to attempt to neutralize international tax competition through tax coordination.

Before describing the model, we will briefly anticipate the main finding and analyses of the model simulations. As is rarely the case when dealing with complex tax policy questions, we do not get simple and clear-cut answers to policy questions. Nevertheless, the model simulations point to several issues that are particularly important when assessing the costs and benefits of tax coordination and reform. First, when evaluating changes in corporate tax policy in a region, like the European Union, it is important to allow for capital flows between the region in question and the rest of the world; analysing regions such as the EU as if they were closed economies can give quite misleading results. Second, and related to the first point, if tax competition drives down corporate tax rates in Europe, the welfare effects depend crucially on the response of countries outside of that region; for example, whether countries in the rest of the world respond by cutting *their* taxes in response to the tax competition. Third, when analysing a shift from capital to labour taxation, the labour market structure and response to higher tax rates is very important; in particular, the labour supply elasticity is a crucial parameter. Fourth, and perhaps most importantly, because of differences in initial positions and tax structures, tax competition - and thus tax coordination - has a very different impact on different countries, ranging from very positive to very negative effects on welfare and output. Hence, it is impossible on the basis of the reduced models typically found in the literature to generalize about the effects of tax competition for *all* EU and OECD countries.

The OECDTAX model

A weakness of most existing models of tax competition is that they include only a single type of capital, subject to a single capital income tax rate. In practice, the tax code distinguishes between foreign direct investment and foreign portfolio investment, between household investors and institutional investors, between assets such as stocks, bonds, real estate, between current income and capital gains, between debt and equity, and so on. Moreover, while some types of foreign

investment are taxes in the country of residence, other income types are taxed in the investor's country of residence.

For theoretical models exploring different aspects of tax competition, institutional and tax code details may be less important, but when addressing real-life policy problems, it is crucial to model the economy as detailed as possible. The OECDTAX model allows for all of the complexities outlined above by distinguishing between different types of investors as well as different types of assets. Further, it includes possibilities of international profit shifting via transfer-pricing by multinational corporations, and it allows for both domestic and international tax evasion and avoidance by assuming that only a fraction of the capital income of portfolio investors can be monitored and taxed. Moreover, the model assumes that wages and working hours are set by trade unions whose market power generates involuntary unemployment in the economy. Allowing for labour market imperfections found in practice makes it possible, within the model, to address the concern of policy makers that shifting the tax burden towards labour can cause higher unemployment.

The model describes an OECD area divided into two regions: EU and the rest of the OECD. In each country, an internationally traded good is produced using internationally mobile capital as well as immobile labour. Capital is assumed to be imperfectly mobile and supply of capital to a given country depends positively on the returns to investing in that country. The degree of substitution among assets invested in different countries can be varied, and, hence, the model allows for higher capital mobility within the EU than between the EU and the rest of the world. The model is described in more detail in the appendix.

European tax competition: a shift from corporate taxes to labour taxes in the EU

With the advent of the euro capital market integration in the EU is expected to deepen even further. As a consequence, Member State competition to attract mobile capital is likely to intensify, putting further downward pressure on corporate tax rates in Europe. I mentioned earlier that previous cuts in statutory corporate tax rates have to a large extent been financed through a broadening of the corporate income tax base. However, as depreciation schedules are being tightened and special investment incentives are being phased out, the scope for further broadening of the European corporate tax base is diminishing. In the future it will therefore be difficult to finance further cuts in statutory corporate tax rates without losing corporate tax revenues. This means that lost revenues will have to be recouped either via cuts in public spending or via higher direct or indirect taxes on labour. Over the last decades, there has been a steady growth of the relative size of the public sector in continental Europe, and population ageing is putting further upward pressure on public budgets in the years to come. Hence it does not seem very realistic that a possible fall in corporate tax revenues can be made up by lower public expenditure. This raises the prospect of further increases in average effective tax rates on labour income.

Against this background, we use the OECDTAX model to simulate the effects of a 10 percentage point cut in the statutory corporate tax rate in all EU countries, financed by higher tax rates on labour income to keep the stock of public debt constant. The simulation includes the effects on 25 different OECD countries, but we present only the results for the group of countries studied in part I. Table II.1 shows the simulated effects for our group of countries and the effects for the EU and OECD areas as a whole.[48] See Table II.1

[48] Note that the calibration of the initial equilibrium is based on the tax rules prevailing in the year 2000, which means, inter alia, that the recent German tax reform has not been included.

Consider first the effects of the tax shift on the EU area as a whole, shown in the bottom of Table II.1. As the level of corporate taxes in Europe falls, the EU becomes a more attractive location for international investment, so the level of inward foreign direct investment goes up whereas outward direct investment decreases, as multinationals prefer to invest more of their capital in Europe rather than elsewhere. As a consequence, the European capital stock inceases. This in turn raises European GDP. In addition, the lower statutory corporate tax rates in the EU induce European multinationals to change their transfer prices so as to shift taxable profits from the rest of the world to the EU area. Financial saving in Europe goes up, partly because the corporate tax cut increases the after-tax return to saving, and partly because increasing demand for capital drives up the level of pre-tax rates of return in the EU.

The downside of this scenario shows up in the labour market, which must absorb an increase in labour taxes. Because the labour income tax base is much broader than the corporate tax base, and because the rise in investment and output automatically generates some additional revenue, the average effective tax rate on labour income only has to increase by 1 percentage point in the average EU country. Still, this has a negative labour market impact for two reasons. First, there is a tax-push effect on union wage setting, as trade unions try to compensate for the higher tax burden by driving up pre-tax wage rates. As a consequence, the rate of unemployment goes up. The existence of such a tax-push effect on wages and the resulting negative impact on employment has been documented by Daveri and Tabellini (2000), among others. Second, the higher marginal tax rates on labour income also induce unions to bargain for shorter working hours, as shown in Table II.1. Nevertheless, despite the negative labour market response, the net effect of the tax shift is a modest increase in average consumer welfare in Europe, due to the inflow of capital from the rest of the world.

However, as indicated by Table II.1, this welfare gain for Europe as a whole will be quite unevenly distributed across EU countries. For countries like Belgium, France and, in particular, Germany that start out with very high corporate tax rates in 2000, we observe a strongly positive effect on domestic investment. The large percentage increase in inward direct investment in Germany may seem dramatic, but note that according to the OECD statistics the level of inward foreign direct investment in Germany was relatively low in the 1990s, perhaps partly due to the high corporate tax rate. Because of the low initial investment level, even a modest *absolute* increase in inward FDI in Germany implies a substantial *percentage* increase, and given the large weight of Germany in the EU economy, this translates into a large percentage increase in inward FDI for the EU as well.[49]

Turning to the top of the table, we see that the Nordic countries would actually *lose* from an increase in the relative tax burden on labour, except for Iceland where the effect will be zero. The reason is that the initial corporate tax rates in the Nordic countries is much lower than in Germany, whereas the initial level of labour taxes is significantly higher, due to very high indirect tax rates. The effects are larger in the Nordic EU countries, and because labour tax rates are already high labour income tax base shrinks considerably in reaction to further tax increases; for Denmark the average effective tax rate on labour income has to increase by 2.6 percentage points to finance the 10 percentage point cut in the corporate tax rate. The result is a marked increase in Danish unemployment and a fall in GDP and welfare. The strikingly different effects for Denmark, and to a lesser extent the other Nordic countries, on the one hand and Germany on the other illustrate the

[49] This also suggests that Germany will benefit considerably from the recently enacted cuts in the corporate tax rate.

earlier point that the effects of international tax competition depend very much on a country's initial level and structure of taxation.

World tax competition

It does not seem realistic that the non-EU OECD countries will remain passive if the EU countries choose to gradually lower their corporate tax rates. The results for the remaining countries (not shown) reveal the European tax shift to be a beggar-thy-neighbour policy: the effects on the U.S. economy will be negative, because the fall in European corporate tax rates will generate an outflow of capital from America to Europe. It seems quite likely that the U.S. government and other governments in the rest of the world will react to intensified tax competition from Europe by lowering their own corporate tax rates. See Table II.2

Table II.2 therefore shows the effects of a 10 percentage point cut in corporate tax rates in *all* OECD countries, financed by higher taxes on labour income. In this scenario the EU area as a whole no longer gains from a capital inflow from the rest of the world. Compared to the case with a unilateral European corporate tax cut, the increase in European economic activity is therefore much smaller, so the necessary increase in labour tax rates is larger, generating a larger increase in unemployment. As a result, the net effect is a slight drop in welfare for the EU as a whole. In other words, the effects of intensified tax competition in Europe depend very much on whether tax policy in the rest of the world remains passive, or whether it imitates European policy. In the former case stronger tax competition may be beneficial for Europe, but in the latter case it seems to be harmful, in particular for the European labour market.

As seen from table II.2, the distribution of the effects across the EU is still uneven; while the welfare effects for France and Germany have decreased, but remained positive, the negative effects on welfare in the Nordic countries, again excepting Iceland, are stronger, following the necessary increase in labour income tax rates.

The importance of labour market responses

The simulations above assume that the net wage elasticity of effective labour supply is 0.2. In practice, changes in effective labour supply do not only reflect changes in hours worked, but also changes in the supply of skills, changes in on-the-job effort, and shifts in labour supply between the formal and the informal labour market.

Once the effects of after-tax wage rates on all these margins of decision-making are accounted for, it is quite conceivable that the elasticity of effective labour supply is larger than 0.2. As one might expect, the effects of a shift from corporate taxes to labour taxes are quite sensitive to the magnitude of the labour supply elasticity. Given the labour supply elasticity of 0.2, the welfare effect for the EU following an EU-wide cut in the corporate income tax rate is a gain of 0.1 % of initial EU GDP (table II.1). However, if the labour supply elasticity is in fact 0.3, in which case effective labour supply reacts more negatively to higher labour taxes, a shift in the tax burden from mobile capital to immobile labour will imply a slight welfare *loss* for the EU as a whole. To evaluate such a policy scenario it is therefore very important to have reliable estimates of the labour market response to higher labour taxes.

Information exchange in the EU
As described above, member states of the EU are currently negotiating a proposal for a Council Directive to ensure effective taxation of savings income in the form of interest payments within the European Community. The aim is to establish full information exchange across the EU to secure taxation of interest income according to the residence principle. This can be also be analysed within the OECDTAX model, as the model explicitly incorporates household demand for foreign bonds given the taxation of the asset, including the degree of information exchange and, therefore, implicitly the possibilities for tax evasion.

Obviously, substantial uncertainty is attached to estimates of the extent of portfolio investments made with the intent of evading taxes and, therefore, to the response to information exchange. In any case, the effects of full information exchange across all EU countries seem modest, cf. table II.3. See table II.3

Even if the effects are modest in size, in is still interesting to see that they are not even distributed across the group of countries we consider. In particular, Finland and Sweden will gain from full information exchange, while Denmark, and to a lesser extent Norway, will tend to have negative welfare effects. Part of the reason for the small effects observed is that it is only a small part of household wealth that is invested in interest-yielding assets, whereas by far the larger part has been invested in housing, stocks and pension plans.

Regardless of the welfare effects, the analysis points to several interesting effects. For example, the analysis shows how household portfolio investments are affected by implementation of the Directive. The amount of portfolio investment across countries within the EU will fall, but the demand for assets from the remaining OECD-area will increase and, thus, there will still be tax evasion by investing in countries outside of the EU that are not covered by the Directive. Therefore, a fully effective application of the residence principle requires the information exchange to include the entire OECD including Switzerland, as suggested by a number of EU countries in the negotiations of the Directive.

The model analysis also shows that it is the financial sector that will primarily lose from an implementation of the Directive, and this loss will be larger in countries with a large financial sector, such as Luxembourg. Finally, the analysis suggests that increased information exchange will result in lower returns from savings, as the effective residence taxation is tightened through the Directive.

To the extent that the Directive will limit foreign deposits made for tax evasions purposes, horizontal equity of the tax system will increase, which will contribute to greater tax fairness, something not captured by the welfare measure of the model. However, in the case where it is still possible to place savings outside the EU where there is no information exchange, this effect, too, will be limited.

Conclusions
A main insight from the OECDTAX simulations is that gains and losses to the EU as a whole are distributed quite unevenly across the member states, and that EU tax policies have substantial effects for non-EU member states.

The fact that a change in the corporate income tax rate has a very different impact on different member states suggests that a harmonization of the corporation tax across the EU would create losers as well as winners, even if the EU as a whole would gain from a more efficient intra-European allocation of the capital stock. Simulations confirm this, and the main result is that the current low-tax countries would tend to lose from a harmonization of effective corporate tax rates around the EU average. Unless those countries which benefit from harmonization are willing and able to compensate the losers, for example via the common EU budget or via a political package deal,[50] it is unlikely that harmonization will ever become politically feasible, at least as long as the unanimity principle is maintained for matters of tax policy.

Finally, it should be kept in mind that small peripheral economies may have a legitimate need for a lower corporate tax rate to compensate for their locational disadvantage, as Baldwin and Krugman (2000) have recently argued on the basis of a model of economic geography.

[50] Even if an understanding should be reached that losers were to be compensated by winners, determining exactly which countries would gain or lose, and by how much, from tax cooperation or harmonization would surely also by subject to controversy.

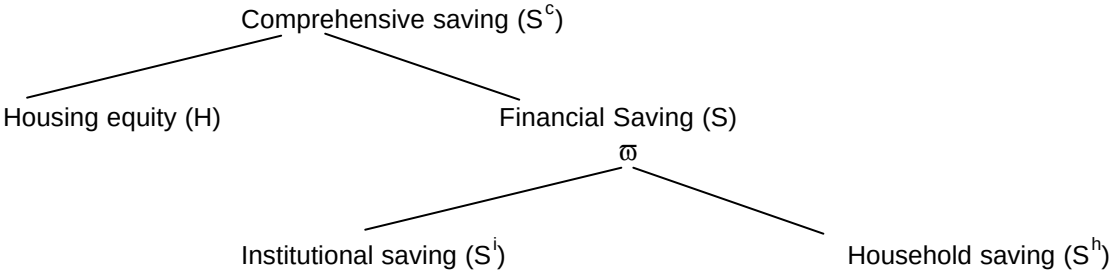
Appendix: The OECDTAX Model

The OECDTAX model is static, describing a long-run equilibrium.[51] The model includes twenty-five countries, grouped into two main regions, representing the European Union (EU) and the Rest of the World (ROW). One country in the ROW region is a tax haven, representing those small tax jurisdictions specialized in offering banking services and bank secrecy facilitating tax evasion.

Labour is immobile across countries. Capital, on the other hand, is *imperfectly* mobile across countries, and the supply of capital to any country is thus an increasing function of the rate of return offered in that country. The investor's portfolio diversification problem is modelled in a way such that it is possible to vary the degree of capital mobility - including perfect capital mobility as a special case - by varying the elasticity of substitution between different assets and different countries. In particular, the model is designed to allow for a higher degree of capital mobility *within* the EU than between the EU and the ROW.

Households in the model choose between immediate and postponed consumption, and the utility-maximizing consumer increases his total savings as the after-tax real rate of return increases; hence, the total supply of capital is determined endogenously in the model. Having optimised total savings, the consumer divides his funds between investment in housing equity and financial saving, as shown in Figure 1

Figure 1: Allocation of savings in the OECDTAX model: the initial stages

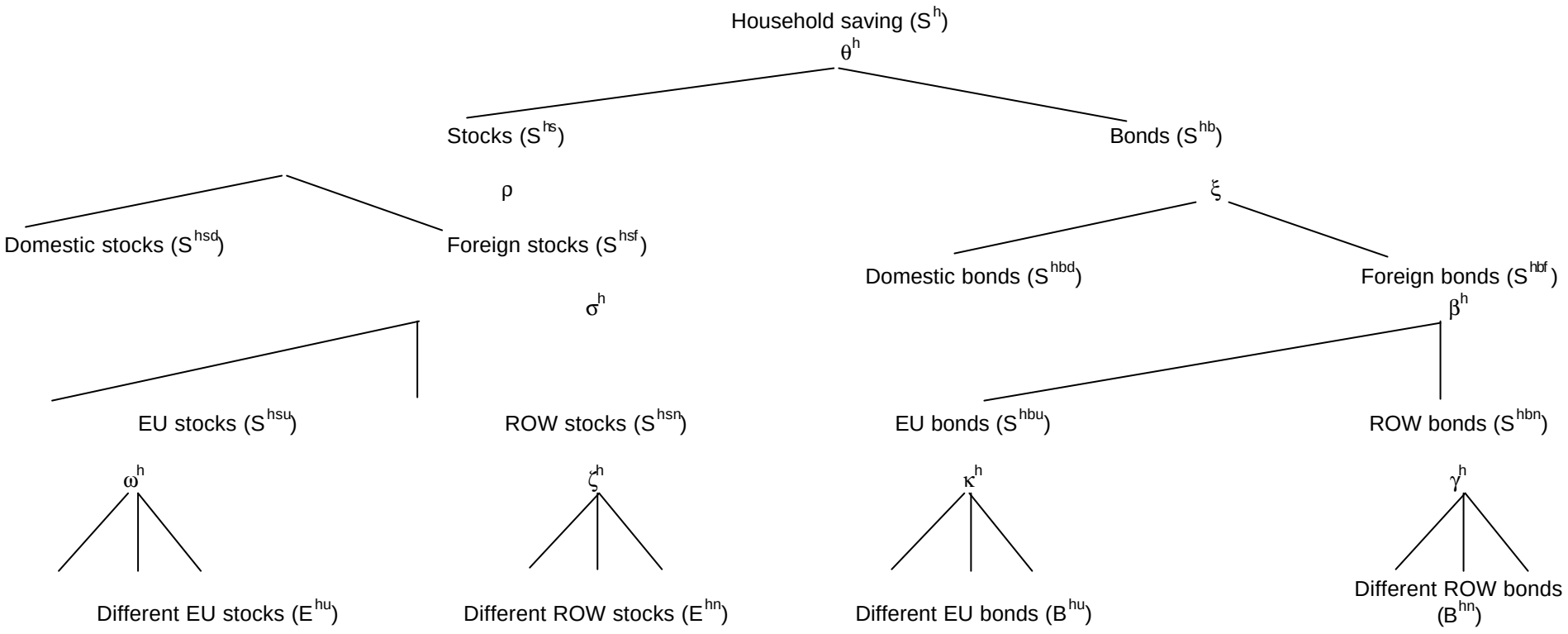


ϖ = elasticity of substitution between institutional saving and household saving

[51] Thus, variations in endogenous variables of the model can be interpreted as level changes in a time path of exogenous steady-state growth.

In the next step, the consumer allocates his financial saving between institutional saving and so-called household, or individual, saving. Household saving include direct household purchases of stocks and debt instruments, including bonds and bank deposits. Institutional saving includes financial saving channelled through pensions funds and life insurance companies, and in addition private pension savings through the banking and corporate sectors.

Figure 2: The allocation of household saving*



* Greek letters refer to asset substitution elasticities

Figure 2 outlines the consumer's allocation of household financial saving to different types of assets. Household financial saving is allocated between stocks on the one hand and interest-bearing assets, denoted bonds for simplicity, on the other. Each of these two aggregates must themselves be allocated between domestic and foreign assets, and the latter is in turn divided between assets issued in the EU region and assets issues in the ROW regions. Finally, the portfolio is divided into assets acquired from the individual countries located in these two regions. The institutional savings are allocated across asset types in a similar manner.

The business sector of the model is illustrated in figure 3. Each country is endowed with a fixed stock of intangible assets representing the level of human capital, technological and managerial know-how etc. An exogenous fraction of these assets is allocated to a sector of multinational corporations which are headquartered in the country and which own foreign subsidiaries in all the other countries in the world economy. The remaining fraction of the country's intangible assets is allocated to domestic corporations with no foreign operations. Domestic corporations issue debt to domestic and foreign household and institutional investors and purchase labour services from domestic households. The equity shares in these firms are not traded internationally, but are held only by domestic households. See Figure 3 next page.

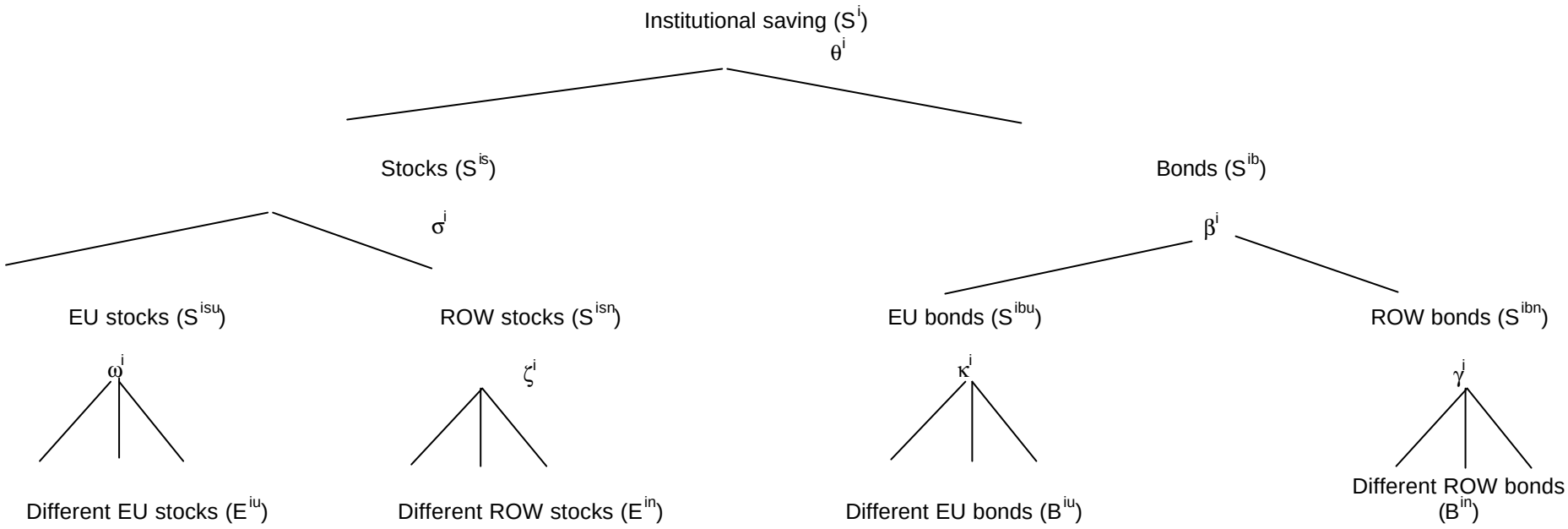
By contrast, multinational corporations issue shares as well as debt instruments to foreign as well as domestic household and institutional investors. The multinational parent companies inject equity into foreign subsidiaries, representing foreign direct investment. Subsidiaries also borrow in the host country capital market, and they hire labour in the foreign host country. In addition to equity, parent companies provide their foreign subsidiaries with intermediate inputs.

Factor demands and financial policies are determined by profit maximization. A firm's optimal level of debt is found by trading off the tax advantage of debt finance against the costs of financial distress, which are assumed to increase with the debt-asset ratio. Moreover, multinational parent companies choose their transfer prices of intermediate inputs by trading off the organizational costs of distorted input prices against the tax advantage of shifting profits to foreign subsidiaries operating in low-tax countries.

Each national government levies indirect taxes on consumption and imposes direct taxes on labour income, interest income, corporate profits, and the return on shares. The model also includes various withholding taxes and a number of policy variables indicating the extent to which governments engage in international exchange of information to enforce residence-based income taxation. Public revenues are spent on public consumption, on unemployment benefits and on other transfers. Finally, the model accounts for the various methods used to alleviate the domestic and international double taxation of corporate-source income.

A general equilibrium is established when households and trade unions maximize their utilities, firms maximize profits, and all national markets for bonds and stocks are clearing. Because of high substitutability between securities issued in different countries, the national asset markets are of course highly interdependent.
The calibration of the model relies mainly on OECD national income accounts plus the OECD tax database for the year 2000, supplemented by data from various other OECD publications. Parameter values are chosen so as to generate realistic levels of endogenous variables such as foreign direct investment, foreign portfolio investment, the ratio of household to institutional saving, the ratio of housing capital relative to business capital, unemployment rates, relative national income per capita, net foreign asset positions, and last, but not least, effective average tax rates on labour income and corporate income. A more detailed description of the calibration procedure and the parameter values chosen has been given in Sørensen (2001, 2001b).

Figure 3: The allocation of institutional saving*



* Greek letters refer to asset substitution elasticities

Table II.1. The effect of an EU-wide 10 pct.point cut in the corporate tax rate financed by higher labour taxes

	GDP	Stock of business capital	Inward FDI	Outward FDI	Financial Saving	Working hours	Unemployment	Tax rate on labour income	Inward profit shifting	Welfare
			-- Percent --				-- Percentage points --		-- Pct. of initial GDP --	
The Nordic countries										
Denmark	-0,6	0,9	13,1	8,6	0,5	-0,8	0,7	2,6	0,1	-0,4
Finland	-0,1	1,0	14,9	5,7	0,3	-0,5	0,2	1,6	0,1	-0,2
Iceland	-0,1	-0,3	0,7	8,4	0,2	0,0	0,0	0,1	-0,1	0,0
Norway	-0,4	-0,5	0,2	3,2	0,4	-0,2	0,0	0,4	-0,2	-0,1
Sweden	0,3	1,8	12,9	12,1	0,3	-0,5	0,0	1,6	0,1	-0,2
North-Western Europe										
Austria	-0,1	1,5	17,2	13,7	0,6	-0,6	0,4	2,1	0,1	-0,2
Belgium	1,3	3,5	24,8	7,2	-0,1	0,1	0,2	0,4	0,1	0,2
France	1,3	3,0	40,1	2,8	-0,2	0,3	-0,1	-0,2	0,1	0,5
Germany	0,8	3,1	55,6	-5,1	0,3	0,0	0,2	0,8	0,2	0,3
Netherlands	0,5	2,3	17,2	7,7	0,3	-0,4	0,2	1,5	0,1	-0,1
United Kingdom	0,2	1,7	11,2	17,7	0,5	-0,3	0,1	1,4	0,1	-0,1
Southern Europe										
Italy	0,2	1,4	26,9	3,6	0,1	-0,4	0,0	1,4	0,1	0,0
Portugal	0,5	2,1	21,5	8,0	0,2	-0,2	0,2	1,2	0,1	0,0
Spain	0,2	1,8	21,1	3,4	0,1	-0,3	0,4	1,5	0,1	-0,1
EU average	0,6	2,2	30,3	5,4	0,2	-0,2	0,1	1,0	0,1	0,1
OECD average	0,1	0,7	15,2	22,4	0,3	-0,1	0,1	0,5	0,0	0,0

Source: Simulations on the OECDTAX model

Table II.2. The effect of an OECD-wide 10 pct.point cut in the corporate tax rate financed by higher labour taxes

	GDP	Stock of business capital	Inward FDI	Outward FDI	Financial Saving	Working hours	Unemployment	Tax rate on labour income	Inward profit shifting	Welfare
			-- Percent --				-- Percentage points --		-- Pct. of initial GDP --	
The Nordic countries										
Denmark	-1,1	0,1	9,4	10,9	0,8	-1,1	0,9	3,2	0,0	-0,6
Finland	-0,4	0,5	9,4	7,8	0,6	-0,6	0,3	1,8	0,0	-0,2
Iceland	0,1	1,2	12,5	20,2	0,7	-0,4	0,1	1,8	0,0	0,0
Norway	-0,2	1,0	15,7	5,4	0,7	-0,5	0,0	1,6	-0,1	-0,2
Sweden	-0,3	1,1	9,1	12,6	0,6	-0,7	0,0	2,1	0,0	-0,3
North-Western Europe										
Austria	-0,4	1,1	12,7	18,8	0,9	-0,7	0,5	2,3	0,0	-0,3
Belgium	-0,7	1,3	15,6	11,7	0,4	-0,6	1,0	2,2	0,0	-0,6
France	0,4	2,0	29,8	12,1	0,2	-0,1	0,2	0,6	0,0	0,2
Germany	0,4	2,4	43,0	1,8	0,7	-0,2	0,4	1,3	0,1	0,2
Netherlands	-0,3	1,3	12,3	10,6	0,6	-0,8	0,3	2,2	0,0	-0,3
United Kingdom	-0,1	1,2	8,6	22,7	0,8	-0,3	0,1	1,5	0,0	-0,1
Southern Europe										
Italy	0,0	0,9	18,4	10,3	0,3	-0,5	0,0	1,7	0,0	-0,1
Portugal	0,0	1,3	15,3	11,5	0,5	-0,3	0,2	1,6	0,0	-0,1
Spain	-0,2	1,1	15,2	10,9	0,4	-0,4	0,5	1,8	0,0	-0,2
EU average	0,1	1,5	22,5	11,6	0,5	-0,4	0,3	1,5	0,0	0,0
OECD average	0,2	1,7	20,5	21,4	0,7	-0,3	0,1	1,3	0,0	0,1

Source: Simulations on the OECDTAX model

Table II.3. The effect of full information exchange among EU countries

	GDP	Stock of business capital	Inward FDI	Outward FDI	Financial Saving	Financial sector profits	Inward portfolio investment	Outward portfolio investment	Welfare
	-- Percent --								-- Pct. of initial GDP --
The Nordic countries									
Denmark	0,02	0,23	-1,19	2,07	-0,16	-2,89	-6,62	-4,89	-0,04
Finland	0,20	0,59	-1,50	-2,79	0,24	-1,69	-12,90	-3,18	0,06
Iceland	0,01	0,02	-0,23	-0,49	-0,01	-0,12	-0,24	-0,16	0,00
Norway	-0,01	0,01	-0,15	0,04	-0,04	-0,23	0,12	-0,17	-0,01
Sweden	0,16	0,52	-1,46	-1,74	0,01	-1,82	-13,18	-4,49	0,03
North-Western Europe									
Austria	0,09	0,16	-0,37	-1,86	0,30	-3,25	-11,04	-11,05	0,04
Belgium	-0,04	-0,11	0,26	0,21	-0,03	0,13	-0,08	0,04	-0,02
France	0,01	0,05	-0,49	0,00	-0,02	-1,42	-3,94	-4,93	-0,01
Germany	0,00	0,02	-0,41	-0,01	0,01	-3,05	-5,72	-10,25	-0,02
Netherlands	-0,04	-0,09	0,01	0,60	-0,06	-2,96	-7,01	-4,88	-0,05
United Kingdom	0,08	0,11	-0,05	-2,26	0,54	-1,55	-8,01	-3,18	0,08
Southern Europe									
Italy	-0,06	-0,22	0,57	-0,42	0,11	0,04	-2,51	-2,79	-0,03
Portugal	0,00	0,02	-0,22	0,02	-0,04	-0,36	-2,31	-2,82	-0,01
Spain	0,30	0,89	-2,63	-1,75	0,08	-5,07	-12,01	-17,79	0,08
EU average	0,04	0,10	-0,43	-0,65	0,11	-2,02	-1,07*	0,57*	0,01
OECD average	0,02	0,05	-0,34	-0,29	0,02	-0,88	-2,41	-3,05	0,00

Source: Simulations on the OECDTAX model

Note: * The number reports only portfolio movements between the EU and the ROW. Thus, portfolio movements across EU countries are not reported.

Part III:
Nordic Tax Policy in a Global Economy

III.1 Basic principles in taxation: Efficiency and Equity

Taxation will inevitably cause distortions in the economic choices made by consumers and firms, workers and capital owners. Differences in before-tax and after-tax prices and returns tend to reduce the level of economic activity from the hypothetical situation in which no distorting taxes are levied, by distorting the real resource allocation of the economy. Additionally, indirect costs of taxation, such as the substantial resources spent on tax compliance and tax planning, contribute to the total economic effects of taxation on the economy. Therefore, the main aim of tax policy should be to design tax systems and structures such that the desired level of revenue for the public sector is collected in a way that minimizes direct as well as indirect tax distortions while respecting political goals regarding income distribution and the environment.

The basic principles to achieve this are:

(i) Neutrality, to ensure that the tax payment to the widest possible extent is independent of taxpayer choices. Neutrality implies, for example, equal tax treatment of firms and persons, of personal savings across various assets, of different corporate ownership structures and of different modes of corporate investment financing.

(ii) Symmetry, such that incomes and expenditures are treated equally. Symmetry requires expenditures to be credited with the same tax rate as is applied to corresponding incomes, as well as equal periodization of tax liable incomes and tax deductible expenditures.

(iii) Simplicity, served by applying the broadest possible tax base without exemptions and credits. Tax loopholes and exemptions complicate the tax code and encourage socially unproductive tax planning activities. In addition, they result in narrow tax bases and high statutory tax rates, leading to increasing distortions from taxation.

(iv) Taxpayer equity, by levying the income tax in accordance with the taxpayer's ability to pay and by securing that similar incomes are subjected to similar taxation, regardless of source.

To a varying degree, these principles were adhered to in the introduction of the dual income tax in the tax reforms in Denmark (1987), Sweden (1991), Norway (1992) and Finland (1993); in particular, a move towards greater tax neutrality was a key element in the tax reforms, and at the same time, like in most other OECD country tax reforms of the late 1980's, a general move was made towards broader tax bases and lower marginal tax rates.

Taxpayer equity is concerned both with the tax treatment of people at similar income levels (horizontal equity) and at different income levels (vertical equity). Horizontal equity holds that similar incomes should be taxed identically, whether paid out as labour income, different types of capital income including stock options, fringe benefits etc. The typical way of ensuring that the average tax burden increases with income, a common interpretation of the ability to pay principle, is by providing a personal income tax allowance. In addition, almost all countries apply progressive marginal tax rate schedules for redistributive purposes.

III.2 Which taxes are under most pressure from economic integration?

The key to assessing the distortions resulting from taxation is the behavioural response to changes in tax rates and bases, and this concern has been a running theme throughout the first two parts of the report. For example, do workers respond to increasing labour income taxation by reducing their hours worked, or possibly by withdrawing from the labour market altogether?
Increasing internationalisation adds to the menu of possible behavioural responses in that it makes it less costly for taxpayers and corporations to move themselves or, more commonly, their economic activities abroad. Tax bases differ in the degree to which increasing international integration will affect them, and this will have, and has already had, substantial impact on the design of the tax system.

The increasingly wider and deeper of economic integration means that financial capital and financial wealth holdings, and to a lesser extent physical capital, are becoming increasingly mobile. As discussed in part one, internationalisation has been increasing throughout the last twenty to thirty years. Within this period, effective capital income taxation has been unchanged while effective labour income taxation has increased, to accommodate the increase in the size of the public sector, resulting in a relative increase in labour vs. capital income taxation.

Part one also reviewed the empirical evidence on the prevalence of tax competition and the importance of taxation for locational choices of multi-national firms. These empirical findings confirm the popular notion in the policy community that tax competition over capital is taking place, that countries react to the decisions of other countries, and that these effects are stronger within the European Union where factors move more freely. This also suggests that, as European integration proceeds further, the downward pressure on corporate and capital income taxation will intensify, in particular in smaller countries where agglomeration forces are weaker.

The consumption tax base is also mobile due to the possibility of cross-border shopping, in particular regarding e-commerce of digital products, which is projected to increase significantly over time. Furthermore, the establishment of the European Single Market has meant that restrictions on the amount of goods bought abroad have been or are soon to be abolished, increasing the importance of differences in indirect tax rates (VAT and excise taxes) for cross-border shopping.

As a special case of indirect taxation, environmental taxation can be under pressure from increasingly integrated product markets. Environmental taxes levied on polluting inputs add to the final consumer price, unilaterally high environmental tax rates can be a problem for international competitiveness.[52]

Labour is less mobile, which means that the scope for labour income taxation still is considerable, but it can become increasingly difficult to maintain a high level of labour taxation for highly qualified staff. While estimates of labour mobility away from the Nordic countries in the 1990's suggest that it is relatively limited, increasing internationalisation will gradually tend to make highly qualified labour more mobile. In the longer term it can become difficult for countries with high levels of taxation both to keep residents from moving abroad and to attract highly qualified foreign labour. Generally, a high tax burden reflects a high level of public goods provision and

[52] A similar issue concerns quotas where polluting industries can relocate to jurisdictions with lower abatement standards, which in principle can lead to a 'race to the bottom' in environmental standards other than taxes.

therefore a high tax burden in itself may not be a problem; however, the presence of highly progressive marginal taxes undoes this link and can lead to problems of labour mobility.

Finally, property and land taxation and taxation of natural resources is not directly threatened by increasing economic integration.[53]

Summing up, market pressure is felt most strongly in the areas of company taxation and capital income taxation, due to the relatively high mobility of these tax bases. Additionally, it can become increasingly difficult to maintain a high level of taxation of high-skilled labour. While the available evidence so far suggests limited mobility also of high-skilled labour, this mobility is likely to increase in the future. In selected fields of indirect taxation, the Nordic tax systems are also under pressure due to cross-border shopping problems etc. The implications for the increasing mobility of certain tax bases for tax policy in the Nordic countries will be developed below.

[53] See, though, section III.5 below.

III.3 Possible adjustments in indirect taxation

VAT and excise taxation
Indirect taxation is an important source of revenue in the Nordic countries, and at the same time can be used to influence behaviour in consumption away from consumption of goods with negative externalities, such as alcohol, gasoline, tobacco and consumption and production activities with negative environmental impact. However, the establishment and full phasing-in of the Single Market in the European Union, as well as projected increases in e-commerce, will call for some adjustment in indirect taxation.

Cross-border shopping among the Nordic countries is attributable mostly to differences in the excise taxes, as the VAT rates in the Nordic countries are approximately at a similar, high, level.[54] Cross-border shopping vis-à-vis other countries is attributable also to differences in the VAT rate.

As noted above, some adjustment towards lower excise taxes has taken place already, but the Nordic countries, at least the EU members, will probably need to adjust selected excise taxes downwards. When the special restrictions on cross-border shopping in Denmark and Sweden are lifted in 2003, Denmark will need to lower selected excises so as to keep cross-border trade vis-à-vis Germany from increasing dramatically from its already high level. This, in turn, can mean that Sweden is forced to reduce its excise taxes, so as to limit the extent of Swedish cross-border shopping in Denmark. Finally, this can again spill over on cross-border shopping in Norway and Finland.

Estimates of the extent of "traditional" cross-border shopping for both Denmark and Sweden suggest that the revenue effects of cross-border shopping are limited, partly due to fact that substantive reductions in excise tax rates were carried out already in the late 1980's and throughout the 1990's. The projected loss in revenue from abolishing quantitative restrictions on January 1, 2004, is also small, and estimates from the Danish Ministry of Taxation suggest that lowering excise taxes may in fact increase revenue, from Laffer-curve effects, but there is substantial uncertainty associated with such estimates.
While the revenue effects of abolishing restrictions in cross-border shopping may be small, or even positive, it should be kept in mind that high excises serve other political goals as well. Historically, excises on alcohol in the Nordic countries have been set very high to influence consumption downwards. Increased pressure on excise taxation from cross-border shopping can, eventually, mean that the governments of the Nordic countries must rely on other instruments to achieve policy goals regarding the consumption of alcohol and tobacco. However, agreeing on high(er) minimum excise and VAT rates within the European Union can, at least partly, off-set the effects of cross-border shopping.

Environmental taxation
Environmental taxation serves two goals, correcting externalities and raising revenue. Energy taxes are primarily input taxes and as such fall on both production and consumption. According, however, to standard tax theory, taxation should fall on final consumption leaving production undistorted, seemingly making the case for value-added taxation only. This, however, ignores market failures in energy provision as well as externalities arising from energy consumption, both in production and by consumers.

[54] Differences in the VAT base and exchange rate differences can also induce cross-border shopping.

Ideally, all pollution should be taxed on the damage it causes and, in theory, the optimal environmental tax should be equal to the marginal environmental damage. Assessing both benefits and costs of polluting activities, and therefore the correct level of excise taxes, can be very difficult indeed, but the wide variation observed in effective tax rates on energy consumption in the EU countries suggests that other factors than the optimal correction of externalities play a role as well.[55]

The case for energy taxation is, thus, often made on environmental grounds, in particular regarding road fuel taxes. In many cases, however, energy taxes predate environmental concerns and the structure of environmental taxation is not related systematically to environmental damage.[56] For example, coal is generally the most environmentally damaging fuel, but it is often leniently taxed, and in some countries production is heavily subsidised.[57]

As noted above, pollution should be taxed on the damage it causes, and therefore environmental taxes should be set in a non-discriminatory way, such that similar taxes should be applied to various energy sources producing similar levels of environmental damage. Currently, in Europe road fuel taxes are often higher per unit of emission (of various forms) than other types of energy leading to similar emission types, such as coal, heating oil, and gas.

Newbury (2001) concludes that road fuel, and energy as such, is relatively over-taxed in some European countries, owing in part to low administrative and compliance costs. The fact that some countries collect substantial excess revenue relative to what they would receive under harmonised taxes reflecting marginal environmental damages could be part of the reason that there has been considerable political resistance to effective energy tax harmonisation at the EU level, as reported in part two.

[55] Another role for energy taxation, beside fiscal and environmental considerations, is the long-term goal of securing energy supply, for example by promoting the development of alternative energy sources. In principle, cooperation over energy taxation and policy could include this objective as well, but European Union countries have very different degrees of self-reliance in energy.
[56] Newbury (2001, p. 4).
[57] Newbury (1995).

III.4 Adjustments in income taxation

Changing the tax mix: The advantages of dual income taxation in an internationalised economy

As internationalisation puts most pressure on the more mobile tax bases, the 'optimal' tax system for small open economies like the Nordic countries involves taxing capital income at a lower marginal rate than labour income, and this is exactly what is achieved through the principle of dual income taxation, currently applied in Norway, Finland, Sweden and, to a lesser extent, Denmark.[58] Having separated the taxation of labour and capital income, it is possible to adjust capital income tax rates without having to lower labour income tax rates, as would otherwise be the case in a comprehensive income tax system.

The dual income tax system has a number of attractive features, in particular for small open economies. First, the low proportional tax rate on capital income promotes neutrality in capital income taxation, as it is easier to include all forms of capital income in the tax base when the level of taxation is low. If certain types of capital income have been excluded from the tax base, or carries special low rates, distortions in savings and investment decisions are reduced when the general capital income tax rate is lowered. Furthermore, proportional capital income taxation generates a more efficient allocation of savings across taxpayers, as they will face similar marginal tax rates, and at the same time eliminates tax arbitrage involving borrowing and lending based on exploiting differences in marginal tax rates between tax payers.

Second, as noted above, the need for small open economies to avoid capital flight makes a compelling argument for a relatively low tax rate on capital. At first blush, it seems that internationalization and tax competition, through competition for the location of multinational firms and problems of transfer pricing, puts corporate taxation, rather than personal capital income taxation, under pressure. While internationalization indeed does put corporate taxation under pressure, there are two reasons that it also influences personal capital income taxation. The direct effect is, as reported in part one, that increased internationalization also increases the mobility of personal savings and wealth holdings. As discussed extensively in part two, the residence principle is hard to enforce when lacking effective information exchange among tax authorities and, therefore, a country imposing high capital income tax rates on personal capital income could find its citizens evading taxes by placing income abroad.

As internationalization tends to decrease corporate taxation, an indirect effect results: a personal capital income tax rate significantly above the corporate tax rate creates an incentive to accumulate capital within the corporate sector at the relatively lower tax rate applied to corporate earnings. To avoid the higher personal tax rate on the return to savings, the corporation can invest the retained earnings either passively on the capital market or within the corporation. Such a 'locking in' of corporate capital is inefficient, as it may prevent profits from being distributed and invested elsewhere in projects yielding a higher pre-tax rate of return.[59] Thus, capital mobility necessitates a low tax rate on corporate earnings, and to limit the opportunities for tax arbitrage and the potential for locking-in effects, the gap between the corporate tax rate and the personal capital income tax

[58] In Iceland, although not formally adhering to the system of DIT, capital income from various sources is taxed uniformly at a low rate (10 percent in 2001).
[59] In theory, the locking-in effect could be neutralized through a personal tax on accrued capital gains on shares, but such a tax is very difficult to impose in practice.

rate should therefore not be too large. This is possible under the dual income tax system; indeed, under the pure version of the DIT, as currently applied in Norway, they are equal.

Third, concerns about low levels of national saving, that certainly have been present in the Nordic countries, may also motivate a low level of capital income taxation. A lower tax rate on capital income may not increase savings for taxpayers with positive capital income, but important types of savings such as housing investments and pension savings are subject to special tax rules, and furthermore, as discussed above, a part of positive capital income will evade taxation by being placed abroad, due to insufficient information exchange. Therefore, a fall in the ordinary capital income tax rate will apply mainly to the negative net capital income of debtors, for whom the lower tax rate will unambiguously lead to higher savings. Since a lower capital income tax rate will tend to limit the revenue losses from the deductibility of interest payments, and the impact on revenue from positive capital income will be smaller for the reasons suggested above, the net revenue effect of decreasing capital income taxation could well be positive, increasing the scope for lower marginal tax rates on labour.[60]

While the dual income tax has many advantages from an economic viewpoint, it also presents several administrative problems. The main problem, sometimes denoted the Achilles Heel of the dual income tax, is the taxation of income from small enterprise. Within a comprehensive income tax system, the return from small enterprises is taxed at a rate similar to other incomes. However, under a dual income tax, it is necessary to separate the return to capital from the return from labour to be able to tax capital income at the lower rate, which is required for investment in business assets to be treated as other forms of investment. This necessitates the imputation of a rate of return to the business assets of proprietorships and partnerships as well as separating the proprietor's business and non-business assets, both of which can be difficult.

A second problem pertains to the taxation of small corporations with active owners. A controlling (or main) shareholder working in his own corporation can take out income either as wages or salaries or as dividends or capital gains on shares. If the latter two forms of income are not subject to double taxation, the controlling shareholder has an obvious incentive to transform wage income to capital income. In practice, determining when a shareholder is "active" has turned out to be difficult.[61]

Labour taxation, mobility and international competitiveness

Above, the case was made that labour mobility currently seems to present no serious threat to labour taxation. One interpretation of this is that maintaining the current level of labour taxation should not induce people to emigrate in large numbers from the Nordic countries, given the taxation of labour in potential receiver countries. Another, somewhat theoretical, interpretation is that it is the possibility, rather than necessarily the actual experience, of labour mobility that provides a constraint on national governments, and that the current level of labour taxation may already have been set such that the tax benefit from emigrating from the Nordic countries is not sufficient to induce large-scale mobility.

[60] This is particularly the case under symmetric tax treatment of positive and negative capital income, but even with progressive taxation of positive capital income evasion and avoidance effects could dominate and the net revenue from capital income taxation be negative. Indeed, negative or zero net revenues from capital income taxation has been reported, for example for the US (Gordon and Slemrod, 1988).

[61] A discussion of the Finnish and Norwegian experiences can be found in Sørensen "The Dual Income Tax - In or Out?"

In addition to pecuniary benefits and costs from migrating to another country, other factors, sometimes known as psychic costs of relocation, influence the migration decision. In particular, migrating to another country necessarily involves adjusting to different cultures and habits etc. Over time, increasing cultural integration, alongside economic and political integration, can reduce the psychic costs of relocating to another country, and as European integration deepens and institutional barriers regarding pensions and unemployment insurance eventually disappear, practical problems in relocating to another country become less serious.

Even if labour is largely immobile, increased mobility of high-skilled labour alone can be a considerable constraint on tax policy, for example if a shortage of certain types of labour arises. In particular, special tax treatment of a certain employment or educational group with high mobility can be difficult to reconcile with principles of both horizontal and vertical equity.

A second argument why relatively high labour tax rates can have adverse effects for small open economies is the effect on international competitiveness. As product markets become more integrated, market prices in different economies will converge which makes it increasingly difficult for domestic producers in an open economy to pass domestic cost increases on to their customers. Hence, if higher labour income taxes tend to push up the pre-tax wage rate, the negative impact of labour income taxes increases as economic integration is deepened. This argument depends, however, on the specific labour market structure, and evidence from the Nordic countries suggests that in unionised economies, the effects of more progressive labour income taxes could in fact be more moderate wage claims. Therefore, a change in the tax mix towards more progressive labour income taxation is not necessarily a problem for international competitiveness. On the other hand, a higher average tax on labour income can be a problem for international competitiveness, at least in the short run, since higher average tax rates tend to push up wages.

Possibilities of adjustment in corporate taxation

Theoretically, applying the residence principle in capital income taxation can maintain investment neutrality and horizontal equity. However, practical problems mean that capital income taxation is based broadly on the source principle, where income is taxed only in the country where it is generated. If capital mobility is perfect, it is generally inefficient to tax the normal rate of return on capital in small open economies, which means that there should be no taxes on the return to financial capital and that the normal rate of interest on corporate equity should be deducted when determining taxable corporate income. The reason is that if capital is perfectly mobile, a source tax in a small open economy will drive capital from the domestic economy to foreign economies, increasing the domestic cost of capital above the exogenous world rate of interest, thereby distorting domestic investment decisions without enabling the government to shift part of the domestic tax burden onto non-resident investors.

In practice, capital mobility is imperfect for a number of reasons, including information and transaction costs for households' cross-border activities and adjustment costs when reallocating real capital; see part one for a more complete discussion of the factors enabling national governments to levy source taxes in practice. Nevertheless, to avoid tax-induced distortions in corporate investment, a high (and rising) degree of capital mobility dictates a low tax rate on the normal rate of interest under the source principle of corporate taxation. This reasoning, however, does not necessarily apply to above-normal profits, such as profits from monopoly and extraction of natural resources. Therefore, there has been an increasing interest for corporate tax regimes dividing corporate

incomes into return at the normal rate of interest and above-normal profits. Several such suggestions exist: Cash-flow taxation, Allowance for Corporate Equity (ACE) and CBIT (Comprehensive Business Income Tax).[62] Below we will briefly describe the ACE system, as this is the background for current tax initiatives for taxing natural resources in Norway and Denmark.[63]

The ACE system was originally proposed in 1991 by the Capital Taxes Group of the British Institute for Fiscal Studies as a method of relieving the double taxation of corporate equity income. The basic idea of the ACE tax is to allow businesses and corporations to deduct from the business tax base a normal (market) rate of return on corporate equity. In this case equity and debt would, in principle, be given equal treatment for corporate tax policy purposes, as the normal rate of return on both corporate equity and debt can be deducted from the corporate tax base. The desirability, in practice, of implementing an ACE tax depends on a number of factors. The advantage of the system is that it does not distort investment, and it generates revenue to the source country if the above-normal profit is associated with localization in that country. The system, thus, is effective when a large part of corporate incomes stems from rents on fixed resources.

The downside of the system, on the other hand, is that in can necessitate a high tax rate to generate the desired level of revenue, which makes the system vulnerable to transfer pricing. Furthermore, the ACE system involves a high average tax rate for companies with a large rate of profit, which can make it unattractive for such companies to invest in the country in the first place if the above-normal profit is linked to the investing company. Finally, the allowance for the normal rate of return is a giveaway to foreign countries in the case where foreign residence countries give credit for taxes paid in the source country, and, indeed, this seems to be a major reason for the observed opposition on the part of policy-makers.

[62] Several surveys of alternative corporate tax principles exist. A short presentation of the three abovementioned, and a detailed empirical analysis of a potential cash-flow tax, can be found in Frederiksen, Lassen and Nielsen (1999).
[63] ACE system principles have been considered both in Denmark and Sweden in Tax Reform Committees of the early 1990's; however, such principles were not included in the final proposals (see. Andersson et al. 1998).

III.5 Alternative revenue sources

Public finances are facing both an external pressure from internationalisation as well as internal pressure from the demographic development towards a society with more retirees per worker. Internationalisation will tend to limit the scope for collecting (some) taxes, while the demographic development will increase spending needs, at least for given public expenditure policies. Above we considered alternatives in the form of a - further - restructuring of personal income taxation as well as recent suggestions for reforming the corporate income tax.

As alternatives to such "internal restructuring," this section describes the possibilities of more wide-ranging solutions, such as restructuring taxation towards immobile tax bases and abolishing tax expenditures. Furthermore, we review alternative ways of financing public expenditures, such as establishing individual mandatory savings accounts, an increased emphasis on benefit taxation, as well as a departure from universalism towards graded access to government transfers. Finally, we revisit the discussion from part one on the effects of immigration on public finances.

Greater reliance on immobile tax bases

An obvious reaction to increased factor mobility at the international level would be to put greater emphasis on the taxation of internationally immobile factors and activities. To a large extent, taxes on mobile factors are already borne by immobile factors and, therefore, a shift towards immobile tax bases would cause little change in the true tax incidence but circumvent the deadweight-loss associated with the taxation of mobile factors. The reason is that taxes levied on the mobile factors will tend to be shifted onto immobile factors, as the outflow of mobile factors caused by taxation will reduce the demand for immobile factors.[64] This generates an economic deadweight-loss, as the productivity of immobile factors decreases when the supply of mobile factors falls. Taxing immobile factors head-on instead would, therefore, cause no or little change in the true tax burden but would tend to improve economic efficiency.

Land and natural resources are the most obvious examples of immobile tax objects, and these can be taxed via property taxes. Property tax revenues represent a smaller share of total tax revenues in the Nordic countries (except Iceland) than in the group of comparison countries (table 4, part 1) and even more so comparing with the entire OECD area. This suggests that there should be considerable scope for adjusting the tax structure away from more mobile tax bases towards property taxation. Some countries tax the imputed rent on housing, as part of a consistent capital income tax. As the general level of capital income taxation is lowered, the taxation of imputed rent on housing should be adjusted to reflect this. So far, however, the taxation of imputed rents on housing is typically much lower than the taxation of other types of capital income, due both to imputed rental rates that are lower than the market rate of interest and to property value assessments typically being lower than actual market values.

A recurring problem in the taxation of land and housing is that such taxes are seen by many taxpayers to violate the ability-to-pay principle; for example, the imputed rate of return on owner-occupied housing is often argued not to represent a 'real' income stream. Furthermore, property taxes in general, as they involve no behavioural response, are difficult to avoid or evade, and both of these features, it has been argued, tend to make property taxes politically unpopular. In addition to the political argument, opponents of property taxation often point to liquidity problems of taxpayers having no or little actual income from which to pay taxes. However, such liquidity

[64] Hence the qualification above regarding the effects of internationalization in the scope for taxing property.

problems, experienced most often by pensioners, can be avoided by freezing property taxes until the property is sold.

Tax Expenditures
As an alternative to direct public spending, for example on social policy purposes, the public sector can achieve its goals by providing concessions from the general tax system, so-called tax expenditures. Historically, tax expenditures were much less documented than standard public spending in government finance accounts, but the recent focus on cutting marginal tax rates by tax base broadening has increased awareness of tax expenditures. At the general level, tax expenditures represent a departure from tax neutrality, and tend to distort choices and add complexity to the tax system.

Tax expenditures include provisions for low or no value-added taxation, often applied to specific categories, such as food or certain road fuels, or specific private or public sectors, such as the financial sector and public day-care. In addition, tax expenditures are often used in social policy, for example providing exemptions from the current tax system to specific groups such as pensioners or families with children.

Abolishing tax expenditures can yield significant revenue gains. In some countries tax expenditures are widely used and have been implemented historically for other reasons than social policy goals. To the extent that social policy is affected in undesirable ways, it is possible to adjust transfers correspondingly, making the tax-transfer system more transparent.

Individual Mandatory Savings Accounts for Social policy expenditures
The prospect of ageing populations in the OECD economies have, over the last twenty years, generated an intense discussion about the relative merits of an old-age pension system based on individual savings account (a fully funded pension system) versus the current pay-as-you-go pension system. Only recently, however, has an interest emerged in whether such individual savings accounts could play a useful role also in financing social insurance for the *working* population, and not only for retirees. Various designs of individual accounts to finance social insurance for the working population have been suggested;[65] here we will limit ourselves to a brief discussion of the key features of such a system.

The main idea behind the establishment of individual accounts is that a large part of the tax bill serves to smooth an individual's income over his life rather than redistributing income across individuals. It is, however, inefficient to finance individual redistribution of income over time through the tax system. The reason is that current tax and transfer-systems tend to decouple taxes paid and social benefits received, creating large marginal tax wedges, with large efficiency costs resulting. Linking taxes paid and benefits received by introducing some degree of actuarial principles into the tax and transfer-system can thus improve efficiency.

The system works in the following way: The general idea is that for each taxpayer an individual account (IA) is established. The IA is a book-keeping device which can be administered either by the public sector or by private life financial institutions. A part of each taxpayer's annual tax bill or social security tax is replaced by a mandatory social security contribution, which is credited to his IA. When the taxpayer receives a benefit from a transfer programme included in the IA-system, a

[65] See, for example, Förster (1994, 1997) and Orszag et al. (1999). This section draws on Sørensen (2001).

corresponding amount is debited to his IA. The IA accumulates interest at the market rate and, at the time of the taxpayer's retirement from the labour market, the balance on his IA is converted into an annuity, which is added to his ordinary public retirement pension. If the balance is negative, the taxpayer simply receives the ordinary pension.

Such a system provides the same lifetime income insurance and liquidity insurance as an existing tax-transfer system. Lifetime income insurance is achieved through minimum public pensions, while liquidity insurance is unchanged as eligibility rules are unchanged and the taxpayer can collect social insurance benefits regardless of the balance on his IA. The benefits of the system are achieved by improving the incentives to drawn on the social transfer system for high income earners, that is, those that have a chance of ending up with a surplus on the IA. While incentives do not improve for those that end up with a negative balance, they will be no worse off as they are guaranteed a minimum pension.

In principle, a wide range of social insurance and transfer schemes such as unemployment insurance, early retirement schemes, educational financing etc. could be included in an IA scheme. However, since relying more on actuarial principles will tend to decrease the redistribution from rich to poor, a careful design of the IA scheme would have to consider in detail the distributional consequences of particular transfer systems. In any case, introducing a greater degree of actuarial principles will tend to redistribute from the unlucky, who experience many spells of relying on the public transfer system, to the lucky who do not.

Benefit taxation: user fees and charges for public services
Another option in a world of increasingly mobile tax bases would be to emphasize benefit taxation, relying on user fees to finance public services. User fees have been considered as an alternative way of financing public services in many countries, but actual large-scale implementation of user fees is much more rare. By their very nature, benefit taxes cannot be redistributive and, hence, do not contribute to public policy goals of promoting equality. However, the relative desirability of user charges depends on the redistributive properties of the taxes that they replace in the public budget.

The benefits of user charges can be a more direct link between the provision of public goods and the actual costs of providing it. In particular, in the public provision of private goods - where consumption is 'rival' - the introduction of prices could help keeping demand in check. An increased reliance on user charges could also assist in making public service providers more responsive to citizen needs and demands. Therefore, a natural complement to a more widespread application of user fees could be to introduce more competition on the producer side, so as to increase the possibility of choice for demanders of public services.

For general political acceptance of user charges, it is necessary that widespread adoption of user charges is accompanied by clearly defined lower taxes elsewhere in the tax system, so as to make it transparent which taxes are replaced by benefits taxation. Otherwise, benefits taxation of already existing public services can be taken to imply a deterioration of public productivity.

Graded access to public transfers in an integrating world
As European labour markets become increasingly integrated, the mobility of labour will increase. This has raised concerns about the possibility of 'social tourism' where those workers or transfer recipient relocate to countries that have generous social insurance and transfer programs. In principle, this could lead to workers sorting themselves into high transfer - high tax rate countries

and low transfer - low tax rate countries. With the levels of mobility witnessed so far, this will not become a problem in the years to come, but already the immediate access of immigrants to public assistance programs has been the subject of considerable debate.

A part of the solution to this problem could be the introduction of actuarial principles in government transfer programs such that the eligibility for public assistance in various areas will depend on the length of time the potential recipient has been paying to the system, through taxation. This represents a less radical step towards the introduction of actuarial principles than the individual savings account described above, but both depart from the universalism principle currently guiding most public policy programmes in the Nordic countries.

Labour supply and immigration

In part one, we discuss the current outlooks for fiscal sustainability of Nordic governments. The internal pressure on the welfare state - the increasing share of elderly and pensioners relative to the labour force - is projected to increase the claims on public sector services. Therefore, current levels of taxation will have to be increased - or public expenditures have to be cut - for public finances to be sustainable. An obvious solution to the problem is to increase the labour force. This can be done in two ways: Increasing participation among current citizens and importing labour through immigration.

Increasing participation is on the agenda for many countries. However, the scope for the Nordic countries may be relatively smaller than in other European countries, as the participation rate for females is already high. On the other hand, the attractive provisions for early retirement in the Nordic countries could be scaled back to sustain labour force attachment for older workers. As a part of this, increasing the scope for so-called 'senior labour market policies', where older workers can work part-time, can possibly contribute to some - that otherwise would have retired if they could choose only between complete retirement and full-time working - staying in the labour force. Furthermore, the relatively generous transfer systems of the Nordic countries may have resulted in a relatively high number of non-participants in the low wage part of the labour market. Increasing participation, for example through an Earned Income Tax Credit, will both lower expenditures, by reducing transfers, and increase tax revenues.

The effect of immigration as a way of increasing labour supply naturally depends crucially on the labour market behaviour of those immigrating.[66] A number of European countries are currently inviting highly-skilled immigrants such as engineers to help alleviate demand-shortages for such labour types, but the general picture in Europe is that immigrants - on average - have lower labour market participation and higher unemployment than non-immigrants (table 14, part one). Therefore, for immigration to be an effective instrument in increasing labour supply it is necessary to design tax and transfer systems in a way that provides incentives for participation in the labour market, and at the same time minimise to the difference between the immigrant and non-immigrant labour force by providing basic education, general language-skills etc. In addition to this, an active approach towards the hiring of immigrant labour can be necessary. Unless the labour market performance of immigrants improves, however, relying on immigration to solve labour force shortage problems will not be a viable strategy for the Nordic countries.

[66] See Storesletten (2000).

The scope for alternative financing: Conclusion
A general feature shared by most of the alternative ways of financing the public sector outlined above is that they will tend to be less redistributive than the current tax-transfer system. The reason is that the introduction of actuarial principles will establish a link, typically absent in current systems, between tax payment and benefits received. By definition, programs based on actuarial principles do not contribute to redistribution across citizens. Therefore, if the current tax-transfer system contributes to redistribution in particular policy areas, the introduction of actuarial principles will inevitably have an adverse effect on income distribution.

However, as internationalisation and economic integration increases, there will be a pressing need for finding alternative modes of government finance. Given current and projected levels of government spending, there will be a need to increase tax revenues, or to cut entitlements to public services or transfers, for the public finances to be sustainable, and therefore the constraints imposed upon tax policy by globalisation must be addressed either within the system of personal income taxation or by considering alternative revenue instruments, or a combination of both. Therefore, the relevant decision criterion will not be whether alternative ways of financing the public sector will lead to more inequality than the *current* system, but rather - given that the current system cannot be sustained - which of the alternatives should be preferred on the basis of the consequences for equity and economic efficiency.

III.6 Is there a basis for increasing tax coordination and collaboration among the Nordic countries?

Due to their geographical proximity and relatively similar small open economies with large public sectors, the Nordic countries often have similar interests in both domestic and international tax issues. Sometimes these interests conflict, for example in attempting to attract highly-skilled foreign labour by offering low taxes, and sometimes they are common, as the desire to implement minimum effective tax rate in environmental taxation.

We suggest that the Nordic countries should attempt to coordinate, or at least inform each other about, planned tax initiatives that can potentially affect other Nordic countries. This could help counteract tax competition tendencies on issues where competition involves mostly the Nordic countries. Furthermore, the Nordic countries could profit by coordinating initiatives and policies towards international tax coordination at the international level, such as within the EU, even though only three of five Nordic countries are EU members, or within the OECD.

A natural forum for such a coordinating group would be the Nordic Council of Ministers, and indeed discussions on tax policy has already taken place within the NCM, for example over the taxation of shipping and tax-rules for seamen. We suggest that issues of both Nordic and international tax policy are considered as a regular item at meeting of the Council, with the aim of achieving, when possible, Nordic consensus on international tax policy issues.

III.7 How can the Nordic tax systems become more robust?

If the international co-operation to counter harmful tax competition does not succeed, it is inevitable that the Nordic welfare states will face increased efficiency costs of redistribution in the future. The analysis presented in part two on the effects of further corporate tax competition within the EU and among the OECD economies suggests that the Nordic countries, due to their already relatively high labour and consumption taxes, will tend to lose from such tax competition. The problem is that the decrease in revenue from corporate income taxation will require labour and consumption taxes to be raised from their already high levels, and that this will have adverse effects on unemployment and economic activity.

Similar results apply to an intensified competition regarding personal capital income taxation, which will in part follow from the competition in corporate taxation, due to the need for limiting domestic tax arbitrage. In countries that apply a comprehensive income tax with similar rates pertaining to both capital and labour income, this process will put downward pressure on both capital and labour incomes. In the Nordic countries, where the taxation of capital and labour income is separated through the use of dual income taxation, it is possible to adjust personal capital income taxation without lowering labour income tax rates. This extra degree of freedom provided in the system of dual income taxation, provided that problems of taxing the self-employed and active owners of closed corporations can be overcome, makes it possible for small open economies to adjust to increased internationalisation and economic integration.

Furthermore, all other possibilities for raising tax revenues have not been employed to their fullest extent. For example, we have noted that the reliance on property taxation can be increased, as the Nordic countries, except Iceland, use property taxation less, compared to most OECD countries. Therefore, it is important that the Nordic countries do not decrease property taxation and do not restrict themselves in the property tax instruments available to them, as the need for increased property taxation can arise in the years to come.

Domestic adjustment to increased internal and external pressures can only achieve so much, and as suggested above, while such adjustments may in themselves help improve overall economic efficiency, the end result can be a more unequal distribution of incomes. A key way to counteract this process is to attempt to reduce the impact of tax competition by coordinating, at the international level, national tax policies.

Proposals on international tax coordination have had little success historically, in great part due to the lack of legislative authority on the part of supranational institutions. While the OECD initiative against harmful tax competition is certainly welcome for countries trying to collect residence-based taxes, effective tax coordination will require information exchange and the establishment of minimum effective tax rates at relatively high rates.

The most realistic forum for carrying out international tax coordination is the EU, as the EU commission has the legislative authority necessary for implementing and enforcing common tax rules on the national governments of member countries. However, a discussed in part two, a central impediment for progress of tax coordination in the EU is the requirement of unanimity in the Council on tax policy matters. While attempts to change the decision protocol regarding tax policy issues have been met with fierce resistance on the part of member states, it is absolutely crucial for making any progress on EU-wide tax coordination. In particular, the future expansion of the EU

with a number of Eastern European countries will make unanimous decisions on tax policy even harder – but ever more necessary - to achieve.

A main conclusion, therefore, is that the Nordic countries should increase their common efforts to strengthen international tax cooperation, including the institutions available for doing so.

Extended Summary and Conclusions

1. Brief Summary of the Report

Part 1

Part 1 of the report aims to provide an overview of how the Nordic welfare states' tax policies compare to those other European countries, and to provide an updated survey of the international evidence on the impact of globalisation and tax competition on national tax policies.

The Nordic Welfare States in International Perspective
We investigate how the Nordic welfare states compare to a group of European reference countries regarding the level and structure of taxation, the extent of redistribution, fiscal sustainability and the degree of decentralization.

The level of taxation
At a general level, the welfare state's objective is three-fold: First, it guarantees individuals and families a certain minimum income irrespective of the market value of their endowments. Second, it offers social insurance by offsetting at least part of the individual's loss of income due to social contingencies caused by illness, unemployment and so on. Third, in certain social welfare areas such as health care and education, the welfare state offers a basic level of services free of charge to all citizens.

While these elements are represented in government programs in most industrialised countries, though to a varying degree, the Nordic welfare states, generally, have carried this further and organised extensive income transfer programmes and public provision of private goods with the aim of attaining a more even distribution of income and access to services than that produced by the market. This is manifested in comparatively high levels of public expenditures and, thus, taxation. In particular, Denmark and Sweden have by far the largest public sectors of the OECD area, while Iceland, on the other hand, is a somewhat atypical "Nordic country," with a comparatively small public sector.

Standard measures of tax burdens and public sector size are often criticized for failing to take into account a number of factors that make simple comparisons less straightforward. In particular, the tax burden measures do not account for differences in the tax treatment of social expenditures and, further, such single year measures are silent about the sustainability of public finances in the future.

We find that taking into account differences in the tax treatment of social expenditures tends to narrow, but not eliminate, the observed bias towards large public sectors in the Nordic countries. On the other hand, taking into account the taxation of social expenditures, net social expenditures actually paid out are not necessarily higher in the Nordic countries.

Redistribution
Do the Nordic welfare states achieve their goal of a high level of equality? Income inequality data suggest they do. Across a number of measures of income inequality, the Nordic countries are

consistently among the countries with the highest degree of equality in disposable incomes, although there is some evidence that income inequality has increased in some Nordic countries in the 1990's. It is not clear, however, whether the high degree of equality can be attributed solely to extensive transfer programs or whether it reflects more equal gross incomes, i.e. the distribution of incomes before taxes and transfers are accounted for. Indeed, the distribution of wages is somewhat more equal in the Nordic countries, perhaps owing to the relatively large degree of centralisation in wage setting, as suggested by recent research.

The Structure of Taxation

The structure of taxation found in the Nordic countries as a whole is not markedly different from that seen in the group of comparison countries. If anything, the share of total tax revenue stemming from taxes on goods and services is somewhat higher than in other countries.

Rather, individual countries stand out; for example, Iceland collects almost half of its revenue from taxes on goods and services. Also, Denmark collects almost nothing in social security taxes, widely used in Finland, Norway and Sweden, as well as the rest of the OECD area, but relies instead on personal income taxation to a greater extent.

In recent years, a popular way of assessing the tax burden on factors of production and consumption has been by way of so-called implicit, or effective, tax rates. This reflects the fact that statutory tax rates cannot always be used as guidelines when assessing the burden of taxation due to deductions in the tax base etc. In particular, a method developed by Mendoza, Razin and Tesar (1994) has been used extensively. However, this method also has its drawbacks, and we describe in detail some of the problems associated with it.

Nevertheless, there still is useful information to be found in implicit tax rates. We present the results of an OECD study that corrects a number of shortcomings in the original method. These estimates suggest that implicit tax rates on labour have increased since the early 1980s, as have the tax burden on consumption, while implicit tax rates on capital income have remained stable. Hence, the expansion of the public sector seems to have affected mostly labour and consumption taxation.

Within indirect taxation, the Nordic countries collect relatively much of their revenue from excise taxes; in particular, excises on beer, wine, and spirits are high in an international perspective, but also excises on cigarettes and certain vehicle taxes are high. Further, the use of environmentally related taxes and charges is extensive compared to other countries; for example, Denmark collects about ten percent of its tax revenue from such taxes and charges.

Direct taxation

Throughout the late 1980s and early 1990s, Denmark, Sweden, Norway and Finland (in chronological order) adopted (different variants of) the so-called system of dual income taxation (DIT). Under a standard system of progressive global income taxation, a single progressive tax schedule is applied to the tax payer's "global income", that is, to the sum of the taxpayer's income from all sources. By contrast, the pure system of the DIT system combines a separate proportional tax rate to income from capital with a progressive schedule applying to the taxpayer's total income from other sources.

While Denmark has since retreated from the principles of dual income taxation, in particular with the Tax Reform of 1993, the DIT system is still associated with the Nordic countries and often denoted the Nordic system of dual income taxation.

Labour taxation
Denmark, Finland and Sweden levy high both average and marginal taxes on labour income, both at middle and high income levels, in particular when accounting for the high indirect tax rates found in these countries. Iceland, on the other hand, has the lowest average tax rate, and the next to lowest marginal tax rate, on labour income of the countries surveyed.

Generally, advanced economies are characterized by progressive labour taxation, such that those with higher incomes face higher average tax rates and, with a few exceptions, higher marginal tax rates. A standard measure of tax progressivity, the so-called coefficient of residual income progression, suggests that at low and middle incomes labour taxation in the Nordic countries is not systematically more progressive than in our group of comparison countries; however, at high income levels, a higher degree of progression is pronounced, in part due to the fact that the Nordic countries rely relatively less on social security contributions that often are capped above a certain income threshold. The lower progression at lower wage levels reflects partly the fact that a high revenue requirement of these countries makes it necessary for more progressive taxes to 'bite' at relatively low levels of income.

The Taxation of Capital
Corporate tax rates in the Nordic countries are lower than in our reference group of countries. However, there exist other countries within in EU, notably Ireland, that taxes corporate income more leniently. The personal capital income tax rate on interest income is equal to the corporate tax rate for Finland, Norway and Sweden, in accordance with the dual income tax system, has its own low rate of 10 % in Iceland, and is taxed at the top marginal tax rate on other income in Denmark, as under a comprehensive income tax system. All the Nordic countries except Denmark levy net wealth taxes, which is relatively uncommon across the OECD.

Neutrality towards corporate financing and investment is an important part of corporate taxation. Often, tax systems favour debt financing and discriminate against financing by retained corporate earnings and, in particular, issuing new equity. Most tax systems in the OECD do not achieve neutrality, but the Nordic countries have relatively equal effective tax wedges over the different sources of financing, In particular, Norway does not discriminate financing at all.

Fiscal Sustainability
The ageing populations of the industrialised societies face adverse demographic changes which, combined with generous social programs, have caused fears that current fiscal policy is unsustainable. The increase in the number of elderly people in the population will cause expenditures to old-age pensions, health care and early retirement programs to increase, in some cases dramatically so, while the active working population will be smaller than today, as the new generations entering the labour markets, and current generations already on the labour markets, of industrialised countries are smaller than those leaving it.

A fiscal policy is unsustainable if, at the current rules for public spending programs, it is necessary to increase revenues unrealistically. We report results from a recent OECD study, based on detailed

public program information and agreed-upon assumptions on key economic and demographic variables, showing the projected long-term changes in revenues and age-related spending, and the consequent changes in primary deficits as a result of these changes. While no data exist for Iceland, the results for the remaining Nordic countries show that spending is projected to increase between 3.6 % (Sweden) and 16.5 % (Norway) resulting in a worsening of primary deficits between 4 % (Denmark) and 17 % (Norway).[67]

At first blush, this is slightly higher than in the group of comparison countries. However, most other countries have not been able to project the development in spending on early retirement programs and health and long-term care, which means that their estimates at most provide a lower bound on the worsening of deficits compared to the Nordic countries.

Decentralization
A common feature of the Nordic countries is the comparatively high share of tax revenues collected at the local level. Further, in all the countries, except Norway, local governments can exercise considerable discretion over these revenues; in particular, in Iceland and Sweden local governments have full discretion over the local tax rate. The combination of large tax revenues collected locally and a high degree of local government discretion makes the relation between central and local governments an important one if fiscal policy is under pressure.

Tendencies in International Tax Competition
In the second part of part 1 we review the recent evidence on the effects of globalisation and tax competition on national tax policies.

Do taxes influence FDI and portfolio flows?
Before asking the question whether tax policy responds to increased mobility of the corporate tax base, a natural question is to ask whether foreign direct investment and international saving deposits respond to taxation. Two recent empirical studies suggest, as one would expect, that they do.

The impact of globalisation on taxation
Increasing globalisation, understood as increased trade and factor flows, is generally thought to put taxation of mobile factors, in particular financial capital and certain consumption goods, under pressure. While statutory tax rates on, for example, corporate income have fallen significantly in the last 15 years, corporate income tax revenues relative to GDP have actually *increased*, leading some to speculate that the impact of globalisation on tax setting is less important. However, part of the reason for this is due to broader tax bases implemented as part of tax reforms, increased corporate earnings relative to GDP, an increased degree of incorporation and, it has been suggested, to the fact that tax competition drives down tax rates which in turn makes the countries with lower taxes more attractive for multinationals, leading to *higher* corporate tax revenues.

Looking at effective corporate income taxation instead, where the increases in corporate earnings are accounted for in the tax base, a different picture seems to emerge. In this case, globalisation is associated with decreasing implicit tax rates on corporate income and a tilt of the tax mix towards labour taxation instead.

[67] The figures from Norway are currently being revised; the final report will have these new (and lower) figures.

This picture is confirmed for the case of taxes on mobile capital as well. Both statutory and effective average tax rates have decreased the last 20 years, which is consistent with an increased competition among national governments for multinational enterprises, while effective marginal tax rates, relevant for marginal investment decisions given the location, have remained stable.

Is there tax competition?
That globalisation influences tax policy provides only indirect evidence for the existence of tax competition. Two recent studies confirm the presence of tax competition between OECD countries. The empirical evidence suggests that there is competition over statutory and effective average corporate tax rates, such that a country's choice of tax rate is influenced by (the average of) those chosen in other countries; they find no evidence of competition in effective marginal tax rates, confirming again that competition relates to the location of business firms.

Similar results hold for tax revenues - tax revenues relative GDP in each country is influenced by the revenues collected in other countries, and these forces appear stronger, the higher is the mobility of the tax bases and in regions such as the EU where factors move more freely.

Part 2

Part 2 is concerned with international tax cooperation. We discuss the experience of OECD and EU attempts at tax coordination and/or harmonisation, and we present quantitative estimates of the gains from tax coordination, based on simulations on a large-scale applied general equilibrium model for the OECD economies, the OECDTAX model.

International tax cooperation
In the 1980's and early 1990s, a widespread perception in the international economic community was that tax competition was harmful, in particular for European economies where it was feared that capital tax competition would cause the tax burden to shift onto labour, with unfavourable consequences for unemployment, which was already high throughout Europe.

Recently, however, both the OECD and the European Commission seem to have revised their position, and now see tax competition between countries with a 'level playing field' as advantageous, providing commitment for national governments to trim their expenditures. Nevertheless, international tax competition may imply a further shift of the tax burden from mobile capital to less mobile labour, which may increase unemployment and have adverse distributional consequences. Therefore, some amount of tax coordination seems desirable.

OECD Tax Cooperation
The advantage of tax cooperation within the OECD is that the OECD encompasses the largest economies and most important trading partners. However, the inability of the OECD to set up legally binding rules makes it difficult to achieve actual tax coordination within the OECD area. More success has been achieved with respect to the OECD initiative against Harmful Tax practises, where the OECD has reached agreement with a number of offshore tax havens to help limit the extent of tax evasion in OECD economies.

EU Tax Cooperation

Within the European Union, tax coordination and harmonisation in certain areas of tax policy has long been a key issue for the Commission. While the Treaty provides scope for harmonising indirect taxation so as to secure the functioning of the Single Market, there is little legal basis for coordinating direct taxation. The experience with respect to direct tax cooperation reflects this: both regarding corporate taxation, where the first proposal to harmonise the corporate tax system dates back to the Neumark report in 1962, and the taxation of interest income from foreign deposits, where an initial proposal was withdrawn in 1989 and the most recent is to be voted on before 2003. The most successful initiative to date is probably the so-called "Parent-subsidiary directive," abolishing withholding taxes on cross-border dividend payments from subsidiaries to parent companies within the EU, but this had limited revenue consequences for any member state.

A major problem in achieving EU tax cooperation is that decisions in the Council have to be unanimous, and all attempts to change the Article, in particular the procedure of voting, has been met by strong resistance of member states. For example, a proposal that was part of the Nice Treaty on introducing weighted majority voting for certain aspects of the tax *system* while keeping the unanimity requirement for tax *rates* was comprehensively rejected by member states. The reluctance on the part of national governments to give up full subsidiarity in the field of taxation is generally thought to reflect closely the sentiment of citizens, whose support for transferring tax authority to a supra-national level is very low. The inability of the Council to reach agreement will, however, most likely become more pronounced as new member states are admitted, at the same time as convergence of national policies regarding the Single Currency may make the need for some coordination of fiscal policies, including taxation, more pressing.

A recent initiative, designed to escape the problem of establishing legally binding instruments by unanimity in the council, is the establishment of a Code of Conduct for Business Taxation. The Code, presented in 1997, takes the form of a political gentleman agreement, under which EU member states seek to respect principles of fair competition and refrain from harmful tax practises, issues not covered by bilateral tax treaties, but related to the OECD initiative. Currently, the implementation and adherence to the Code is being supervised by the Primarolo Group.

Quantitative estimates of the effects of tax competition

Ultimately, the desirability of tax competition and, therefore, the need for tax coordination, must be based on an assessment of the impact of tax competition on the level and distribution of economic welfare. Most economic models of tax competition predict that tax competition will lead to lower taxes on those tax objects that are more mobile. Whether this is welfare improving depends on whether the size and the structure of the public sector was optimal at the outset, or whether, as has been suggested, governments in Western Europe have become too big, with the level of taxation depressing labour supply and investment.

If the theoretical case for tax competition is uncertain, it is natural to look at the empirical evidence. In part 1 we noted that recent empirical studies suggest that internationalisation and tax competition have shifted part of the tax burden from mobile capital to less mobile labour, but, again, this does not necessarily mean that tax competition is harmful.

To answer that question, Section II.6 reports estimates from simulations on the OECDTAX model, an applied general equilibrium model of the OECD economy developed by Sørensen (2001,2001a). The analysis enables us to obtain quantitative estimates of the effects on output, factor markets and

consumer welfare of tax policy experiments. We report results from three policy scenarios: (i) A 10 percentage point EU-wide cut in the corporate tax rate; (ii) a 10 percentage point OECD-wide cut in the corporate tax rate; and (iii) full information exchange among EU countries, where the revenue effects of the first two scenarios are neutralized by increasing labour (and consumption) taxation.

A key finding is that the country-specific effects of such reforms depend crucially on the initial level and structure of taxation in the country. For example, tax competition leading to lower corporate tax rates within the EU will tend to increase average EI-wide welfare. This welfare gain will, however, be very unevenly distributed across the EU countries. Thus, the Nordic EU-members will actually *lose* from such a reform, while for example Germany and France will experience sizeable welfare gains. Norway will also lose slightly from such a reform, while Iceland will, in welfare terms, be unaffected.

Similar results emerge in the second policy experiment, an OECD-wide 10 percentage point cut in corporate tax rates, only this time the welfare losses for the Nordic countries are slightly larger. The main beneficiaries are, again, France and Germany, as well as Japan and the United States.

The third policy experiment, full information exchange within the EU countries following the proposed directive by the Commission, has much less impact on welfare levels. Part of the reason for this is that the remaining OECD area, which is not covered by the directive, will remain attractive for depositing financial capital. This suggests that full benefits of information exchange are to be reaped only when all OECD countries and off-shore tax havens are included in such a program, which is, among other things, part of the background for the OECD initiative on harmful tax practises.

Part 3

Part 3 reviews the future for Nordic tax policy in an internationalised world economy.

Basic tax principles

Raising tax revenues inevitably affects economic decisions and distorts economic behaviour, with deadweight loss resulting. Therefore, a general objective for tax policy is to collect the desired levels of revenues for the public sector in a way that minimizes such tax distortions in resource allocation while at the same time maintaining consideration for redistribution through the tax system, and for the environment.

The basic principles to achieve this are: (i) neutrality, to ensure that the tax payment to the widest possible extent is independent of tax payer choices, (ii) symmetry, such that incomes and expenditures are treated equally; (iii) simplicity, served by applying the broadest possible tax base without exemptions and credits; and (iv) taxpayer equity, by levying the income tax in accordance with the taxpayer's ability to pay.

To a varying degree, these principles were introduced with the introduction of the dual income tax embodied in the tax reforms in Denmark (1987), Sweden (1991), Norway (1992) and Finland (1993), but they could and should be strengthened, in particular in response to the increasing economic integration.

Which taxes are under most pressure from economic integration?
The increasingly wider and deeper of economic integration means that financial capital, including financial wealth holdings, and to a lesser extent physical capital, is becoming increasingly mobile. This will put further downward pressure on corporate and capital income taxation, in particular as European economic integration proceeds.

The consumption tax base is also mobile, in particular regarding e-commerce of digital products, which is projected to increase significantly over time. Furthermore, the European Single Market has meant that differences in indirect tax rates (VAT and excise taxes) become more important for cross-border shopping, as quantitative restrictions no longer apply.

Labour is less mobile, but it can become increasingly difficult to maintain a high level of labour taxation for highly qualified staff. In particular, highly qualified labour is more mobile, and it can become difficult both to keep residents from moving abroad and to attract highly qualified foreign labour for countries with a high level of labour income taxation.

Property and land taxation and taxation of natural resources is not directly threatened by increasing economic integration.

Possibilities for adjustment in indirect taxation
Indirect taxation is an important source of revenue in the Nordic countries, and at the same time can be used to influence behaviour in consumption away from consumption of goods with negative externalities, such as alcohol, gasoline, tobacco and consumption and production activities with negative environmental impact. However, the establishment and full phasing-in of the Single Market in the European Union, as well as projected increases in e-commerce, will call for some adjustment in indirect taxation.

The Nordic countries, at least the EU members, will probably need to adjust selected excise taxes downwards; when the Danish special restrictions on cross-border shopping are lifted in 2003, Denmark will need to lower selected excises so as to keep cross-border trade vis-à-vis Germany from increasing dramatically from its already high level. This, in turn, can mean that Sweden is forced to reduce its excise taxes, so as to limit the extent of Swedish cross-border shopping in Denmark. Finally, this can again spill-over on cross-border shopping in Norway and Finland.

This makes it all the more necessary for the Nordic countries to support high(er) minimum excise and VAT rates within the European Union, as the current minimum VAT rate of 15 % is far below the standard rates found in the Nordic countries, which are all above 20 %.

Adjustments in income taxation
Changing the tax mix: The advantages of dual income taxation in an internationalised economy
As internationalisation puts most pressure on the more mobile tax bases, the 'optimal' tax system for small open economies like the Nordic ones almost surely involves taxing capital at a lower marginal rate than labour income, and this is exactly what is achieved though the dual income tax system applied currently in Norway, Finland, Sweden and, to a lesser extent, Denmark. Having separated the taxation of labour and capital income, it is possible to adjust capital income tax rates without having to lower labour income tax rates, as would be the case in a comprehensive income tax system.

At first blush, it seems that internationalisation and tax competition puts corporate taxation, rather than personal income taxation, under pressure, but to limit tax evasion due to imperfect enforcement of the residence principle and to avoid 'locking-in' of retained corporate earnings, it is necessary that the gap between personal capital income tax rates and corporate tax rates is not too high. This is possible under the dual income tax system; indeed, under the pure version of the DIT they are equal.

Labour taxation and international competitiveness
Changing the tax mix away from capital towards less mobile labour can have consequences for international competitiveness. As product markets become more integrated, market prices in different economies will converge which makes it increasingly difficult for domestic producers in an open economy to pass domestic cost increases on to their customers. Hence, if higher labour income taxes tend to push up the pre-tax wage rate, the negative impact of labour income taxes increases as economic integration is deepened. This argument depends, however, on the specific labour market structure, and evidence from the Nordic countries suggests that in unionised economies, the effects of more progressive labour income taxes could in fact be more moderate wage claims. Therefore, a change in the tax mix towards more progressive labour income taxation is not necessarily a problem for international competitiveness, whereas a higher average tax on labour income is, at least in the short run.

Possibilities of adjustment in corporate taxation
Theoretically, applying the residence principle in capital income taxation can maintain investment neutrality and horizontal equity. However, practical problems mean that capital income taxation is based broadly on the source principle, where income is taxed only in the country where it is generated. For small open economies it is generally inefficient to tax the normal rate of return on capital, if capital mobility is perfect, which means that there should be no taxes on the return to financial capital and that the normal rate of interest from corporate equity should be deducted when determining taxable corporate income.

In practice, capital mobility is imperfect due to information and transaction costs for households' cross-border activities and adjustment costs when reallocating real capital. Nevertheless, a high (and rising) degree of capital mobility dictates a low tax rate on the normal rate of interest under the source principle of corporate taxation.

The desirability, in practice, of implementing an allowance for corporate equity (ACE) depends on a number of factors. The advantage of the system is that it does not distort investment, and it generates revenue to the source country if the above-normal profit is associated with localization in that country. The system, thus, is effective when a large part of corporate incomes stems from rents on fixed resources. The downside of the system, on the other hand, is that in can involve a high tax rate to generate the desired level of revenue, which makes the system vulnerable to transfer pricing. Furthermore, the ACE system involves a high average tax rate for companies with a large rate of profit, which can make it unattractive for such companies to invest in the country in the first place if the above-normal profit is linked to the investing company. Finally, the allowance for the normal rate of return is a giveaway to foreign countries in the case where foreign residence countries give credit for taxes paid in the source country.

Alternative sources of government revenues

Rather than shifting the bulk of current capital income taxes onto labour incomes, it is possible to include other sources of financing. Within the tax system, the most obvious choice is putting more weight on taxation of land and natural resources, which will improve efficiency. In international comparison, the Nordic countries seem to have considerable scope for increasing property taxes and, indeed, rolling back regional subsidies that in reality serve as negative taxes on factors with very low mobility. In addition, taxation of natural resources could be achieved via an ACE tax (as described above).

Other possibilities for alternative financing include increased emphasis on benefit taxation by increasing the use of user fees, by rolling back the use of tax expenditures, by establishing individual savings accounts based on actuarial principles, and, as labour mobility increases, by granting access to social insurance based on time in national labour force until full eligibility is achieved. In addition, as discussed in part 1, increasing labour supply through immigration could be an option, but this would require much higher participation and employment rates than that experienced by current generations of immigrants.

How can the Nordic tax systems become more robust?

If the international co-operation to counter harmful tax competition does not succeed, it is inevitable that the Nordic welfare states will face increased efficiency costs of redistribution in the future. A main conclusion, therefore, is that the Nordic countries should increase their common efforts to strengthen international tax cooperation, including the institutions available for doing so.

Table 1-15

Table 1. Total taxation and public expenditures

(percent of GDP at market prices)

	1998	Various years				
	Total tax revenues	Total expenditures	Public consumption	Subsidies	Transfers to households	Public investment
The Nordic countries						
Denmark	49,8	55,0	25,7	2,4	17,7	2,0
Finland	46,2	50,8	21,6	1,7	18,3	3,3
Iceland	33,6	37,3	20,7	2,1	7,6	3,2
Norway	43,6	59,6	21,2	2,8	15,5	4,0
Sweden	52,0	64,9	26,2	4,7	23,8	2,0
North-Western Europe						
Austria	44,4	50,4	19,2	2,7	17,8	3,8
Belgium	45,9	51,2	21,4	1,5	15,7	3,2
France	45,2	54,8	19,4	2,0	24,9	3,2
Germany	37,0	48,7	19,8	2,0	19,4	2,2
Netherlands	41,0	52,0	14,0	1,9	26,6	1,9
United Kingdom	37,2	47,4	18,3	0,6	13,5	2,1
Southern Europe						
Italy	42,7	51,6	16,4	1,5	20,1	2,2
Portugal	34,2	45,3	17,6	1,3	14,2	4,0
Spain	34,2	44,4	16,5	1,8	17,3	3,2

Source: OECD Revenue Statistics and Statistics Denmark

Table 2. Adjusted tax burdens, 1997

(percent of GDP at market prices)

	(1) Total tax revenue	(2) Direct taxes and soc. contr. of social expenditures	(3) Tax credits for social purposes	(4) Adjusted tax burden
The Nordic countries				
Denmark	50,0	4,8	0,0	45,2
Finland	46,1	4,1	0,0	42,0
Iceland	31,8			
Norway	42,4	2,5	0,0	39,9
Sweden	51,5	4,6	0,0	46,9
North-Western Europe				
Austria	44,2	2,5	0,4	42,1
Belgium	45,7	1,7	0,5	44,5
France	45,2			
Germany	37,0	1,8	1,8	37,0
Netherlands	42,0	5,0	0,1	37,1
United Kingdom	35,3	0,9	0,4	34,9
Southern Europe				
Italy	44,2	2,8	0,0	41,4
Portugal	33,5			
Spain	33,7			

Sources: (1): OECD Revenue Statistics
(2) and (3): Adema (2001), converted to market prices
(4) = (1) - (2) + (3)

Table 3. Income redistribution and Inequality

	income transfers per cent of GDP 2000	top marginal tax rate on wage income	P90/P10* mid 90s	Gini-coefficient mid 90s	Poverty rate in total working-age population mid 90s
The Nordic countries					
Denmark	17,2	63,3	2,7	21,7	3,8
Finland	12,6	61,8	2,8	22,8	4,4
Iceland		48,6			
Norway	13,7	55,3	3,0	25,6	5,9
Sweden	18,3	58,1	2,7	23,0	7,2
North-Western Europe					
Austria	18,3	50,0	3,0	23,8	6,1
Belgium	14,4	66,1	3,2	27,2	6,6
France	18,1	62,9	3,4	27,8	6,9
Germany	18,6	53,8	3,7	28,2	9,4
Netherlands	11,8	60,0	3,2	25,5	7,0
United Kingdom	13,1	40,0	4,1	31,2	11,0
Southern Europe					
Italy	17,3	50,8	4,6	34,5	14,1
Portugal	12,5	46,6		38,0	
Spain	12,4	48,0		35,0	

Notes: * Ratio between income of top 10 % of income distribution to income of bottom 10 %.

Source: COM (2001) 565 final.
Atkinson and van den Noord (2001).
Förster and Pelizzari (2000)

Table 4. The structure of taxation, 1998.

(percent of total tax revenue)

	Taxes on income and profits		Social security taxes		Payroll taxes	Taxes on wealth and property	Taxes on goods and services
	Individuals	Corporate	Employees	Employers			
The Nordic countries							
Denmark	51,6	5,6	2,4	0,7	0,8	3,6	33,2
Finland	32,3	9,0	4,2	19,9	0,0	2,4	30,7
Iceland	35,2	3,4	0,3	8,0	0,0	7,1	45,9
Norway	27,3	9,7	8,0	13,8	0,0	2,4	37,2
Sweden	35,0	5,7	5,8	22,5	4,8	3,7	21,6
North-Western Europe							
Austria	22,5	4,8	14,2	16,6	6,2	1,3	27,9
Belgium	30,7	8,5	9,7	19,2	0,0	3,2	24,9
France	17,3	5,9	8,7	25,2	2,3	7,3	26,6
Germany	25,0	4,4	17,9	19,9	0,0	2,4	27,4
Netherlands	15,2	10,6	0,0	12,3	0,0	4,9	27,7
United Kingdom	27,5	11,0	7,3	9,4	0,0	10,7	32,6
Southern Europe							
Italy	25,0	7,0	6,3	20,5	0,1	4,8	27,4
Portugal	17,1	11,6	9,4	14,4	0,0	2,9	41,3
Spain	20,8	7,3	5,4	24,6	0,0	6,0	29,4
OECD Western Europe average	26,5	8,2	7,9	15,1	0,9	4,8	31,1
OECD Eastern Europe average	17,5	7,6	5,2	30,3	0,4	2,0	34,8
OECD average	27,1	8,9	7,0	14,9	0,9	5,4	31,3

Source: OECD Revenue Statistics

Table 5: Effective average tax rates on labour, capital and consumption, 1980-1997.

	Effective average tax rate on labour income (percent)			Effective average tax rate on capital income (percent)[1]			Effective average tax rate on consumption (percent)			Combined labour and consumption tax (percent)		
	1980-85	1986-90	1991-97	1980-85	1986-90	1991-97	1980-85	1986-90	1991-97	1980-85	1986-90	1991-97
The Nordic countries												
Denmark	..	40,2[2]	42,8	..	32,3[2]	29,1[3]	25,8	27,9[2]	25,7	..	56,9	57,5
Finland	33,0	37,5	44,5	14,8	18,4	19,6	22,4	24,7	22,7	48,0	52,9	57,1
Iceland	..	..	..	..	..	..	29,5	26,5	23,6	..	..	..
Norway	33,8	34,7	35,5	27,1	22,8	20,2	27,6	27,4	26,9	52,1	52,6	52,9
Sweden	46,8	51,0	48,5	25,5	35,3	30,5	17,7	20,4	18,7	56,2	61,0	58,1
North-Western Europe												
Austria	37,0	37,8	41,8	18,9	18,8	18,9	20,9	21,4	20,0	50,2	51,1	53,5
Belgium	38,5	40,1	39,7	32,5	29,9	30,8	16,7	17,5	18,7	48,7	50,6	51,0
France	35,4	38,5	40,2	24,3	22,9	23,6	18,8	19,0	18,0	47,5	50,1	51,0
Germany	33,1	34,8	35,9	22,9	21,1	19,9	14,8	14,6	15,8	43,0	44,3	46,0
Netherlands	41,1	42,0	41,0	22,5	23,4	24,7	16,1	18,3	18,7	50,6	52,6	52,0
United Kingdom	24,3	22,3	21,0	46,4	47,1	38,4	16,0	16,4	16,9	36,4	35,1	34,3
Southern Europe												
Italy	28,6	32,3	36,3	21,7	24,7	31,0	12,2	14,6	16,0	37,3	42,1	46,5
Portugal	..	20,0[4]	22,7	..	15,4[4]	18,3	16,7	21,4	20,5	..	37,1	38,6
Spain	24,2	27,7	30,4	12,6	19,7	20,6	8,5	14,1	13,7	30,7	37,9	39,9

Sources: Carey and Tchilinguirian (2000)

Notes: (1) Effective average tax rate based on gross operating surplus; see Carey and Tchilinguirian (2000, p. 10 for a discussion).
(2) 1988-90
(3) 1991-96
(4) 1989-90

Table 6. Total average tax rates on labour costs, 2000

	Total average direct tax rate (Percentage of gross labour costs)		Total indirect tax rate	Total average direct and indirect tax rate (Percentage of gross labour costs)	
	(1)	(2)	(3)	(4)	(5)
	100% APW	167% APW		100% APW	167% APW
The Nordic countries					
Denmark	44,4	51,7	25,7	55,8	61,6
Finland	47,2	52,9	22,7	57,0	61,6
Iceland	24,5	30,3	23,6	38,9	43,6
Norway	37,3	44,4	26,9	50,6	56,2
Sweden	49,5	54,2	18,7	57,5	61,4
North-Western Europe					
Austria	45,1	50,1	20,0	54,3	58,4
Belgium	56,2	61,8	18,7	63,1	67,8
France	48,1	50,0	18,0	56,0	57,6
Germany	51,3	55,7	15,8	57,9	61,7
Netherlands	45,0	44,3	18,7	53,7	53,1
United Kingdom	30,3	33,0	16,9	40,4	42,7
Southern Europe					
Italy	46,4	50,5	16,0	53,8	57,3
Portugal	33,5	38,9	20,5	44,8	49,3
Spain	37,6	41,4	13,7	45,1	48,5

Sources: (1) and (2): OECD Taxing Wages 1999-2000
(3) Table 5
Notes: (4) and (5) calculated as $(a+c)/(1+c)$ where a is the average direct tax rate and c is the average indirect tax rate.

Table 7. Effective average and marginal tax rates at different wage levels, 2000

(percent of total labour costs)

	67 % APW			100 % APW			167 % APW		
	Average tax rate (incl. indirect taxes)	Marginal tax rate (incl. indirect taxes)	Progressivity	Average tax rate (incl. indirect taxes)	Marginal tax rate (incl. indirect taxes)	Progressivity	Average tax rate (incl. indirect taxes)	Marginal tax rate (incl. indirect taxes)	Progressivity
The Nordic countries									
Denmark	53,3	60,8	0,84	55,8	60,8	0,89	61,6	70,8	0,76
Finland	53,1	62,8	0,79	57,0	66,3	0,78	61,6	70,0	0,78
Iceland	33,1	50,6	0,74	38,9	50,6	0,81	43,6	50,6	0,88
Norway	48,3	55,1	0,87	50,6	55,1	0,91	56,2	64,5	0,81
Sweden	56,0	60,9	0,89	57,5	59,0	0,96	61,4	68,6	0,81
North-Western Europe									
Austria	50,3	60,2	0,80	54,3	63,3	0,80	58,4	67,4	0,78
Belgium	57,8	71,3	0,68	63,1	72,2	0,75	67,8	75,3	0,77
France	50,2	77,5	0,45	56,0	60,3	0,90	57,6	58,6	0,98
Germany	53,5	64,9	0,76	57,9	68,7	0,74	61,7	53,6	1,21
Netherlands	49,9	61,5	0,77	53,7	64,8	0,76	53,1	57,9	0,90
United Kingdom	36,4	48,2	0,81	40,4	48,2	0,87	42,7	40,5	1,04
Southern Europe									
Italy	50,9	56,8	0,88	53,8	61,5	0,83	57,3	65,0	0,82
Portugal	42,2	49,7	0,87	44,8	50,4	0,90	49,3	57,1	0,85
Spain	41,0	50,5	0,84	45,1	52,1	0,87	48,5	54,8	0,88

Sources: OECD Taxing Wages 1999-2000 and table 6

Note: Progressivity index calculated as (1-*m*)/(1-*a*) where *m* and *a* are marginal and average tax rates in percent, respectively. By construction, the measure of progressivity is the same whether indirect taxes are included or not.

Table 8. Corporation taxes and personal income taxes, 2001

	CT on retained profits	CT+PT on distributed profits	PT on interest income	Net wealth tax
The Nordic countries				
Denmark	30,0	60,1	59,7	-
Finland	29,0	29,0	29,0	0,9
Iceland	30,0			1,2-1,45
Norway	28,0	28,0	28,0	0,6-1,1
Sweden	28,0	49,6	30,0	1.5
North-Western Europe				
Austria	34,0	50,5	25,0	-
Belgium	40,2	55,1	60,6	-
France	35,3	56,3	24,0	0,55-1,8
Germany	38,5	54,2	36,9	-
Netherlands	35,0	35,0	None	1,2
United Kingdom	30,0	53,3	40,0	-
Southern Europe				
Italy	37,0	45,6	27,0	-
Portugal	35,2	49,6	20,0	-
Spain	35,1	52,7	48,0	0,2-2,5

Source: OECD and IBFD, European Taxation

Note: From 2002, Iceland's corporate tax rate on retained earnings is 18 percent and the tax on net wealth 0,6 percent.
CT: corporate tax rate
PT: personal tax rate

Table 9. Effective tax wedges in manufacturing for a resident final investor, 1999

(per cent)

	Sources of financing			
	Retained Earnings	New Equity	Debt	Standard deviation
The Nordic countries				
Denmark	1,9	2,4	2,5	0,3
Finland	2,2	0,9	0,9	0,6
Iceland	1,8	2,3	-0,1	1
Norway	1,1	1,1	1,1	0
Sweden	2,1	2,8	0,8	0,8
North-Western Europe				
Austria	0,7	2,7	0,1	1,1
Belgium	1,4	2,5	-0,6	1,3
France	3,6	7,7	0,7	2,9
Germany	0,9	2,5	1,3	0,7
Netherlands	0,5	5,3	2,5	2
United Kingdom	2,9	2,4	1,6	1,5
Southern Europe				
Italy	1,3	1,3	0,4	0,4
Portugal	1,1	2,5	-0,3	1,1
Spain	3,2	2,2	1,6	0,6

Sources: Joumard (2001)

Notes: The real pre-tax return that must be earned on an investment, given that the representative investor can earn a 4 per cent real rate of return on a demand deposit. It is assumed that the representative investor is resident and taxed at the top marginal income tax rate, and that the rate of inflation is 2 per cent.

Table 10. The tax treatment of owner-occupied housing, 2000

(principle residence)

	(1) Acquisition cost	(2) Interest on loan	(3) Capital gains	(4) Imputed rental income
The Nordic countries				
Denmark	TI	D	E*	T
Finland	TI	D	E*	E
Iceland	TI	TI	E*	E
Norway	TI	D	E	T
Sweden	TI	D	T	T
North-Western Europe				
Austria	PD	PD	E*	E
Belgium	D	D	E	T
France	TI	TI	E	E
Germany	TI	TI	E*	E
Netherlands	TI	D	E	T
United Kingdom	TI	PD	E	E
Southern Europe				
Italy	TI	D	E	T
Portugal	PC	PC	E	E
Spain	D	PC/C	E	E

Abbreviations: TI = Payable out of taxed income
D = Deductible
PD = Partially deductible
E = Exempt
T = Taxed

Notes: * If owner-occupied for at least two years

Table 11. The structure of indirect taxation, 1998.

	(percent of total indirect tax revenue)						(% total rev.)	(% of GDP)
	VAT	Customs	Alcohol	Tobacco	Cars and Petrol[1]	other	Environmentally related taxes and charges[2]	
Nordic countries								
Denmark	59,2	0,0	2,2	3,9	17,1	17,6	10,1	5,0
Finland	58,0	0,0	7,4	3,5	23,7	7,4	7,4	3,4
Iceland	59,7	2,4	(a)	(a)	(a)	37,9	8,8	3,0
Norway	57,3	1,4	4,2	3,6	15,4	18,1	8,2	3,5
Sweden	62,6	0,2	4,7	3,5	14,4	14,5	5,9	3,0
North-Western Europe								
Austria	66,8	0,0	0,7	4,7	16,2	11,5	5,2	2,3
Belgium	61,2	0,2	2,0	4,5	18,4	13,7	5,3	2,4
France	64,3	0,0	1,8	4,4	16,9	12,5	5,1	2,3
Germany	65,3	0,2	1,6	5,7	21,4	5,9	5,9	2,2
Netherlands	60,9	0,0	2,1	6,0	18,6	12,5	8,7	3,6
United Kingdom	55,3	0,0	5,7	4,5	4,5	27,0	8,3	3,1
Southern Europe								
Italy	51,7	0,0	0,6	0,0	18,5	29,2	7,7	3,3
Portugal	56,5	0,1	1,3	7,0	26,1	9,1	10,9	3,6
Spain	56,5	0,2	(a)	(a)	(a)	43,3	6,5	2,2

Source: OECD Revenue Statistics, 1999, and OECD/EU Database on Environmentally Related Taxes.
Note: (a) Excise tax revenue not disaggregated
(1) Including excise taxes on mineral oil
(2) Based on OECD database; the entry for France is a low-end estimate by the OECD secretariat

Table 12. VAT and Excise tax rates, 2001

	Standard VAT rates percentage points	Other VAT rates percentage points	Excise taxes (euros) Pack of 20 cigarettes	1 l. of beer	1 l. of wine	.75 l of 40 % spirits	1 l. of unlead. gasoline
The Nordic countries							
Denmark	25	-	3,28	0,62	0,95	11,07	0,52
Finland	22	8 / 17	2,88	0,29	2,35	15,14	0,55
Iceland	24,5	14					
Norway	24	0 / 12	4,15	2,03	14,03	24,49	0,48
Sweden	25	6 / 12	2,94	0,17	3,19	17,64	0,53
North-Western Europe							
Austria	20	10	1,88	0,01	0,00	2,06	0,37
Belgium	21	6 / 12	2,10	0,02	0,47	4,98	0,49
France	19,6	2.1 / 5.5	2,24	0,03	0,03	4,35	0,57
Germany	16	7	2,04	0,01	0,00	3,91	0,59
Netherlands	19	6	2,00	0,21	0,49	4,51	0,59
United Kingdom	18	0 / 8	5,74	0,30	2,58	9,79	0,76
Southern Europe							
Italy	20	10	1,54	0,01	0,00	1,94	0,52
Portugal	17	5 / 12	1,40	0,17	0,00	2,51	0,29
Spain	16	4 / 7	1,26	0,01	0,00	2,06	0,37

Sources: International Bureau of Fiscal Documentation
OECD: Consumption Tax Trends, 2001.
Finansdepartementet, Norway
Notes: A number of exemptions, typically newspapers

Table 13. Future Public Finances

	Share of older workers		Share of elderly / working population		Age-related spending						Change in total spending	Change in Primary deficit / surplus	
					Old-age pension		Early retirement		Health care and long term care				
	Level, 2000	Change, 00-50	Level, 2000	Change, 00-50 (pct. points)	2000	change 2000-2050	2000	change 2000-2050	2000	change 2000-2050			
The Nordic countries													
Denmark	20,8	2,2	32,4	27,6	6,1	2,7	4,0	0,2	6,6	2,7	5,7	-4	
Finland	..	..	32,1	35,9	8,1	4,8	3,1	-0,1	8,1	3,8	8,5	-10,2	
Iceland	..	..	24,7	30,7	..	..	..	..	..	..	..	..	
Norway	16,4	5,7	32,3	30,2	4,9	8	2,4	1,6	5,2	3,2	16,5	-17	**
Sweden	19,9	5,4	37,7	40,3	9,2	1,6	1,9	-0,4	8,1	3,2	3,6	-7	
North-Western Europe													
Austria	18,4	5,8	33,1	53,4	9,5	2,2	..	..	..	..	..	..	
Belgium	17,1	6,5	36,5	34,1	8,8	3,3	1,1	0,1	6,2	3,0	4,3	-4,2	
France	15,8	7,0	33,8	30,0	12,1	3,8	..	..	..	..	..	..	
Germany	20,7	3,7	37,9	39,1	11,8	5	..	..	..	..	5	-2,2	*
Netherlands	16,1	6,0	28,9	33,6	5,2	4,8	1,2	0,4	7,2	4,8	10,1	-6,9	
United Kingdom	17	2,8	34,1	32,4	4,3	-0,7	..	..	5,6	1,7	1,2	-1,5	
Southern Europe													
Italy	19	5,6	39,1	52,5	14,2	-0,3	..	..	..	..	-0,3	0,2	*
Portugal	17,5	3,8	33,3	38,3	8	4,5	2,5	-0,4	..	..	2,4	-0,9	
Spain	16,3	7,4	34,3	64,8	9,4	8	..	..	..	..	8	-8	*

Source: Dang et al. (2001)
UN World Population Prospects: The 2000 Revision

Notes: * Including only old-age pensions spending
** The estimate does not include the return on the Petroleum Fund

Table 14. Immigration and labour market performance

	Labour force participation rate				Unemployment rate				Main countries of immigration
	Men		Women		Men		Women		
	Nationals	Foreigners	Nationals	Foreigners	Nationals	Foreigners	Nationals	Foreigners	
The Nordic countries									
Denmark	84,1	69,4	76,0	51,6	3,8	7,3	6,1	16,0	Somalia, Former Yugoslavia, Iraq, Germany, Norway
Finland	76,0	81,0	70,2	57,8	12,7	36,0	13,3	43,7	Former USSR, Sweden, Estonia, Somalia, Iraq
Iceland									
Norway	73,2	66,3	63,7	54,8	2,5	7,7	2,1	6	Sweden, Denmark, United Kingdom, Germany, Somalia
Sweden	79,1	70,5	73,4	52,9	9,3	23,2	7,5	19,4	Iraq, Finland, Former Yugoslavia, Norway, Iran
North-Western Europe									
Austria	79,8	84,3	62,4	63,4	4,8	10,3	5,3	8,9	
Belgium	72,9	69,0	55,1	40,7	6,5	18,9	10,9	24,1	France, Netherlands, Morocco, Germany, United States
France	75,0	76,1	62,5	49,0	9,6	22,0	13,5	26,8	Algeria, Morocco, Turkey, China, Tunesia
Germany	79,4	77,3	63,4	48,7	8,5	17,3	10,1	15,9	Poland, FR Yugoslavia, Turkey, Italy, Russian Federation
Netherlands	83,2	66,5	63,5	40,8	3,1	11,6	5,6	14,1	Morocco, Turkey, Germany, United Kingdom, United States
United Kingdom	83,0	78,1	67,4	56,1	6,8	10,7	5,2	9,4	
Southern Europe									
Italy	73,6	89,1	44,4	54,0	9,6	5,1	16,7	17,6	
Portugal									
Spain									
Canada	73,8	68,4	60,2	52,9	10,3	9,9	9,5	11,6	China, India, Philippines, Hong Kong, Pakistan
United States	82,8	87,4	72,5	62,2	5,3	5,6	4,6	6,1	Mexico, China, India, Philippines, Dominican Rep.

Sources: OECD Main Trends in International Migration
Coppel et al. (2001)
Norwegian Ministry of Finance

Notes: Norwegian data are based on registerdata and constitute a lower bound.

Table 15. Decentralisation and the Taxing Powers of Local Government, 1998

	Sub-central government tax revenues			
	Percent of total tax revenue[1]	Percent of GDP	Discretion in tax setting[4)]	Taxing Powers Indicator[5)]
Nordic countries				
Denmark	33,0	16,4	95,1	15,6
Finland	29,7	13,7	89,0	12,2
Iceland	22,9	7,7	100,0	7,7
Norway	23,7	10,3	3,3	0,3
Sweden	34,7	18,0	100,0	18,0
North-Western Europe				
Austria	27,1	12,0	9,5	1,1[2]
Belgium	43,6	20,0	57,9	11,6
France	19,5	8,8		[3]
Germany	50,4	18,7	12,8	2,4[2]
Netherlands	5,1	2,1	100,0	2,1[3]
United Kingdom	4,8	1,8	100,0	1,8
Southern Europe				
Italy	16,6	7,1		
Portugal	8,4	2,9	31,5	0,9
Spain	26,1	8,9	66,6	6,0[3]

Source: OECD Revenue Statistics and IMF Government Finance Statistics and OECD (1999)

Note: (1) Excluding social security funds and supranational contributions.
(2) Federal countries; state or ländern tax revenue and expenditures included.
(3) Expenditure data from 1997
(4) The percentage of local government taxes over which the local government holds full discretion over the tax rate or the tax rate and the tax base (based on assessments of tax autonomy in OECD (1999)
(5) Computed as local government taxes relative to GDP multiplied by discretion in tax setting, equal to local government taxes with full local discretion as percentage of GDP

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